

AN ABSTRACT OF THE THESIS OF

Geraldine Helen Pearson for the degree of Doctor of Philosophy in Education presented on April 20, 1987.

Title: Strategic Problem Solving in the Community College:
An Analytic Model

Redacted for Privacy

Abstract approved: _____

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The purpose of the study was to determine if a model could be created which would describe and prescribe a superior method for strategic problem solving in the community college. A review of the literature in business and industry was used to extrapolate a model which might describe the decision making process.

The hypothesized model was used to analyze the problem solving process in two case studies at two Oregon community colleges. The case studies dealt with the problem of creating a marketing approach for each college and in working through the budget creation process. Though the model derived from business and industry proved adequate in describing the process, it did not give a complete picture of where

the process failed, nor did it suggest how the process could be strengthened. Socioscientific literature was examined and certain additional steps were included in a new model. A second model was then hypothesized combining the best aspects found in the business and socioscientific literature.

This new model was examined using the case studies of the institutions and proved superior to the business/industrial model. The dissertation pinpoints where the process broke down or failed. The evidence suggests that the model can be used beneficially for strategic problem solving.

Strategic Problem Solving in the Community College:
An Analytic Model

by

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A THESIS

submitted to

Oregon State University

in partial fulfillment of
the requirements for the
degree of

Doctor of Philosophy

Completed April 20, 1987

Commencement June 1987

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Date thesis is presented April 20, 1987

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STRATEGIC PROBLEM SOLVING IN THE COMMUNITY COLLEGE:

AN ANALYTIC MODEL

CHAPTER I

INTRODUCTION

Administrators in higher education are neither born nor educated as such; they just grow. For some strange reason, the academic world in America, which believes in and practices education for a wide variety of professional occupations, has never really believed in or adequately practiced professional education for college and university administrators. (Millett, 1968)

This statement by Millett is typical of the indictments directed at managers of post secondary educational institutions. A standard theory is that the leaders in these institutions have made their way up the administrative ladders by virtue of success in problem solving, however ineffective and potentially inefficient their decisions may have been (Bess, 1984).

Leaders of American community colleges have been similarly criticized. They have been generally described as having evolved from the teaching ranks of these colleges and before that from high school teaching or administrative positions and/or from technical positions in industry. None of these experiences afforded specific preparation in administration or in leadership skills. Yet they were faced

with a transition from an easy institutional success syndrome of the 1960s and 1970s to the environment of the 1980s which called for excellence and accountability.

In light of the shift in problems facing the community college, from growth of the 1960s to the refinement and excellence mode in the 1980s, the process of solving problems and making strategic, rational decisions during that process bears analysis in order to define the methods and structures currently being used (Roueche & Baker, 1983). The investigation of the nature of the processes used to work through strategic problem solving in the community college setting represented the major focus of this study.

Purpose of the Study

The purpose of this study was to create a model by which to analyze the problem solving process in the community college.

The major objectives of the study were to:

1. Review the relevant literature in organizational development, problem solving, college and university administration, community colleges, management, and qualitative research methods.
2. Identify the major components of the problem solving process as presented in the research literature.

3. Create a descriptive model of the problem solving process which may be generalized to community college decision making.
4. Develop and test a fieldwork plan designed to analyze decision making data from the community college setting.
5. Utilize the data to examine the relationship between the hypothesized process model and the observed or actual process used by community colleges in the solution of strategic problems.
6. Develop a prescriptive model for analyzing strategic problem solving process.

Background of the Study

Allison (1973), in his work Essence of Decisions, said that a model for decision-making allows us to:

1. Anticipate the behavior of other actors,
2. Strengthen organizational capacity to make strategic change,
3. Entertain an explanation,
4. Make better decisions,
5. Create a description of the decision which leads to better understanding,
6. Predict the decision after analysis of the premises,
7. Check for consistency.

The closer relationship between theory and practice in business and industry has been developed because a growing number of managers have degrees in management and have accepted the fact that theory has practical application for the improvement of their settings (Bess, 1984). They have used theories of goal setting, management by objectives, and information gathering in their daily operations. Consultants and in-house departments for organizational development and quality of working life have increased dramatically with the advent of a new wave of industrial/organizational psychologists (Bess, 1984).

Oldham and Hackman (1980) in their work, Work Redesign, discussed the kinds of people who self-select into particular kinds of careers. Each of these types has particular ways of approaching problem solving. Daniel Cougar (1984) in a lecture delivered in Portland, Oregon discussed engineers who are more task oriented than educators who have high social needs. Task-oriented managers use more formal process in their problem solving strategies than managers in education whose social orientation is higher.

The social orientation of educators was discussed by Kanter, Moss and Stein (1979) who held that if the group was socially homogeneous, it was easier to communicate and there was greater confidence in the way one's statements would be received. If everyone came from the same background and shared the same experiences in their administrative

advancement, the group was more secure about the individual players. Many times administrators were selected for advancement because they demonstrated success in problem solving. If, however, some external criteria were applied to their decisions, they might have been proven to be ineffective and inefficient.

The university has been called a collection of choices looking for problems; solutions looking for issues, and decision makers looking for work A key to understanding the processes within organizations is to view a choice opportunity as a garbage can into which various problems and solutions are dumped by participants. The mix of garbage in a single can depends partly on the labels attached to the alternative cans; but it also depends on what garbage is being produced at the moment, the number of cans available, and on the speed with which garbage is collected and moved from the scene. . . . Although a college or university operates within the metaphor of a political system or a hierarchical bureaucracy, the actual operation of either is considerably attenuated by the ambiguity of college goals, by the lack of clarity in educational technology, and by the transient character of many participants (Cohen, March, & Olsen, 1972).

In many ways, the community college is different from the four year college and university, business, and public agencies. It does not make money, save lives, preserve the peace, nor create new knowledge. It is easily accessible and scrutinizable, since it is in constant communication with its immediate and supporting constituents. It has a continual need for support from its local community and affirmation in terms of enrollments and local tax support.

Accountability, that is being able to withstand the scrutiny of its publics and productivity or being able to produce greater numbers of programs which are more responsive to community needs, has become the new standard of community college management. This new emphasis creates a need for a new kind of leadership in the American community colleges.

Community college representatives have a new obsession: productivity. The identity crisis of the 1960s has given way to a frantic search for greater efficiency. . . . Although the community colleges still possess many virtues that endear them to the public and its governmental representatives--including flexibility, a relatively clear mission, diversified funding, an emphasis on teaching, a network of relationships with other agencies, a low profile, political sophistication, and competence in dealing with lifelong learning--they also have some faults and problems that make their operation more difficult and sometimes tarnish their golden image. (Goodwin & Young, 1978)

In their work, Beacons for Change, Roueche and Baker (1983) speak of the community college movement as "coming of age" and indicate that the shifting emphasis from growth to quality may produce internal and external conflict. They point out that current models of governance emphasizing authoritarian leadership or collective bargaining will not produce the kind of governance which will productively deal with the problem facing community colleges in this decade.

Historically, most community college administrators come up from the ranks of the faculty with limited training in problem solving, group process, and decision making, yet

these skills are constantly used in dealing with administrative processes.

As college administration becomes increasingly complex and decentralized, many administrators still come to their posts with limited training and managerial experience, and even long-term administrators need updating periodically. (Fisher, 1978)

Because of the paucity of research in management processes in community colleges and because of the trend toward a more sophisticated level of administration, it is important to gather descriptive data about problem solving and decision making. It is only after this activity has been analyzed and described that work may begin to improve the process. Research in organizational practices exists in other entities in varying degrees. However, the community college and the university have not investigated many aspects of their own administration.

In light of the shift in problems facing the community college, the process of solving problems and making strategic, rational decisions during that process bear analysis in order to better define the methods and structures currently being used.

It is anticipated that the proposed research will add insight which might provide a basis for analysis and encourage movement toward more efficient managerial functioning in the community college.

Limitations of the Study

The study was limited in the following ways which may affect the ability to generalize these findings:

1. The two community colleges selected for the study are located in the metropolitan Portland, Oregon area. They may not be organizationally and philosophically similar to community colleges of differing size or location.
2. The background and training of those interviewed may be different from others throughout the nation.
3. The ability of the interviewer to be objective may limit the reader's ability to generalize the findings to other institutions.

Delimitations of the Study

1. The study was delimited to two Northwest community colleges. They were: Portland Community College, Portland, Oregon (PCC) and Clackamas Community College, Oregon City, Oregon (CCC).
2. The number of strategic problems was delimited to two at each college: budget and marketing.
3. The number of case studies per problem was delimited to four.

4. The study dealt with process only, and did not address the social/psychological ramifications or dynamics which could affect the process.

Definition of Terms

PCC: Portland Community College.

CCC: Clackamas Community College.

Intelligence: Sources of information, knowledge, and documentation.

Strategic Decision: One that effects the goals, objectives, or direction of the institution, effects the physical aspects or the financial condition.

Seriousness of Consequences: Seriousness for the organization if things went wrong.

Information Sources..Expertise: Sources of data drawn upon, indicated by internal or external units providing information or views.

Information Sources..Externality: Information from external sources contributing to the reduction of uncertainty.

Informal Interaction: Discussions, arguments, casual encounters.

Formal Interaction: Pre-arranged meetings which were included in the process.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The review of the literature was done in the following areas:

1. Organizational development and problem solving
2. Management issues and problem solving in the college and university setting
3. The community college; its history and management
4. The qualitative method of research

Organizational Development and Problem Solving

Problem solving is a system of arranging and organizing our decisions so that they will have the greatest usefulness or value. . . . No problem exists unless there is some goal, target, or desire that we strive to accomplish or reach. . . . The existence of the obstacle or interference to achievement of a goal creates the conditions that we identify as a problem . . . When we become aware of obstacles and interferences between us and our goal we are at the point of encounter. The circumstances of time and place surrounding the point of encounter are important aspects of the problem itself. (Keltner, 1986)

According to Keltner (1986), a problem exists when:

1. The status quo needs to be changed.
2. When a goal we seek is obstructed or inhibited.
3. When the usual way of doing things fails to accomplish what we want.
4. When new events force us to change a procedure.

Ruesch (1975), in his work Knowledge in Action, describes five facets of the problem solving process:

1. Formulation of the problem
2. Construction of a model
3. Finding of a solution
4. Testing the solution with the help of the model
5. Implementation of the solution

David Hickson, from the University of Bradford in England, has done extensive work in problem solving and decision making in industrial, collegiate, and municipal settings. Though he is an exponent of Mintzberg's theories, in his newest work Top Decisions (Hickson, 1986) his latest theories are similar to those of Keltner. Hickson described the current definitions of decision making as characterized by obstacles, power, and muddle, concluding that the result of that process is not perfect but is acceptable to those involved.

Those who are involved represent the strategic "logiques d'action" of interest which can influence

what goes on and its outcome. . . . Although the trajectory of the topic as it moves towards a decision may meander and even double back on itself, a satisficing incremental outcome will eventually be reached that few may wholly like but most can live with. (Hickson, 1986)

In an organization, problem-identification and problem-solving involve many departments, multiple viewpoints, and even other organizations. Many decisions, especially those of a strategic nature, are beyond the scope of any one individual manager because the problems are complex and relevant to many employees. Daft (1983) concluded that in large organizations, major decisions are often composed and sub-decisions made by individual managers; thus the decisions are often a series of small decisions, rather than a conscious choice concerning a major problem. "The linking together of individual decisions into a significant organizational decision is a process that must be understood and controlled by the organization."

Hickson (1986) writes: "A strategic decision is one in which those who are involved believe they will play a bigger rather than smaller part in shaping what happens for a long while afterwards." He does suggest, however, that what is a big matter to one organization might be less weighty in another.

Though it is generally recognized that different problems require different solution strategies, business organizations are more and more demanding that a process be

followed and that problem solvers/decision makers are aware of the approaches to problems (Daft, 1983). Sophistication in the problem solving process is evident in the nationally recognized "best" companies. In each description of decision making the themes of defining the problem, clarifying the goals, and the need for complete and accurate information is heard again and again (Peters & Austin, 1985).

Business Models of Decision Making

Research into organizational decision making has identified numerous models. Some of the most common were The Systems Analysis Model, the Carnegie Model, Incremental Decision Making Process Model, and the Garbage Can Model (McMillan, 1980; Nutt, 1976). More recently, MacCrimmon (1984) identified three types of holistic models: super-rational, mechanistic, and Machiavellian. In 1986, Hickson proposed three descriptive processes: constricted, sporadic, and fluid. Each is, essentially, a descriptive model used for analysis and explanation.

The Systems Analysis Method came into being during World War II. "Mathematical and statistical techniques were applied to urgent, large-scale military problems that were beyond the ability of individual decision makers" (Daft, 1983). Systems analysis was able to identify the multiple problem variables and produce a solution to a problem with speed and accuracy. Daft (1983) detailed some of the

characteristics of this model, "The computer department develops information systems to provide data to managers on a continuous basis . . . Any potential deviations from the normal successful operation could be pointed out so that problems were quickly identified." Quantitative representation of alternative solutions, and the probability of each one solving a problem, were developed using statistical computer programs which derived probability and used Program Evaluation and Review Techniques, known as PERT charts. When problems can be analyzed and when the variables are beyond the scope of one individual, this mathematical model is excellent. "Market research results, sales, figures, market share calculations, and so forth signal potential deviations so that problems can be quickly identified" (Daft, 1983). It can also produce many failures and disasters if misapplied. Daft and Wiginton (1979) pointed out that one of the problems of the Systems Analysis Model is that things which might have great influence on the problem are often ignored or, if quantified by some mathematical method, the oversimplification is often wrong.

The Carnegie Model (see Figure 1) is based on the work of March and Simon (1958), and Cyert and March (1963). Until their work, researchers assumed that all relevant information was funneled to the top decision maker for a choice. The Carnegie group determined that multiple managers were

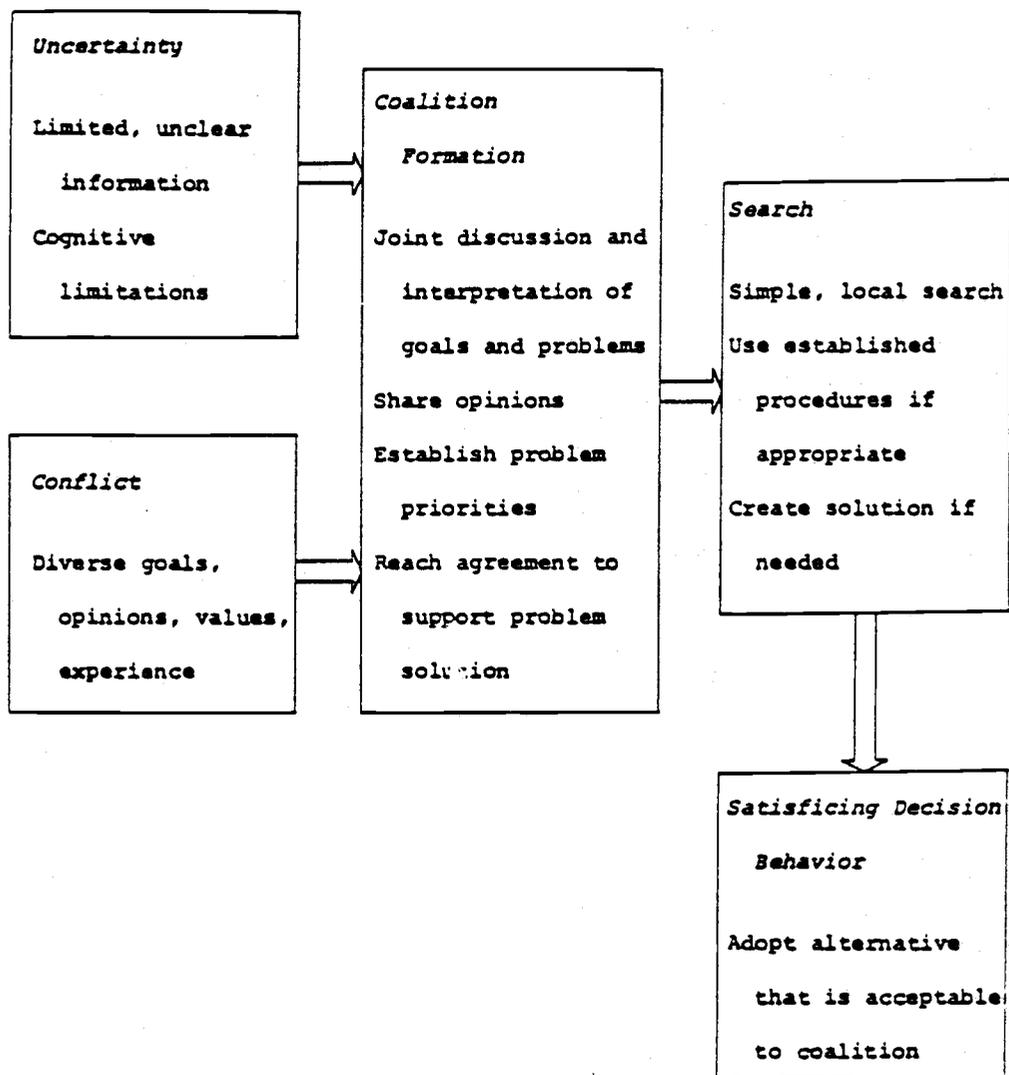


Figure 1. Choice Process in the Carnegie Model (Daft, 1983).

involved in organizational decisions and that the final solution was based on a political coalition among these managers.

Daft (1983) discussed reasons for political coalitions. He indicated that when goals are ambiguous and/or inconsistent, problem identification is difficult. Managers tend to disagree about problem priorities, and they must bargain about problems and build a coalition around these priorities. Another reason was that managers do not have the time, resources, or mental capacity to identify all dimensions and to process all information relevant to a problem. The coalition is formed through talking to one another to gather increased information, gathering different points-of-view, and discussing the problem to reduce uncertainty. Joint problem solving will lead to decisions which are acceptable to more people; these coalitions are formed through the discussion and bargaining processes.

In the Carnegie model, the joint perception of a satisfactory solution is more important than any one person's perception. It is not anticipated that the best solution will come out of this process, but more people will be satisfied. According to Cyert and March (1963) in their work A Behavioral Theory of the Firm participants look around in the immediate environment for a satisfactory solution to quickly resolve the problem. The result is a

concern with immediate problems and short run solutions. A perfect solution is really not expected because the problem is ill-defined and laden with conflict.

Discussion and bargaining are especially important in the first stages of identifying the problem in the Carnegie Model. Unless the coalition agrees that there is a problem, it, essentially, does not exist.

The Carnegie model thus points out that building a political coalition is a major part of organizational decision processes. Individuals are unable to be perfectly rational because of diverse goals and the complexity of organizational problems. This is especially true at the upper management levels. Discussion and bargaining is a time-consuming process, so search procedures are usually simple, and the selected alternatives satisfice rather than optimize problem solution. When problems are programmed--they are clear and have been seen before--the organization will rely on previous procedures and routines. Rules and procedures resolve the need for renewed coalition-formation and political bargaining and conflict resolution. (Daft, 1983)

The Carnegie model of political coalitions and bargaining is important when the problem identification is unclear, when goals and priorities are not established, and managers disagree.

The Incremental Decision Making model describes the process organizations use when the alternative solutions are not clear. This process involves a step-by-step process to try various solutions. Henry Mintzberg and his associates (1976) at McGill University, did the work on this model and

describe it in their article, "The Structure of Unstructured Decision Processes." The process is divided into three phases: Identification, Development, and Selection. March and Simon (1958) used similar division when he called the three phases, "Intelligence, Design, and Choice." Mintzberg's (1976) model is graphically displayed in Figure 2.

The Incremental approach does not emphasize the political and social factors nor the bargaining and coalition forming. Instead incrementalization describes the specific activities undertaken to reach an organizational decision (Daft, 1983). Mintzberg (1976) views most organizational decisions as a series of smaller problem solving activities that have decision points. When this process hits barriers of any kind, Mintzberg calls them "decision interrupts" and sees the problem being recycled back through the previous decision and changing directions. He sees this process as a way in which the organization learns which alternative will work.

Within Mintzberg's (1976) model, there are three sub-processes: the identification phase, the development phase, and the selection phase. The identification phase is the process in which there comes to be recognition that a problem exists; one or more managers become aware of a problem and the need to solve it. The manager (or managers) may

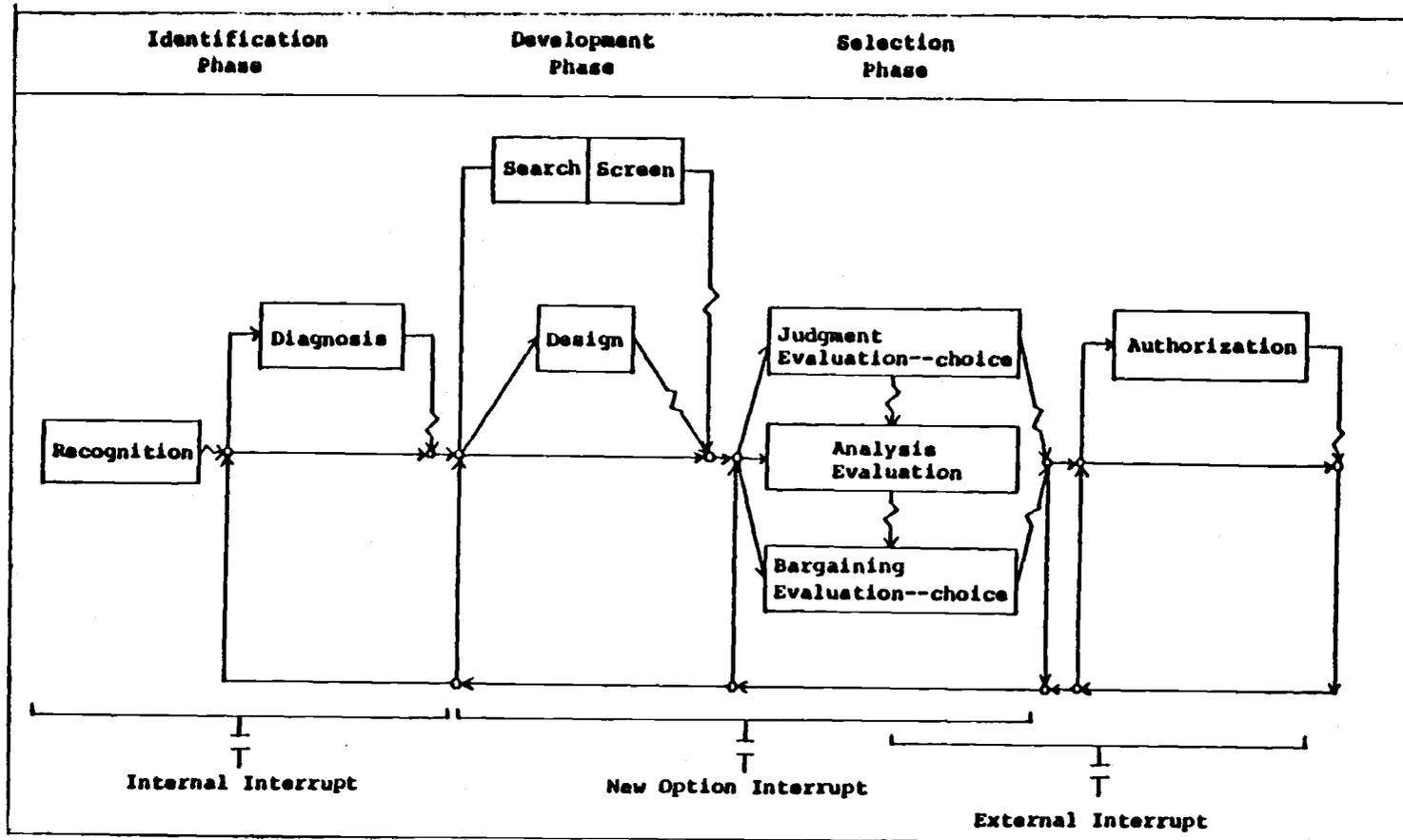


Figure 2. The Incremental Decision Process Model
(Mintzberg, Raisinghani, & Theoret, 1976).

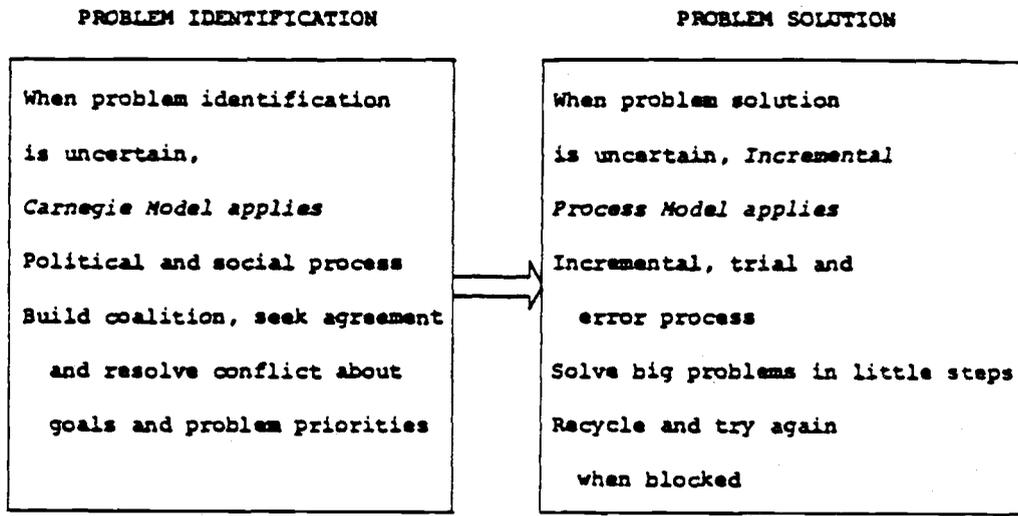


Figure 3. Organizational Decision Process When Either Problem Identification or Solution is Uncertain (Daft, 1983).

identify that a problem exists because elements in the external environment have changed or because internal performance has fallen below standard. Managers are first expected to interpret the clues and recognize the emergent pattern which must be dealt with. Next they must collect and analyze additional, relevant information so that the problem situation may be more precisely defined. This process can be formal or informal, systematic or immediate, depending on the nature and urgency of the problem. Certain situations call for immediate remedial actions; others allow for a more leisurely resolution.

The second phase, development, is the process during which the managers formulate a tentative response that could lead toward a solution to the problem. The development of the solution, according to Mintzberg (1976), takes one of two directions: search or design. In search, the participating managers draw upon standard alternatives within the organization's existent repertoire or remedies that could be applied. Participants call upon their own knowledge and experience, talk with others, and look to the formal procedures of the organization.

In design, the participating managers create a tentative solution tailored to the specific problem at hand. They are likely to use this approach when they assess that previously used practices are not likely to be effective if

applied to the problem or where the problem is novel and calls for an untried approach. In situations of this kind, Mintzberg (1976) found that key personnel had only a vague idea of what the ideal solution might be and, therefore, worked their way through a series of possible solutions, testing each conceptually to determine its feasibility. Though the process is slow and groping, the managers are likely to gain more information and sense of certainty with each iteration.

The third phase, selection, is the process during which the managers select the solution to the problem which they will pursue. Daft (1983) pointed out that this does not imply that one choice will emerge as the most desirable among a number of attractive alternatives. Sometimes only one of several alternatives evaluated as feasible or desirable will be chosen. Evaluation and choice may come about in three ways in this model: judgment, analysis, and bargaining.

Mintzberg (1976) discusses the reality of selection in light of the literature:

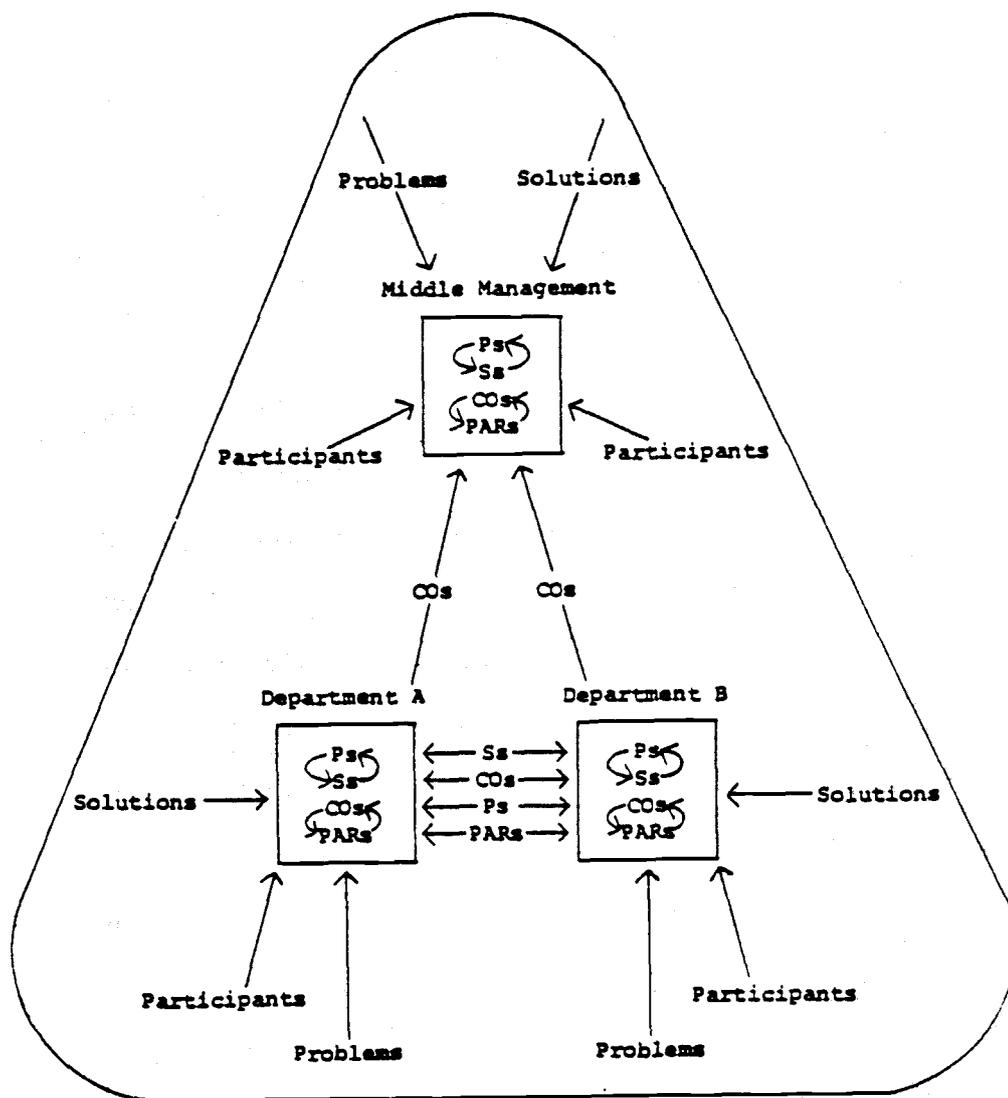
The normative literature describe the selection phase in terms of three sequential routines: determination of criteria for choice, evaluation of the consequences of an alternative in terms of the criteria, and the making of a choice. In reality, selection seldom allows a neat delineation of these three routines, and our study suggests that it is more appropriate to describe in terms of screen, evaluation-choice, and authorization. A judgmental

form of selection occurs when the decision is left to one person and the choice involves judgment based on experience rather than on logical analysis. In the analysis format, alternatives are evaluated on a more systematic basis. The bargaining method is like the Carnegie model when there is potential conflict, and bargaining or coalitions are used to reach a compromise solution. The final phase is Authorization when the decision is accepted by the organization. Often this phase is routine because the expertise rests in the ranks. Sometimes, however, decisions are rejected because of implications not anticipated by lower-level managers (Daft, 1983).

Mintzberg (1976) does not mean to imply that the process goes perfectly through the phases and sub-phases. External happenings can eliminate or change a problem, time passing can change the problem or eliminate it, and personalities can be brought into a different perspective. He has, however, tried to allow for most organizational happenings in the Incremental model. The Incremental process presupposes that a system is in place along with a managerial interest in process. Often, neither is evident. The organization has grown or emerged without an evidence of planning or structure.

The Garbage Can Model is still another description of organizational choice (Cohen, March, & Olsen, 1972). The Garbage Can Model was developed to explain decision making in organizations that have a high level of uncertainty. Cohen, March, and Olsen (1972) called it "organized anarchy." They wrote:

These organizations do not have normal organizational hierarchy of authority and bureaucratic



(P = problems; S = ideas for solutions; CO = choice opportunity; PAR = participants.)

Figure 4. Illustration of Independent Streams of Events in the Garbage Can Model of Decision-Making (Daft, 1983).

decision procedures. They have these characteristics: problems, alternative, solutions, and goals are ill-defined and the decision making process is, at best, ambiguous. There is a poor understanding of cause and effect and the need for a knowledge base. Employees are too busy to give time and energy to problem solving; therefore their involvement in the process is limited and scattered.

In this model of organizational choice, the managers do not follow an orderly problem solving process beginning with identification of a problem and concluding with the evaluation of possible solutions and the choice of one. New actions (solutions) may be proposed that have no connection with any existent problem. Problems exist, yet may not be recognized, or if recognized, may not be addressed let alone solved. Without adequate structures, policies and procedures, goals are nonexistent, and situations are too complex to be dealt with rationally. No logical process can occur under these circumstances even though some members of the organization have the intention of rational thought and behavior.

The authors who have described this model portray the problems, possible solutions, participants, and choice opportunities as elements of any problem solving process, which because each is functioning independently, may only randomly connect to bring about the solution to a problem. The authors view the organization as a catch-all, a garbage can in which disparate elements float and swirl (Daft, 1983).

Four consequences of this model are described:

1. Solutions are proposed when no problem exists.
2. Choices are made without solving problems.
3. Problems persist without being solved.
4. A few problems are solved.

Cohen, March, and Olsen (1972) suggest three rules that accomplish results in the Garbage Can setting:

1. Persons desiring influence should spend time and energy on problems so that others will turn to them for information and knowledge. They will also be in on discussions which will lead to choice.
2. Circumstances change rapidly in this model; players should persist with the line they are pursuing.
3. Large numbers of projects for organizational action may be created thus overloading the system. Since this model cannot cope with large numbers of projects, some will slip through.

From the high task oriented System Analysis method to the Garbage Can Model appear to be extremes of the spectrum. Writers later begin to look at the institution with broader view.

MacCrimmon (1984) wrote a chapter entitled "Understanding Strategic Decisions: Three Systematic Approaches" which was included in Pennings' (1984) book, Organization Strategy and Change. He used a holistic approach which involves viewing the organization as a whole, rather than focusing on constituent parts.

MacCrimmon (1984) identified three "pure" types of holistic models for explaining organizational decisions (see Figure 5). They included: (1) the Mechanistic model,

		Manipulative		Nonmanipulative	
		Negative social interest	Self-Interest		Positive social interest
High rationality	Perfect information	Superrational model			
	Imperfect information	Machiavellian model			
Low rationality	Poor information			Mechanistic Model	

Figure 5. Models Defined by Dispositional Characteristics (MacCrimmon, 1984).

characterized by low rationality and low informedness, (2) the Super Rational model, characterized by perfect information and high rationality, and (3) the Machiavellian model, characterized by high manipulativeness.

MacCrimmon (1984) describes the mechanistic model:

"Things are done the way they have always been done. There are limited goals, limited options, and limited beliefs. The mechanistic decision unit does not think in terms of choices or options." Goals, if they are considered are only considered singularly and no check is made to see if multiple goals and actions are consistent. Situations are perceived in standard ways, with no adaptations for new situations. Only readily available facts are considered, ignoring probabilities and any other sources of information. "Standard operating procedures are the hallmark of a bureaucracy, and the term bureaucracy has developed a perjorative meaning because of its lack of responsiveness and accommodation to different circumstances."

MacCrimmon (1984) writes that: "Our super-rational model is defined by the characteristics of the highest rationality and the highest informedness, wherein a very complex set of goals can be pursued simultaneously." He explained that the model deals with maximum information and unlimited processing capability. "In this model there is no element of chance as all things can be anticipated. It

chooses the preferred alternative from a set of rational considered options which results in the best outcome that could be hoped for."

MacCrimmon's (1984) described a Machiavellian model which displays a high degree of manipulation and disregard for the persons involved. This model portrays actors attempting to turn situations to their own advantages.

According to Thompson (1967) in his work, Organizations in Action, the two characteristics of organizations that determine which model or combinations of models will be used in the problem solving process are: (1) preferences about goals and (2) beliefs about cause effect relationships. Agreement and belief in goals are important for problem identification as they provide clear standards and values. It is the lack of agreement on goals that causes the need for coalitions in the Carnegie model. A more sophisticated knowledge of cause effect relationships and a tendency towards collegiality normally results in an understanding of how to reach the organizational goals.

Whereas Mintzberg (1976) did not include collegiate or political aspects in his process descriptions, Hickson (1986) in his work, Top Decisions, showed the advantage of sound and informal interaction to reach his fluid process.

Hickson (1986) proposed that there are three types of processes in decision making: sporadic, constricted, and

fluid. These three types appear in Figure 6. Hickson explained:

A sporadic process is likely to run into delays, due to all kinds of impediments, from having to await a report to meeting resistance. A sporadic type of decision-making process is one that is informally spasmodic and protracted.

In the fluid process, the activities differ from those in the sporadic process. Communication is handled in a more formal setting such as meetings of project groups, task forces, sub-committees, boards, and the like. Few sources of expertise are called upon, and the group has confidence in their information and views. In this process committees, instead of getting in the way of progress, seem to help solve problems.

Hickson (1986) explained that the constricted process has some of the delays of the sporadic process and gathers information from many sources. It is not committee focused, and most often authorization is not made at the highest administrative level. It is a process which is narrowly channeled but has a good base of information to begin with.

Following is a brief summary of the business problem solving/decision making models which have been examined in this section:

Systems Analysis: used in high task, low relationship situations, e.g. the military. All data are fed into the information bank and a solution is produced. Problem Evaluation and Review Techniques (PERT charts) produce derived

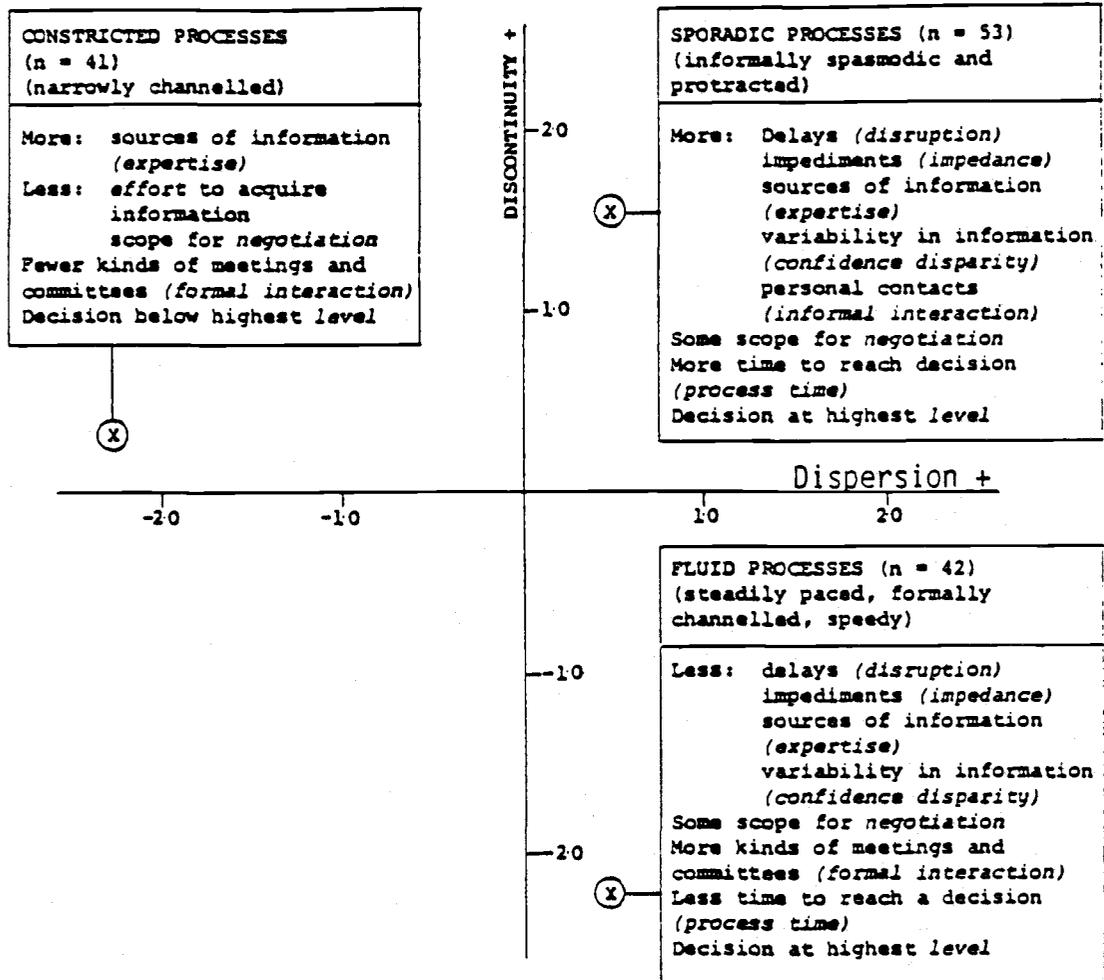


Figure 6. Three Ways of Making Decisions (Hickson, 1986).

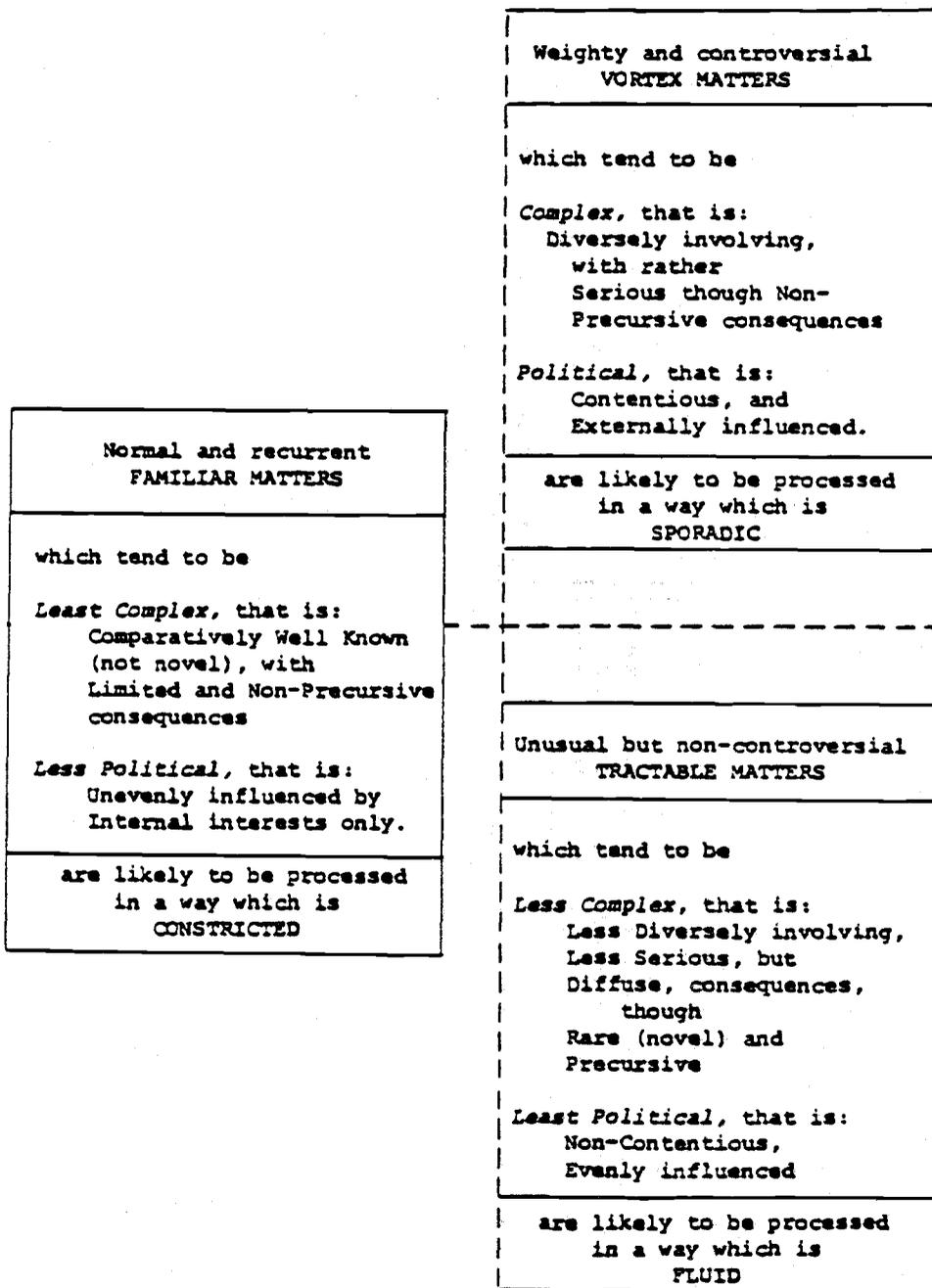


Figure 7. Three Modes in Decision Making (Hickson, 1986).

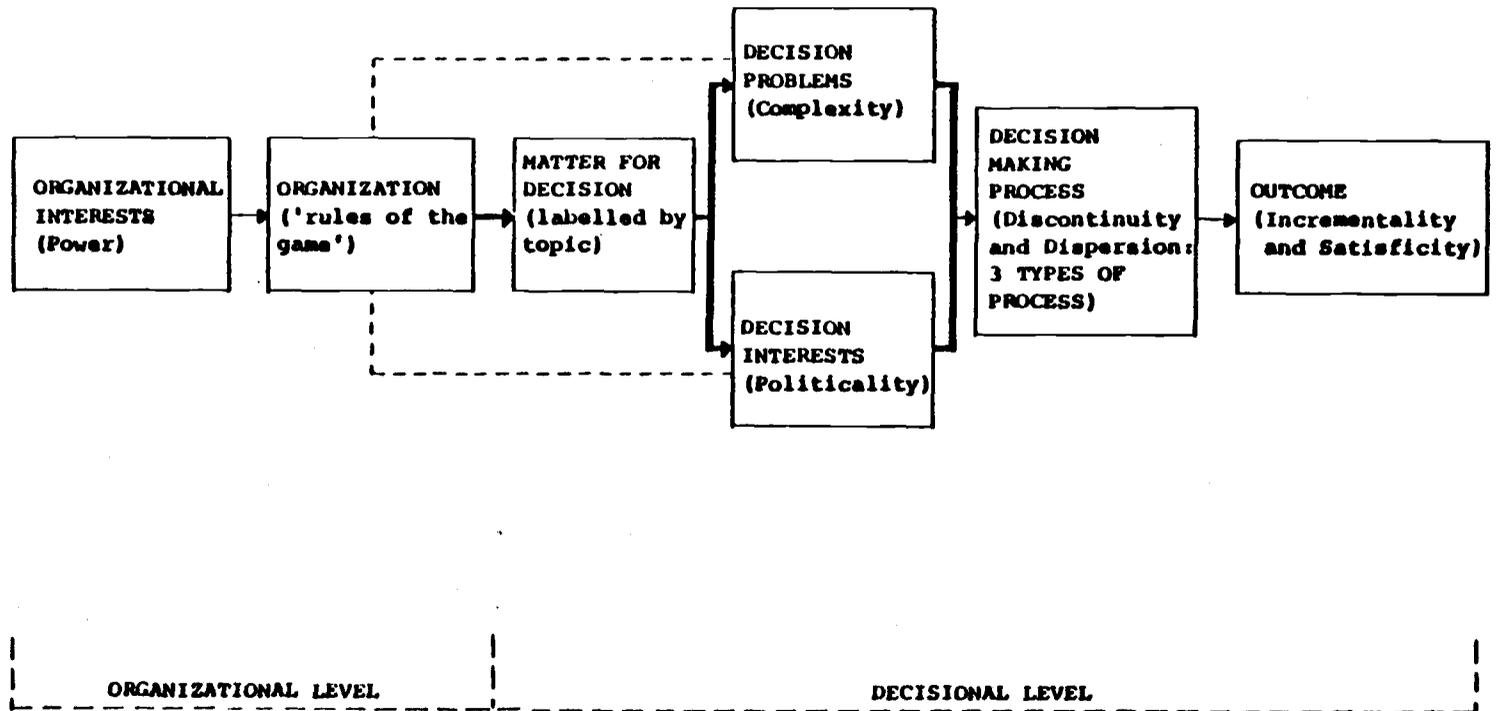


Figure 8. Model of Decision Making (Hickson, 1986).

probability. This method is good for scientific, military, and sales/inventory, or engineering problems.

Carnegie: Used in high relationship situations where goals are ambiguous and the problem is not clearly defined. Political coalition formed to bring about definition of the problem and to derive the ultimate solution.

Incremental Decision Making: Used when alternative solutions are unclear. Incorporates a three phase process including identification, development, and solution. This process breaks down activities into smaller segments which may be recycled or "looped" back into the decision making process to provide solutions to the problem.

Grabage Can: Evident in organizations which have a high degree of uncertainty with no organizational hierarchy of authority nor bureaucratic decision procedures. There is also a poor understanding of why things occur and no understanding that more information is needed to solve the problem.

Mechanistic: Illustrated by using the traditional way of doing things which is not changed by circumstance or event. May not be rational and there is evidence of lack of information needed for problem solving on the part of the participants.

Super Rational: Evidences a high degree of available information and great rationality. Nothing is left to

chance, and the best alternatives can be expected to be produced.

Machiavellian: This is characterized by the highest degree of manipulation and lack of concern for the players. No demonstrated ethical concerns. Solutions are chosen for the advantage they afford the person making the decisions.

Sporadic: This process is characterized by problem solving activities which are spasmodic and protracted. The process runs into delays due to a variety of impediments and resistance. Information is varied. Decisions are made at the highest level.

Constricted: The main characteristic of this process is that it is narrowly channeled with few meetings and committees. One expert is normally the primary source of information. Little or no effort is made to acquire additional information and there is little opportunity for negotiation.

Fluid: This process is steadily paced, formally channeled and is fairly rapid. Delays and impediments are minimal and sources of information are used at each step. There is some use of negotiation in meetings and committee formats.

Investigation into the literature of psychology and communications provided another source of problem solving and decision making which appeared more fruitful than the

models from business and industry. Keltner (1947b), working from the basic concepts of problem solving explored by John Dewey (1916; 1938) and Brand Blanchard (1940), developed a concept of the nature of a problem for use in group discussion. From this concept of the nature of a problem he (Keltner, 1973) developed a sequence model of decision making and problem solving that was designed to facilitate the function of these processes in groups and to provide a means of analyzing the effectiveness of performance.

The Keltner model (1973) set out the process in these stages:

1. The Problem Formulation Stage. Goals are identified and defined. Obstacles to those goals are identified. Status of the situation is assessed at the point of encounter with the situation.
2. Analysis of the Problem in terms of detailed exploration of the three elements and revisions of them as data indicates.
3. Setting Criteria for the Solution. Establishing the "specification" that any solution must meet.
4. Survey Solution Alternate Possibilities. Collect and describe all available alternatives.
5. Evaluate Alternatives. Test each alternative on the standard of the established criteria.
6. Make the Selection of the Best Alternative.
7. Test the Selection.

This model, while drawn from both prescriptive and descriptive origins, seemed to provide for broader opportunities in the detection and diagnosis of the decision making process of people and organizations. The Keltner (1973) model has not been fully recognized in the literature of organizations, but does represent the coordination of a number of concepts that have been exposed in one fashion or another without the connections being supplied.

The literature generally supports the notion that no group of organizations is more disposed to one type of process than another, nor is the length of any given process significantly different. Processes employed for solving problems generally depend on the kind of problem, the characteristics of the organization, and the leadership. The literature on problem solving thus contains several descriptive models of organizational decisions and some descriptions of the characteristics of situations which might dictate the employment of particular methods of problem solving.

The College and University

In the theoretical writings about organizational behavior and psychology very little is written about college organizations. Dubin and Hedley, (1969) wrote:

Researchers studying the organization and administration of colleges and universities are generally under some pressure to produce findings that can be put to immediate use in practice. Speculation or theory building for its own sake is a luxury apparently not to be encouraged in the field of higher education.

Some observers of the university scene feel that few universities have strategies for problem solving and most have a need to develop processes which are more in line with what is happening in business (Dube & Brown, 1983). Others contend that some universities do formulate strategies for problem solving and that they consistently fail because of lack of administrative power, leadership skill, or courage in the face of opposition (Ladd, 1970).

Hickson (1986) discussed the "rules of the game" in universities which funneled decisions through committees. "Universities are the most 'committed'. . . their decisions passed through more kinds of committees than did those in any other form of organization." He went on to say that this fits with the frequency of fluid process in universities and points out that most committees in this environment are standing committees and are larger than the norm. He explained that in universities a process which leads to a successful decision was not the same as the one that led to a successful decision in a business firm. In the firm, he said, adequate information and resources to implement the

decision were the prominent conditions for success; whereas in the university, participation and agreement were more important.

Academics appeared to put greater store by the process of getting to a decision . . . (they) are concerned with participation on the way to a decision more than they are concerned with the feasibility of what is decided!

Though college organizations are not well represented in the literature, observation concerning their problem solving processes would indicate that they often appear, because of the collegial atmosphere, to form coalitions to reach their ends. Methods of solving problems are often dependent upon the leadership in the institution and process appears to be of greater importance than end results.

Community College History, Organization, and Management

The Morrill Acts of 1862 and 1890 gave impetus to the establishments of publicly supported universities in each of the states. The activities of these land grant colleges included service to a broader community through their agricultural and general extension activities. This concept expanded to new markets and a broader range of the population which included people with diverse goals which led to diverse program offerings. The demands of the people and a changing society resulted in reactive educational programs (Cohen & Brawer, 1984).

Bogue (1950) explained that greater demands were placed on the educational system to solve more and more

societal problems and the problems of individuals. Society began to believe that the tradition of having formal free education stop at grade twelve was not advantageous. The 1947 President's Commission on Higher Education also held that there was value to be derived from a populace with free access to two additional years of study. Because the commission found that half the young people could benefit from an additional two years of study, the community college had an important role to play (Bogue, 1950).

Cohen and Braver (1984), in their work The American Community College said that:

The community college thrived on the new responsibility and grew large because they had no traditions to defend, no alumni to question their role, no autonomous professional staff to be moved aside, no statements of philosophy that would militate against their taking on responsibility for everything.

Two names have been applied to two-year colleges. Initially, they were called junior colleges--these included branch campuses of universities offering lower division work, private schools, state junior colleges, and district junior colleges operated by secondary school districts (Eells, 1931). In 1925 the mission was expanded to include the development of programs and curricula suited to responding to the larger and changing social and vocational needs of the entire community in which the community college is located.

During the 50s and 60s, the term junior college was applied to two-year church supported schools and lower division branches of private and public universities. Community college came gradually to be used to refer to comprehensive, publicly supported institutions. By 1970, community college was usually applied to both types of institutions. More commonly, the community college is defined as any institution accredited to award the associate of arts degree (Cohen & Brawer, 1984).

The community college underwent phenomenal growth during the 1960's and 1970s. There were numbers of reasons. The "baby boom" generation was reaching college age which put stress on the facilities of the universities. The Johnson administration's social programs allowed and encouraged great numbers of new students, including women and minorities, to go further with their education. Veterans from Viet Nam were returning with benefits for support of their education. Besides these growing numbers of persons, changing technology in the computer and electronic age set up demands for new workers and for others to expand their skills to include this new dimension.

Cohen and Brawer (1984):

The "open door" philosophy of the community college responded to all of the populations, and their student bodies increased dramatically. . . . During the 1950's and 1960's, whenever a community college was established in an area where there had been no publicly supported college, the proportion of high school graduates in the area who began col-

lege immediately increased, sometimes by as much as 50 percent.

During these years planning, budgets, building, and programs were all predicated upon a growth pattern. Projections for planning were always made on an upward curve as college leaders made growth their touchstone. The philosophy was that new programs served new clients; the conclusion was that the institution that grows fastest serves its district best (Cohen & Brawer, 1984).

Roueche and Baker (1983) discussed the fact that the environment of the community college shifted from one of unchecked growth and expansion in the 1960s to the 1980s mode of accountability, quality, and responsiveness to the increased diversity of learner needs.

The junior college mission, the vocational education mission, the community service mission, lifelong learning, should have meshed in the 1970s in a powerful seductive scenario--the comprehensive community college. Something has gone wrong. We are under attack and must justify not only our purpose and service, but also our financing and public support. The challenges before us early in the 1980s are quality, identity and accountability --serious business for institutions claiming unrivaled national success. (Eaton, 1982)

In Leaders: The Strategies for Taking Charge, Warren Bennis and Burt Nanus (1985) discussed the need for adapting to change:

Organizations must be led to overcome their "trained incapacity" and to adapt to changing conditions. Leadership is what gives an organization its vision and its ability to translate that vision into reality.

Continually throughout the newest writings on community college governance, more emphasis is being placed on the need for a "new breed" of college administrators--leaders who have an ability to meet the new demands of their publics: quality, productivity, and accountability.

The Community College

Monroe (1972) wrote:

Because many of the community colleges, as we know them today, had their beginnings in secondary schools, they were managed usually by former instructors who had become first part-time and then full-time administrators.

Monroe described them as autocrats who had freed "themselves from the control of their superiors and the general public." He said that they assumed paternalistic, superior attitudes towards the teachers.

Administrative decisions of the past had often gone unquestioned by governing boards. The members of the boards rubber stamped administrative policies and decisions so that in practice the college's administrators become decision makers of the college.

Monroe was speaking of the 1970s; after that time the all-powerful president was disappearing from the community college.

George Vaughan (1986) in his work The Community College Presidency wrote about the changing role of the community college president. Vaughan quoted Dale Parnell when he

said, "the community college president's most important task is to continuously clarify and emphasize the mission of the community college." Vaughan sees the "new" president as one who needs an expanding repertoire of talents and skills to maintain the initiative within and on behalf of his institution.

Throughout the literature the view of the community college president's role is mixed. He is seen as manager, leader, fund raiser, visionary, mediator, and public spokesman for the college. The role of the president is dependent upon the size of the institution and on its organizational structure.

Three organizational structures can be found in community colleges: bureaucratic, political, and collegial. Most have a bureaucratic administrative model, with defined patterns of activity spelled out in policy manuals or board action. Often the positions are arranged in the shape of a pyramid, with authority delegated from the top down.

However, in the political model, the interests of the students, faculty, administrators, and trustees are seen as different, thus leading to conflict (Cohen & Brawer, 1984). In the collegial model, authority is shared between students, board, and administration in an attempt to increase morale and communication. Students and faculty communicate directly with the board, rather than through the president. This model is based on the theories of group process, the

concept of community, and the sharing of power thus making the decision process one of participation and consensus (Richardson, 1975).

Baldrige's (1971) political model of college governance saw conflict among different forces as a natural phenomenon. Richman and Farmer (1975) maintained that conflict stemmed from the different goals held by the various groups within the institution and by the constituencies being served.

Walker (1979) characterized less effective administrators as those who needed to "defend the sanctity of their offices and who reacted with counter-aggressive behavior when attacked." They were portrayed as seeing their job as one in which they were obliged to make decisions and to see that their orders were obeyed and the rules enforced.

They view decision making as a series of personal acts of courage, will and purpose. . . . Over a period of time, because faculty members and students entertain a different notion of leadership, their activities come to be regarded by the administrator as perverse.

Effective administrators are described by Walker (1979) as accepting the privileges and status of their office, but wearing them lightly. He said that they regard themselves as working with faculty colleagues who deserve respect as fellow professionals. They consider administration a process, not a series of discrete events, and they tend to be good politicians.

This view was substantiated by John Roueche and George Baker (1986) in their series of articles in the Community and Technical College Journal. They constructed a "Community College Excellence Model" which was the framework for the study of Miami-Dade Community College. In that research they discussed the collective climate of the college and how that climate is affected by the leadership of the college in making progress towards excellence. They held that good leadership (e.g. being well organized, setting high performance goals, using group methods of supervision) resulted in good attitudes, group loyalty, and cooperation.

Cohen and Brawer (1984) summed up the community college administrator:

More than in other educational institutions, the role of administrator in the community college has been changing with the growth and maturity of the community college movement. Community colleges do not even follow their own traditions. They change frequently in their structures, programs, and clients. Never satisfied with resting on what has been done before, they try new approaches to old problems. They maintain open channels for individuals, enhancing the social mobility that has so characterized America. And they accept the idea that society can be better, just as individuals can better their lot within it.

The community college's growing organizational sophistication, as is illustrated in the current literature, demands a more highly refined method of problem analysis and solution. Though few educational institutions have used the

methods reviewed in the literature on business, community colleges appear to be mature enough to do so. Description of the Carnegie and Garbage Can models can clearly be seen in college settings, and the three approaches proposed by MacCrimmon (1984) and Hickson's (1986) research of academic communities give great insight into the current situation. Increased need for administrative accountability would seem to naturally lead to more refined processes in making strategic decisions.

The Qualitative Method of Research

The study will use a case study approach using qualitative methods. The emerging use of qualitative design in educational research is both a leaning toward anthropological methods and a leaning away from statistical, quantitative design.

Miles and Huberman (1984) called qualitative data a source of well-grounded, rich descriptions and explanations of processes occurring in local contexts. They laud the method as it preserves chronological flow, assesses local causality, and derives fruitful explanations.

Dennis Poplin (1972) in his book Communities discussed the methods of community study:

There are several . . . research techniques used in participant observation. In informant interviewing, the investigator simply asks informed community members to tell about events that have happened and to interpret things the investigator has observed . . . the . . . observer must use a

wide variety of documents and unpublished records . . . newspapers, minutes of meetings, and even personal diaries. There are four roles that can be adopted by the participant observer. These roles seem to lie along a continuum with the complete participant at one end and the complete observer at the other.

One of the criticisms of qualitative research is that it is too casual; that it is not "hard" research. Two methodologists have addressed that problem most specifically: Miles and Huberman (1984b) in Qualitative Data Analysis and Robert Yin (1985) in his work Case Study Research: Design and Methods. Yin suggests that case study research is the preferred method when "how" and "why" questions are being posed, when the investigator has little control over events, and when the focus is on contemporary phenomenon within a real life context. This proposed method of research would seem ideal for comparing an ongoing process to a model. The proposed research method involves interviews with college decision makers, tracing the "paper trail" through written memoranda and correspondence and being present at meetings. One of the specific areas to which the case study method should be applied is in organizational and management studies. The method is, in essence, "quasi-experimental" (Campbell and Stanley, 1966) because no control over the behavioral events is possible.

One of the questions Yin (1985) addresses is the prejudice against case study research. One is the potential for "sloppy" methods allowing equivocal evidence or biases

to influence findings. Methods in case study research have become well enough defined over the years that the methodology can be as structured as a quantitative study. Bias can enter into the conduct of any experiment, whether in the conduct of the research or in the design of the questionnaire. Another concern is that qualitative research provides little basis for scientific generalization if the studies are of limited scope. The same complaint might be made about any experiment, and Yin points out that case studies, like experiments, can be generalized to theoretical proposition and not to the entire field or the universe.

The essence of a case study according to Yin (1985) is that it tries to illuminate a decision or set of decisions.

A case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used.

The research design defines the domain of generalizability, that is, whether the obtained interpretations can be generalized to a larger population or to different situations. Nachmias and Nachmias (1976) have described the empirical research design as a plan that:

. . . guides the investigator in the process of collecting, analyzing, and interpreting observations. It is a logical model of proof that allows the researcher to draw inferences concerning causal relations among the variables under investigation.

In designing the case study a promising approach is in the idea of "pattern-matching" (Campbell, 1975) whereby several pieces of information from the same case may be related to some theoretical proposition. Any behavior that reoccurs in the process can be called pattern matching.

Yin (1985) maintains that two possibilities exist within the case study design; each case may be either holistic or embedded. The difference between the two designs depends on the thing being studied. A holistic design would be used when the case study described the global nature of the problem. In an embedded design, one conducts multiple surveys at each case study site. Each problem studied, each person interviewed, and each college site has its own case study. These data may be highly quantitative, focusing on perceptions of the problem and the activity leading to the decisions and, ultimately, the solution. It must be remembered, however, that in case study research, the design can be altered and revised after the initial stages of study. Miles and Huberman (1984b) point out that qualitative studies call for a continuous refocusing and redrawing of parameters during the field work. The selection of cases might have to be modified because of new information about the problem, but the purpose or objectives of the study will not be altered.

Yin (1985) points out that it is of ultimate importance to keep in mind the purpose of the case study in this case the validation or modification of a problem solving model.

The investigator must be able to interpret the information as it is being collected and to know immediately, for instance, if several sources of information contradict one another and lead to the need for additional evidence.

He further points out that the investigator must not use a case study to substantiate a preconceived position. There is a need to balance adaptiveness with rigor, not rigidity.

Miles and Huberman (1984b) in their work, Qualitative Data Analysis, suggest that when the researcher is interested in a particular social phenomena in a familiar culture or subculture, it is a waste of time to use a loose, highly inductive design. Qualitative researchers usually work with smaller samples of people in fewer settings than do survey researchers. The question of how prestructured the qualitative research design should be depends on the time allocated for the study, the depth of the researcher's understanding of the subject, the available instruments, and the kind of analysis which will be made. The use of emergent designs (Guba & Lincoln, 1981) should be employed when new insights are gained into the issue and processes. Focusing and bounding data collection will serve to rule out certain variables and attend to others, thus giving more form and structure to the problems studied.

For the proposed study, the qualitative, field-based, case study would appear to be the soundest research tool as it allows for gathering of data and revision of models. The study dealt with fluid political organizations which are responsive to existant communities. Further, the problems to be studied were ideal case study subjects and can be approached historically and can be followed currently. With all things considered, the qualitative method appeared to best fit the problem.

CHAPTER III

DESIGN OF THE STUDY

Introduction

Included in this chapter is a restatement of the problem, a description of the population studied, a description of the instrument used to collect the case studies, the steps taken in implementing the research project, and a description of the analysis of data and documents.

Problem Restatement

The purpose of this study was to develop a theoretical model which could be used to analyze the problem solving process in community colleges. A model was developed by adapting problem solving models used in describing the process in business and industry. The usefulness of the developed model was tested by analyzing two problem solving activities at two community colleges.

Population Description

Two Oregon community colleges were chosen for the study: Clackamas and Portland. Both serve the Portland metropolitan area and the surrounding rural and suburban populations.

Portland Community College

Portland Community College's (PCC) district covers all or part of five contiguous counties, including the major metropolitan city in Oregon. It has five comprehensive campuses and numerous sites within the district. It has a nearly fifty-fifty split between vocational and transfer programs and provides services for special populations. It contracts with local industry and business to provide in-plant training for employees. The college has a management staff of 134, a full time faculty of 369, a part time teaching staff of 1,271, and a classified staff of 389.

PCC was founded in 1964 when it had an enrollment of 2,250 FTE. That number grew to 14,965 FTE in 1982-83 and fell to 12,360 in 1985-86. Its first tax base was passed in 1969 when the budget was \$3,716,849; in 1982-83, the budget was \$12,067,679; and in 1985-86 the budget was \$14,507,504. Its original tax base held until 1985. The college attempts to expand and update the base suffered two sequential defeats. The college ultimately passed a new base in the spring of 1986.

Clackamas Community College

Clackamas Community College, (CCC) founded in 1966, is located in Oregon City, a suburb of Portland, Oregon. The college primarily serves Clackamas County, an area spanning high-tech industries on its western border, intensive

business interests bordering Portland to the northwest, and rural and forest industries to the east. It is a single-campus college with off-campus sites serving special populations. It, too, contracts with business for special training needs.

In 1966, Clackamas had 557 students; in 1982-83, 3,651; and in 1985-86, 3,340. The management and supervisory staffs currently total 39; there are 134 classified and confidential employees, 156 full-time instructors and 359 part-time instructors.

Since 1966, CCC has had 45 budget elections. They have had three bond levies, with one passing. They have had seven tax base elections, none of which passed.

In interviews with the two college presidents, each identified a number of problems that were facing their institutions in the coming year. The two problems studied were selected because they were each identified by both presidents and they were strategic. That is, the solution of the problem would have an important effect upon the direction and/or operation of the college. An additional criterion for their selection was that these problems could be analyzed through the case study method, because, in each case, a written record of steps and processes was available and persons were present who could give information concerning the sequence of events, what occurred, and the perceptions of those involved.

Collection of Data

Two problems were examined at the two Oregon community colleges: 1) budget planning and 2) formulation of a marketing plan. The formulation of the two colleges' budgets each involved a formalized procedure of proposal, review, redesign, information, recommendation, and authorization.

The movement into the field of marketing, a new concept for community colleges, had no procedural precedent and therefore allowed the researcher to observe the development of planning and problem solving processes in two separate field settings.

Data were gathered by analyzing memoranda, letters, notes, proposals, progress reports, minutes of meetings, contracts, and any other available written materials. Interviews, using Mintzberg and Hickson's interview guide (see Appendix A, page 130) were done with persons at each community college who were responsible for the process or who had participated in the creation of the documents. A limited number of staff who were affected by the outcome were also interviewed. In the case study method, notes--covering the results of interview, observation, or document analysis--are the most common component of the data base.

Budget making was selected as a procedure to be studied as it had an historical process in both colleges.

The processes were quite different in the schools, but the goal was to produce a document that would be reviewed by a formal community board.

Marketing was chosen as it had no established process or historical precedent. Each school had to work through the entire process in its own fashion.

Research Design

Case studies have been defined as studies of events within their real-life context. This study viewed the case studies from the perspective of models and matrices which were developed by using some of the ideas presented in the literature and adapting those processes. The goal of the approach was to examine the usefulness of the proposed model. "Usefulness" will mean the ability of the model to diagnose processes within the problem solving systems.

In this study the case study method employed a protocol which included:

1. development of an interview guide to solicit information which was used to determine the processes being studied and collect data in a consistent fashion (see Appendix B, page 141).
2. description of each case, explaining events, settings, environments, and persons;
3. selection of persons to be interviewed;
4. selection of other sources of information;

5. examination of evidence by tracing it through the descriptive steps of the model and the processes as displayed in a matrix; and
6. validation of all evidence to corroborate and augment findings.

Figure 9, "Research Design" outlines both the research instrument development and the fieldwork plan. Figures 10 and 11 illustrate the model developed from business and the matrix used to chart the steps taken in the problem solution.

The model, illustrated in flow chart form, was developed using modifications of models described in part by Mintzberg (1976) and Hickson (1986) in their studies of processes in business and industry. It combines aspects of several approaches described in Chapter II and uses a sequential step procedure beginning with identification of the problem and culminating with evaluating the solution. Each of the illustrated steps was meant to prescribe a process which should lead to if not the best solution, at least one which had the advantage of having been thought through.

The matrix (Figure 11), compatible with the model (Figure 10), was developed to "chart" each phase of the problem solving process. It was anticipated that this matrix would be helpful to pinpoint the occurrence of invalid or undeveloped strategies as well as to describe ideal methods in the process of attempting to reach an

DESIGN OF
RESEARCH INSTRUMENTS

DESIGN OF
FIELDWORK STUDY

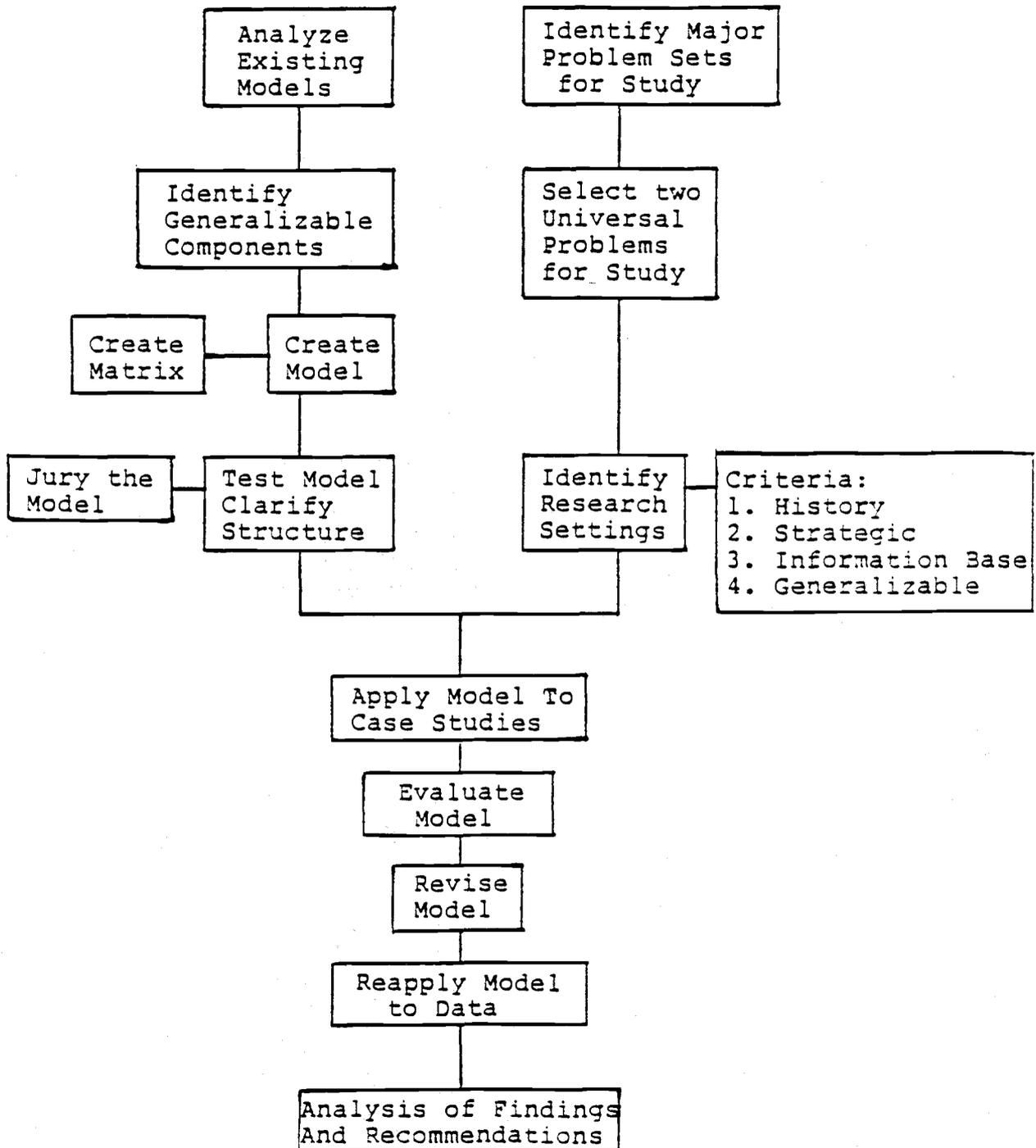


Figure 9. Research Design.

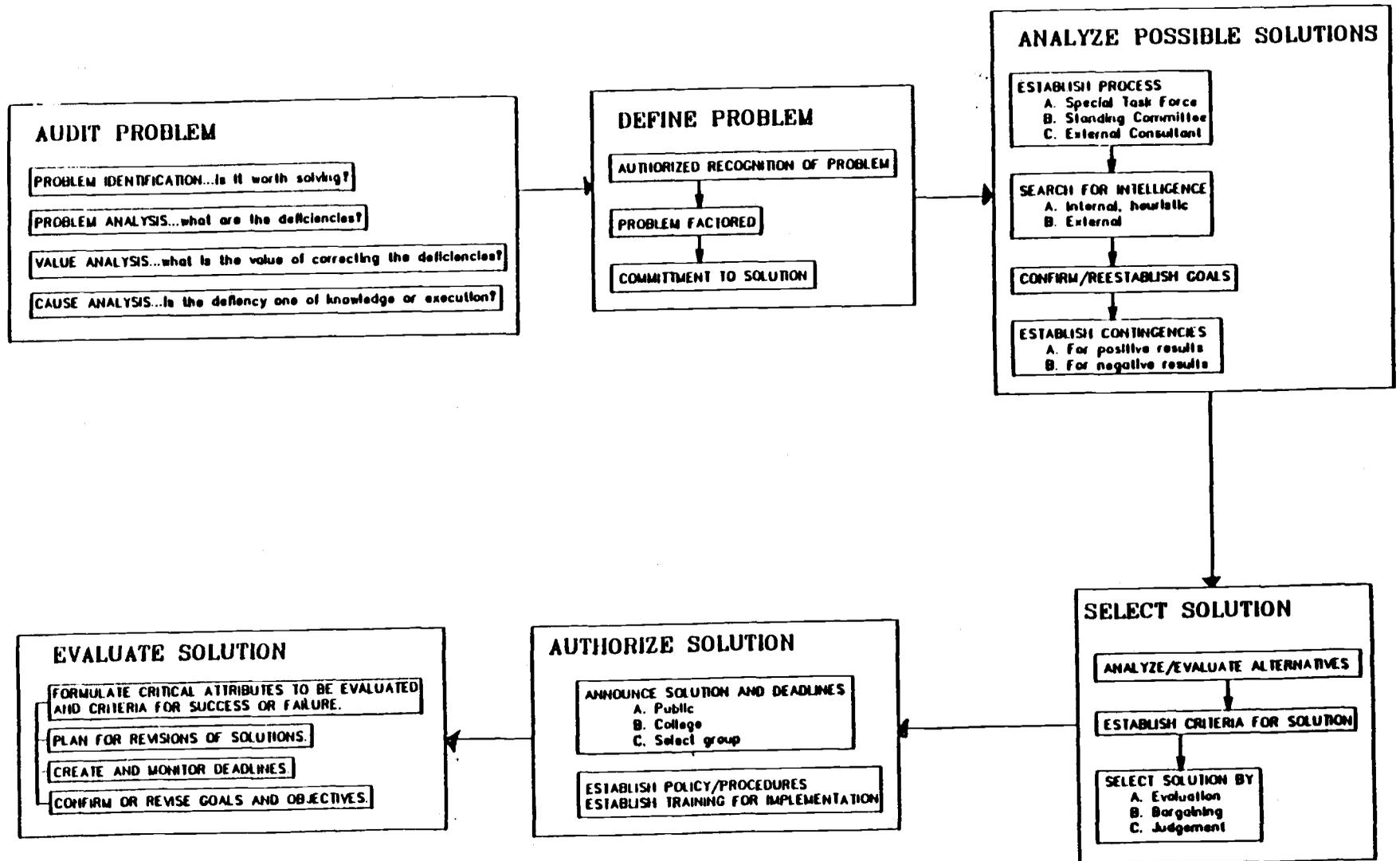


Figure 10. Model I.

ANALYSIS	RECOGNITION	SEARCH & SCREEN	SELECT SOLUTION	AUTHORIZE	EVALUATE
Comprehensive documentation of all aspects of problem (Carnegie); classification for impact	Formal recognition of problem and commitment to solution	Internal intelligence and field review; external intelligence and information review	Analysis and evaluation of alternatives	Public/written authorization and clarification or in-house forum	Formulation of critical attributes to be evaluated; plan for program revision; interviews of relevant staff
Limited Analysis; mass of information	Recognition of problem with limited strategy	Heuristics with committees	Selection of developed solutions	Announcement of plan	Request for limited evaluation of some aspects of solution
Limited involvement of problem identification	Seat-of-pants definition and assignment to process	In-house solution; not fully addressing problem	Mechanistic response	Line communication with some clarification	Casual/social request for opinion of solution
Single Complaint	No definition of problem	no intelligence; no goal clarification	No Solution	No communication	No evaluation of effectiveness of solution
Other	Other	Other	Other	Other	Other

Figure 11. Matrix I.

optimal solution. As can be noted in examining the matrix, the grid runs from definition of the problem to evaluation of the solution on the horizontal axis. While on the vertical, it presents a hierarchy of process strategies. The labels in each cell were derived from the organizational and psychological literature on problem solving. It should be mentioned that, in the analysis of some problems, certain strategies would be irrelevant; therefore, absence of one of the steps should be evaluated in light of the problem under discussion.

The method used to analyze the cases using the matrix was to chart the sequential steps actually employed by the institutions in each study and to assign sequential numbers to whichever of the 30 cells in the matrix best described the process for the marketing and budgeting problems in each of the two colleges. If, for example, the problem was analyzed before it was defined, the process employed was out of the matrix's sequence and that, in itself, became important data. If an organization moved from a single complaint directly to a mechanistic response in selecting a solution, then a "1" would be placed in row 1, cell 1 and a "2" would be placed in row 3, cell 4.

Fieldwork Plan: The Problems

The researcher visited the proposed sites and collected written documents, attended meetings, and determined

the organizational structure of the two colleges. Interviews were conducted with persons who were involved in key committee positions or in positions of authority in each of the cases.

All the information gathered on the budget and marketing processes was studied and analyzed to determine how it fit the model and how it could be described by the matrix. The model was to be determined as successful if it accommodated the real processes of the cases studied showing where differences occurred that inhibited a solution, and if it provided procedures for examining problem solutions. As is shown in Figure 9, if the model did not satisfy its purpose, a revised model would be created and tested against the data. The question was: Can a model be created which can be used to describe and analyze the process of problems solving at the community college?

CHAPTER IV

FINDINGS

The Colleges and the Cases

Though there is considerable difference in their size, both Portland Community College (PCC) and Clackamas Community College (CCC) served a metropolitan district. Both had had recent transitions in their administration. One had a president who had been at the college less than a year and the other was an interim president who had applied for the permanent position.

The schools were in similar stages of developing a plan for "marketing" themselves to their various publics. Each had used a committee structure to come up with a plan and both had suffered through some confusion about the concept of marketing and some in-house discontent about the process of creating a plan.

The budget process was selected as a second area of investigation because it employed a more formal, established process for arriving at a solution. It is legally required that the budgeting process has time lines, check points, and review processes. Because of size difference, the budget review and approval processes are different for the two

institutions; one having local citizens serving on a budget committee appointed by the local board, and the other having a metropolitan budget board that gives final approval to the document.

The data from the findings were organized in two sections. The first section, deals with the manner in which the marketing problem was dealt with at Clackamas and Portland Community Colleges. The second section, immediately following, deals with the construction of the budget at both institutions. The problems under investigation were described at each institution and then the processes were charted on a matrix to analyze the problem solving methods employed in each case. The model was assessed by judging how well it worked as an analytic and prescriptive tool.

Marketing at Clackamas Community College

Chronology of Events

Clackamas Community College: There were differing views as to when the awareness of a need for marketing began. The director of counseling recalled that the effort began in 1978, when the president reacted to a drop in enrollment and appointed a four-person committee to create a plan which would address this issue. On March 8th, 1978, this committee submitted its report which recommended hiring an enrollment manager and a full time secretary who would be charged with producing some direct mailings and expanding

college brochure distribution. The enrollment manager was subsequently hired but resigned in 1979 and his position was not filled. During that time the problem was virtually ignored and no one showed much interest in any effort in marketing. The director of counseling felt that the faculty had little or no interest in the plan because they wanted to maintain the small classes for greater ease of teaching.

During the 1979-80 school year, GMA Research Corporation was hired to determine perceptions of the college by its various publics. Some of its recommendations had little to do with marketing; e.g., a staff development program for employees and management. In August of 1980, the Enrollment Management Committee made several recommendations on which no action was taken. During 1981, another Enrollment Management Specialist was hired.

In June 1982, the president appointed a Marketing Task Force Implementation Group. Another set of committees, the Implementation Group and the full Marketing Task Force were appointed the fall of 1982. Their charge was to, "develop by May 27, 1983, a complete marketing plan, with time lines, for refining and expanding the public relations/recruitment/retention efforts of the college . . ." The effort was spearheaded by the Dean of Student Services and the January 1983 plan was written by the Assistant Dean of Students. The document was 38 pages long and contained extensive and detailed goals.

On September 14, 1983, another comprehensive marketing plan was compiled by the Assistant Dean of Students. In November 1984, the CCC President's Council, (the Deans of Instruction, Student Services, and College Services) made a commitment to working through the problem. In January 1985, an interim president was appointed after the college's first president retired. Though the group recognized the need for implementation of some effort, no dollars were designated to accomplish these efforts until 1985 when \$35,000 was designated for advertising and recruitment. In 1986, \$70,000 was designated by board action for implementing marketing efforts.

Another draft of a marketing plan was written after the new president took office in June 1985. He appointed a two-man writing team: the Assistant Dean of Students and the Director of Public Information, both of whom had a "get-things-done" reputation. In an intensive four-day work session, they came up with a four-page plan which was later critiqued by an outside marketing consultant, the president, and finally reviewed by in-house groups.

The new president established a "Decision Model" (see Appendix B, page 141) to show how problems would be channeled through the CCC organizational structure. This plan employed working and review groups for each problem to be addressed and was used towards the end of the process in the marketing problem.

Appearance of Goals

In this eight year period, beginning with a recruitment committee and ending with a two-man writing team, the marketing problem had gone through thirteen committees and even more reviews. In virtually all of the proposals, there appeared two basic objectives: 1) stabilize/increase FTE and revenue and 2) enhance the college's image as a quality institution.

The Concept of Marketing and Attitudes Toward It

Throughout the process some of the staff expressed discomfort with the business concept of marketing. They felt that "selling, advertising, and marketing" were not quite proper for a college. This discomfort, combined with the attitude on the part of the teaching and support staff that they were dealing with as many students as they comfortably could, created a certain negativism towards the concept.

The administrative staff, to whom greater numbers of students meant progress and success, had confidence in and positive feelings about the marketing effort. The staff had some concerns over the definition of the terms "selling" and "marketing."

In the final draft of the plan, the narrative was shifted from "selling the college" to "responding to the needs of the student/public." "Selling" was seen as

responding to the needs of the college (in terms of students, dollars, and support) whereas "marketing" was envisioned as focusing on the needs of the students. The marketing concept was divided into three smaller problems of recruitment, retention, and community attitudes before it was recognized as an overall marketing effort.

Impetus and Power

Dynamics played a part in moving the concept ahead. The interim president provided impetus and a budget for the effort. The new president, having had some experience in community college marketing, gave additional energy, direction, and commitment. The plan, which was adopted by the board in 1985, was designed for a one year effort only.

Inside and Outside Influences

Throughout the development of the plan, very little effort was made to gather external knowledge and information. The various committees looked at two other Oregon community colleges' promotional efforts. A community survey was done in the first stages and a review of the proposed plan was completed by a marketing firm in the last phases. Their critical comments had to do mainly with the language of the plan.

To ascertain the staff's reaction to the method of developing the plan, interviews concerning the entire process were done with the president, relevant deans,

department chairpersons, committee chairpersons, and any staff who were directly affected by the ultimate decision.

Each person interviewed indicated evaluation of the plan had been done by personal judgment, rather than by objective analysis. The president was the only person who perceived a serious consequence for the college if the plan did not work. The balance of the staff did not think failure of the adopted marketing strategy would be of serious consequence to the college.

Clackamas Community College Marketing Via Matrix I

The process involved at Clackamas is graphically portrayed in Figure 12.

1. Analysis: Limited to problem identification of drop in enrollment; memo of information directed to appropriate staff.
2. Recognition: Formal "recognition" of problem with intention to solve.
3. Search and Screen: Process limited to committee involvement, bringing in concerned departments.
4. Select Solution: Evaluation and analysis of alternatives undertaken.
5. Authorization: Written authorization was given, with board commitment.
6. Evaluation: Informal . . . request for limited evaluation.

ANALYSIS	RECOGNITION	SEARCH & SCREEN	SELECT SOLUTION	AUTHORIZE	EVALUATE
<input type="checkbox"/> Comprehensive documentation of all aspects of problem (Carnegie); classification for impact	<input checked="" type="checkbox"/> 2 Formal recognition of problem and commitment to solution	<input type="checkbox"/> Internal intelligence and field review; external intelligence and information review	<input checked="" type="checkbox"/> 4 Analysis and evaluation of alternatives	<input checked="" type="checkbox"/> 5 Public/written authorization and clarification or in-house forum	<input type="checkbox"/> Formulation of critical attributes to be evaluated; plan for program revision; interviews of relevant staff
<input checked="" type="checkbox"/> 1 Limited Analysis; memo of information	<input type="checkbox"/> Recognition of problem with limited strategy	<input type="checkbox"/> 3 Heuristics with committee	<input type="checkbox"/> Selection of developed solutions	<input type="checkbox"/> Announcement of plan	<input checked="" type="checkbox"/> 6 Request for limited evaluation of some aspects of solution
<input type="checkbox"/> Limited involvement of problem identification	<input type="checkbox"/> Seat-of-pants definition and assignment to process	<input type="checkbox"/> In-house solution; not fully addressing problem	<input type="checkbox"/> Mechanistic response	<input type="checkbox"/> Line communication with some clarification	<input type="checkbox"/> Casual/social request for opinion of solution
<input type="checkbox"/> Single Complaint	<input type="checkbox"/> No definition of problem	<input type="checkbox"/> no intelligence; no goal clarification	<input type="checkbox"/> No Solution	<input type="checkbox"/> No communication	<input type="checkbox"/> No evaluation of effectiveness of solution
<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other

Figure 12. Matrix I: CCC Marketing.

It should be noted that over the years that this problem was addressed, a number of "false endings" occurred. The process halted on three occasions because of lack of commitment at more than one level. It was with the advent of a new president that the process was completed. The linear progression of activities began with a comprehension of deficiencies in terms of student numbers. The cause and the value of correcting the problem were not looked at analytically, the problem was simply called a "drop in enrollment." Formal recognition of the problem by any administrative body, such as the president's council or the college's board, was not done until 1984. In the initial stages, from 1978 until 1984 there was no commitment to solution, only brainstorming in approximately ten separate committee groups. Suggestions for solving the problem of enrollment drops were many; however, little seems to have been done to screen the alternatives and select and authorize a solution. Little or no attention was paid to planning evaluations of the solutions selected.

With the advent of the interim and new presidents, money for the execution of some of the plans was designated by the board, time lines were constructed, and limited evaluation strategies were written. There seems to be general agreement by those interviewed that this new commitment to marketing showed great promise and would change the

course of the enrollment and community support patterns which had been evidenced over the previous eight years.

Model I as an Analytic Tool

Though Model I served as vehicle to describe the process of working through strategic problem solving, it did not give the researcher the information needed to identify which events were evidence of the existence of a problem. Further, Model I did not illustrate why the problem in the process occurred.

Because of the lack of analytic detail, a second model was created which incorporates aspects of the original model and features of models drawn from the socioscientific literature.

Model II Applied

The new steps incorporated in Model II (see Figure 13) included data on the current status, definition of goals and obstacles, specification of the solution, and establishment of criteria for a successful conclusion. These steps present a more clear prescriptive model and one which could show up the problems at the exact point when they occurred.

Clackamas Community College Marketing via Matrix II

1. Problem Definition: No activity.
2. Problem Analysis: No activity.

3. Solution Criteria: Objectives were detailed and process established.
4. Search: Internal search via committees.
5. Selection: Recommended alternatives listed.
6. Authorization: Staff informed, decision announced.
7. Field Testing: Monitoring of time lines and call for progress reports.

For the purposes of this analysis only the latest effort of the CCC marketing committee was used. This effort ranked higher on the Matrix I scale than any of the previous eight efforts.

As can be seen in Matrix II all of the beginning processes are at the second level. Because of the CCC Board involvement in budgeting for the expenditures of a marketing effort, and because of certain aspects of the plan, a more sophisticated step was taken at the authorization phase.

At the last stage, "field testing," the process slipped lower into the matrix because of the lack of earlier established specifications. Steps which should produce the highest degree of success in reaching the best solutions were evident in the CCC marketing process. In Matrix I, this case was generally higher throughout the grid; however, there is the potential for poor processing of the problem even at the highest ratings of the Model I because of lack

Low <<< SOPHISTICATED >>> High	PROBLEM DEFINITION	PROBLEM ANALYSIS	SOLUTION CRITERIA	SOLUTION SEARCH	SOLUTION SELECTION	SOLUTION AUTHORIZATION	SOLUTION FIELD TESTING
	<input type="checkbox"/> Goals formulated in light of overall mission. Desired outcomes described. Status described	<input type="checkbox"/> Terms of Goals defined and analyzed <input type="checkbox"/> Obstacles examined for: cause extent assumptions nature <input type="checkbox"/> Status Analyzed	<input type="checkbox"/> Goals Refined <input type="checkbox"/> Objectives detailed and formulated <input type="checkbox"/> Specifications articulated <input type="checkbox"/> Processes set	<input type="checkbox"/> Search includes: a. Internal/external b. Established/created c. Discovered/developed <input type="checkbox"/> Alternatives measured on basis of specs <input type="checkbox"/> Write contingencies	<input type="checkbox"/> Establish Procedure <input type="checkbox"/> a. Systems analysis <input type="checkbox"/> b. Bargaining <input type="checkbox"/> c. Judgement <input type="checkbox"/> Select Solution <input type="checkbox"/> a. extend alternative <input type="checkbox"/> b. modify alternative <input type="checkbox"/> Formalise specs	<input type="checkbox"/> Decision announced to a. public b. total staff c. select group <input type="checkbox"/> Set policy/procedures <input type="checkbox"/> Set training for implementation <input type="checkbox"/> Timelines set	<input type="checkbox"/> Criteria for success <input type="checkbox"/> failure <input type="checkbox"/> Monitor timelines <input type="checkbox"/> Confirm or revise goals <input type="checkbox"/> Specs checked
	<input type="checkbox"/> Objectives listed, <input type="checkbox"/> Status evaluated	<input type="checkbox"/> Goals analyzed <input type="checkbox"/> Obstacles listed <input type="checkbox"/> Status discussed	<input type="checkbox"/> 1 <input type="checkbox"/> Objectives detailed <input type="checkbox"/> Process established	<input type="checkbox"/> 3 <input type="checkbox"/> Heuristics used in internal search	<input type="checkbox"/> 4 <input type="checkbox"/> Solutions recommended <input type="checkbox"/> Alternatives listed	<input type="checkbox"/> 6 <input type="checkbox"/> Announce Decision	<input type="checkbox"/> Specs monitored <input type="checkbox"/> Timelines <input type="checkbox"/> Progress reviewed
	<input type="checkbox"/> Status described	<input type="checkbox"/> Bolstering of causes, effects, and anticipations	<input type="checkbox"/> 2 <input type="checkbox"/> Objectives/intents documented	<input type="checkbox"/> Internal seat-of-pants <input type="checkbox"/> few or no specs	<input type="checkbox"/> Mechanistic solution	<input type="checkbox"/> 5 <input type="checkbox"/> Line staff informed, <input type="checkbox"/> limited clarification	<input type="checkbox"/> 7 <input type="checkbox"/> Monitor timelines <input type="checkbox"/> Progress reports
	<input type="checkbox"/> No goals <input type="checkbox"/> No obstacles <input type="checkbox"/> No assessment of current status <input type="checkbox"/> Other	<input type="checkbox"/> No goals defined <input type="checkbox"/> No analysis of obstacles <input type="checkbox"/> No clarification of status <input type="checkbox"/> Other	<input type="checkbox"/> No objectives <input type="checkbox"/> No specifications <input type="checkbox"/> No process <input type="checkbox"/> No solution criteria <input type="checkbox"/> Other	<input type="checkbox"/> No intelligence <input type="checkbox"/> No analysis <input type="checkbox"/> No contingencies <input type="checkbox"/> No specifications <input type="checkbox"/> Other	<input type="checkbox"/> No solution <input type="checkbox"/> Other	<input type="checkbox"/> No policy <input type="checkbox"/> No timelines <input type="checkbox"/> No training <input type="checkbox"/> No formal announcement <input type="checkbox"/> Other	<input type="checkbox"/> No testing of solution <input type="checkbox"/> Other

Figure 13. Analysis Matrix II: CCC Marketing.

of specificity in problem definition, problem analysis, and solution criteria.

Marketing at Portland Community College

Chronology of Events

Because of a drop in enrollment and lowered retention rates, Portland Community College's president charged the director of public information with setting up a plan to look into the problem of marketing. In October of 1984, the director contacted the Assistant Dean of Corporate and Alumni Relations at Willamette University and asked him to be a consultant for the marketing investigation.

Four subcommittees, with a total of 51 PCC staff were named, and a "kick-off" meeting was held on December 6, 1984. A memo was drafted by the director of public information which outlined the charge of the committees:

The committees will analyze markets, look at what we are already doing and brainstorm new approaches, or changed approaches for marketing specific programs and the school image in general.
(Kirkpatrick, 1984)

At the "kick-off" meeting, the consultant talked about strategies in marketing higher education. The president's charge to the committee was sent on December 3. An article on marketing higher education was duplicated and given to each of the committee members on December 14.

On January 17, 1985, the marketing committee chair sent a bibliography and some ERIC listings to the

sub-committee chairs. One of the charges to the committees was to develop a set of goals relevant to the charge of their subcommittee. On January 24th, the general chair sent an article, some abstracts, and the Clackamas Community College marketing plan. At a subsequent meeting she called for short-term solution plans to be ready by February 1. On March 27th the general chair relayed the president's reaction to their interim reports concerning short term marketing. The president assigned responsibility for recruiting to the former head of the Office of Veterans' Affairs, and for marketing to the director of public information. The president committed no dollars to the effort and listed the marketing strategy as having a number two priority in the upcoming budget. He asked for a written plan to be completed around the end of May. He further indicated that the catalog was not to be viewed as a marketing tool, but rather as an "informational brochure." He indicated that work being done by the committees was important and said that portions of the suggestions would be implemented.

On May 16th, an external advisory committee meeting was held and each of the subcommittee chairs gave a ten minute presentation about the work of their committees. It should be noted that over the months, issues and concerns were expanded and elaborated upon until the list of suggestions for the "marketing plan" reached approximately 35

pages. The reports repeatedly expressed a need for further research and surveys, though at no time were any research questions outlined. During this time, suggestions were submitted to the president who was willing to reallocate staff to work on various components of the suggestions. However, according to some of those involved, most of the suggestions were not implemented because of budget constraints and ensuing power/political moves. Because of the President's diminished commitment to their efforts, the staff reported dissatisfaction and low morale.

In June the chairman of the public relations subcommittee met with the president to clear up some of the problems. The president said that in the face of budget cuts, marketing was not tops in the college's priorities. In a memo to her committee, the chairman said:

the president does appear to actively resent the suggestion that any committee's work has been ignored in the past. He said, firmly, that he does not create committees to do busy work, and challenged me or anyone else to give him one example of a committee whose work has been ignored. (Kirkpatrick, 1985)

During the summer of 1985, the president resigned his position. There was a certain amount of activity directed towards getting at least part of the plan approved before he left. A format for "action plans" was copied from Clackamas Community College, though it was not used to augment the strategies at this point.

An interim president was appointed in the fall and there was very little activity of the committee until October 7th, when the sub-committee chairs met with the acting president to create an "Action Plan" from the "Marketing Draft." At that time, all but the retention committee had submitted a report. A new marketing committee was designated to review the drafted plan and select 8 to 12 strategies which could be implemented during the current year. The acting president gave priority to two goals: passing the upcoming (May 1986) levy election and increasing enrollments in the upcoming term. It should be noted that enrollments went down during the subsequent two terms. The student population had been 4,252 full time equivalent students (FTE) in the fall but fell to 3,941 FTE in winter term and 3,629 FTE in spring term.

On September 23, the interim president appointed a new committee of nine persons including the chairs of the previous sub-committees. At an October 18th meeting of the general committee, 32 items were suggested for the marketing effort. Included among them were improved registration, credit card registration, internal attitudes, honors programs, and increasing community education offerings. In November, it was determined that there was a need for a professional marketing study. The Request for Proposal (RFP) included the following objectives:

1. Measure public perceptions and performance of Portland Community College.
2. Identify the community's educational goals and assess its needs for educational opportunities.
3. Evaluate current sources of information about the community and the quality of communication with the community.
4. Assess student profiles most likely to enroll.
5. Assess competition for other educational activities.
6. Estimate attitudes toward fiscal responsibility and subsequent support for stable funding.
7. Determine level of support for serial levy or tax base.

Thirteen proposals were received and were subsequently ranked by the committee using the following criteria: 1) specific experience and demonstrated competence in the scope of work required; 2) soundness of recommended approach to work tasks; 3) ability to perform work within time lines; and 4) reasonable cost. The firm ranked highest by the committee was not the recipient of the contract. When questioned, the president indicated that he selected the second rated firm as it had the best outlined marketing plan. However, a marketing plan was not listed as one of the needs in the RFP.

In February 1986, results of the study and recommendations for implementation of a marketing plan were submitted to the college. Most of the findings were based on a survey conducted by the marketing firm. Twelve out of 45, or 24% of the "opinion leaders" surveyed were employees or board members of the college. "Key survey findings" dealt with the college's image, competition/cooperation, program review, finances, community linkages, and recruitment.

The interim president was replaced by a new person in the summer of 1986. Implementation of the marketing plan was held up until the direction to be taken by the new president was determined. After the selection of the new president, the board made a commitment to an effort in marketing Portland Community College.

Committee Reactions

Throughout the process, there seems to have been an attitude of frustration on the part of the members of the committee. Most felt that their input would not be acted upon. Persons interviewed spoke of poor morale, frustration, and lack of leadership and clear direction. There was frequent mention of too many ideas, lack of communication between sub-committees, no money to implement ideas, and lack of action. When the idea was presented to hire an outside consulting firm to study the community, the faculty union raised an objection to the amount of money budgeted

for the study. The designated amount was then dropped from \$30,000 to \$20,000 and several faculty members were assigned to the consultant selection committee. During this two-year period, from when the marketing plan was conceived to the time of the presentation of the findings by the consultant, eight separate committees worked on the issue.

Portland Community College Marketing via Matrix I

There was no "Definition" phase in the committee's work (see p. 85f).

1. Analysis: Two steps were taken in analysis: first a memo of information was sent and then through committee process a comprehensive documentation of all known aspects of the problem was made.
2. Recognition: Limited strategy was involved. It was not a school-wide effort.
3. Search and Screen: A massive committee structure was used, but little outside intelligence or information was used.
4. Select Solution: An outside consultant was brought in to offer suggestions. No analysis of alternatives or selection of developed solutions was undertaken.

ANALYSIS	RECOGNITION	SEARCH & SCREEN	SELECT SOLUTION	AUTHORIZE	EVALUATE
2 Comprehensive documentation of all aspects of problem (Carnegie); classification for impact	Formal recognition of problem and commitment to solution	Internal intelligence and field review; external intelligence and information review	Analysis and evaluation of alternatives	Public/written authorization and clarification or in-house forum	Formulation of critical attributes to be evaluated; plan for program revision; interviews of relevant staff
1 Limited Analysis; memo of information	3 Recognition of problem with limited strategy	4 Heuristics with committee	Selection of developed solutions	Announcement of plan	Request for limited evaluation of some aspects of solution
Limited involvement of problem identification	Seat-of-pants definition and assignment to process	In-house solution; not fully addressing problem	Mechanistic response	6 Line communication with some clarification	Casual/social request for opinion of solution
Single Complaint	No definition of problem	no intelligence; no goal clarification	No Solution	No communication	7 No evaluation of effectiveness of solution
Other	Other	Other	5 Other consultant review	Other	Other

Figure 14. Matrix I: PCC Marketing.

5. Authorization: No public announcement of plan. Line communication with some clarification was made to concerned staff.
6. Evaluation: No evaluation plan to determine effectiveness of solution.

The problem was defined by the president and goals were given before it was audited (Fall, 1986). This audit was conducted mainly in brainstorming sessions in committee, where many problems and many suggestions were listed. During the analytic phase, the process was undertaken by special task forces, the search for intelligence was both internal and external, though the external consultation was sought after modifying the solution. Goals were established during the analytic phase, though there was virtually no screening or "editing" of goals in relationship to the capabilities of the college. No consideration of contingencies was made during this phase of the process.

Interim solutions were made in the fabric of 34 pages of "strategies" for improving the PCC marketing posture. Many of the suggestions had little to do with marketing, but a great deal to do with the need to improve on internal functions such as updated course content guides, improved registration procedures, and better "quality" in courses. Most selections of solutions were arrived at by the judgment of managers.

Authorization of the solution, other than hiring the marketing firm, was still pending as of this writing (April, 1987). No procedures had been announced concerning the overall marketing plan, though dollars have been increased for the improvement of publications. A "Publications Council" was appointed, and staff have been assigned to each of the college's campuses for decentralized recruiting efforts. The success of the solution was to be measured on the basis of the number of future enrollments and the results of an upcoming levy election.

Model II as Analytic Tool

In the analysis using Matrix I, the PCC study ranked fairly high at the first stages of the process mainly because consultants initiated certain activities. However, Matrix II showed that the activities were superficial and were not able to identify those steps in the process which should have been accomplished in order to have reached a successful solution.

Model II also demonstrated that many of the steps were taken out of logical sequence. As is demonstrated in the matrix (see Figure 15), the steps were in sequence until the solution search phase was reached and then it looped back to a description of the status, bolstering of causes, effects and anticipations. From that point the process went to a

lower degree on the matrix. This was predictable because without earlier steps being completed in a sound fashion, the process could not hold up. There was no foundation for a solution which could be a successful one.

Portland Community College Marketing Via Model II

1. Problem Definition; Done at 5th chronological step wherein a consultant described the existent status.
2. Problem Analysis: Goals were analyzed, obstacles and status discussed at the first step. Bolstering occurred at the sixth step following the consultant activities described above.
3. Solution Criteria: Objectives and processes established.
4. Solution Search: Internal committee search only with few or no specifications for solution indicated.
5. Solution Selection: Mechanistic; established processes and strategies.
6. Authorization: Line staff was informed with limited clarification and commitment. No policy was written, no time lines were established, and no training.
7. Field Testing: No testing of solution was planned.

High >>> SOPHISTICATION <<< Low

PROBLEM DEFINITION	PROBLEM ANALYSIS	SOLUTION CRITERIA	SOLUTION SEARCH	SOLUTION SELECTION	SOLUTION AUTHORIZATION	SOLUTION FIELD TESTING
<input type="checkbox"/> Goals formulated in light of overall mission. Desired outcomes described. Status described	<input type="checkbox"/> Terms of Goals defined and analyzed <input type="checkbox"/> Obstacles examined for: cause extent assumptions nature <input type="checkbox"/> Status Analyzed	<input type="checkbox"/> Goals Refined <input type="checkbox"/> Objectives detailed and formulated <input type="checkbox"/> Specifications articulated <input type="checkbox"/> Processes set	<input type="checkbox"/> Search Includes: a. Internal/external b. Established/created c. Discovered/developed <input type="checkbox"/> Analyze alternatives <input type="checkbox"/> Alternatives measured on basis of specs <input type="checkbox"/> Write contingencies	<input type="checkbox"/> Establish Procedure <input type="checkbox"/> a. Systems analysis <input type="checkbox"/> b. Bargaining <input type="checkbox"/> c. Judgement <input type="checkbox"/> Select Solution <input type="checkbox"/> a. extend alternative <input type="checkbox"/> b. modify alternative <input type="checkbox"/> Formalize specs	<input type="checkbox"/> Decision announced to a. public b. total staff c. select group <input type="checkbox"/> Set policy/procedures <input type="checkbox"/> Set training for implementation <input type="checkbox"/> Timelines set	<input type="checkbox"/> Criteria for success/failure <input type="checkbox"/> Monitor timelines <input type="checkbox"/> Confirm or revise goals <input type="checkbox"/> Specs checked
<input type="checkbox"/> Objectives listed; <input type="checkbox"/> Status evaluated	<input type="checkbox"/> 1 <input type="checkbox"/> Goals analyzed <input type="checkbox"/> Obstacles listed <input type="checkbox"/> Status discussed	<input type="checkbox"/> 2 <input type="checkbox"/> Objectives detailed <input type="checkbox"/> Process established	<input type="checkbox"/> 3 <input type="checkbox"/> Heuristics used in internal search	<input type="checkbox"/> Solutions recommended <input type="checkbox"/> Alternatives listed	<input type="checkbox"/> Announce Decision	<input type="checkbox"/> Specs monitored <input type="checkbox"/> Timelines * <input type="checkbox"/> Progress reviewed
<input type="checkbox"/> 5 <input type="checkbox"/> Status described	<input type="checkbox"/> 6 <input type="checkbox"/> Bolstering of causes, effects, and anticipations	<input type="checkbox"/> Objectives/Intents documented	<input type="checkbox"/> 4 <input type="checkbox"/> Internal seat-of-pants: <input type="checkbox"/> Few or no specs	<input type="checkbox"/> 7 <input type="checkbox"/> Mechanistic solution	<input type="checkbox"/> 8 <input type="checkbox"/> Line staff informed, limited clarification	<input type="checkbox"/> Monitor timelines <input type="checkbox"/> Progress reports
<input type="checkbox"/> No goals <input type="checkbox"/> No obstacles <input type="checkbox"/> No assessment of current status	<input type="checkbox"/> No goals defined <input type="checkbox"/> No analysis of obstacles <input type="checkbox"/> No clarification of status	<input type="checkbox"/> No objectives <input type="checkbox"/> No specifications <input type="checkbox"/> No process <input type="checkbox"/> No solution criteria	<input type="checkbox"/> No intelligence <input type="checkbox"/> No analysis <input type="checkbox"/> No contingencies <input type="checkbox"/> No specifications	<input type="checkbox"/> No solution	<input type="checkbox"/> 9 <input type="checkbox"/> No policy <input type="checkbox"/> No timelines <input type="checkbox"/> No training <input type="checkbox"/> No formal announcement	<input type="checkbox"/> 0 <input type="checkbox"/> No testing of solution
<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other

Figure 15. Analysis Matrix II: PCC Marketing.

Though consultants were used in the process, which should have given more credibility to the effort, the consultants were more concerned with an outcome than with the process of reaching the solution. In both marketing efforts consultants were looking for strategies to sell the college to the public.

Budgeting at Clackamas Community College

Status of Funding

Clackamas Community College had as its funding pattern a rate-based serial levy wherein local funds are calculated by multiplying the assessed value of district property by the taxpayer approved rate. As assessed values increase or decrease, funds available to the college change proportionately. In June 1984, taxpayers approved a 5% increase for the 1985-86 fiscal year; however, the County Assessor decreased the value of some of the property by up to 10%.

Enrollment patterns over the past three years had followed the general downward trend common to all community colleges in Oregon. They anticipated a 3% to 4% increase for the 1985-86 year, based on a proportionate increase during fall term, 1985.

The college had also taken some cost-cutting measures. It eliminated seven positions in administration; eliminated child care; reduced staff in most support service centers; reduced part time faculty; and cut certain faculty

positions from 12 to 9 months. The proposed 1986-87 budget froze the tax rate at \$1.25 per \$1,000 of assessed property value and increased student tuition by 5%.

The Budgeting Procedure

It is a standard procedure for the college to produce a budget message which has public distribution. It is not a line-item budget, but rather contains a budget message; a five year review of revenue, function, and appropriation; expenditures by function; and a graphically portrayed illustration of Clackamas County's tax expenditures. In this document the president outlined three objectives on which he had focused during the first months of his administration:

1. A review of the relationships between CCC and the communities served,
2. The establishment of an integrated, college-wide planning process, and,
3. The development of a comprehensive budget, responsive to the needs of an overtaxed district population while at the same time providing for the needs of a changing student population.

Chronology of Events

The process of creating the 1986-87 budget began in September 1985, with a charge by the president to have the document ready for the budget committee in January 1986. He

deemed this early completion date necessary to have foundation for their up-coming levy election in March.

The administrative dean started the process and furnished each department chair with instructions and time lines. Each department was furnished with a fact sheet which showed all salaries at the 1985-86 level, but did not include capital outlay and equipment replacement. Budget originators were asked to write a "reduced level budget," "decision packages," and a "budget summary" sheet.

The college used a "decision-package" concept (see Appendix C, page 144) which started at the department level. Each "decision-package" item received a priority rating first by the department, then the dean, and finally by the president's council. During the final process, the ratings were kept secret, computerized and only the average of the three ratings is known. The proposed budget, including decision packages not accepted by the deans, is then given to the budget committee, composed of seven board members and seven persons from the community. This group makes any cuts it wishes and then sets the maximum tax levy. This working document is then given to the board who can change it by only 10%.

Clackamas Community College Budgeting via Matrix I
See Figure 16.

1. Analysis: Comprehensive documentation of all aspects of the problem.

ANALYSIS	RECOGNITION	SEARCH & SCREEN	SELECT SOLUTION	AUTHORIZE	EVALUATE
1 Comprehensive documentation of all aspects of problem (Carnegie); classification for impact	2 Formal recognition of problem and commitment to solution	 Internal intelligence and field review; external intelligence and information review	 Analysis and evaluation of alternatives	5 Public/written authorization and clarification or in-house forum	 Formulation of critical attributes to be evaluated; plan for program revision; interviews of relevant staff
 Limited Analysis; memo of information	 Recognition of problem with limited strategy	3 Heuristics with committee	4 Selection of developed solutions	 Announcement of plan	 Request for limited evaluation of some aspects of solution
 Limited involvement of problem identification	 Seat-of-pants definition and assignment to process	 In-house solution; not fully addressing problem	 Mechanistic response	 Line communication with some clarification	 Casual/social request for opinion of solution
 Single Complaint	 No definition of problem	 no intelligence; no goal clarification	 No Solution	 No communication	 No evaluation of effectiveness of solution
 Other	 Other	 Other	 Other	 Other	6 Other costs only

Figure 16. Matrix I: CCC Budget Planning.

2. Recognition: Formal recognition and commitment to solution.
3. Search and Screen: Department committee involvement.
4. Select Solution: A department developed solution was selected.
5. Authorization: Formal public authorization.
6. Evaluation: None.

Because of the nature of a budget, the audit of the problem was well accomplished and documented. It was recognized, factored into smaller sections, and committed to a solution during the first steps of the process. The analysis of the budget was done by regular department committees in a traditional process. The information search was all internal and the request for a reduced budget and the decision-packages both dictate that contingencies are established at this point in the process. The solution process was accomplished at three levels: department, dean, and budget committee. Solution was by bargaining and evaluation. The authorization was made by the board and the announcement of the final document was public. Established policies and procedures were built into the process. The evaluation would be seen in terms of proper expenditure of allocated funds.

Model I as Analytic Tool

Though Model I (Figure 16) describes a process which is clear and straightforward, it is also a process which has

become a routine exercise and has the potential of not addressing issues as insightfully and creatively as could happen. It also illustrates a territoriality and a maintenance of the status quo. Model II (Figure 17) illustrates the potential for a more insightful process.

Clackamas Community College via Budgeting Matrix II

1. Problem Defined: Current status was evaluated and objectives were listed.
2. Problem Analyzed: Goals were analyzed, obstacles listed, and status discussed.
3. Solution Criteria: Objectives were detailed and process set.
4. Solution Search: Internal search by committee.
5. Solution Selection: Solutions recommended.
6. Authorization: Decisions announced publically, policy and procedure established and time lines set.
7. Field Testing: Progress reports with time lines set.

The "decision-package" format of the planning process for the budget at CCC both ensures an adequate level of process and analysis and inhibits an insightful look at the alternatives, criteria, and specifications. As can be seen in the matrix graphics, CCC's process ranked much higher on the Matrix I scale than on the Matrix II scale where the highest

Low << SOPHISTICATION >> High

PROBLEM DEFINITION	PROBLEM ANALYSIS	SOLUTION CRITERIA	SOLUTION SEARCH	SOLUTION SELECTION	SOLUTION AUTHORIZATION	SOLUTION FIELD TESTING
<input type="checkbox"/> Goals formulated in light of overall mission. Desired outcomes described. Status described	<input type="checkbox"/> Terms of Goals defined and analyzed <input type="checkbox"/> Obstacles examined for: cause extent assumptions nature Status Analyzed	<input type="checkbox"/> Goals Refined Objectives detailed and formulated Specifications articulated Processes set	<input type="checkbox"/> Search includes: a. Internal/external b. Established/created c. Discovered/developed Analyze alternatives Alternatives measured on basis of specs Write contingencies	<input type="checkbox"/> Establish Procedure a. Systems analysis b. Bargaining c. Judgement Select Solution a. extend alternative b. modify alternative Formalize specs	<input type="checkbox"/> 6 Decision announced to a. public b. total staff c. select group Set policy/procedures Set training for implementation Timelines set	<input type="checkbox"/> Criteria for success failure Monitor timelines Confirm or revise goals Specs checked
<input type="checkbox"/> 1 Objectives listed; Status evaluated	<input type="checkbox"/> 2 Goals analyzed Obstacles listed Status discussed	<input type="checkbox"/> 3 Objectives detailed Process established	<input type="checkbox"/> 4 Heuristics used in internal search	<input type="checkbox"/> 5 Solutions recommended Alternatives listed	<input type="checkbox"/> Announce Decision	<input type="checkbox"/> Specs monitored Timelines Progress reviewed
<input type="checkbox"/> Status described	<input type="checkbox"/> Bolstering of causes, effects, and anticipations	<input type="checkbox"/> Objectives/intents documented	<input type="checkbox"/> Internal seat-of-pants; few or no specs	<input type="checkbox"/> Mechanistic solution	<input type="checkbox"/> Line staff informed, limited clarification	<input type="checkbox"/> 7 Monitor timelines Progress reports
<input type="checkbox"/> No goals <input type="checkbox"/> No obstacles <input type="checkbox"/> No assessment of current status	<input type="checkbox"/> No goals defined <input type="checkbox"/> No analysis of obstacles <input type="checkbox"/> No clarification of status	<input type="checkbox"/> No objectives <input type="checkbox"/> No specifications <input type="checkbox"/> No process <input type="checkbox"/> No solution criteria	<input type="checkbox"/> No intelligence <input type="checkbox"/> No analysis <input type="checkbox"/> No contingencies <input type="checkbox"/> No specifications	<input type="checkbox"/> No solution	<input type="checkbox"/> No policy <input type="checkbox"/> No timelines <input type="checkbox"/> No training <input type="checkbox"/> No formal announcement	<input type="checkbox"/> No testing of solution
<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other	<input type="checkbox"/> Other

Figure 17. Analysis Matrix II: CCC Budget Planning.

degrees of sophistication required a more analytic examination.

The fact that the budget is an established process is well illustrated in Matrix II, as it progresses sequentially through all the steps and is at a fairly constant level of sophistication. Analysis in light of Model II does point out that it could be done better, and pinpoints what steps might have been followed to work towards a better solution.

Budgeting at Portland Community College

Status of Funding

PCC has, throughout its history, operated on a permanent tax base which gave it a solid foundation of support in financing its programs and expansion. Until 1985, its enrollments increased yearly, which allowed the college to collect the maximum amount from the state for FTE reimbursement. A decrease in enrollments and lack of carry-over funds for the last few years, put PCC in a poor budget position.

The president's budget message (Van Dyke, 1985) published in the 1986-87 budget document states the case:

The operating budget for 1986-87 has been developed with the goal in mind of providing quality programs and services in all aspects of the college's operation. To meet this goal many of the program cuts that were sustained as a result of the levy defeat in 1985 have been restored.

Priorities:

1. Maintaining or expanding support in vocational, lower division collegiate, and developmental

education where these programs have shown a stable or growing enrollment.

2. Decreasing support to programs that have had a declining enrollment pattern.
3. Increasing efforts in student and instructional support areas such as: library, cooperative education, job placement, telecommunications and curriculum development.
4. Expanding efforts in student recruitment and public information.
5. Maintaining facilities and roads in a state of repair.

Chronology of Events

In December of 1985, a "Handbook and Guidelines" for the preparation of the college budget was distributed to those who were preparing the budget. A calendar for completion of the budget was included. The budget effort was to have begun on December 2, 1985 and to have been completed in time for a budget for the declaration of a tax levy on June 16th, 1986. This process was shortened somewhat when the budget was approved in March by the PCC board, and the levy election set for May.

The "Budget Flow Chart of Responsibility" followed this pattern:

1. Department--Request
2. Division--Review
3. Executive Officer--Review, Recommend
4. President--Review, Propose
5. Board as Budget Committee--Certify

6. Tax Commission--Certify
7. Board--Adopt, Appropriate, Levy
8. Implementation

The president viewed the process as fairly mechanistic, resulting in the production of a "quality" and "fall back" budgets for the operation of the college during the coming year. He described the budget as a "maintain and/or improve" budget which outlined strategies to be accomplished with both an ideal and 10% reduction proposal. Part of the process he employed involved a college-wide meeting of teaching faculty and staff for dissemination of information concerning proposed reductions in the college's programs and services. This meeting was not part of the plan outlined in the December guidelines. The meeting was held on Saturday, January 16th, 1986, on the Cascade Campus of PCC.

Attitudes Toward the Process

The president made a presentation and explained the financial circumstances of the college and its need to cut back on services and programs if the proposed levy did not pass. In later conversation with the president, he stated that he wanted the staff to be "aware of the enormity of the problem." At the meeting, those in attendance were given a document containing seven "themes" and sixty-three decision items (see Appendix D, page 145). The "themes" represented decisions which would affect the overall operation of the

college and the "decision items" reflected major alterations in individual programs; for example, eliminating the physical education department. The participants were asked to break into small groups with a discussion leader and, in approximately forty minutes, respond to the themes and list in priority the 63 program issues.

When the group reassembled many staff complained that there was not sufficient time or information concerning the items to make sound decisions. The president said the staff could take the questionnaires home and turn them in to his office the first of the following week. He would supply no further information on the items. In later interviews with staff, two opinions of the meeting prevailed: a real sense of frustration, and an appreciation of more information input than in years past.

One faculty member attached the following memo to his ranking of the items:

I have a lot of reservations about this whole procedure. I am not by nature a cynical person, but I don't believe that we faculty members who you don't know are going to have the least effect on the decisions you make: we've spent a lot of time we can't spare just to foster the illusion of participation (or in managementspeak, "input").

More importantly, every item of the 63 about which I know anything was misrepresented in the 27 page listing. It was an impossible task to give a single impartial description for each item, and any secretary of state who issued a similar guide for voters without getting divergent opinions would be dismissed, sued, fined, or imprisoned. The slanted language and cardstacking in the descriptions are inadmissible. I feel as though I've done everyone

an injustice, all because "defendants" were prohibited from presenting their cases.

What concerns me most about the process is the idea that entire entities are cut out and radical administrative restructuring is proposed. The "institution" is preserved, regardless of what it offers, before any questioning of our *raison d'etre*. It would be better to start at our identity, and decide whether the concept of a community college as we've been considering it is still valid, rather twisting and torturing its essence and then seeing what we've done to the college's identity. The "themes" sheets began to address the issue, but the "choose one" format eliminated any possibility of any solution that hasn't already been considered. I'd say that the whole process you've had us go through shows an incredible lack of imagination in problem solving. (Protected Source, 1986)

Other faculty members complained about poor turnaround time from the computer in getting her documents returned and, further, that the information was different from that which she had submitted.

In a concurrent meeting, the Council of Instructional Deans proposed budget cuts, combining programs, shutting down campuses during certain hours, and other alterations of existing programs. This proposal elicited some 54 memos and pages of written rationale and defense from the staff.

In an interview, the president said he viewed the results of the processes described above as giving him "advice" on the direction of the budget. He stated that he who presented the best case for his program would get the best results in the budget.

Memos and interviews produced evidence that some staff felt 'fatalistic' about the process: "Why bother when we're

not going to get the funds?" and others felt that their reactions would not be considered even though group involvement was solicited on at least two formal occasions. It should be pointed out that each department used its own process for development of the budget. Some solicited external advice from its advisory group, some used brainstorming with the entire faculty, and some managers used their own judgment. One complaint from the staff was that informational data were not used at the lower levels of planning, only at the dean's level. The department chairs interviewed complained of lack of time to prepare the four budget drafts requested--one ideal and three with percentage cuts.

Portland Community College Budgeting via Matrix I

See Figure 18.

1. Analysis: A comprehensive documentation was completed, with classification for consequential impact.
2. Recognition: The problem was formally recognized and commitment to a solution was made, with formally announced time lines.
3. Search and Screen: In-house heuristics with committee.
4. Select Solution: Mechanistic response, as has "always been done."

ANALYSIS	RECOGNITION	SEARCH & SCREEN	SELECT SOLUTION	AUTHORIZE	EVALUATE
1 Comprehensive documentation of all aspects of problem (Carnegie); classification for impact	2 Formal recognition of problem and commitment to solution	 Internal intelligence and field review; external intelligence and information review	 Analysis and evaluation of alternatives	5 Public/written authorization and clarification or in-house forum	 Formulation of critical attributes to be evaluated; plan for program revision; interviews of relevant staff
 Limited Analysis; memo of information	 Recognition of problem with limited strategy	3 Heuristics with committee	 Selection of developed solutions	 Announcement of plan	 Request for limited evaluation of some aspects of solution
 Limited involvement of problem identification	 Seat-of-pants definition and assignment to process	 In-house solution; not fully addressing problem	4 Mechanistic response	 Line communication with some clarification	 Casual/social request for opinion of solution
 Single Complaint	 No definition of problem	 no intelligence; no goal classification	 No Solution	 No communication	 No evaluation of effectiveness of solution
 Other	 Other	 Other	 Other	 Other	6 Other balanced budget

Figure 18. Matrix I: PCC Budget Planning.

5. Authorization: Board approval of final budget document.
6. Evaluation: No evaluation other than departments staying within budget limits.

Falling enrollments were causing problems both because of fewer tuition dollars and reduced state reimbursement resulting from decreased FTE. The immediate solution for this problem was determined to be to eliminate classes in which enrollments had shown a decline. Though the problem was audited to a degree, there was an assumption that the problem of eliminating classes could be dealt with by reviewing courses with falling enrollments. No consideration seemed to have been given to determining why the courses were falling in enrollments. There seems to have been a looping of activities through the processes of defining the problem, analyzing solutions, and selecting solutions. The process went back through these three phases in some cases as many as three times. The establishment of contingencies was fully developed, as four alternative budgets were solicited from the departments by the president. The authorization phase seemed to progress in a fluid manner and many were impressed that very little correction was done at the board level.

Model I as Analytic Tool

The PCC budget planning process has been done in the same manner throughout the history of the college. It does

not use the decision-package process, but does use a series of development and review processes, and chairpersons are asked in advance to prepare second and third draft lower "back-up" budgets. Bargaining is done only at the dean's level. The process is described adequately in Matrix I (Figure 18) but there is no potential of a rich analysis of the process by using this model.

As can be seen in the Matrix II graphic (Figure 19), the process started at the second phase, problem analysis. Most of the decisions were made by the individual judgment of department chairmen and deans. Since the budget by law must go through board review and approval, the authorization step was high on the scale. As with the CCC budget, no evaluation of the solution was proposed.

The PCC budget process looked better when analyzed by Matrix I than by the Matrix II processes. The Model II (Figure 19) demands that more attention be paid to problem definition, analysis, and criteria for the solution.

Portland Community College Budgeting Via Model II

See Figure 19

1. Problem Defined: No activity.
2. Problem Analyzed: Goals analyzed and obstacles listed.
3. Solution Criteria: Objectives detailed and process established.

Low <<< SOPHISTICATED >>> High	PROBLEM DEFINITION	PROBLEM ANALYSIS	SOLUTION CRITERIA	SOLUTION SEARCH	SOLUTION SELECTION	SOLUTION AUTHORIZATION	SOLUTION FIELD TESTING
	Goals formulated in light of overall mission. Desired outcomes described. Status described	Terms of Goals defined and analyzed Obstacles examined for: cause extent assumptions nature Status Analyzed	Goals Refined Objectives detailed and formulated Specifications articulated Processes set	Search includes: a. Internal/external b. Established/created c. Discovered/developed Analyze alternatives Alternatives measured on basis of specs Write contingencies	Establish Procedure a. Systems analysis b. Bargaining c. Judgement Select Solution a. extend alternative b. modify alternative formalize specs	5 Decision announced to a. public b. total staff c. select group Set policy/procedures Set training for implementation Timelines set	Criteria for success failure Monitor timelines Confirm or revise goals Specs checked
	Objectives listed; Status evaluated	1 Goals analyzed Obstacles listed Status discussed	2 Objectives detailed Process established	Neuristics used in internal search	4 Solutions recommended Alternatives listed	Announce Decision	Specs monitored Timelines Progress reviewed
	Status described	Boistering of causes, effects, and anticipations	Objectives/intents documented	3 Internal seat-of-pants few or no specs	Mechanistic solution	Line staff informed, limited clarification	6 Monitor timelines Progress reports
	No goals No obstacles No assessment of current status Other	No goals defined No analysis of obstacles No clarification of status Other	No objectives No specifications No process No solution criteria Other	No intelligence No analysis No contingencies No specifications Other	No solution Other	No policy No timelines No training No formal announcement Other	No testing of solution Other

Figure 19. Analysis Matrix II: PCC Budget Planning.

4. Solution Search: Internal only, no specifications.
5. Solution Selected: Solutions recommended, alternatives listed.
6. Authorization: Decision is announced formally, publicly.
7. Field Testing: Time lines and progress reports.

Analysis of the Findings

Application of Model and Matrix

Each of the case studies was analyzed by first applying the events or activities to Model I to determine if they followed the procedures and sequences as was seen in models used in business and industry. The corresponding matrix was used to illustrate the process graphically in hopes that each step could be chronologically illustrated.

Discussion and Interpretation of Findings

As was anticipated, patterns began to emerge through an investigation of the four case studies. In describing the processes used, however, no single pattern emerged. This is not uncommon in any organization, as was reported in the literature. Influencing the way in which problems are solved is the problem itself, the characteristics of the organization, and the dynamics of those involved.

The Carnegie theory (Daft, 1983) holds that when problem identification is uncertain, there is a political/

social process which results in building coalitions. This clearly occurred in the marketing cases at both colleges. The Garbage Can Model, which was explained in Chapter II, was partially found in all but Clackamas Community College's budgeting process which used the decision packages in its budget planning. In that one case, a fluid process from beginning to end was evident. Whenever possible the colleges used mechanistic, familiar patterns of processing problems. This created some difficulties in the two marketing problem efforts, as it was a field unfamiliar to most of the players. They were lacking in information, expertise, procedures, and clear goals. There were requests for more research in many of the committee reports, though there was never any clear indication what these committees needed to find out or analyze. This was substantiated in an interview with the college's director of research. Results of the marketing committee process at PCC show that it provided an occasion for catharsis for its members but little more, since suggestions and strategies which were evidenced in their report had little to do with a marketing effort. Suggestions such as "update course content guides" or "improve registration procedure" had little or nothing to do with the original charge to the committee. Lack of clarity in their suggestions was apparent by the use of such suggestions as: "reduce the 30% attrition rate by 2% a year" and "develop

confidential suggestion system to evaluate retention vs. quality of programs."

Portland Community College's budget planning started out to be a mechanistic process. This provided certain security because it was traditional in that institution. The open meeting halfway through the year caused the process to go from a mechanistic model to the Garbage Can Model and resulted in 50 separate memos with pages of supporting documentation to defend each memo-writer's particular interest. It could be concluded that because of the shift from one style to another in the middle of the budgeting process, the staff felt great frustration, rather than involvement.

Model and Matrix I as Descriptive/Prescriptive Instruments

Though it is possible to trace the progress of the case study through Model and Matrix I as it is possible to trace governmental and business decisions through the Carnegie or Incremental Models, the model is not descriptive of an ideal process from which the case study deviates. It can be concluded that the existing models from business and industry provide a framework for describing the social and economic dynamics of approaching problems and reaching decisions. They do not pinpoint the place at which the process falls apart or runs into trouble, nor can they tell why the problems might have occurred.

The Carnegie, Incremental, Garbage Can, and Systems Analysis Models can all be seen in some form, or part thereof, in virtually any process involving groups. None of them provides a complete method of approaching the problem solving process. Model I which was constructed for this study did not work well enough to be recommended as satisfactory. It should be pointed out that the model was meant to accommodate an ideal process and to be able to isolate deviations from the ideal when those deviations were relevant and irrelevant. In certain cases, specific steps in the process were not needed. Because of this the matrix should not consistently be viewed as a charted value judgment.

Though certain aspects of the model could be said to be "workable," the results of this research show that modified business models are not adequate to describe the problem solving process. The major faults found in the Model and Matrix I were these:

1. There is no definition of the problem through the formulation of goals, listing of obstacles, or assessment of current status.
2. The model lacks the early phase of establishing criteria for the ultimate solution and the specifications for that solution. Because of this, no standards are set upon which a solution can be evaluated.

3. There is no phase which analyzes the problem in relationship to the goals, obstacles, and status.

When the application of the models of Mintzberg (1976), Hickson (1986), and others failed to reveal sufficient information to pinpoint the difficulties in decision making within the subject populations the Keltner model was translated and adapted to create the Model and Matrix II.

Model and Matrix II as Prescriptive/Descriptive Instruments

To create a new, more comprehensive model and matrix, further investigation of the literature was some steps used in the social sciences were examined. The processes established by Keltner (1986) were incorporated into the new model. They included a more careful examination and gathering of data on status, goals, and obstacles; listing of specifications of the solution; and establishing criteria for successful solution. The Model and Matrix II were constructed and used in analyzing the case studies. The new model is shown in Figure 20 and the accompanying matrix in Figure 21. Figure 22 illustrates the difference in the steps in the two models.

The main deficiency identified in Model and Matrix I was that it did not include those steps which allowed for the best chance for a successful solution to the problem addressed. Without a clear goal, an understanding of the

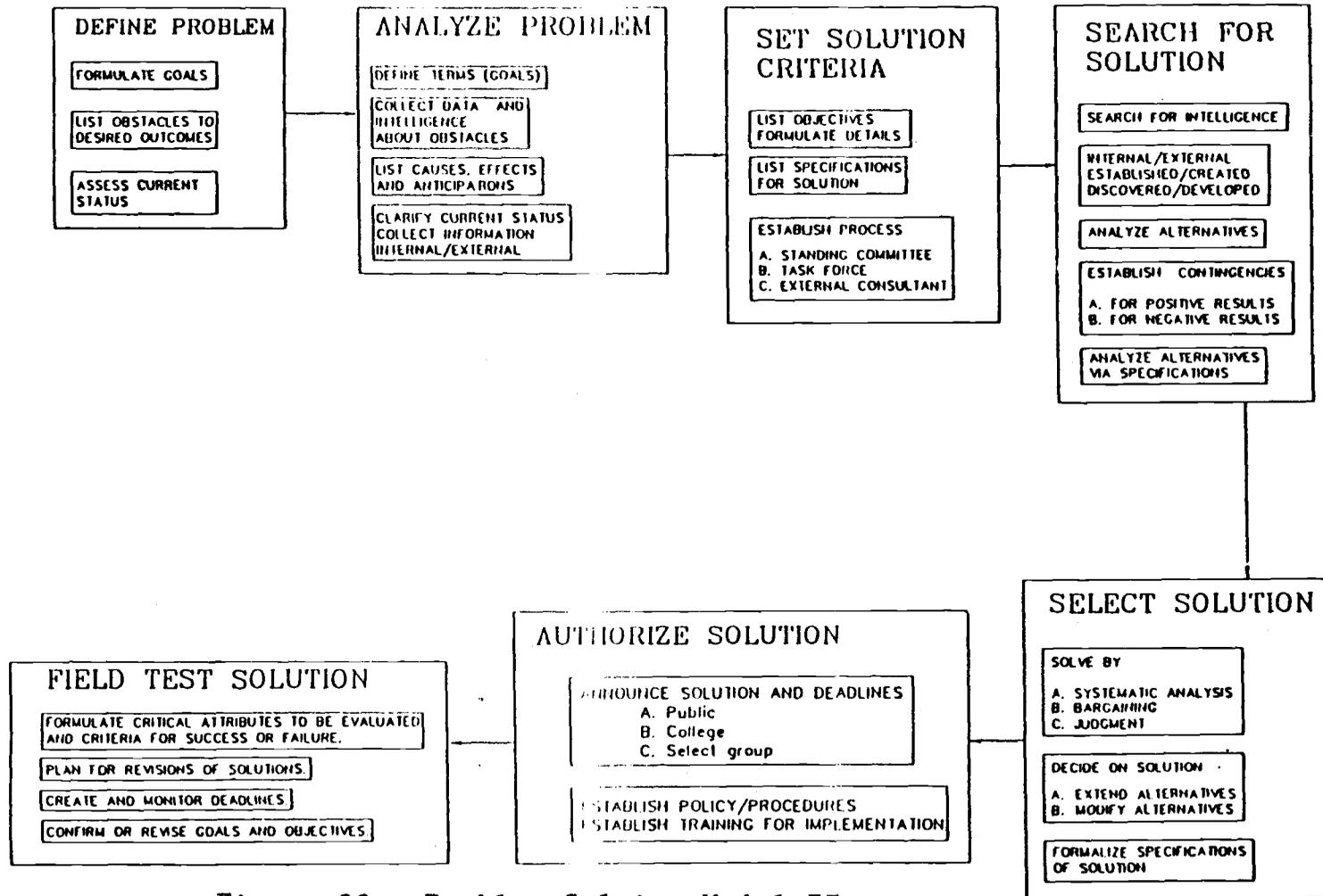


Figure 20. Problem Solving Model II.

PROBLEM DEFINITION	PROBLEM ANALYSIS	SOLUTION CRITERIA	SOLUTION SEARCH	SOLUTION SELECTION	SOLUTION AUTHORIZATION	SOLUTION FIELD TESTING
Goals formulated in light of overall mission. Desired outcomes described. Status described	Terms of Goals defined and analyzed Obstacles examined for cause extent assumptions nature Status Analyzed	Goals Refined Objectives detailed and formulated Specifications articulated Processes set	Search includes: a. Internal/external b. Established/developed c. Discovered/developed Analyze alternatives Alternatives measured on basis of specs Write contingencies	Establish Procedure a. Systems analysis b. Bargaining c. Judgement Select Solution a. extend alternative b. modify alternative Formalize specs	Decision announced to public a. Total staff b. Select group Set policy/procedures Set training for implementation Timelines set	Criteria for success. Failure Monitor timelines Confirm or revise goals Specs checked
Objectives listed; Status evaluated	Goals analyzed Obstacles listed Status discussed	Objectives detailed Process established	Heuristics used in internal search	Solutions recommended Alternatives listed	Announce Decision	Specs monitored Timelines - Progress reviewed
Status described	Bolstering of causes, effects, and anticipations	Objectives/Intents documented	Internal seat-of-pants few or no specs	Mechanistic solution	Line staff informed, limited clarification	Monitor timelines Progress reports
No goals No assessment of current status Other	No goals defined No analysis of obstacles No clarification of status Other	No objectives No specifications No process No solution criteria Other	No intelligence No analysis No contingencies No specifications Other	No solution Other	No policy No timelines No training No formal announcement Other	No testing of solution Other

<<< Low <<< SOPHISTICATION >>> High >>>

Figure 21. Analysis Matrix II.

Model I	Model II
Audit Problem	Define and formulate problem (includes status, goals, obstacles to goals)
Define Problem	Analyze Problem (gather data on status, goals, and obstacles)
Analysis of Solution	Set Solution Criteria (lists specifications, sets group process)
	Search for Solution (collects alternatives)
Select Solution	Select Solution (evaluate alternative criteria and select)
Authorize Solution	Authorize Solution
Evaluate Situation	Field Test

Figure 22. Comparison of Model I to Model II.

obstacles, and a clear picture of the current status, little of consequence can happen in the process. The second deficiency was in the establishment of criteria for the solution, including appropriately detailed specifications for that solution. With a clear goal, and a clear idea of what a good solution to the problem being addressed would look like, the process could be less political, have direction and clarity, and could be accomplished with greater dispatch.

Summary and Conclusions

It could be anticipated that in reaching a solution to any strategic problem in a collegial setting, sophistication of the process would be of ultimate importance. Hickson (1986) suggested that process was more important than the solution. What he did not investigate was the need for excellence in that process in order to come to a solution which solves the identified problem in the best way for both short- and long-range benefits to the entire institution.

The purpose of the study was to create a model by which the problem solving process in community colleges could be analyzed. It was hoped that the model, adapted from the models described in the literature on problem solving in business organizations, would be useful in defining and judging the community college problem solving process. It was found that this model did not serve well, not because

it was an industrial model applied to the field of education, but because of basic design faults with the model which did not actually describe the method of approaching strategic problems.

After careful examination it was determined that the current and popular business models reviewed for this study dealt not with a description of the problem solving process, but rather were descriptions of the social dynamics involved in both problem solving and decision making. Because these descriptions did not provide an accurate and clear process, the new model, Model II, was created and tested. It proved to be superior because of additional steps and criteria in the total process.

Figure 23 graphically portrays the original development and subsequent development of Model I and Model II.

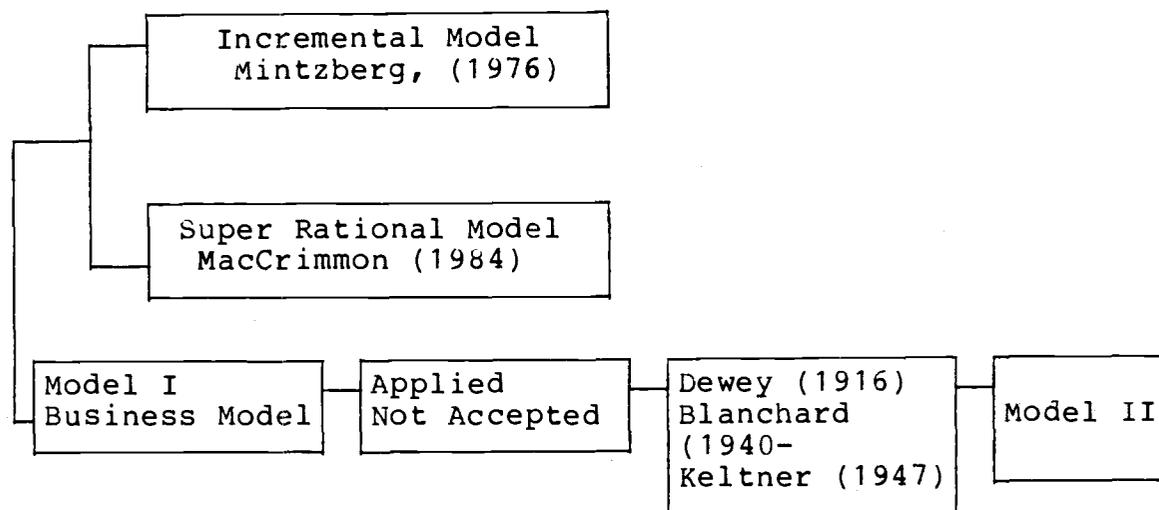


Figure 23. Development of Model II (tracing original sources to Model I, addition of socioscientific concepts which results in Model II).

CHAPTER V

CONCLUSIONS AND IMPLICATIONS

Summary

The purpose of this study was to create a model by which the problem solving process in the community college might be analyzed. It was found that Model I, adapted from business and industry, did not serve well because it did not adequately describe all of the possibilities to be considered for resolving strategic problems. Model II was therefore created and tested. Model II proved to be effective in pinpointing those places in the process which were neglected or not fully developed. It also provided a prescriptive model for strategic problem solving.

Objectives of the Study

Objective I: To review the existing literature in organizational development and problem solving; community college history, organization and management; and decision making in academic administration, and qualitative research methods.

The literature in organizational development yielded a number of models, descriptions of processes, and analyses of

organizational phenomenon. Research concerning varieties of problem solving strategies used in different kinds of organizational settings was described.

The writings dealing with the community college showed an increase in organizational sophistication over the last thirty years. The change from rapid growth of the community college movement to management's concern with accountability and productivity has resulted in increased efforts towards improving the quality of leadership and management. The writers are now espousing long-term commitments to sound management and less attention is being paid to the frontiers of new college and program development.

Among the major factors mentioned in the literature relative to problem solving in academic situations was that there is little difference in the amount of time taken to solve problems in either business or academic settings. The literature also indicated that the process was often as important as the ultimate decision because of the need for collegial involvement in the academic community.

The literature on the qualitative research design provided the basis for the approach used in testing the model. All indications were that this case study approach, based in grounded theory was the best method of studying this phenomenon.

Objective II: Identify problem solving process models from the business and industry research literature.

The literature reviewed in the specified areas produced five basic models and a number of processes which dealt with problem solving and decision making. Several problems emerged when trying to adapt the business models. There seemed to be a consistent confusion concerning "decision making" and "problem solving" as the two terms were generally used to mean the same thing.

In most of the business models some attention was given to the definition and analysis of problems; however, little attention was paid to goal clarification. All of the models studied suggested examination of the problem and search for and discovery of solutions, but in no model was it suggested that goals be examined in light of specified solution criteria. It was never suggested that specifications for the solution be especially addressed in the beginning stages of the process.

The literature on decision making and problem solving in communications and psychology was investigated. The research model was then examined in light of strategies of problem solving which call for clarification and analysis of goals and establishment of criteria for solutions. During this process of investigation it became apparent that the initial definition and analysis of the problem, the establishment of contingencies, the criteria for selection of solutions, and the establishment of implementational procedures were lacking throughout existing business models.

The models dealt more with descriptions of the social and political dynamics involved in making strategic decisions rather than the creation of a complete descriptive process of solving problems.

Objective III: Identify the major components of the problem solving process.

Upon first examination, Mintzberg's (1976) incremental model seemed the most logical to modify in order to create a model which could be used in the study. It, however, lacked the front end analysis of the problem which is suggested as an important step by Mager (1984). The Mintzberg model also did not include any field testing component or formative evaluation. Many of the models examine appeared to be lacking in essential developmental phases. Several models proposed steps which were out of logical sequence.

Objective IV: Create a problem solving process model generalizable to the community college.

The model developed for this study utilized six discrete steps and included a matrix by which to illustrate the taxonomy of problem solving.

Objective V: Develop and test a field work plan designed to analyze decision making data from the community college setting

The field work plan included tracing the history, processes, progressions, and authorization of two strategic

problems, marketing and budgeting, in two Oregon community colleges that would be utilized to examine the degree to which the proposed model accurately described problem solving in community college settings. Each of the schools provided memoranda, correspondence, reports and other documents pertaining to the relevant problems. At each field site, relevant persons were interviewed to determine their perception of the processes.

Objective VI: Utilize the data to examine the relationship between the hypothetical process model and the observed or actual process of community college problem solving.

Analysis of the data suggested that many of the steps outlined in the model were not taken in the actual process of problem solving. Consistently missing were the steps of auditing the problem, analyzing contingencies, commitment to the solution, clarification of goals, and defined criteria for the solution.

Some elements of Model I were found to be consistent with community college decision making; however, Model I was not seen as sufficiently complete or robust. It did not serve well enough without considerable modification to be recommended for further use. It did, however, give the researcher enough background and information to propose Model II, which was tested with the data and did allow for a more definitive analysis of the problems than did Model I.

Conclusions

Most models of decision making in business are descriptive of the process observed in the organization. They portray the general flow of dynamics when problems or opportunities present themselves. Some of the models consider the political nature of the institution; others deal with the process of problem solving without considering the climate of an organization where the problem occurs and record the steps taken and retaken before a final solution is announced.

The term "decision making" is often used in the same way that the term "problem solving" is used. It must be pointed out that decisions are made at various stages of solving problems and that the two terms should not be used to mean the same thing. A problem exists only if something, someone, or some event gets in the way of attaining a goal. But the very simplicity of that definition is fraught with danger. The goal must have definition, specifications for a successful solution must be set, and the current status of the problem must be assessed thoroughly.

Too often organizations deal with strategic problems, that is, those problems which will affect the direction or mission of the organization, as if they were dealing with the purchase of supplies. Strategic problems demand careful and analytic processes if successful solutions are most

likely to be developed. Some of the decision making processes from the business literature which were described in Chapter II detail processes in specific socio-psychological settings. There is certainly much to be learned from an examination of each setting and each process; however, the Fluid process described by Hickson (1986) and the Super-Rational process described by MacCrimmon (1984) offer problem solving typologies which encourage the user to strive for "ideal" conditions while they solve the problem.

Some might think that a process which calls for step-by-step procedures in working through a problem would inhibit creativity and cause irritation to those free spirits who would like the freedom to explore alternatives in coffee shops, during golf games, or during endless committee meetings. Without dictating a setting, Model II provides a skeletal guide of what ought to be done, but it does not dictate a "fill in the blanks" process or an overly defined structure. The steps provide a general checklist of activities. Within each of the steps there is the opportunity for individual/institutional differences, flexibility, and creativity. It should also be pointed out that in some cases, certain steps can be shortened or eliminated, and it is certainly possible that steps might have to be retaken or reconsidered in order to incorporate new evidence.

No process of problem solving, planning, or evaluation should be cast in stone as it would be impossible to

anticipate all opportunities or dynamics which might occur in any given organization. It is hoped, however, that a model which takes into account the need for accountability, flexibility, and creativity will provide a needed structure to the problem solving process. No organization should deal with strategic problems in a perfunctory manner, nor should an organization take a narrow view of the possibilities open to it.

Logically, different units within an organization are likely to have differing goals and expectations. One department may have a staff which is primarily task oriented and has clear direction and an established mission. Another may have a staff which is characterized by interpersonal involvement. Model II is useful regardless of the character of a department because it allows creativity within a framework which assures optimal decision making. Model II drives organizations facing problems to consider them in the light of their goals and to select a solution which fits these goals. The model also provides the possibility of revision and reworking since all aspects of the problem solving process are built into its very nature.

Recommendations for Further Research

1. Model II should be tested as a prescriptive process to be followed in approaching a strategic problem.

2. Further research should be done in the area of goal setting and clarification in connection with problem solving relative to Model II.
3. A study should be undertaken to determine the characteristics of leadership and its effect on the problem solving process while using Model II.
4. A study should be done to see the effect of organizational structure on problem solving.
5. Research should be undertaken in social agencies and government agencies to determine the processes used in approaching problems.
6. Research should be done to determine if there is a relationship between the educational background of the chief executive officers in academic organizations and their receptivity to process management.

Recommendations for Action Items

1. Community college leaders should review the model and relate it to their problem solving processes.
2. Model II should be used to work through stages of a strategic problem at a community college field site.
3. Staff development should be undertaken which would provide training in the Model II problem solving process for all administrative staff.

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APPENDIX

APPENDIX A
RESEARCH INTERVIEW GUIDE

DATE	INTERV	TITLE	ORG	PROBLEM
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<p>1. What was the source of the initial stimulus?</p>	
<p>2. Were stimuli frequent or intense?</p>	
<p>3. Was formal communication (memoranda or meeting) used to explain the problem?</p>	
<p>4. Why was action taken? response to pressure or innovation?</p>	

<p>5. Did anyone stress the importance of the problem? Who and Why?</p>	
<p>6. Did anyone set goals and objectives? What?</p>	
<p>7. At what points did administrators seek information and clarification? Was the search internal or external?</p>	
<p>8. Were specific goals and criteria established early?</p>	

<p>9. Was the problem factored into smaller problems?</p>	
<p>10. Where did the administration seek solution? How did it do so (by intensive search, by scanning, by brainstorming, etc)?</p>	
<p>11. Were alternative solutions proposed or did management "satisfice" by taking and testing alternatives one at a time?</p>	
<p>12. How was screening of alternatives done?</p>	

<p>13. If the search failed was the search extended or were goals modified?</p>	
<p>14. What was the sequence of event? and of managers, departments, committees, task forces, etc.</p>	
<p>15. Were the groups used especially established, or standing?</p>	
<p>16. How was their membership determined?</p>	

<p>17. What kind of information or expertise did internal units and external organizations provide?</p>	
<p>18. Was additional information sought from outside sources or other persons/departments?</p>	
<p>19. Did this improve on initial information ?</p>	
<p>20. Was there the feeling that more investigation should have been done? Who was advocating for more/less information?</p>	

<p>21. How much discussion and debate went on? Where? In offices, committees? or outside of work?</p>	
<p>22. Was there a feeling during discussions that the decision had already been made?</p>	
<p>23. Was there the feeling that input at initial levels would have not impact on the ultimate decision?</p>	
<p>24. Were alternatives sought beyond those apparent to begin with? Which and who suggested them?</p>	

<p>25. Were all possibilities exhausted?</p>	
<p>26. While this was being decided were there interruptions, delays, reconsiderations? Who determined them?</p>	
<p>27. Was evaluation of the decisions 1. computational (by analysis) 2. judgemental (by manager in his head) 3. by bargaining (group debate and tradeoff)?</p>	
<p>28. Was the choice made by an individual or a group, and did it have to be ratified at various hierarchical levels?</p>	

<p>29. Did what happened follow a standard procedure (written/unwritten) in whole or in part?</p>	
<p>30. How much confidence was placed in this information?</p>	
<p>31. How far ahead were people looking in coming to the decision?</p>	
<p>32. Were solutions to the problem reached by Consensus, Majority, one man subject to veto, one man upon advice, one man alone?</p>	

<p>33. Any dissenters? Did anything happen to them?</p>	
<p>34. Were personalities or perceptions of power important? Who and Why?</p>	
<p>35. To what extent did dynamics play a part in this decision (i.e. delays of various kinds and for various reasons)?</p>	
<p>36. To what level did this go for authorization, even if later ratified at a higher level?</p>	

37. Where did authorization occur?	
38. Did that person or group alter the preliminary solution?	
39. Who set deadlines or time constraints? Were they met?	
40. If things went wrong as a result of the decision, would it be serious for the institution? Why?	

<p>41. Was the correctness of the decision judged? How? by hard criteria, e.g. costs, enrollments, layoffs, or by soft criteria like morale, reputation, attitude?</p>	
<p>42. Did the decision change things? In what way?</p>	
<p>43. Was the change to the advantage of anyone in particular?</p>	
<p>44. What was good about the way the decision was made, what was bad?</p>	

APPENDIX B

CLACKAMAS COMMUNITY COLLEGE DECISION GUIDE

VISION FOR DECISION-MAKING

The committee structure at CCC should involve staff in a decision-making process which maintains and enhances an educational environment that is efficient and of the highest possible quality. This process should help us:

1. Balance decentralization (broad-based involvement) and centralization (common direction).
2. Balance careful deliberation and timeliness.
3. Place every employee in the role of problem-solver.
4. Collect comprehensive information and share it openly and analytically.
5. Be flexible and creative in responding to change.
6. Deal with each other as partners in nurturing student success.
7. Maintain a system of self-improvement and continuous organizational audit.
8. Encourage a two-way flow of communication and recognize the necessity for horizontal groups that span traditional organizational boundaries.

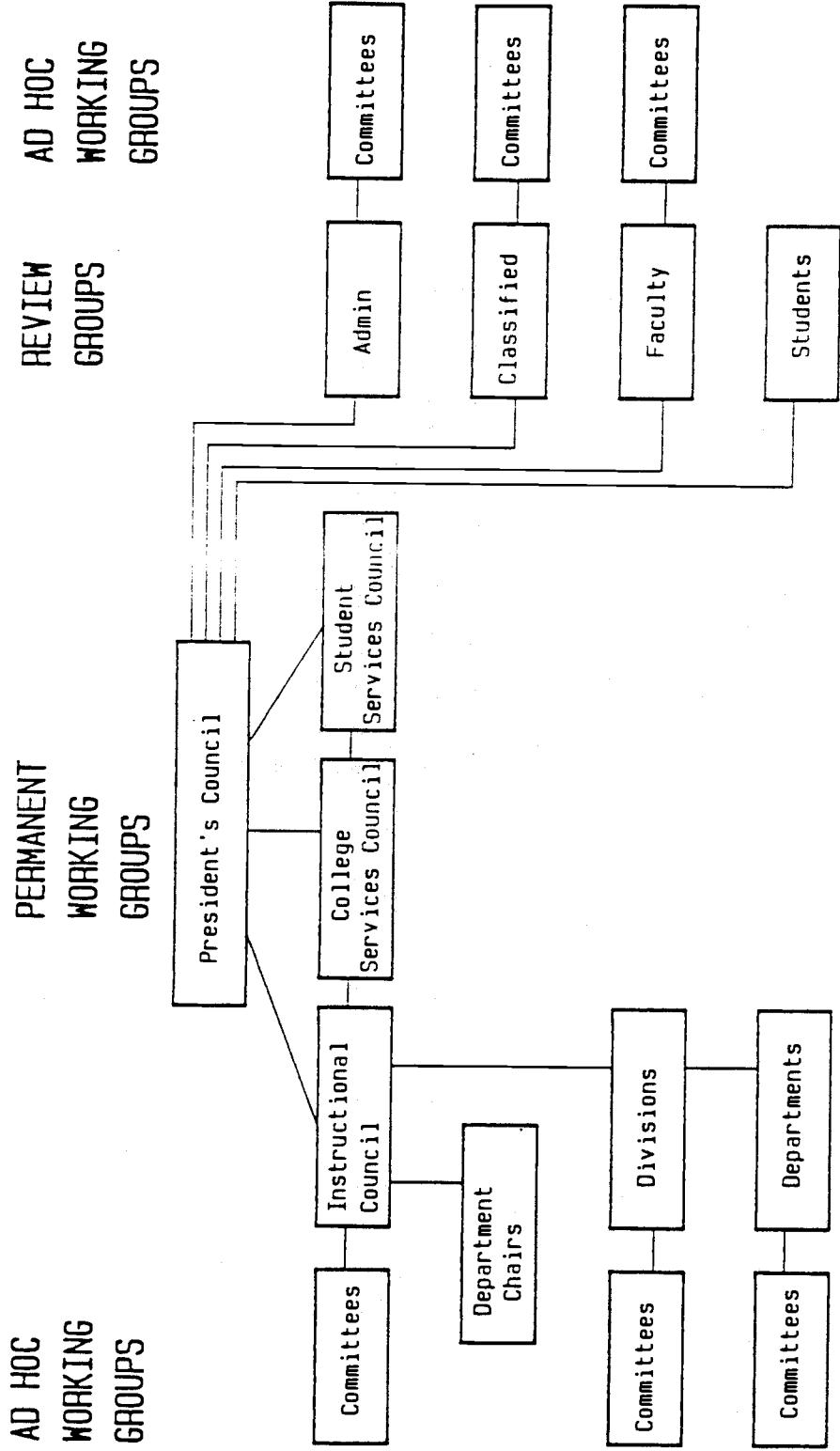
DECISION-MAKING PROCESS

1. The President's Council, representing all groups on campus, is the final internal decision-making group (except for the Board on policy matters). President's Council meetings are open to any staff member who wishes to attend. The Deans will serve as a caucus group of the President's Council on matters related to personnel and budget.
2. Each employee of CCC will be a member of a group, or have direct communication flow with a group which meets regularly. The agenda for each will be to review items pertaining to its area of operation and to make suggestions regarding improving their area of operation or other areas. These staff groups are encouraged to prepare recommendations for the appropriate Dean's Council. Each Dean is charged by the President to insure that this occurs.
3. Each Dean's Council constitutes a working committee to handle items pertaining to their area of expertise and to prepare recommendations for the President's Council. Each Dean may choose to collaborate with other Deans in appointing special ad-hoc teams (usually no more than three people) to prepare recommendations which relate to several Councils.
4. As opposed to these "working" groups (#1, 2, 3), there will be several "review" groups that will regularly deliberate on recommendations/proposals which have

surfaced through individual employees or the Deans' Councils. The primary review groups are four institutional organizations: classified, faculty, management and students. The "review" groups are encouraged to initiate recommendations for deliberations by the appropriate Council. The "review" groups will have the chance to review, comment on, and suggest adjustments to any recommendation/proposal which is being prepared for President's Council approval which may have direct impact on that constituent group. It will be the responsibility of the appropriate Dean to insure that this happens. Obviously, some matters will be judgment calls; but the President's Council, with its all-association representation, will provide a check and balance on such matters.

It is understood that the faculty and the classified association have rules regarding conditions of employment which are defined in bargaining agreements.

5. From time to time special Task Force groups will need to be established. These will have a clearly-defined purpose and definite time frame for completion of their tasks. The President, working with the President's Council, will be the designating authority for special Task Force groups.



B U D G E T S U M M A R Y

Item

DEPARTMENT _____
(Dept. No. : _____)

SUBMITTED BY _____

INCLUDE IN THIS SPACE WHEN APPROPRIATE:

1. A brief description of what the department offers.
2. A statement on enrollment trends/projections.
3. A brief description of decision packages both accepted and not accepted.
4. A statement on the increase, decrease or status quo of staff in the department.
5. 1984-85 department reimbursable FTE and projected reimbursable FTE for 1986-87.
6. Under staff employed insert the position and the percent employed in that position.
7. If additional space is needed for the listing of staff, place them just above course offerings.
8. The Business Office will enter the Appropriation Comparison.

CLACKAMAS COMMUNITY COLLEGE BUDGET FORM

APPENDIX C

SUBJECTS/COURSE OFFERINGS : _____

STAFF EMPLOYED 50% OR MORE: _____

APPROPRIATION COMPARISON

	1985-86	1986-87
PERSONNEL SERVICES	_____	_____
MATERIALS & SERVICES	_____	_____
CAPITAL OUTLAY	_____	_____
TRANSFER	_____	_____
CONTINGENCY	_____	_____
T O T A L	_____	_____

APPENDIX D

PORTLAND COMMUNITY COLLEGE BUDGET MEMO



January 18, 1986

To: Staff
From: James Van Dyke *JVD*
Re: 1986-87 Budget

As the College struggles with the continued decline in resources caused by a drop in enrollment, input from the college community is needed. I have scheduled this meeting to gain input from you on some major themes that the College could use to help alleviate the situation. The major concern rests with the possibility of the defeat of the proposed tax base increase in the May primary election. Even if we are successful in the election, movement along one or more of these themes will be needed as costs will continue to increase on a yearly basis. It is highly improbable that PCC will ever retain the large enrollments that it has had, due to a decrease in the population base that we once drew from. Instead, we will see an increase in the part-time student and short term training needs.

Today, I am asking you to give me your opinion on seven major themes and on some specific decision packages. Please understand that this is not a vote or a decision-making process by a group, but rather an advisory role to the President. I will tabulate the input and use it to formulate my recommendations to the Board. I will take full responsibility for recommendations that are made.

In order to gain your perspective on the issues, I am asking that you fill out the attached opinion form before you leave today. Try and put yourself in the position of needing to recommend to the Board the direction the College should take during this shortfall. Also keep in mind that it most likely is a long term, not a short term problem.

Directions for filling out the Opinion Form:

1. For Themes I - VII, check the appropriate action.
2. For the specific items, rank them from 1 (first) to 63 (last) in the order of the actions you would take to reduce the College's obligations.

Thank you very much for taking time from your weekend to participate in this important project. Everyone's expertise is needed and desired as we plan for the future.

JVD ss

COLLEGE BOARD: Carl Piacentini, Chairperson • Dana Anderson • Howard Cherry • Norma Jean Germond • William Long • Jeannette Saucy • Dick Springer
PRESIDENT: James Van Dyke

Major Themes

I Comprehensive Campuses

- Retain as best possible
 Move away from

Comprehensive campuses allow for access to general programs within 15 minutes of most patrons. Elimination of services would cause an added burden of travel to students.

Some ways the comprehensiveness of campuses might be affected include:

- a) no summer classes
- b) elimination of light enrolled classes
- c) consolidation of more programs to a single campus
- d) evening programs or day programs only
- e) financial aid - Veterans' services not available

II Is this the year to begin to provide better service to students and public?

- Yes
 No

Services that need improvement include:

- a) Library
- b) Job Placement
- c) Admissions
- d) Public Relations

III Should a reasonable amount of dollars, say \$2,000,000, be dedicated annually to building and grounds upkeep?

- Yes
 No

IV Should programs or support for programs be reduced?

- Programs
 Support

The college currently hires approximately 600 FTE faculty and supports this group with approximately 600 FTE in administration, classified and student help.

- V A cost effective student to faculty ratio seems to be 22 to 1. The proposed budget calls for a ratio of 19 to 1.

Implement a 3 year plan to get to the 22 to 1 ratio
 Do not place a high value on these ratios

If such a plan were implemented on a program by program basis, it would have a major effect on those programs operating way below recommended levels. Some programs severely affected would be:

- a) Medical Lab
- b) Computer Science
- c) Engineering Tech
- d) Micro Electronics
- e) Industrial Drafting

A total of 40 FTE instructors would be eliminated next year. The ability to operate comprehensive campuses might be affected.

- VI Should the college make adjustments to live within resources and commission a task force to reshape the college into one that can be financed within its current level of resources?

Yes
 No

This would imply a freeze on all replacement hiring and new hires. Some program reductions would be necessary. Other items subject to collective bargaining would need to be considered.

- VII Should the college substantially increase student tuition and fees to offset current revenue shortage?

Yes
 No

A substantial increase would be more than 5%. Tuition and fees currently yield 23% of the college's revenue. Moving it to 30% would require an increase of 32%. The cost of a 1 credit hour course would rise from \$22.50 to \$29.70. The consequence of such a move might put the cost of attending PCC out of reach for many of our students. Since Mt. Hood and Clackamas do not charge out-of-district tuition, students may transfer.

 Microelectronics

Action: Change to upgrading program evenings only

FTE Loss:	<u>42.02+18hrs</u>	The program scheduled to provide initial industry training in a day program of study is not supported by current employment opportunities in microelectronics. An industry upgrade program appears to have potential and is supported by various microelectronics groups. A night class
Operating Budget:	<u>\$176,557*</u>	
Revenue Loss:	<u>\$ 77,233</u>	
Total Savings:	<u>\$ 99,324**</u>	

offered Winter term to test general interest filled rapidly. Spring term will be used to further test industry upgrade interest and enrollment potential.

*These figures must be adjusted to include costs and savings in funding an industry upgrade program

**These figures include general education requirements, chemistry, and math. They do not include courses needed to meet minimum graduation requirements in English.

 Associate Dean

Action: Eliminate one position

FTE Loss:	<u>Some*</u>	The present PCC organizational approach includes associate deans as an important and integral element in the college. Loss of one position would cause some administrative reorganization.
Operating Budget:	<u>\$ 60,649</u>	
Revenue Loss:	<u>Some*</u>	
Total Savings:	<u>\$ 60,649</u>	

*Some loss of revenue and FTE (difficult to estimate) could be experienced by the college as associate deans are active in soliciting and developing educational contracts with other public agencies as well as business and industry.

Associate deans are to insure instructional quality within the institution. Such reduction will affect the interaction with department chairs, faculty and students necessary for effective curriculum development and evaluation. Major discussion concerning the direction of the college in keeping with the changing needs of the community also requires active administrative participation which will be impacted by the reduction of an associate dean.

 Geography

Action: Eliminate

FTE Loss:	<u>30.1</u>
Operating Budget:	<u>\$ 87,000</u>
Revenue Loss:	<u>\$ 55,324</u>
Total Savings:	<u>\$ 34,676</u>

These figures assume reduction of 2 FTE instructors in Geography. Geography is an important area of study in that it deals with environmental analysis and concerns. It is of particular importance to students who anticipate careers in city planning, resource or environmental management or

development. This perspective is not offered by other areas of study in the college. Assuming that students enroll in other courses, there may be no loss of revenue.

 Dietetic Aide/Tech Program

Action: Eliminate Program

FTE Loss:	<u>25.58 est.</u>
Operating Budget:	<u>\$118,356 (est.)</u>
Revenue Loss:	<u>\$ 47,016</u>
Total Savings:	<u>\$ 71,340</u>

The dietetic technician and dietetic aide assist a registered nutritionist in care programs. Enrollment and employment in this program have been decreasing. Dietetic tech and dietetic aide are the only programs offered in the local area. Phasing out this program

would take two years. The College would need to provide instruction to second year students during 1986-87.

 Capital Projects 11

Action: Delay Mechanical and Structural Maintenance, Cascade

FTE Loss:	<u>-0-</u>
Operating Budget:	<u>\$100,000</u>
Revenue Loss:	<u>-0-</u>
Total Savings:	<u>\$100,000</u>

The consequences of not repairing windows, of not repairing air conditioning at Cascade and not replacing heating/air units at Southeast could make the Cascade Student Center and the entire Southeast Center inoperable and cause further deterioration of the older but permanent buildings at Cascade.

_____ Capital Projects 14

Action: Delay Mall Remodeling for Bookstore and Office Space,
Sylvania

FTE Loss:	<u>-0-</u>	Consequences would be to continue to limit bookstore sales with limit of bookstore profits to apply to other college services. Delay of office space makes service less accessible to students.
Operating Budget:	<u>\$210,000</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$210,000</u>	

_____ Physical Education

Action: Eliminate

FTE Loss:	<u>176</u>	Elimination of PE at PCC would impact large program and variety of offerings. Current trend at four year universities across Oregon has been to de-emphasize the PE requirement for graduation HPE 298 is the requirement at PSU. Credit offerings in lifesaving, backpacking, steelhead fishing, aerobics, fitness, basketball, bowling, racquet sports, swimming, conditioning, volleyball, weight training, yoga, corrective physical education and skiing would be eliminated.
Operating Budget:	<u>\$907,272</u>	
Revenue Loss:	<u>\$323,488</u>	
Total Savings:	<u>\$583,784</u>	

_____ Classified
Full time

Action: Reduce work year by 10 days

FTE Loss:	<u>-0-</u>	Statistically this is equivalent to reducing full time classified staff by approximately 14 FTE positions. This would cause extreme hardship in some service areas where service is being provided now only marginally because of work load. In the critical areas, it would reduce services to staff and students significantly. In other areas, it would have little effect.
Operating Budget:	<u>\$322,511</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$322,511</u>	

Vocational Music

Action: Eliminate program

FTE Loss:	<u> 40 </u>
Operating Budget:	<u> \$120,819 </u>
Revenue Loss:	<u> \$ 73,520 </u>
Total Savings:	<u> \$ 47,299 </u>

Students will be unable to receive training of equivalent quality at equivalent cost in the area. Since Vocational Music students take courses in other areas, elimination of the program will contribute to erosion of enrollment campuswide.

Vocational Music groups have performed at various college functions and assist in promoting the college to the public. The investment made in equipment in recent years will be impossible to recoup.

 Capital Projects 10

Action: Delay Mechanical Maintenance and Repair, Sylvania

FTE Loss:	<u> -0- </u>
Operating Budget:	<u> \$100,000 </u>
Revenue Loss:	<u> -0- </u>
Total Savings:	<u> \$100,000 </u>

Consequences of not repairing the swimming pool filter system, the showers, hot water system, and swimming tanks will make the gymnasium basically inoperable. The delay of making the solar system more efficient keeps it from performing as it was intended, with loss of energy savings.

 Veterinarian Tech

Action: Eliminate

FTE Loss:	<u> 28 </u>
Operating Budget:	<u> \$ 79,920* </u>
Revenue Loss:	<u> \$ 51,464 </u>
Total Savings:	<u> \$ 28,456 </u>

This budget is closely tied to the Farm budget by shared full-time employees: .65 FT administrator and .35 FT classified person. There is no other program in the state for these students; therefore, most would probably have to seek new areas of endeavor. The community would also have to seek alternatives for securing employees.

*Reflects -12,824 to be transferred to other budgets.

_____ Capital Projects 15

Action: Delay Expansion and Remodeling of Rock Creek Business Office

FTE Loss:	<u>-0-</u>	Consequences would continue in-convenience to students and staff during registration and to deny staff the ability to conduct financial transactions in a safe and business-like manner.
Operating Budget:	<u>\$120,000</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$120,000</u>	

_____ Dental Assistant

Action: Eliminate

FTE Loss:	<u>58.9</u>	Dental assistants work directly with the dentist in treatment of patients to the extent of exposing and processing diagnostic dental radiographs. Enrollment has increased in FTE from 38.4 in 1984-85 to a projected 58.9 for 1985-86. Health care programs are projected to increase to 1995. Discontinuing this program would eliminate this option for students in the PCC district.
Operating Budget:	<u>\$156,886</u>	
Revenue Loss:	<u>\$108,258</u>	
Total Savings:	<u>\$ 48,628</u>	

_____ Human Resources

Action: Eliminate staff development position

FTE Loss:	<u>none</u>	Students and staff would not have an internal source with which to file discrimination complaints. The institution would not be able to continue its affirmative action/equal opportunity program nor to adequately respond to complaints. The institution's ability to respond to its collective bargaining and contract administration obligations would be greatly impaired. No staff to coordinate already limited staff development activities. Increased legal costs. Increased workload for remaining two staff members. Inquiries and complaints will continue.
Operating Budget:	<u>\$ 38,368</u>	
Revenue Loss:	<u>none</u>	
Total Savings:	<u>\$ 38,368</u>	

____ Faculty

Action: Eliminate all replacement positions/Replace with part-time

FTE Loss:	<u>-0-</u>	As these savings are based on the positions being replaced with part-time instructors, the consequences would not be drastic except in some highly technical areas where part-time instructors might not be available.
Operating Budget:	<u>\$ 90,851</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$ 90,851</u>	

____ Special Literature Classes

Action: Eliminate

FTE Loss:	<u>9.07</u>	There are approximately seven sections of one-term special interest literature classes being offered in the PCC district during 1985-86. Not offering them would diminish student exposure to some areas of literature. Generally, full-time faculty teach the special interest classes. If special interest classes were discontinued, full-time faculty would teach courses projected to be taught by part-time instructors. Students may take other courses in place of special interest classes.
Operating Budget:	<u>\$ 4,998</u>	
Revenue Loss:	<u>\$ 16,670</u>	
Total Savings:	<u>\$ 11,672(-)</u>	

____ Capital Projects 4

Action: Delay Roof Repair, Rock Creek Campus

FTE Loss:	<u>-0-</u>	Immediate consequences to students would be minimal. Consequences to staff would be inconvenient in places where the roof leaks badly. Consequences to the college and community would be a more rapid deterioration of the building and an unpleasant, unsightly, and sometimes dangerous environment. Danger from potential falls when people slip on wet spots, stumble over buckets, or are hit by falling ceiling tile will increase. Potential for liability claims is high.
Operating Budget:	<u>\$400,000</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$400,000</u>	

 Custodial

Action: Eliminate 3 reinstated positions

FTE Loss:	<u>-0-</u>	Twenty-five and one-half custodial positions were cut from 1984-85 to 1985-86. There are now no persons to take up the slack in a very tightly scheduled crew when people are absent from work. Absenteeism among custodial personnel is very high. The quality of care to the buildings will decline further. Cleaning, preventive maintenance and minor repair, the things that keep the plant from deteriorating, would be performed less often.
Operating Budget:	<u>\$ 62,454</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$ 62,454</u>	

 Capital Projects 16

Action: Delay Library Expansion, Sylvania

FTE Loss:	<u>-0-</u>	It has been recognized by the college for several years and has been officially cited by the accrediting teams that the Sylvania library physical space is much too small for the student and faculty population. The consequences of not expanding the facility continues to deny students study space and hinders the development of a collection of adequate size and scope to meet library standards.
Operating Budget:	<u>\$600,000</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$600,000</u>	

 District Relations

Action: Eliminate new PR position

FTE Loss:	<u>no direct</u>	This request increases a part time media relations specialist to a full time position. The addition will enhance our ability to get information out to the community about the college and our programs. The visibility should work toward enrollment increases.
Operating Budget:	<u>\$ 15,600</u>	
Revenue Loss:	<u>_____</u>	
Total Savings:	<u>\$ 15,600</u>	

 Capital Projects 8

Action: Delay Computer Room Air Conditioning Replacement, Lighting Retrofit, and Maintenance of Electrical Vaults, Sylvania

FTE Loss:	<u>-0-</u>	Unless the college would have to close for an extended period
Operating Budget:	<u>\$100,000</u>	
Revenue Loss:	<u>-0-</u>	Except as stated above
Total Savings:	<u>\$100,000</u>	

Consequences would be costly delays to the college operation if the computer were out of use for any length of time or if there were an extended power failure as a result of failure of electrical vault switching. Delay of lighting retrofit with less expensive bulbs and ballasts causes us to spend more on electricity.

 Math and Data Processing Chairs

Action: Keep at half time

FTE Loss:	<u>None</u>	(Generating 17.03 FTE during 1985-86)
Operating Budget:	<u>\$ 17,908</u>	(Estimated - depends on negotiations etc)
Revenue Loss:	<u>\$ 31,246(+)</u>	
Total Savings:	<u>\$ 11,412</u>	(Part-time salaries)

Department Chair position would continue as half-time instructors as they are at the present time. Impact would be as currently experienced, which is an active and heavy load as instructors and department chairs.

The college would continue to receive about \$13,246 in revenue per year because of FTE generated by these two chairs.

Budget projections for 1986-87 include dollars to hire part-time instructors to replace classes lost by assigning the department chairs to full-time administrative duties (also projected in the budget). Continuing the two department chairs at half-time would allow for coverage of classes and would reduce part-time faculty needs.

Math below 4.200

Action: Drop formal classes

FTE Loss: 19(est.)
 Operating Budget: \$ 40,425
 Revenue Loss: \$ 34,992
 Total Savings: \$ 5,503

Impact would include loss of formal classroom approach (lecture/lab) to Fundamentals of Arithmetic. Present plans include moving this course to Alternative Learning Lab. With elimination of Alternative Learning Labs (also proposed) these offerings would not be available at PCC as credit offerings.

Alternative Learning Center

Action: Eliminate all

FTE Loss: 37.62
 Operating Budget: \$183,516
 Revenue Loss: \$ 69,146
 Total Savings: \$114,370

Alternative Learning Centers are at different stages of development at the various campuses/centers. Elimination of services provided by the Alternative Learning Centers would impact approximately 37 FTE students. Services such as basic review of math, reading, English and

assistance to complete classes are provided to many students. GED preparation is also provided. Practice sessions for ESL students are also a service provided by the ALC. New approaches to math below MTH 4.200 and Comp Lan Dev designated to be offered in the Centers would not be possible. Also, the ALC provides assistance to students having difficulty in other areas (i.e., math class, etc.) and students would not have this type of assistance in such a center.

Capital Projects 5

Action: Delay Completion of Science Lab, Cascade

FTE Loss: -0-
 Operating Budget: \$197,000
 Revenue Loss: -0-
 Total Savings: \$197,000

Consequences would be that Science at Cascade would have to be offered in present Science facilities. Offerings could remain the same.

 Interpreter for Deaf

Action: RIF one full-time instructor

FTE Loss:	<u>-0-</u>	Student - part-time staff replacement probably will not measure up to RIFed instructor thus affecting quality
Operating Budget:	<u>\$ 99,839*</u>	The Community - none foreseen
Revenue Loss:	<u>-0-</u>	The Institution - remaining staff will have to assume more advising as well as additional teaching in areas not capable of being met by part-time staff
Total Savings:	<u>\$ 19,194</u>	

*Includes part-time money added back to cover sections

 Capital Projects 7

Action: Delay Paving and Lighting, Southeast Center

FTE Loss:	<u>-0-</u>	Consequences will be further deterioration of the parking lot, which already has broken up quite badly, and continued high maintenance and energy costs for the lighting. The electrical wiring lies unprotected directly below the pavement and as the paving breaks up, the wiring becomes exposed. The lamps are high energy type that were installed when energy was very cheap.
Operating Budget:	<u>\$130,000</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$130,000</u>	

 Custodial Service

Action: Contract services outside college

FTE Loss:	<u>-0-</u>	Consequences would likely be a poorer quality building care. This observation is made from observing experiences of other institutions that have contracted for custodial care. However, many businesses have used contract custodial services exclusively for years with success. The action would require bargaining under labor law and the current contract.
Operating Budget:	<u>\$ 365,000</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$ 365,000</u>	

Optics

Action:	Eliminate 1986-87*(1 class)	1987-88 (Total Program)
FTE Loss:	<u>23.3</u>	<u>55.09**</u>
Operating Budget:	<u>\$ 76,109*</u>	<u>\$ 78,866</u>
Revenue Loss:	<u>\$ 43,825</u>	<u>\$101,255(-)</u>
Total Savings:	<u>\$ 33,284*</u>	<u>\$ 22,389(-)</u>

Impact Statement - 1986-87

The \$76,109 operating budget funds 2.0 full-time staff and .36 part-time staff at a cost of \$1,900 per FTE. the curriculum has been revised to reflect the ophthalmic dispensing instruction provided in the program. There are adequate jobs for program graduates, and the PCC graduates are employed.

The 1986-87 figures do not reflect total program elimination because it is necessary to offer second-year coursework for students entering Fall 1985. FTE loss also does not include course work needed to meet minimum math and English graduation requirements.

* Cannot totally eliminate

**Includes: 4.23 Business
6.58 General Ed
1.94 Science

Capital Projects 12

Action: Delay Mechanical, Road and Structural Repair, Rock Creek

FTE Loss:	<u>-0-</u>
Operating Budget:	<u>\$160,000</u>
Revenue Loss:	<u>-0-</u>
Total Savings:	<u>\$160,000</u>

The consequences of not repairing heat exchangers cause a higher use of fuel. Failure to provide vented windows for air circulation makes it almost impossible to use classrooms on the second floor when the sun shines. The recent accrediting team listed this condition as one needing immediate attention.

Failure to repair structural cracking on stairway handrail bases will cause breakage, resulting in extensive damage to stairs. Failure to repair roads results in multiple costs later.

Physical Education

Action: Offer all recreational courses under Community Ed

FTE Loss:	<u>62 (approx)</u>	(35% of PE offerings)
Operating Budget:	<u>\$317,545</u>	(35% of projected budget)
Revenue Loss:	<u>\$113,956</u>	
Total Savings:	<u>\$203,589</u>	

Physical education recreational courses are not generally reimbursable according to the Oregon State Department of Education. Approximately 35% of the PE courses offered fall into the recreational category.

To offer such courses under Community Education in an attempt to make such courses reimbursable by the contact hour would not be acceptable as far as revenue is concerned. In the "other reimbursable" category, the State will only reimburse introductory fitness courses in significant physical activities that lead to a more productive lifestyle (their definition). If we switched all currently active PE-LDC courses to the "other reimbursable" category, many courses would not be reimbursable.

Offering all recreational courses, then, would impact the College significantly because of the loss of revenue (projected above) which the College would experience.

Classified Part-Time

Action: Change one-half to student help

FTE Loss:	<u>-0-</u>	Reliability of students is less than that of regular part-time help, and their class schedules dictate when they can work.
Operating Budget:	<u>\$246,000</u>	Full-time staff would spend more time training as turnover of students is greater than of other part time.
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$246,000</u>	

Capital Projects 3
Action: Delay Roof Repair, Cascade Campus

FTE Loss:	<u>-0-</u>	Immediate consequences to students would be minimal. Consequences to staff would be inconvenient in places where the roof leaks badly. Consequences to the college and community would be a more rapid deterioration of the building and an unpleasant, unsightly, and sometimes dangerous environment.
Operating Budget:	<u>\$266,000</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$266,000</u>	

Danger from potential falls when people slip on wet spots, stumble over buckets, or are hit by falling ceiling tile will increase. Potential for liability claims is high.

Administration
Action: Reduce contracts by 10 days

FTE Loss:	<u>-0-</u>	Statistically it would have the effect of reducing the administrative staff by 4.35 FTE. The consequences to the college community would be more for some positions and fewer for others. Some administrative position duties are more seasonal, while others have no slow periods.
Operating Budget:	<u>\$212,000</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$212,000</u>	

These consequences would be slower response time for services or some services terminated. There would probably be few immediate consequences to students.

Theatre Program
Action: Eliminate

FTE Loss:	<u>14.7</u>	Students interested in majoring in performing arts usually do not enroll at PCC. Theatre arts programs are offered in the local area and there are groups in the community for students who are interested in amateur theatre. Students may take other courses if theatre arts is not offered.
Operating Budget:	<u>\$ 40,811</u>	
Revenue Loss:	<u>\$ 27,017</u>	
Total Savings:	<u>\$ 13,794</u>	

 Capital Projects 2

Action: Delay Roof Repair Communication Technology Building

FTE Loss:	<u>-0-</u>	Immediate consequences to students would be minimal. Consequences to staff would be inconvenient in places where the roof leaks badly. Consequences to the college and community would be a more rapid deterioration of the building and an unpleasant, unsightly, and sometimes dangerous environment.
Operating Budget:	<u>\$185,000</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$185,000</u>	

Danger from potential falls when people slip on wet spots, stumble over buckets, or are hit by falling ceiling tile will increase. Potential for liability claims is high.

 English Dept Chair - Sylvania

Action: Do not fill

FTE Loss:	<u>Minimal</u>	The Sylvania English Chair serves the department of ENNL, Foreign Language, as well as English. The three departments are expected to generate approximately 690 student FTE for 1986-87. Alternatives to the administration of these three departments may include transfer or shifting of administrative duties as well as looking to management support options. Impact on these departments because of their size and complex nature would be heavy. Student FTE may be minimally impacted because of problems with class schedules, etc.
Operating Budget:	<u>\$ 43,435</u>	
Revenue Loss:	<u>Minimal</u>	
Total Savings:	<u>\$ 43,435</u>	

 Support Services

Action: Reduce 1% pro rata

FTE Loss:	<u>-0-</u>	The consequences to the college, community, and students would be negligible except in some service areas which are now understaffed to the point of not being able to give good and timely service to students.
Operating Budget:	<u>\$168,783</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$168,783</u>	

 Welding

Action: Offer night program only

FTE Loss:	<u>+ or - 20</u>	Reduces staff by 2 FT instructors. May impact most heavily utilized machines (wirefeed, etc.) which could affect enrollment. Other colleges may be able to absorb students at this time; however, an economic upswing may lead to need to offer more sections.
	<u>\$271,173</u>	
Operating Budget:	<u>201,065</u>	
	(revised budget)	
Revenue Loss:	<u>36,760</u>	
Total Savings:	<u>\$ 33,348</u>	

 Capital Projects 1

Action: Delay Roof Repair Health Technology Building

FTE Loss:	<u>-0-</u>	Immediate consequences to students would be minimal. Consequences to staff would be inconvenient in places where the roof leaks badly. Consequences to the college and community would be a more rapid deterioration of the building and an unpleasant, unsightly, and sometimes dangerous environment. Danger from potential falls when people slip on wet spots, stumble over buckets, or are hit by falling ceiling tile will increase. Potential for liability claims is high.
Operating Budget:	<u>\$355,000</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$355,000</u>	

 Anthropology

Action: Eliminate

FTE Loss:	<u>26.5</u>	Anthropology is a well and long established discipline which does offer a perspective not available to students in other disciplines. While the college has few anthropology majors, it is difficult to determine the effect of eradicating that field of study from a college of this size. How much students would be affected is difficult to estimate. If students enroll in other courses, there may be no loss of revenue.
Operating Budget:	<u>\$103,744</u>	
Revenue Loss:	<u>\$ 48,707</u>	
Total Savings:	<u>\$ 55,034</u>	

 Southeast Center

Action: Close SE during the day Fall-Winter-Spring except for Government Services and Industrial Occupations

FTE Loss:	<u>290.99</u>	1. The loss of approximately 291 FTE as well as the tuition that is generated for those classes is \$534,839. The staff in the operating budget, in most cases, will have to be picked up by other cost centers because of the seniority most centered full-time staff possess.
Operating Budget:	<u>\$495,781</u>	
Revenue Loss:	<u>\$534,839</u>	
Total Savings:	<u>\$ 39,058(-)</u>	

2. We will still be keeping the center operating for some selected core programs in the daytime as well as the continued evening and weekend classes. There would probably be no significant savings in utilities. 3. The Southeast Center currently serves a population within the city of Portland of approximately 141,528 individuals. This does not take into consideration the newly annexed areas in east county. 4. Those in the Centers Administration are still feeling the fallout as the result of loss of instructional space in the closure of the Stadium Center. We do not have any decent voc-tech areas left either in the eastside or downtown Portland. 5. Many of the programs which are showing growth within the college are located under the Centers Administration. 6. The Southeast Center is the most cost effective cost center within the college.

 Capital Projects 9

Action: Delay Replacement of Equipment

FTE Loss:	<u>-0-</u>	Immediately
Operating Budget:	<u>\$500,000</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$500,000</u>	

Experience has shown educational institutions that equipment should be replaced on a cyclical system of about ten years. Much of the equipment of the college is considerably more than ten years old. Delay causes the eventual cost to be prohibitive and forces the instructional programs especially to use worn out and outdated equipment to prepare students to be employed in business and industry that keep up to date.

 Summer Session

Action: Close all but Sylvania for Summer

PTE Loss: 79
 Operating Budget: \$1,783,613
 Revenue Loss: \$ 145,202
 Total Savings: \$1,638,411

If Cascade, Rock Creek and Centers are restricted to offering only those vocational programs that are unique to their campus and eliminate those programs that do not have to operate or operate at less than 50% efficiency, would lose no more than 80 FTE. If we assumed that the summer budget

represented approximately 8% of the campus budgets, based upon 1985-86 budget the following savings would apply:

	Budget	8%
Sylvania	\$14,573,353	\$ 1,165,868
Cascade	3,290,200	263,256
Rock Creek	4,431,114	354,489
Southeast	3,097,087	247,766
		<u>\$ 1,783,613</u>

*Further analysis would be required to determine exact amount of expenditure.

 Community Education

Action: No growth budget

PTE Loss: Indeterminate
 Operating Budget: \$ 30,000
 Revenue Loss: _____
 Total Savings: \$ 30,000

The Community Ed program at PCC offers a wide variety of classes to an audience that would not otherwise receive service from the college. The impact this program has on the community has been severely diminished with inappropriate marketing and, during the past two years,

budget cuts. Community Education, by virtue of its flexibility and ability to reflect market trends, should be used not only to promote the college and education within the PCC district, but to develop pilot programs that could be incorporated into college programs. Continued budget cuts and lack of a clear mission cause this program to be more of a burden rather than a positive effect to the institution.

 Capital Projects 13

Action: Delay Constructing Faculty Office Space, Sylvania

FTE Loss:	<u>-0-</u>
Operating Budget:	<u>\$710,000</u>
Revenue Loss:	<u>-0-</u>
Total Savings:	<u>\$710,000</u>

The recent accrediting team was highly critical of faculty office space on all campuses, but especially at Sylvania. Consequences of continuing to postpone alleviating this problem causes a serious faculty morale problem and denies students the ability to conference with faculty with

some degree of privacy and comfort. This is not a new problem. Previous accrediting teams have pointed it out.

 Geology

Action: Eliminate

FTE Loss:	<u>10.4</u>
Operating Budget:	<u>\$ 6,420</u>
Revenue Loss:	<u>\$ 19,115</u>
Total Savings:	<u>\$ 12,695(-)</u>

Reduction of .40 full-time instructional time assigned to Geology and reassigned to classes projected for part-time in 1986-87 would save instructional dollars. Geology projections indicate 10.4 student FTE and a revenue of \$19,115 - other classes such as oceanography and

volcanoes may not generate as high FTE or revenue. Some geology students may take other classes; however, students planning to eventually attain a four year degree with a major in geology would be forced to attend other colleges.

 ENL

Action: Consolidate on one campus

FTE Loss:	<u>3.4 +0</u>
Operating Budget:	<u>\$184,815</u>
Revenue Loss:	<u>\$ 6,249</u>
Total Savings:	<u>\$178,565</u>

Figures are based on Winter 1985 enrollment figures. When looking only at which location could accommodate ENNL enrollment with a minimum potential loss of FTE and tuition, the Sylvania program would accommodate almost all of the enrolled students on both (Cascade and Sylvania) campuses.

 Admissions

Action: Reduce to two new positions

FTE Loss:	<u>25</u>	As FTE per student head count decreases, it will become increasingly important that students receive appropriate assistance in entering the college and selecting appropriate classes. The sources of new students are limited; however, there is virtually no limit to the amount of repeat business we can have if students perceive us as a "convenient" and efficient way to meet their employment-skill-academic needs.
Operating Budget:	<u>\$399,894</u>	
Revenue Loss:	<u>\$28,700</u>	
Total Savings:	<u>\$371,194</u>	

 Faculty

Action: Eliminate all new positions*

FTE Loss:	<u>-0-</u>	Consequences likely would not be serious to instructional areas as enrollment is declining almost without exception. Some service areas where workloads have increased from noninstructional requirements would have serious consequences unless some transfers could be made from areas where workload is decreasing.
Operating Budget:	<u>\$547,110</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$547,110</u>	

*Replace instructors with part-time; do not replace classified, librarians, administrators.

 Capital Projects 6

Action: Delay Collegewide Painting and Shade and Drapery Repair

FTE Loss:	<u>-0-</u>	Consequences would be further deterioration of both interior and exterior of building surfaces collegewide. Such deterioration tends to multiply future maintenance costs, provides a depressing environment for learning, and could tend to discourage students from wanting to be here.
Operating Budget:	<u>\$180,000</u>	
Revenue Loss:	<u>-0-</u>	
Total Savings:	<u>\$180,000</u>	

Farm

Action: Eliminate and lease out

FTE Loss:	<u>-0-</u>
Operating Budget:	<u>\$ 34,258*</u>
Revenue Loss:	<u>\$ 25,000(+)</u>
Total Savings:	<u>\$ 9,258*</u>

*Vet Tech budget includes
 .65 FT administrator 17,193
 .35 FT classified 5,469
 and benefits of 9,356
32,018

This budget is closely allied to the Vet Tech budget. No FTE student loss can be assumed; however, these employees teach part-time in the Vet Tech program and/or care for the livestock associated with that program. Both of these issues would need resolution. The farm is used for several state and local events in cooperation with the extension service and high school FFA organizations. Sizeable herds would need to be sold, and a decision would have to be made. It is hard to assume that all farm expenses can ever be retrieved from this facility.

Interpreter for Deaf

Action: Eliminate

FTE Loss:	<u>32</u>	
Operating Budget:	<u>\$119,033</u> (as submitted)	<u>\$ 99,839</u> (minus RIF)
Revenue Loss:	<u>58,033</u>	<u>58,816</u>
Total Savings:	<u>\$ 60,217</u>	<u>\$ 41,023</u>

The student - training in this field would be at WOSC or out of state.

The community - interpreter needs of Portland/Vancouver area would undoubtedly be negatively affected.

The institution - PCC would lose an attractive, viable needed program.

Welding

Action: Eliminate

FTE Loss:	<u>45</u>
Operating Budget:	<u>\$250,719*</u>
Revenue Loss:	<u>\$ 82,710</u>
Total Savings:	<u>\$168,009</u>

Eliminate 4 FT instructors and 1 FT toolroom clerk. The students will be forced to neighboring colleges which may be able to meet needs while job market is slack; however, a revitalized economy may impact them.

Institutionally we will have to maintain some service to supply modules required for Diesel, Aviation Maintenance, Auto Body, etc. One of the finest teaching facilities in the state will be sorely underutilized; however, space would be made available to strong programs.

*Reflects -\$20,454 to be transferred to other budgets.

Creative Writing

Action: Eliminate

FTE Loss:	<u>27.23</u>
Operating Budget:	<u>\$ 17,850</u>
Revenue Loss:	<u>\$ 50,049</u>
Total Savings:	<u>\$ 32,199(-)</u>

Elimination of creative writing would impact about 27 student FTEs per year. We offer approximately 25 sections per year generally taught by full-time faculty. The student magazine Alchemy is written and printed by students in writing, graphics, art and photography. Students inter-

ested in creative writing need direction and what they learn will be of help to them in future years. This budget impact is predicated at 2.08 FTE instructors reduced from teaching creative writing courses and teaching courses now taught by part-time instructors.

Film Classes

Action: Eliminate

FTE Loss:	<u>6.87</u>
Operating Budget:	<u>\$ 7,570</u>
Revenue Loss:	<u>\$ 12,627</u>
Total Savings:	<u>\$ 5,057(-)</u>

Five film classes are offered throughout the district this year. One full-time English instructor is teaching these courses as part of a class load. If the film class were not offered, the instructor would probably teach classes projected to be taught by part-time instructors. These

figures include part-time costs. Few students enter film study and production as a career. These courses do not necessarily add an area of experience they would not receive in other courses. Students would probably take other classes in the college which would cause the revenue loss to be less than predicted above.

Library

Action: Postpone Library improvements

FTE Loss:	<u>-0-</u>
Operating Budget:	<u> </u>
Revenue Loss:	<u>-0-</u>
	<u>\$ 85,387</u> (Personnel)
	<u>\$ 50,000</u> (Books)
Total Savings:	<u>\$135,387</u>

The library will continue to be seriously underfunded. Program quality cannot be improved. The library is operating at a level below minimum quality as of this date. Although FTE will be marginally affected, intangibles such as student/teacher satisfaction most likely will suffer.

Computer Sciences

Action: Confine to two campuses

FTE Loss: -0-
 Operating Budget: \$779,242
 Revenue Loss: -0-
 Total Savings: -0-

If Computer Sciences were restricted to the two original campuses (Cascade, Rock Creek), and the two Computer Science courses at Sylvania, no significant FTE loss would occur.

Coop Ed

Action: Eliminate coordinator position

FTE Loss: -0-
 Operating Budget: \$185,046
 Revenue Loss: -0-
 Total Savings: \$185,046

The FTE associated with this program is computed in the vocational program FTE. Coop Ed is a coordinative and advocacy unit. As a result of their initiative, Coop has gained a toehold in the college and promises to be one of the areas in which we can expect continued growth over the next 3

to 5 years. If the faculty will assume complete responsibility for developing coop work sites, student supervision and student recruitment, there should be very little loss of FTE. If, however, the above functions will not be done or done at a level below our current activity, there is a potential for substantial loss of FTE far in excess of general fund expenditures.

Instructional Services

Action: Reduce 1½ pro rata

FTE Loss: -0-
 Operating Budget: \$4,581,687
 Revenue Loss: -0-
 Total Savings: \$ 45,817

A loss of 1½ would not directly result in a loss of tuition or FTE reimbursement. As is the case in other departments of the college, there is general deterioration of services to the instructional programs. This problem is approaching the critical stage. Even this

relatively small cut will result in a continuing status quo which is now at minimum.

Television Production

Action: Eliminate

FTE Loss: 40
 Operating Budget: \$200,000
 Revenue Loss: \$ 77,500
 Total Savings: \$122,480

The revenue loss by this department will be compounded in future years. This is a new operation which will increase our potential to serve more students with no increase in facilities and permanent staff. We have developed a capacity to produce a modest number of telecourses,

especially in the area of developmental education, which is a growing area in the college.

Conferences

Action: Cut by 1/2 and allocate out of Executive Dean's office

FTE Loss: -0-
 Operating Budget: \$ 60,000
 Revenue Loss: -0-
 Total Savings: \$ 60,000

The loss in travel and conference would have little or no direct impact on our revenues. The loss in teacher morale and our ability to respond to our environment would be somewhat diminished. This could impact our ability to respond to emerging trends in a timely fashion.

Student Help

Action: Cut by 1/2 and allocate out of Executive Dean's office

FTE Loss: -0-
 Operating Budget: \$110,000
 Revenue Loss: -0-
 Total Savings: \$110,000

No direct loss of student help can be ascribed to this budget item. There are some students who are able to attend PCC because of employment with the college. These students may not be able to attend, and will reduce our tuition and FTE reimbursement income.