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A STUDY OF MANAGEMENT'S BUDGET-ORIENTED BEHAVIOR IN  
TUNISIAN BUSINESS ENTERPRISES

*University of Illinois at Urbana-Champaign*

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**A STUDY OF MANAGEMENT'S  
BUDGET-ORIENTED BEHAVIOR  
IN TUNISIAN BUSINESS  
ENTERPRISES**

**BY**

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**Dipl., Université de Tunis, 1972  
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**THESIS**

**Submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy in Accountancy  
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THE DEGREE OF DOCTOR OF PHILOSOPHY

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DEDICATION

To my parents whose love, help, and  
patience were the strongest incentive  
for all my work.

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CHAPTER I  
INTRODUCTION AND OBJECTIVES

Industrialization of the developing countries has become one of the major issues of our time. Efforts of international organizations such as the United Nations, the International Monetary Fund, the World Bank, etc., have resulted in conditions conducive to accelerated growth. The results in terms of raising the standards of living, however, have been somehow disappointing. A major explanation of this disappointment is that management problems and managerial conditions have been given little attention in these developing countries, despite the fact that management is accepted as an important factor in economic development.<sup>1</sup> Hence, the general concern of this dissertation is with the improvement of management ability in developing countries. The more specific concern is with the effects of budgeting upon the behavior of Tunisian managers.

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<sup>1</sup>For evidence and more detail, see UNESCO (1970a and 1970b) and Zahlan (1972).

## Justification for the Study

The rationale behind this study is that budgeting is an important tool in the service of managers; that management is a major process through which a society's resources are allocated for the sake of achieving established goals; and that improving management ability is at least as important in a developing country as in a developed one.

### Relevance of Management

The American Accounting Association Committee on Managerial Accounting (1972, p. 318) states that "In general, management's decision problems revolve around the optimal allocation of the resources within its control." This principle would appear to be invariant whether the entity of concern is a society, a particular firm, or a single department within a firm; there is a set of goals to be achieved and a set of scarce resources that can be allocated in different ways. For a particular firm, for instance, the owners', managers' and employees' goals must be combined and blended together within the framework of the legal, political and economic objectives of society. The set of resources may include financial, physical and human resources with different degrees of scarcity. Management action in one period will affect both the set of available resources and the set of goals to achieve in the next period. The job of managers is complicated by the fact that many of the goals are subjective,

unspoken, broad and/or nonquantifiable. Further, the nature and availability of resources may not be accurately known. These are complicated problems for which rather complicated solutions are needed. The use of budgeting is considered a major contribution toward these solutions.

### Relevance of Budgeting

The budgeting process involves many aspects of the functions of management and therefore is of importance for study and analysis. Horngren (1977, p. 124) has explained the reason for this importance with his observation that:

Budgets are designed to carry out a variety of functions: planning, evaluating performance, coordinating activities, implementing plans, communicating, motivating and authorizing actions.

With respect to the accountants' function, Tosi (1974, p. 53) stated that:

If there is any single factor which makes the presence of accountants felt in organizations it is the budget. Every manager lives with a budget.

As a managerial tool, budget systems are designed to help define and achieve organizational goals. On the one hand, they assist managers in planning feasible programs of work and in solving conflicts between competing interest groups connected with the organization. On the other hand, they provide managers with the means to ensure that agreed policies are implemented and to check their achievement against previously established criteria.

Management accounting literature has devoted much effort to the description of the role of budgets in management. In a recent study, Otley (1977, p. 7) gave the following summary that demonstrates the importance of budgets to management:

- (1) Budgets are a means of attaining organizational control, i.e., the achievement of organizational objectives.
- (2) Budgets also represent the outcome of a bargaining process in which individuals and groups have negotiated their own contribution-reward contract.
- (3) Control of organizational activities requires the ability to predict outcomes of possible control actions. Budgets are thus based on organizational predictive models, and represent a summary of their predictions for a particular set of chosen actions.
- (4) There are many possible roles that may be served by a budget system, which conflict, in part, with each other. Most budget systems serve multiple, partially conflicting roles.

Despite the apparent importance given to budgeting in management accounting, the latter has come under heavy criticism, especially during the last decade, for its continuing disproportionate concern for techniques, and for its failure to give appropriate consideration to the behavioral implications of those techniques. Caplan (1971), for example, believes that management accounting lags behind increases in the awareness of management concerning motivation and behavior, and that behavioral assumptions of managerial accounting have remained virtually unchanged since the industrial revolution. Becker and Green (1962) share the same view and believe that the emphasis has been almost totally on techniques.



### Relevance of the Behavioral Aspects of Budgeting

Although Argyris (1953) studied the human behavioral problems related to budgeting in 1953, subject to a few exceptions it is only during the last decade that writers have become interested in the behavioral aspects of budgeting. Beddingfield (1969, p. 54) stated that the budget is "prepared by people, revised by people, and its requirements must be met by people." Thus, any view of budgeting that ignores human behavior ignores reality. Irvine (1970, p. 7) noted that budgets mean different things to people according to their different points of view:

Accountants view them from the preparation aspect, managers from the implementation aspect, and behavioral scientists from the human implication aspect. All of these viewpoints must be melted together if budgets are to obtain the best functional results.

Organizational objectives can be attained only if the organization members are aware of what constitutes appropriate behavior, and even then, only if they are motivated to work toward achieving these objectives. As Otley (1977, p. 2) put it:

To design a budget system which fulfills this potential necessarily requires consideration of how it influences the various individuals involved to behave, and to relate these individual behaviors to what is desirable behavior for the organization as a whole. In this sense the 'behavioral aspects of budgeting' are quite fundamental to understanding how a budget system works and to assessing its worth. In this light it is misleading to reward 'behavioral factors' as additional fine-tuning that can be performed on

the solid base of a technically well-designed budget system. Rather it is necessary to appreciate that knowledge of the way in which people in organizations behave is a foundation on which the design of any effective budget system must rest.

#### Relevance of the Study for Tunisia

Most research in managerial accounting has been conducted in either the United States or a country with a developed corporate environment. If research efforts are deployed with the hope that the findings will contribute to the development of a body of knowledge and the improvement of management practice, it is reasonable to conclude that, in many respects, this type of research is of even greater use for developing countries than for developed ones. A different environmental setting suggests, at a minimum, that the findings of the U.S. (or other developed countries) research might not be generalizable across countries.

The specific country that is involved in this research is Tunisia. There are a number of reasons why it is appropriate, interesting and useful to undertake a study of the behavioral aspects of the budgeting process in Tunisian companies. First, Tunisia is in a relatively advanced stage of economic development. Its commitment to industrialization and rapid economic growth has led to an increased need for planning, control, and follow-up procedures. Second, because of a relative lack of natural resources, Tunisia's human resources are an important factor that need to be used

efficiently and effectively in business operations. Finally, the Tunisian business environment has been influenced by the Western European management style (particularly the French style). However, modern U.S. management techniques and practices have been gaining acceptance by the government, the educational system and the business community. Therefore, it is interesting to assess the impact of these factors on Tunisia's real world management setting.

### The Critical Issue

The above discussion has concentrated on the importance of budgeting as a managerial tool. By providing a statement regarding the allocation of resources available to an organization and a set of predicted outcomes of this allocation against which actual performance can be evaluated and monitored, the budgetary system produces information that is essential to the survival and growth of the organization. Developed countries were shown to be in great need of such a managerial device in order to secure their economic growth. The critical issue is how to design a budgetary system that serves the desired purposes.

The technical literature on management accounting has long given the impression that there exists a universally applicable and optimum budget system. Now, more consideration is being given to a contingency theory of budgeting.

Differences at the individual, organizational, and environmental levels are being considered as important factors which should influence the form of an appropriate budget system. The personality of managers and their motivational needs, the organizational structure and the organizational climate in which the budgetary system is implemented, and the nature of the environment in which the organization operates and the purposes for which budgetary information is used are being considered as important information in the design of effective budget systems.

The design of an appropriate budgeting system or the improvement of an existing one is a challenging task that faces both practitioners and researchers. Understanding the budgeting process, discovering the different factors in play and knowing why things work the way they do is an indispensable (though not the only) part of determining how to make them work better, especially in an environment where little exploratory work has been done before.

#### Objectives of the Study

The objectives of the study are (1) to identify and measure managers' budget-oriented behavior in the Tunisian business environment, i.e., to identify and measure in behavioral terms the managerial actions and interactions that are brought about by companies' use of budgeting,

(2) to identify and measure some of the variables (e.g., personal, interpersonal and organizational) that might have an effect on managers' budget-oriented behavior, and (3) to identify and measure the relationships that might exist between these variables and managers' budget-oriented behavior.

To achieve these objectives, a field study is conducted in the Tunisian business environment. Six organizations representing about three-quarters of the chemical industry participated in this study. Two methods of data collection are used. Personal interviews with top management are conducted to gather information about the companies' organizational structure while questionnaire instruments are used to obtain data on managers' budget-oriented behavior, their organizational climate, and their personality and demographic characteristics. Two methods of data analysis are used. Factor analysis is used to identify and measure the underlying factors of managers' budget-oriented behavior and their organizational climate while step-wise regression analysis is used to identify and measure the effects on management budget-oriented behavior of the various organization, personality, and demographic variables.

## Dissertation Organization

Although this study is basically empirical in nature, a conceptual model was developed in order to provide an overall framework for the empirical study. Chapter II presents a theoretical model of role-taking in organizations adapted from Kahn et al. (1964), research evidence for the functioning of the model, a review of relevant literature on budgeting, and a set of a priori expectations. The details of the research methodology used in carrying out the empirical investigation are presented in Chapter III. Chapter IV presents the results of the study, each followed by a discussion. A summary of results, implications of the study's findings for accounting and for future research, and limitations of the study are presented in Chapter V.

CHAPTER II  
CONCEPTUAL MODEL, LITERATURE REVIEW  
AND A PRIORI EXPECTATIONS

This chapter represents the main link between the theoretical framework and the empirical investigation. It consists of six sections. The first section presents a conceptual model of role taking in organizations, focusing mainly on the role episode. The second section presents some research evidence for the relationships specified by the framework of the role episode. In order to relate the conceptual model to the nature of the empirical study it is necessary to narrow the scope of the model. This is achieved in the third section. The selection of variables used in this study is presented in the fourth section. A review of literature related to budgeting and focusing mainly on the developments in contingency theory follows in the fifth section. Finally, on the basis of the conceptual model, the literature review, and the researcher's own knowledge of the Tunisian business environment, some tentative hypotheses are developed in the sixth section.

A Conceptual Model of  
Role Taking

The concept of the organization as a system of roles  
(Kahn et al., 1964; Katz and Kahn, 1966; Kahn and Quinn, 1970)

provides the theoretical basis for this study. Each individual in an organization is linked to some other set of members. Such an individual can be directly related to some members, indirectly related to some others, and only remotely related to others. The individual, viewed as the focal person, is related to the other persons in a role-set by virtue of the work-flow, technology, and by the lines of authority (managerial subsystems) of the organization. Hence, there is a role-set for every individual and the organization consists of the total number of such sets. Within this role framework, managers' budget-oriented behavior will be considered as the last sequence of a role episode constituting role-expectations, sent-role, received-role and role-behavior. A graphic representation of this framework is presented in Figure 2-1.

### Role-expectations

The members of a person's role-set are interested in that person's performance and, therefore, develop expectations with respect to what he should or should not do. These expectations are not restricted to job descriptions communicated to him by the head of the organization, but usually include preferences of the members' role-set, personal characteristics or style, ideas about what the person should be, should think, or should believe. These expectations constitute standards against which the performance of a focal manager is measured.



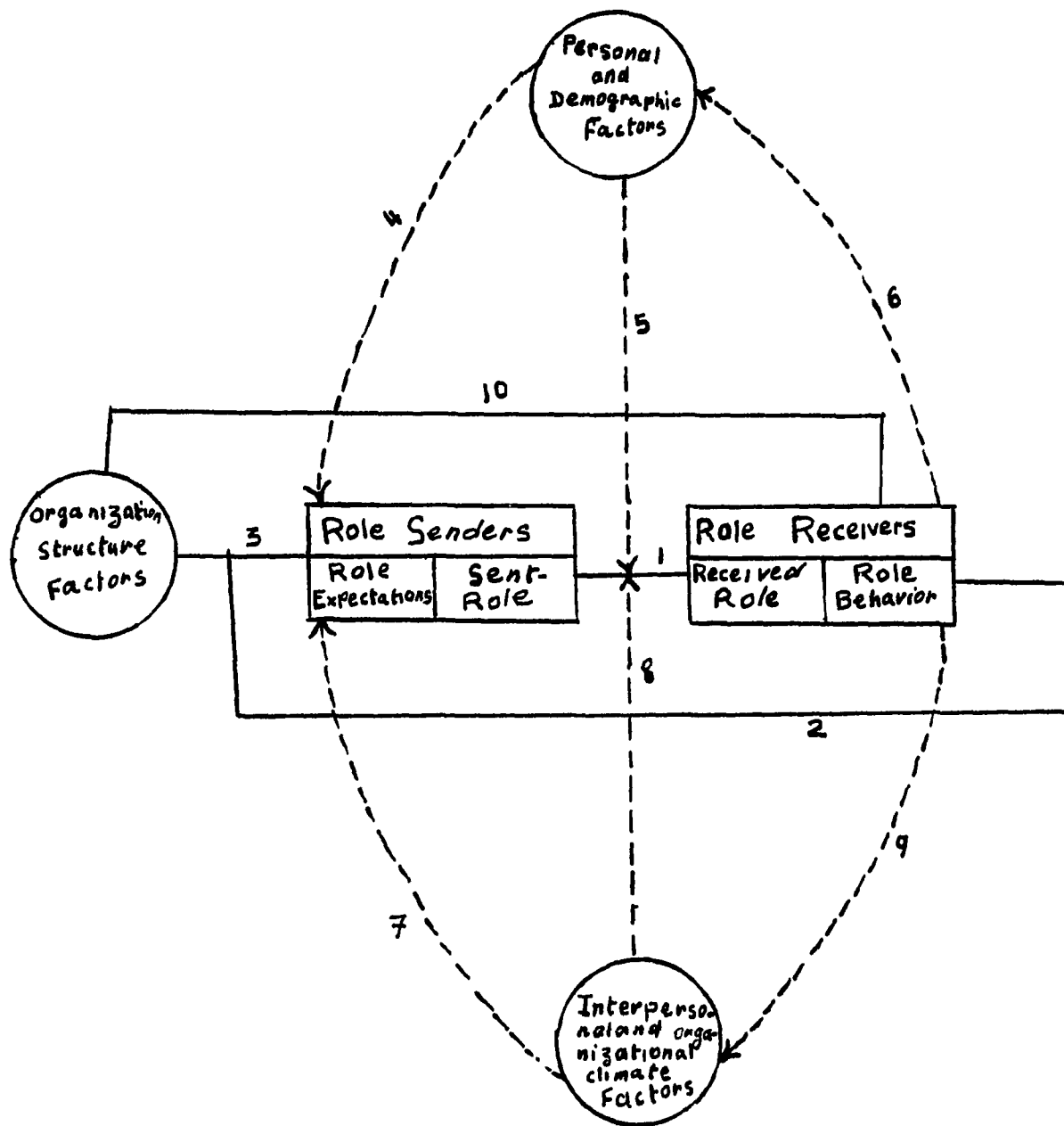


Figure 2-1: A Theoretical Model of Factors Involved in the Taking of Organizational Roles

Adapted from Katz and Kahn, 1964

### Sent-role

Role-expectations are communicated to the focal manager in an attempt to influence his behavior. These communications are the sent-role. As a consequence of compliance or non-compliance with expectations, the focal manager will be rewarded or sanctioned.

### Received-role

Because messages sent can be misunderstood or distorted, the received-role can be different from the sent-role. The received-role consists of the person's perceptions and cognitions of what was sent and constitutes an immediate influence on him and an immediate source of his performance. Depending on the focal manager's perceptions of the sent-role, his reaction can be favorable or unfavorable to expectations (e.g., the manager's perceptions of the legitimacy or coerciveness of the sent-role expectations).

### Role-behavior

The focal manager's role performance is a response to the motivational forces generated by his perceptions of the sent expectations from other system members, by his perceptions of other cues, and by internal sources of motivation (e.g., the nature of the task, the manager's experience, internal values, and self-identity).

### Feedback Loop

Although the role episode process emphasizes the influence of role-expectations on role-behavior, there exists a feedback loop that relates the performance of a focal manager and the degree of compliance with expectations at one point in time to the expectations of the other members of the role-set in the next moment.

### Evidence for the Functioning of the Model

The process of role-sending and role-behavior does not occur in isolation. It is shaped and mediated by several individual, interpersonal, and organizational factors. Research evidence for the influences of these factors has been accumulating.

### Organizational Factors

A casual relationship is asserted between certain structural properties of organization and the role-expectations held about and sent to a particular position (Figure 2-1, Arrow 3). It is assumed that these structural properties of organization are sufficiently stable to be considered independent from the particular persons in the role-set. For example, Moncur and Swieringa (1973) observed that a company's use of a participative budgeting may reflect the relative stability of its operating environment. For example, a stable

operating environment may favor a centralized data processing system and discourage a higher degree of participation in the setting of targets by operating managers. In a similar study, Bruns and Waterhouse (1975) found that inter-organizational differences such as the degree of structures and the extent of authority centralization affected managers' budget-related behavior.

### Personality Factors

Enduring attributes of individual managers may mediate the relationships between expectations and responses in several ways. First, the personality characteristics of a focal manager may affect the expectations held for him by other managers (Figure 2-1, Arrow 4). Kahn et al. (1964), for example, found that people who were flexible rather than rigid were subjected to greater pressures to change by their role-senders. Second, personality factors may condition the role-sender's expectations and communications and the focal manager's perception of the role-sent and his behavior (Figure 2-1, Arrow 5). Argyris (1952, p. 19), for example, describes how two supervisors can differ in their responses to pressure:

Supervisor A is quiet, relatively non-emotional, seldom expresses his negative feelings to anyone, but at the same time he works excessively. Supervisor A can be found working at his desk long after the others have gone home. As one supervisor expressed it, "That guy works himself to death."

Supervisor B is nervous, always running around "checking up" on all his employees. He usually talks fast, gives one the impression that he is "selling" himself and his job when interviewed. He is forever picking up the phone, barking commands and requesting prompt action.

Swieringa and Moncur (1975) found that personality variables are important predictors of the extent to which managers' methods of achieving their budgets tend to be accepted by others and the extent to which managers tend to be influential in the budgeting process, to be expressive about budgeting, and to have positive attitude about budgeting. However, personality measures have not been consistently good predictors of budgetary performance. Neither Foran and Decoster (1974), Searfoss (1972) nor Collins (1978) found flexibility (authoritarianism) to be strong performance predictors.

Role-behavior, the continuous response of a focal manager, may have effects on his personality according to the hypothesis that we become what we do (Figure 2-1, Arrow 6). Gough and Peterson (1953), for example, found that deficiencies in role performance led to an increasing inability to see oneself in objective terms and to identify with the views of others. The largest support for the hypothesis that changes in role cause changes in the person comes from Lieberman's (1956) longitudinal study where the perceptions and attitudes of a number of employees were measured three times in three different roles during a period of three years.

### Interpersonal Factors

Interpersonal factors and the organizational climate and atmosphere in general may mediate the relationships between expectations and responses. Again, this mediation operates in several ways. The expectations held for a given manager are affected by the quality of the interpersonal relationships already existing between him and the members of his role-set (Figure 2-1, Arrow 7). For instance, the expectations held by a focal manager's subordinates may be different from the expectations held by his superiors. These same interpersonal factors may affect the focal manager's perception of the sent-expectations and his response to these expectations (Figure 2-1, Arrow 8). Praise and blame, for example, may have a different meaning when they come from a trusted source than when they come from an untrusted source. Kahn et al. (1964) found a general tendency for close interpersonal relationships to intensify the effects of role conflict on the focal person. Organ (1970) found that distrust by members of the role-set had the effect of heightening the conformance of the focal person to their role expectations. Litwin and Stringer (1968) found that the psychological climate of an organization has significant effects on motivation, correspondingly, on performance and job satisfaction.

Finally, the continuous response of a focal manager to expectations held for him may affect the quality of interpersonal

relationships with the members of his role-set (Figure 2-1, Arrow 9). For example, a focal manager's loss of respect for another manager may affect the pattern of relationships between them in the future.

#### Narrowing the Scope of the Model

The above model conceptualizes the organization as a system of roles where role sending and role-behavior are seen as events in a dynamic and cyclical process. The circles in Figure 2-1 represent the context in which the role episode occurs. Contextual factors such as individual, interpersonal, and organizational ones affect the role episode in several ways (the connecting arrows). It would be extremely difficult, if not impossible, to investigate all the relationships that might exist between the different elements of this theoretical model in a single study.

This empirical investigation focuses on only a few elements of this model. While many of the relationships depicted in this model will not be investigated, it provides an overall framework for the empirical study. The first interest of this study is to measure the budget-oriented behavior of Tunisian managers and to identify different dimensions of that behavior. (This corresponds to box D of the theoretical model.) The second interest of the study is to identify and measure some of the contextual factors which may influence that behavior. These factors include organizational, personality,

and demographic factors and are represented by the circles in the theoretical model. The third interest of this study is to identify and measure some of the effects of these factors on manager's budget-oriented behavior (Arrows 5, 8 and 10 in Figure 2-1).

The first half of the role episode, i.e., role-expectations and sent-role, was not investigated by the empirical study. As a consequence many relationships such as those represented by Arrows 2, 3, 4 and 7 of Figure 2-1 could not be investigated. It is important to note that the Katz and Kahn model is used merely as a parsimonious way of thinking about the problem, it is not intended as a test model.

### Selection of Variables

The purpose of this section is to justify the selection of variables used in this research. These are managers' budget-oriented behavior as dependent variables and organizational, personality and demographic factors as independent variables.

#### Managers' Budget-Oriented Behavior

In budget literature usually the focus is on the main general functions of the budgeting process such as the planning, coordination, and control functions. These functions are described in most accounting and budgeting textbooks and in companies' budget and procedure manuals in terms of a relatively well-defined



set of technical methods and procedures. But there have been very few attempts to describe the mechanism through which or by which these methods and procedures influence the behavior of managers. Swieringa and Moncur's (1975) study is one exception. They assert that many companies do not, in fact, know what managerial behavior is brought about by their use of budgeting. There is a need for an understanding of the more specific nature of the management function as it relates to the budgeting process. The Swieringa and Moncur study reveals that this function can be subdivided into many more factors than those studied to date. Once we have such knowledge of the management function, we will then be able to identify the relationship of the management function (and the budgeting process) to organizational, personality and demographic factors. And, in the final analysis, it is an understanding of these relationships that will contribute to an improvement of management ability.

Swieringa and Moncur use the term "manager's budget-oriented behavior" to refer to those actions and interactions which occur as part of a manager's normal routine and that can be associated primarily, if not solely, with a company's use of budgeting. They developed a set of questionnaire items that are representative of a broad range of actions, interactions and events (e.g., interaction with superiors, subordinates and financial staff, participation, explanation of variances, etc.) that may be brought about by a company's

use of budgeting. These items were used to obtain measures of the extent to which managers actually perform this behavior in response to the budgeting process. This way of describing a company's use of budgeting is more complete than that used by other researchers and will be adopted in this research.

### Organizational Variables

The choice of organizational variables is not an easy task. As stated by Argyris (1965, p. 119):

What are the relevant variables in studying organizations and do they relate to cause the phenomena under study? This is indeed an extraordinarily difficult question to answer for the behavioral scientist attempting to study behavior in organizations. The variables are so numerous and the interrelationships so complex that he must be very careful in conducting his research lest he miss the very complexity that is so characteristic of organizations.

A review of the literature reveals a sharp distinction between "classical organization theory" and "modern organization theory." The emphasis in the former is on factors related to organization structure such as specialization of function, span of control, degree of decentralization, size of subunits, etc. These structural factors are essentially ignored by modern theorists who put more emphasis on people as role players within the organization. This difference is well described by Bennis (1959, p. 264) when he stated that ". . . classical theorists talked about 'organizations without

people,' while modern theorists often seem to talk about 'people without organizations.'" Both kinds of organizational variables will be considered in this study.

Organizational Structure Variables. These are aspects of the formal structure of an organization. Structure has been defined as the positions and parts of organizations and their systematic and relatively enduring relationships to each other. Many structural characteristics of organizations have been identified in the literature. However, these variables are not independent of each other, and it would not be possible to include all of them in one study. Of particular interest to the study of budgeting is the degree of centralization or decentralization of an organization. This variable will be considered in this study.

Organizational Climate Variables. During the past decade, organizational researchers have shown increasing interest in the potential utility of the organizational climate construct and its relationship to management behavior. Using previous definitions, Pritchard and Karasick (1973, p. 126) redefined organizational climate as:

. . . a relatively enduring quality of an organization's internal environment distinguishing it from other organizations; (a) which results from the behavior and policies of members of organizations, especially top management; (b) which is perceived by members of the organization; (c) which serves as a basis for interpreting the situation; and (d) acts as a source of pressure for directing activity.

As indicated in the definition, this is the perceptual approach. Since the measurement of organizational climate variables is based on a survey questionnaire completed by managers, it would adhere to this perceptual approach of studying organizational climate (i.e., the emphasis is on participant perceptions of different aspects of the work organization).

Litwin and Stringer (1968, p. 1) view organizational climate as a

. . . set of measurable properties of the work environment, perceived directly or indirectly by the people who live and work in this environment, and is assumed to influence motivation and behavior.

They developed a fifty item organizational climate questionnaire which has been utilized in a number of research studies. In their research, Litwin and Stringer constructed nine separate a priori scales which they call: structure, responsibility, reward, risk, warmth, support, standards, conflict, and identity. Although recognizing some problems of overlap, Litwin and Stringer concluded that seven of the nine scales showed good scale consistency (i.e., the extent that items in a scale are positively related and measuring the same thing).

One important question to ask is whether these a priori scales are meaningful and reliable across many different organizations. Several researchers have factor analyzed the

Litwin and Stringer organizational climate questionnaire.<sup>1</sup>

A comparative analysis of these studies shows that while some factors appear to be common across studies, other factors appear to be specific to certain studies and yet other factors appear to have fuzzy inter-study relationships.<sup>2</sup>

Although accurate comparisons across studies is made difficult by the fact that the name given to a factor is primarily a matter of subjective judgment, it is safe to say that no standardized organizational climate inventory exists that would be valid and reliable across many different organizations unless it is overly general in its content.

Muchinsky (1976, p. 387) noted that

Since climate is typically defined as perceptions of a work environment, it may well be that different types of organizations have relatively unique work environments. Thus, it may be possible to develop a valid and reliable climate questionnaire for use in homogeneous organizations as medical centers or public utilities, but it appears unlikely that the validity and reliability of specific climate scales will stand up when applied across different type (or heterogeneous) organizations.

A major part of this research is to identify the different dimensions of the organizational climate of Tunisian industrial companies. Factors specific to these organizations may be

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<sup>1</sup>See Meyer (1968); Downey, Helbriegel, Phelps and Slocum (1974), Sims and Lafollette (1975), and Muchinsky (1976).

<sup>2</sup>For more detail on comparisons across studies see Campbell, Dunette, Lawler and Weick (1970) and Muchinsky (1976).

revealed due to specific work practices, procedures and goals. The Litwin and Stringer organizational climate instrument appears suitable to use in this research.

### Personality Variables

Personality differences are a subset of individual differences which have been the object of research and studies in industrial psychology for almost a century. Psychologists have begun to shift emphasis away from individual differences to situational influences on behavior.<sup>3</sup> Despite this shift in emphasis, personality variables have not completely lost their predictive power of human behavior and continue to be used in a great number of studies.<sup>4</sup> Swieringa and Moncur (1975, p. 27) commented on the significance of personality variables as follows:

The personality variables refer to the enduring properties of the managers who exhibit budget-oriented behavior. The variables included in this set characterize a manager's propensities to behave in certain ways, his motives and values, his sensitivities and fears, his habits, etc. The personality predispositions of managers may lead to, and may in fact account for, differences in their budget-oriented behavior. For example, a volatile, aggressive focal manager may elicit strong reactions and pressures from other managers because only strong reactions have a lasting effect on him. Similarly, a very rigid focal manager may successfully resist attempts by other managers to influence him.

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<sup>3</sup>See discussion by Schneider and Bartlett (1968).

<sup>4</sup>See, e.g., Hackman and Lawler (1971); Pritchard and Karasick (1973).

The choice of particular personality dimensions and the subsequent measurement of these dimensions had to be made from among a wide range of constructs which had been developed over time, and which reflect borrowing and overlap among researchers. Goldberg (1972, p. 550) has noted as follows:

Items devised around the turn of the century may have worked their way in Woodworth's Personal Data Sheet, to Thurstone's Personality Schedule, hence to Bernreuter's Personality Inventory, and later to the Minnesota Multiphasic Personality Inventory, where they were borrowed for the California Psychological Inventory, and then injected into the Omnibus Personality Inventory--only to serve as a source of items for the new Academic Behavior Inventory.

Steers and Braunstein (1976) developed a research instrument (Manifest Needs Questionnaire) capable of measuring the four needs of achievement, affiliation, autonomy, and dominance using behaviorally based scales. There is evidence that this instrument (1) measures in a reasonably reliable and valid fashion those needs found to be more important for work attitudes and behavior; (2) is relevant for the work situation; and (3) is sufficiently brief so as to require minimal completion time.<sup>5</sup> Therefore, this instrument appears suitable for this research.

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<sup>5</sup>See the three studies by Steers and Braunstein (1976) and the study by Caplan and Champoux (1978).

### Demographic Variables

Previous research studies, such as Hofstede's (1967) and Swieringa and Moncur's (1975), have shown that demographic variables may be important in explaining manager's budget-oriented behavior. Four demographic variables are considered in this research: age of the manager, his educational level, his hierarchical level, and his work experience.

### Relevant Literature

The examination of this research's objectives and the analysis of the conceptual model, narrowed in scope to fit the empirical study, suggest that the contingency theory of budgeting is relevant to this study. This area of research explicitly recognizes the effects of individual differences, organizational context, and the environment on the form of an appropriate budget system. The importance of contingency theory to management planning and control has been stressed by many researchers. As suggested by Sathe (1975) and stated by Miguel (1977, p. 153):

Although still relatively young, the research on contingency theories of organization structure suggests the need to examine organizational, environmental, and personal variables as multi-dimensional systems with complex interrelationships among the variables. This requires the study of large numbers of organizations and an increase in sample size as more variables are studied.



Contingency theory research has focused on two major levels - organizational and individual. These two levels will be briefly reviewed since both are relevant to this study.

### Organizational Level

It is by focusing on the organizational level of analysis that most of the contingency theory work of accountants has been done. Khandwalla (1972), Watson and Baumler (1975), Bruns and Waterhouse (1975) and Hayes (1977), for example, have suggested that the design of efficient budget systems and management accounting systems in general are contingent on certain characteristics of the organization and its environment.

Research on organization is quite voluminous. The empirical research of Burns and Stalker (1961), Woodward (1965), Pugh et al. (1963), Hage and Aiken (1967), and Lawrence and Lorsch (1967) demonstrated the importance of technological and environmental variables in understanding the structure and activity of complex organizations. This empirical research combined with the conceptual work of Thompson (1967), Perrow (1972) and Hall (1972) has led to the contingency theory of organizations. Waterhouse and Tiessen (1968, p. 66) stated:

Contingency theory essentially states that efficient organization structures vary with organizational contextual factors such as technology and environment. It further implies that the efficiency of certain managerial technique such as participative decision making or task directed leadership is contingent on the organization's context and structure.

Thus, the contingency theory literature provides a convenient point of departure for discussing the effects of organizational variables on management accounting systems.

Research on organizations, like research on individuals, has faced the problem of definitions and measures of variables. Pugh et al. (1963) have made a contribution to the body of research on organizations by devising measures of several dimensions of organization structures and developing a set of standardized research techniques applicable in different settings. A substantial body of related work has followed, including among others Hickson (1966), Pugh et al. (1968 and 1969), and Child (1972a).

Of particular interest to the present study are the following three empirical studies whose findings bear upon the importance of contingency theory to budgeting. In a study of managers' budget-oriented behavior in four electronic companies Swieringa and Moncur (1975) found that the organizational context variable is the most important predictor of the extent to which managers tend to engage in various budget-related coping behaviors, are personally involved in budgeting, are shown comparisons of actual and budgeted performance for other units, and experience intensive time demands from budgeting. In a related study, Bruns and Waterhouse (1975) have examined the relationship between formal properties of organizational structure and budgetary control in twenty-five organizations. The results of their study showed that there are important interorganizational differences

in budget-related behavior by managers. In high structured organizations, managers participate more in budget planning, perceive themselves as being more influential and appear to be satisfied with budget-related activities. Managers in highly centralized organizations experience superior-initiated pressure, are generally accountable for fewer financial variables and appear to be satisfied with the use of budgets by their superiors, although they see budgets as being less useful and as limiting their flexibility. Bruns and Waterhouse noted also that a practical managerial implication of their findings is that whenever a choice or change in organizational control is indicated, change in the organization structure might be a means of enhancing the effectiveness of budgetary control. Finally, Hayes (1977) studied the accuracy and importance of financial data in evaluating the performance of production, research and development, and marketing departments. His findings indicate that budgets may be relatively poor indicators of effectiveness, especially in some sub-units where financial data are poor surrogates for a number of factors affecting performance, as in the case of the marketing sub-unit. His conclusions suggest that the utility of using traditional management accounting systems as a basis for performance measure may depend on how well underlying organizational processes such as procedure specification and centralization are represented in the management accounting system.

### Individual Level

The individual differences, or what Shepard and Houglund (1978) call the "complex man" level of contingency theory, focuses on the ability of personality and demographic factors to enhance understanding of members' reactions to organizations. Interestingly, research in this area has produced inconsistent results. Vroom (1960) first attempted to relate personality traits of the participant to the effects of participation in budgeting. The results of his field study showed that authoritarians and persons with weak independence needs are unaffected by the opportunity to participate in making decisions. Equalitarians and those who have strong independence needs, on the other hand, develop more positive attitudes toward their jobs and increase in performance through participation. But Tosi (1970) failed to replicate these findings. In another study, Vroom (1964) found that individual reactions to participation is highly related to the leadership style of managers. However, the findings of Vroom and Yetton (1973) showed situational variables were relatively more important than personal variables in explaining managers' participative decision-making. The lack of agreement among researchers on the effects of individual factors on participation may help explain the contradictory results of studies concerned with the effects of participation on performance. Indeed, while the empirical research is widely supportive of a positive relationship between participation and performance, certain studies have

shown contradictory findings. Morse and Reimer (1956) found that the nonparticipation group outperformed the participation group. Bryan and Locke (1967) found that nonparticipation by employees yielded better performance. Stedry (1960) noted that the participation in the budget setting may not be as beneficial as having top management set the budget. Milani (1975) found only weak support for a positive relationship between foreman performance and foreman degree of participation.

Differences in individuals' needs may affect their behavior with respect to budgeting through motivation. Behavioralist writers like Maslow (1954), Herzberg (1966), McGregor (1960) and McClelland (1961) have stressed the fact that any motivating device must appeal to some higher needs to be satisfied. These higher needs are self-esteem or esteem from others for Maslow; responsibility or recognition for Herzberg; and manager's challenge for McClelland. Lawler and Rhode (1976) stated that individuals' extrinsic motivation (such as money) which is influenced by the organization's reward and punishment system does not continue to motivate performance. Some intrinsic factors (such as participation) that lead to self-actualization may be important variables to consider. Porter and Lawler (1968) and Lawler and Rhode (1976) emphasized the need for an organization to provide through its information and control system an environment in

which the individual can relate intrinsic reward to performance.

In a study of managers' budget-oriented behavior, Swieringa and Moncur (1975) found that personality variables are important predictors of the extent to which managers' methods of achieving their budgets tend to be accepted by others and the extent to which managers tend to be influential in the budgeting process, to be expressive about budgeting, and to have positive attitude about budgeting. While these results are consistent with those of Hopewood (1974) who found the Ohio State Leadership Behavior Description Questionnaire useful in predicting budgetary behavior, other studies have shown contradictory findings. Neither Searfoss (1972), Foran and DeCoster (1974) nor Collins (1978) found flexibility (authoritarianism) to be a strong performance predictor.

Some studies have attempted to measure the effects of individual differences on behavior by introducing such demographic variables as age, educational level, hierarchical level, length of time in organization, and length of time on present job. Stedry and Kay (1964), for example, showed in their experiment that age is a possible determinant of how a budgetee reacts on a budget system. Hofstede (1967) found a significant relationship between age and budgetee behavior. He stated that modern men are more figure-conscious and that younger people have a stronger preference for and more interest in using figures. However, Hofstede found that the educational

level has a negligible influence on the functioning of the budget system. Swieringa and Moncur (1975) found that demographic variables, especially the time spent in the Company and the time spent in the position, important in predicting managers' budget-oriented behavior, particularly the extent to which managers use budgets as evaluative devices and the extent to which they are required to explain budget variances.

### The Case of Developing Countries

The research reviewed above was conducted in the United States corporate environment. There is not much literature on the managerial problems in the developing countries. In-depth study of a particular aspect of management such as budgeting is even more difficult to find. The industrialization of the developing countries is being accomplished partially through the multinational operations of U.S. and other countries' corporations. These companies have a tendency to employ their own foreign planning and control systems in the host countries.

A review of the literature permits the following summary observations:<sup>6</sup>

(1) There is a tendency for the authors to exaggerate. It seems that they start with the idea that everything in the developing country has to be not only different from but also completely opposite to what exists in the U.S. Conclusions are often drawn without even soft empirical support.

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<sup>6</sup>See Savage (1978); Lee (1968); the American Accounting Association Committee Report on Accounting in Developing Countries (1976); and Howe (1973).

(2) The authors tend to generalize their findings/opinions in an inappropriate manner. If not treated as a single block, the developing countries are often categorized simply into African, Far Eastern and Latin American. It is reasonable to assume that conditions will differ on a country by country basis. Only the accumulation of specific research findings can establish the degree of generalization warranted.

(3) The purpose of the studies is oriented toward providing head office country management with very rough generalized ideas about the developing countries which are sometimes followed by prescriptions on what to do when dealing with these countries. It is very likely that the countries concerned will not benefit from this kind of research because it provides information that is either erroneous and confusing or trivial and already known by them.

Research in developing countries often falls short of expectation because it was done by scholars from developed countries who usually do not have a clear idea of what it is to be a developing country.<sup>7</sup> What Tunisia, as a developing country, needs most is research by indigenous scholars on managerial practices. The lack of a research tradition in the country suggests that in a first stage studies should be exploratory in nature. An assessment of what is going on is a prerequisite for any in-depth analysis of a problem area. The present study represents such an initial effort.

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<sup>7</sup>For more detail on the shortcomings of research in developing countries and their actual research needs see Howe (1973).



### A Priori Expectations of Relationships

Although growing in quantity and improving in quality, behavioral accounting research is still lacking in continuity as indicated by many researchers such as Collins (1978), Hofstede (1975), Siegel (1975), Swieringa and Moncur (1975) and a Committee of the American Accounting Association (1974). It is characterized as being fragmentary, unrelated and sometimes with contradictory results. Researchers usually present their findings with a caveat concerning generalizability and a call for replication and cross validation.

Given the state of the art in behavioral accounting research, it is not easy to formulate hypotheses. Three factors particular to this study make hypotheses formulation even more difficult. They are:

- 1) The study is conducted in a developing country environment where research evidence is even more scarce in the literature.
- 2) A part of the study is concerned with identifying variables such as the dimensions of budget-oriented behavior (dependent variables) and the organizational climate (independent variables).
- 3) The study involves a great number of variables. To hypothesize a priori what relationship might exist between each variable or combination of variables, and each dimension of budget-related behavior would require the formulation of over a hundred hypotheses.

The following tentative hypotheses are by no means exhaustive. They represent the most important expectations of relationships based on the research literature reviewed

above, the conceptual model, and on the researcher's own knowledge of the Tunisian culture and business environment.

Tunisia is experiencing social change. It is undergoing a process of modernization. It can be said that Tunisia has reached a stage of partial modernization in which some "modern" patterns of behavior and social organization have become institutionalized, but in which some traditional patterns still exist.<sup>8</sup> Moore (1977) describes modernization as a process of rationalization of social behavior and social organization. Thus, it is expected that social change will have an influence on managerial behavior in general that will manifest itself in managers' behavior with respect to budgeting.

Among the traditional orientations that are expected to survive for quite a time, and most important for this study, is the centralizing strategy of control. While delegation of authority is not completely unknown to Tunisian managers, it is seldom practiced. Tunisian managers probably agree on the concept of delegation as being important, more than they are willing to apply it in practice. Because superiors are rather unwilling to delegate authority, subordinates are rather reluctant to take responsibility. In a centralized type of organization, managers usually perceive their authority

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<sup>8</sup>For an elaborate discussion of this kind of organization, see Rueschmeyer (1976).

to be relatively low and their role routine relatively high. They don't participate much in the elaboration of budgets, do not have much influence on budget systems, and perceive themselves as being controlled by the budget. This is especially true for the lower levels in the hierarchy. I thus hypothesize that:

- H<sub>1</sub> Centralization will have a negative effect on participation in and influence on budget systems and positive effect on the controlling aspect of budgeting such as the evaluation by the budget and the concern with budget variances.

Managers' perception of their work environment is expected to affect their behavior and their attitudes with respect to budgeting. The organizational climate variables, by the nature of the measurement instrument used put a lot of emphasis on people in the organization. Thus, these variables are expected to affect the interpersonal aspects of budgeting. It is therefore hypothesized that:

- H<sub>2</sub> Organizational climate variables such as responsibility, risk, general affective tone toward management, organization structure and clarity of authority, standards and reward system will have significant relationships with the aspects of budget-related behavior most descriptive of interpersonal relationships, such as interaction with superiors and subordinates, participation in and influence on budget systems, and acceptance of budgeting as a coordinating tool.

The type of organization in which the decision making authority is concentrated at the top of the hierarchy usually does not provide a clear definition of systems, procedures,

and areas of authority. As a consequence, control by structuring may be replaced by interpersonal control. These conditions offer an opportunity for individuals to develop power bases and may encourage a relatively high level of interpersonal bargaining and conflict. On this basis the personality characteristics of the manager are expected to affect his behavior with respect to budgeting. I thus hypothesize that:

- H<sub>3</sub> Personality variables such as the need for achievement, affiliation, autonomy and dominance will have significant relationships with different aspects of the managers' budget oriented behavior. These variables will especially affect managers' involvement and personal attention to budgeting, their participation in planning, influence in budget setting, and interaction with superiors and subordinates, and their perception of the usefulness of budgeting and their acceptance of it.

The demographic factors include age, experience, educational level, and hierarchical level. These factors, especially the last two, are expected to affect managers' budget-oriented behavior. Given the rather classical style of the structure of authority and the resulting centralization, the hierarchical level variable is expected to be an important predictor of managers' behavior. The educational level of the manager is important in a society emphasizing status differences. I thus hypothesize that:

- H<sub>4</sub> Demographic variables, especially the hierarchical and educational levels will have significant effect on the managers' budget-related behavior, especially with respect to their participation in planning,

the degree of their involvement, and personal attention to budgets, the difficulty they experience in dealing with budgets, and the degree of interaction with their superiors and subordinates.

Because of the difficulties involved in hypothesizing all the relationships that might exist between organizational, personality, and demographic factors and the dimensions of managers' budget-oriented behavior; and because of the exploratory nature of this study, the hypotheses formulated above should be regarded only as an attempt to organize and state explicitly, in a manageable way, the most important expectations, as well as to help integrate the findings from the empirical investigation.

CHAPTER III  
RESEARCH METHODOLOGY AND DESIGN

General Approach

A Field Study

To accomplish this study's objectives, a field study was conducted in a number of industrial companies in Tunisia. The choice of a field study was made for the following reasons:

1) The study is of an exploratory nature. No previous research has been done in Tunisia to assess the importance of budgeting, its effects on managerial behavior, and the different factors that can influence the use of budgeting.

2) A field study offers a natural setting. A design with an artificially created setting would ignore most of the surrounding conditions which are interactive and contextual. A field study will be able to give appropriate attention to such factors as the organizational climate and the interpersonal relationships.

3) The study requires the simultaneous identification and measurement of a large number of variables. The relationships between these variables will be statistically determined. The field study method is particularly suited for

covering a large problem area where there is no need to experimentally manipulate variables.

### Sample Selection

Three criteria were used in selecting companies for participation. First, only relatively large companies will be selected since small companies in Tunisia are unlikely to employ a formal budget system to any significant extent. Second, the sample will be limited to certain geographic-industrial areas since the selected companies will be personally visited by the experimenter. Third, the intention is to have the sample made up of companies having two or more divisions directly involved in preparing, using or performing against a budget. The number of participating managers will vary, depending on the size and nature of the company.

Examination of the directory of industrial enterprises in Tunisia revealed that the chemical industry was best suited for this study. It provided a sufficient number of companies that met the criteria of selection described above. Six companies representing 75% or more of the chemical industry (in terms of investment and production) were willing to participate in the study. They employ between 120 and 700 employees each.

The government shares an important percentage of the capital of these companies (60%). Although private investments in these companies are welcomed and encouraged, the participation of the government was necessary because of the inability of private investors to satisfy the demand in capital of these big projects. Foreign participation is usually not important except in one company where it reached 40% of the capital. The management of these companies is practically hundred percent Tunisian. Table 3-1 gives summary data about the companies that participated in this study.

Sulfuric Acid ( $H_2SO_4$ ), Phosphoric Acid ( $P_2O_5$ ), Triple Superphosphate (TSP), Bicalcic Phosphate (DCP), Fluorur of Aluminum ( $AlF_3$ ) and Diammonic Phosphate (DAP) are the major outputs of five of the six companies. One of the participating companies is a service company that provides maintenance work and other necessary general services for the chemical industries in the area. Most of the five companies' output is export-oriented. The local market only absorbs 25% of the output although local consumption is increasing steadily.

#### Data Collection

Two methods of data collection were used: personal interviews and questionnaire instruments. Personal interviews with top management of the companies were conducted to gather information about organizational structure, to gain a general idea about the companies' overall budgeting system,



Table 3-1

Summary Data About the Participating Companies

	Company A	Company B	Company C	Company D	Company E	Company F
<b>Manufactured Products</b>	P <sub>2</sub> O <sub>5</sub> TSP DCP 250,000 T/yr of P <sub>2</sub> O <sub>5</sub>	ALF <sub>3</sub>	P <sub>2</sub> O <sub>5</sub> DAP 330,000 T/yr of P <sub>2</sub> O <sub>5</sub>	Mainte- nance work services	P <sub>2</sub> O <sub>5</sub> TSP	P <sub>2</sub> O <sub>5</sub> TSP
<b>Production</b>	100,000 T/yr of TSP 60,000 T/yr of DCP	20,000 T/yr of ALF <sub>3</sub>	330,000 T/yr of DAP		300,000 T/yr of TSP	270,000 T/yr of TSP
<b>Creation Date</b>	1972	1976	1976	1976	1952	1965
<b>Employees</b>	600	120	560	120	720	650
<b><u>Questionnaires</u></b>						
<b>distributed</b>	32	21	30	23	37	26
<b>returned</b>	21	16	19	17	22	16
<b>usable</b>	20	16	19	15	21	13

and to select the managers that would participate in this study. Managers were selected on the basis of the combined judgment of the researcher and top management of the company. Hence, it is not a random sample but rather a judgment sample. The main criteria used for inclusion in the sample were the involvement of the manager in some sort of budgeting activities and the manager's availability. One hundred sixty-nine managers were selected to participate in the study.

Questionnaire instruments were used to obtain data from each manager with respect to manager's budget-oriented behavior, organizational climate, personality and demographic factors. In order to minimize response bias, most of the questionnaires were distributed to and collected from the participating managers by the researcher. The first page of the questionnaire package introduced to the participating managers the nature of the research, outlined the importance of the study to the formation of a body of knowledge on managerial practices in the Tunisian business environment, invited the managers to contribute to this achievement by cooperating with the researcher, and emphasized the strict confidentiality of their answers. Not only were they assured that their answers would be anonymous, they also were guaranteed that the researcher would be the only person to have access to their completed questionnaires.

Managers were again reminded of the confidentiality of their answers in the beginning of the personality questionnaire.

Of the 169 questionnaires distributed, 111 were returned, and those yielded 104 usable questionnaires (a 61% response rate). Table 3-1 summarizes the data about the number of questionnaires distributed and returned by each company.

Five survey questionnaires (see Appendices) were used in this study. The items included in these questionnaires were mostly drawn from research questionnaires previously developed by other researchers. The questionnaires were distributed in the French language. Prior to the main study, a pilot study was conducted in order to test the full set of instruments to be used, check the translated version of the questionnaires and make all modifications that were needed to adapt them to the Tunisian business environment. Four managers from different hierarchical levels (two middle managers and two above middle managers) and from different functional areas (production, administration, maintenance and finance) participated in this pilot study. The English version of the questionnaire instruments is presented in Appendices A to E. The French version is presented in Appendix F. The whole package is 31 pages in length (organizational structure questionnaire not included) and requires an average time of 70 minutes for completion.

## Operationalization of Variables

This research employs four categories of variables:

1) managers' budget-oriented behavior as independent variables, 2) organizational variables including both organizational structure and organizational climate variables, 3) personality variables, and 4) demographic variables as independent variables.

### Managers' Budget-Oriented Behavior

Data on managers' budget-oriented behavior were collected by means of a survey questionnaire. The questionnaire was originally developed by Fertakis (1967) to measure budget induced pressure. It consisted of 97 descriptions of activities, events and interrelationships which occur on a regular basis and which managers could relate to their own budget situations. Swieringa and Moncur reduced the 97 item questionnaire to a 44 item questionnaire through factor analysis. These 44 items are representative of a cross-section of budget-related behavior. The Swieringa and Moncur questionnaire was adapted for use in this study. Some items were reworded and some items were omitted (see Appendix A).

Each participating manager indicated on a continuous line response scale (five point scale) how frequently he exhibits the budget-oriented behavior described. Each item was treated as a separate variable. Factor analysis will be

used to reduce the data into a smaller number of factors by uncovering underlying patterns in the data. Two factor models will be used on the basis of two separate strategies.

In the first strategy the original variables will enter the factor model without specifying the grouping of the variables into any a priori structure. The intercorrelations between the 40 variables will be factorially analyzed using the principal-factor method. Both Orthogonal and Oblique solutions will be examined in order to obtain the maximum clarity of factor interpretations. The solution that permits the most logically consistent interpretation will be maintained.

Without developing a priori scales, Swieringa and Moncur (1975) factor analyzed the 44 items and came up with a construct of thirteen scales which they describe as being fairly reliable. As part of the second strategy, the relationships between these thirteen scales and the derived factors in this study will be analyzed and the reliability of the instrument tested.

#### Organizational Structure Variable

The degree of centralization of an organization is selected as the organizational structure variable in this research. It is defined as the extent to which formal authority for making decisions rests at higher levels of an organization. It is difficult to measure the degree of

centralization of an organization. Such measurement will be achieved in this research by using the abbreviated Aston<sup>1</sup> schedule with some modifications. The questionnaire consists of items describing recurrent decisions covering a range of organizational activities (see Appendix E). The respondent is asked "which is the most junior level of job that has the authority to decide?" on each item. One of the major changes made in the light of the pilot study concerns the organizational structure questionnaire. This questionnaire was intended to be administered to both top and middle managers. However, the pilot study revealed that only top management would be able to know the limits of authority of all levels of the organization. While it is possible for a single middle manager to know with a high degree of certainty the kind of decisions he can take, he does not necessarily know what the managers in the other parts of the organization can or cannot do. The organizational structure questionnaire was administered to top managers only. Responses were scored according to the original unabbreviated Aston method, where higher levels of authority at which a given decision is taken

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<sup>1</sup>See Jackson, Pugh, and Hickson (1970). The abbreviated questionnaire was found to perform very similarly to the original Aston questionnaire and requires substantially shorter time to complete.

are assigned higher numbers. Thus, a high score means highly centralized.

#### Organizational Climate Variables

The Litwin and Stringer instrument was used in this research. The Questionnaire items to be submitted to factor analysis were reworded slightly to fit the Tunisian industrial environment (see Appendix B). Respondents were asked to reply to each item using a five-point Likert scale format ranging from definitely agree to definitely disagree--as it applies to their organization.

#### Personality and Demographic Variables

The Manifest Needs Questionnaire was used to measure the four personality needs of achievement, affiliation, autonomy and dominance. The questionnaire consists of 20 items (see Appendix C). Subject responses were recorded on seven-point Likert scales ranging from always to never. The demographic variables: age, educational level, experience and hierarchical level were measured by subject responses to the four questions appearing in Appendix D.

#### Statistical Analysis

Factor analysis was used to identify and measure two sets of variables: manager's budget-oriented behavior variables and organizational climate variables. For each of

the two questionnaires involved, the principal-factors method was used in order to reduce the number of items,  $n$ , in the questionnaire by expressing each linearly in terms of  $m$  ( $m < n$ ) new factors. Once the underlying factors were determined, they become variables which are measured by using the technique of factor analysis called Factor Scores. Then stepwise regression analysis was used to identify and measure the effects on managers' budget-oriented behavior of the predictor variables (organization, personality and demographic variables) and to test the hypotheses of this study.

#### Factor Analysis

Factor analysis is used as an attempt to discover the general factors which cause the observed variables to show a relationship between each other. This can be done by defining a number of factors which fully describe the variables. These vectors which represent general causal factors, conditions or aspects should be regarded as theoretical or hypothetical variables. Hence the chief aim of factor analysis is to obtain a parsimonious description of observed data. The factor analysis method most suitable to this research is the principal-factor method which has been regarded as especially suitable in practical situations where the number of observed variables is large but only a few of the largest characteristic roots and the associated factor coefficients are required.<sup>2</sup>

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<sup>2</sup>For an excellent presentation of the model see Harman (1976).



The principal-factor method follows essentially the same procedures as the fundamental component analysis method but operates on the reduced correlation matrix (i.e., with estimates<sup>3</sup> of communalities in place of unities in the principal diagonal).

In practice, only a reduced number of eigenvalues and eigenvectors are worked out. There is no general rule for determining the number of factors to extract. In general, the main consideration is to have factors that contribute significantly to the common variance components of the variables belonging to them and to have an interpretable relationship with these variables. An often used cut-off rule is to retain only those factors with eigenvalues greater or equal to unity. The rationale behind this rule is that since the eigenvalue measures the variance accounted for by a factor and since the variance of each normalized variable is unity, any factor that does not account for at least the variance of one variable is rejected. A certain minimum percentage of variance, such as 5% to be accounted for by a factor in order to be retained, can also be used as a cut-off rule. Both rules are taken as criteria for determining the number of factors to extract in this research.

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<sup>3</sup>The method of communality estimation used is the square of the multiple  $X$  of each variable with all others. For a discussion of the methods see Tucker, Cooper, and Meredith (1972).

So far it has been assumed that only one factor matrix is to be calculated which satisfies the model condition. In practice, however, an infinite number of reference frames can be found. These can be obtained by rotating the axes equations from the factor matrix. For adequate interpretation it is almost necessary to rotate factor matrices.<sup>4</sup>

Kerlinger (1973, p. 671) states:

. . . we assume that these are unique and "best" positions for the axes, "best" ways to view the variables in n-dimensional space . . . . Factors are strictly structures or patterns produced by covariances of measures. What is meant by "best way to view the variables" is the most parsimonious, the simplest way.

Many rotational methods exist. The most common are the "orthogonal" and "oblique" rotations. While oblique factors may conform better to psychological "reality," they are usually more difficult to interpret. Also comparison between studies usually becomes more difficult to make when oblique rotation is used. Both orthogonal and oblique rotations were tried in this study. The rotation that gave the clearer, simpler, and more interpretable solution was maintained in this study.

Factors were named on the basis of the variables which loaded significantly on them and by examining the underlying common traits of these variables. Loadings equal to or greater

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<sup>4</sup>For more details see Thurstone (1947).

than .40 were used as criteria for determining the domain of a factor.<sup>5</sup>

### Regression Analysis

The third objective of this study is to identify and measure the effects on management budget-oriented behavior of environmental factors such as organization, personality and demographic variables. This objective was realized and the hypotheses of the study were tested by using stepwise regression analysis. This research involves a relatively large number of predictor variables that might explain managers' budget-oriented behavior. Stepwise regression analysis is a powerful variation of multiple regression which examines a larger number of potential predictors which will provide the best prediction possible with the fewest independent variables. Mathematically, only an exhaustive search method of all possible combinations of variables would provide an optimal solution to the problem. However, this method is not feasible practically. Stepwise regression is an efficient and fast method which produces a near optimum solution. Predictor variables are added to the prediction equation one at a time. Every added variable is one which explains as much of the remaining variation in the dependent variable as

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<sup>5</sup>There is no generally accepted standard error of factor loadings. Some crude rules are more conservative than others. Hofstede (1967, p. 313), for instance, chose a minimum factor load of .35; however, Rummel (1970, p. 379), chose a minimum of .50.

possible. The search for more predictor variables usually ends when no other variable will make a significant contribution to the prediction equation.

In using regression analysis the chief aim was to determine the relative contribution of each variable to the explanation of variation in a dependent variable and to determine which of several independent variables is "most important." Hence, raw scores on each variable were converted into Z scores (normalized) before entering the regression equation.

The regression coefficient indicates the amount of change in the dependent variable which is associated with a unit change in the independent variable (when other independent variables are taken into account).<sup>6</sup> The t-statistic was used to test the significance level of the regression coefficients and F-statistics was used to test the significance level of the overall regressions. The coefficient of multiple determination,  $R^2$ , and  $R^2$ -Change were computed for each of the nine regressions.

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<sup>6</sup>A helpful discussion of regression analysis is provided by Loether and McTavish (1974).

## CHAPTER IV

### ANALYSIS AND DISCUSSION OF RESULTS

This chapter presents the analysis and discussion of the results. Section I is concerned with the analysis and discussion of managers' budget-oriented behavior. The analysis and discussion of the organizational climate of the sampled companies are presented in Section II. Results concerning the personality of the managers, the four demographic factors, and the degree of centralization of the organizations studied are reported on respectively in Sections III, IV, and V. The results of analysis of the relationships between the predictor variables and measures of managers' budget-oriented behavior, the discussion of these results and the testing of the study's hypotheses are presented in Section V.

#### Analysis of Managers' Budget-Oriented Behavior

In this study "managers' budget-oriented behavior" has been proposed as a key word to describe those actions and interactions that are brought about by a company's use of budgeting. It is argued that it is important for a company to know what managerial behavior is brought about by the use of budgeting. This is regarded as a basis for any further analysis of relationships between budgeting behavior and some other variables.

A major objective of this research is to identify managers' budget-oriented behavior in Tunisian business companies. The analysis led to the identification of a set of nine summary measures of this behavior. These measures constitute useful dimensions along which differences in managerial behavior related to budgeting can be explained.

First, summary statistics of the measures are presented. Second, the results of factor analysis are reported. The statistical results of factor analysis are presented in a separate table for each factor. Each table is accompanied by a brief description and interpretation of the factor. A discussion of results is then presented. It includes a discussion of the structure of budget-oriented behavior of Tunisian managers, a test of the reliability of the instrument and a tentative cross-cultural comparison of scales.

#### Summary Statistics of the Measures

The data in Table 4-1 represent the means and standard deviations of occurrence of the budget-oriented behavior measures of the sample of managers. Items with high means indicate that the managers experience a relatively high degree of personal involvement in that particular aspect of budgeting described by the items. For example, these items include the following: I work with my subordinates in preparing the budget for my unit (item 5), preparing the budget for my unit requires my attention to a great number of

Table 4-1  
Means and Standard Deviations  
of Measures

Item	Mean	S.D.	Item	Mean	S.D.
1	3.53	1.05	21	3.72	1.06
2	3.09	.92	22	3.75	.67
3	2.68	1.07	23	3.30	.95
4	3.75	1.10	24	3.08	1.06
5	3.88	1.02	25	2.63	1.19
6	3.03	1.28	26	2.83	1.35
7	3.08	1.38	27	3.65	1.03
8	3.60	1.00	28	3.48	1.14
9	3.54	.85	29	4.02	.75
10	3.19	1.08	30	3.06	.98
11	4.20	.76	31	2.85	1.20
12	3.14	1.10	32	2.20	.99
13	3.07	1.05	33	2.20	1.02
14	2.39	.94	34	3.25	.91
15	3.36	1.14	35	3.26	.89
16	4.19	.77	36	2.97	.86
17	3.86	.98	37	3.35	1.05
18	3.40	1.19	38	3.25	.82
19	3.45	.87	39	3.44	.86
20	3.77	.79	40	3.53	.81

details (item 11), I personally investigate budget variances in my unit (item 29), I investigate favorable as well as unfavorable budget variances for my unit (item 16), and I go to my superior for advice on how to achieve my budget (item 17). Items with low means suggest that the budget-oriented behavior involved requires a rather non-routine decision. For example, these items include the following: I find it necessary to charge some activities to other accounts when

budgeted funds for these activities have been used up (item 33), and I find it necessary to stop some activities in my unit when budgeted funds are used up (item 32).

### Factor Analysis Results

Table 4-2 presents the product moment correlation coefficients between pairs of measures of the 40 budget-oriented behavior items. Inspection of this table reveals that very few items are highly intercorrelated. Among the 780 correlation coefficients, only nine are above .50 and only thirty-five coefficients are above .40, and the highest coefficient is .69. The absence of very high correlation coefficients is an insurance against the redundancy of items. However, a closer examination of this table reveals the existence of some groups of interrelated items, which may be considered as dimensions or patterns of budget-oriented behavior.

For example, we can observe the following grouping of interrelated items: I evaluate my subordinates by means of the budget (item 30), I am evaluated on my ability to meet the budget for my unit (item 13), my superior mentions budget when talking to me about my efficiency as a manager (item 24), and my superior expresses dissatisfaction to me about results in my units when the budget has not been met (item 23).



Table 4-2  
Correlations Among Measures of  
Forty Budget-Oriented Behavior Items

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1																				
2	.26																			
3	.09	.06																		
4	.05	.12	-.04																	
5	.02	.29	.05	.27																
6	.25	-.08	-.01	.20	.14															
7	.44	.12	.00	.19	.10	.48														
8	.10	.19	-.08	.23	.24	.33	.42													
9	-.06	.16	-.21	.15	.09	.06	.09	.26												
10	.19	.00	-.02	.13	.02	.18	.26	.08	.33											
11	.17	.23	-.00	.19	.32	.13	.22	.31	.12	.16										
12	-.16	-.02	-.04	.14	.00	.02	-.05	.06	.11	.00	.02									
13	.03	.13	-.02	.19	.23	.24	.36	.37	.11	.19	.24	.18								
14	-.04	-.03	.34	-.02	.12	-.15	-.14	-.14	-.24	-.12	-.03	-.04	-.20							
15	.02	-.03	-.02	.03	.17	.41	.25	.36	.18	.06	.17	.19	.32	-.22						
16	.18	.09	-.08	.13	.06	.08	.14	.11	.26	.17	.30	.02	.09	-.24	.21					
17	-.07	.08	.04	.35	.35	-.01	-.09	.15	.09	.18	.19	.04	.19	.02	.08	.16				
18	.21	.34	-.14	.12	.12	.04	.29	.32	.18	.11	.25	.00	.35	-.16	.23	.25	.21			
19	.12	.17	-.12	.03	.01	.01	.02	.07	.27	.21	.15	-.11	.05	-.21	.12	.07	.11	.33		
20	.02	.19	-.03	-.01	.16	.03	-.11	.07	.12	-.02	.24	-.30	-.01	-.15	.19	.14	.02	.19	.15	

(continued)

Table 4-2 (continued)

	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	-.01	.08	.02	-.01	.22	.23	.15	.10	.23	.08	.16	.04	.01	.00	.30	.40	.00	.19	.02	.13
2	.16	.53	-.06	.12	.06	.32	.26	.19	.12	-.01	.30	.15	.05	.03	.07	.06	-.09	.32	.19	.13
3	-.14	-.04	-.12	.04	.05	-.15	-.10	.08	.00	.01	.03	.08	.13	-.01	.11	.17	.13	-.04	-.03	.00
4	.27	.08	.12	.08	.20	.12	.34	-.04	-.09	-.12	.27	.04	.10	.09	.12	.03	.25	-.02	.07	-.05
5	.13	.19	.20	.17	.13	.26	.14	.26	.20	.22	.23	.14	-.10	.00	.18	.24	.00	.21	.29	.14
6	.10	.05	.22	.16	.27	.09	.01	.07	.14	.15	.10	-.06	.00	.06	.14	.21	.06	.10	.02	.16
7	.19	.17	.23	.27	.40	.33	.19	.15	.06	.34	.31	.11	.11	.12	.27	.31	.20	.15	.10	.20
8	.30	.32	.29	.33	.39	.27	.21	.09	.15	.22	.28	.17	.14	-.13	.16	.15	.15	.07	.16	.20
9	.27	.27	.32	.14	.07	.21	.12	.08	-.06	.04	.12	.02	.08	.07	-.08	.13	.22	.12	.06	.03
10	.16	.03	.25	.13	-.02	.16	.11	.07	.11	.15	.11	-.03	.01	.12	.16	.31	.13	.07	.10	-.03
11	.05	.33	.25	.21	.08	.16	.16	.31	.49	.13	.23	.11	.12	.09	.30	.25	.10	.23	.17	.07
12	.06	-.18	.14	.07	.01	.10	.18	.05	-.15	-.03	.08	.06	.05	.18	.00	-.03	.23	-.19	-.12	-.16
13	.42	.17	.48	.64	.30	.35	.35	.27	.16	.59	.29	.25	.11	.35	.21	.22	.39	.22	.32	.21
14	-.41	-.15	-.12	-.07	.02	-.11	-.07	.03	-.01	-.13	-.05	.10	.07	-.07	.10	.04	-.39	-.08	.02	.08
15	.25	.13	.32	.40	.33	.28	.00	.32	.28	.33	.24	.10	.10	.14	.12	.08	.19	.05	.13	.21
16	.31	.20	.31	.08	.10	.24	.14	.27	.20	.10	.24	.01	.02	.06	.24	.10	.14	.27	.13	.14
17	.33	.10	.20	.22	.19	.28	.18	.01	.07	.09	.25	.16	-.02	.04	-.02	.00	.14	-.00	.02	-.18
18	.56	.25	.15	.33	.23	.46	.23	.18	.20	.30	.43	.25	.35	.02	.37	.25	.24	.31	.20	.18
19	.11	.30	.05	.11	.00	.26	.23	.11	.15	.08	.08	.03	.14	.15	.09	.11	.10	.15	-.01	.05
20	.12	.48	.03	-.04	.11	.12	.05	.18	.39	-.01	.11	.05	.12	-.10	.15	.06	-.09	.08	.30	.21

(continued)

Table 4-2 (continued)

	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
21																				
22	.21																			
23	.23	.11																		
24	.36	.13	.48																	
25	.20	.04	.29	.41																
26	.32	.27	.27	.36	.44															
27	.19	.19	.17	.27	.28	.43														
28	.11	.14	.24	.23	.07	.28	.20													
29	-.01	.31	.25	.10	.12	.11	.01	.37												
30	.32	.05	.46	.62	.37	.29	.07	.19	.19											
31	.41	.27	.19	.36	.46	.69	.44	.34	.12	.31										
32	.12	.08	.18	.23	.20	.35	.10	.23	.15	.31	.33									
33	.03	.07	.05	.18	.25	.33	.12	.22	.26	.12	.36	.30								
34	.07	-.03	.17	.41	.05	.24	.27	.15	.03	.20	.22	.11	.17							
35	.16	.04	.29	.26	.13	.30	.25	.38	.28	.22	.20	.15	.36	.10						
36	.13	.07	.17	.10	-.01	.24	.14	.23	.35	.32	.19	.24	.29	.09	.52					
37	.49	-.09	.22	.33	.22	.26	.18	.15	-.06	.24	.33	.15	.27	.42	.10	.10				
38	.13	.27	.20	.27	-.03	.21	.04	.23	.28	.31	.19	-.02	.13	.29	.24	.20	.12			
39	.27	.23	.22	.29	.09	.23	.24	.35	.21	.22	.27	.06	.07	.28	.28	.19	.16	.47		
40	.10	.24	.15	.15	.10	.11	.05	.33	.33	.13	.14	.00	.07	.13	.26	.18	.04	.52	.66	

Another grouping includes the following interrelated items: I offer suggestions for the improvement of budget systems (item 35), the budgeting system is changed in accordance with my suggestions (item 36), the budget is not finalized until I am satisfied with it (item 10), I work with financial staff people in preparing the budget for my unit (item 7).

Also note that the following items are intercorrelated: the budget enables me to be more innovative (item 38), the budget enables me to keep track of my success as a manager (item 39), and the budget enables me to be a better manager (item 40).

Such groupings of interrelated items suggest that the 40 items do not represent 40 different aspects of budget-oriented behavior but rather a smaller number of dimensions by which the behavior of managers with respect to budgeting can be described and to which it can be related. Factor analysis was used to identify these dimensions of budget-oriented behavior. The following factors were identified.

Budget Factor I: Concern with and actions brought about by expected budget overruns. This factor reflects the importance of budgeting as a control device and its role in influencing the actions of employees. Managers with higher scores on this factor are more often aware that they are required to meet the budget, that their performance is being monitored and that they are expected to report, explain

and eventually correct undesirable results. The items with the highest loadings on this factor are presented in Table 4-3 and include Item 31, I am required to report actions I take to correct causes of budget variances (.70); Item 26, I am required to submit an explanation in writing about causes of large budget variances (.68); Item 33, I find it necessary to charge some activities to other accounts when budgeted funds for these activities have been used up (.61); Item 18, I am required to prepare reports comparing actual results with budget (.52); Item 32, I find it necessary to stop some activities in my unit when budgeted funds are used up (.43). As it accounts for about 31% of the common variance in the data, this is an important factor in explaining differences in budget-oriented behavior. It reflects the concern of management with budget overruns as an important dimension of managers' behavior. It stresses the requirements that stem from the existence of budget variances. Note also that the emphasis is more on the communication requirement and the cover up actions than on constructive actions and efforts to search for durable solutions. In this sense this factor reflects some of the limiting features of budgeting when used mainly as a control device.

Budget Factor II: Evaluation by the budget. This factor reflects the use of budget as a device for measuring the performance of management. Managers with higher scores on this factor are more often aware of the use of budgeting in

Table 4-3

Factor I: Concern With and Actions Brought About  
by Expected Budget Overruns

Questionnaire Item Number	Factors									Commu- nality
	I*	II	III	IV	V	VI	VII	VIII	IX	
31	.70	.15	.07	.15	.06	.19	.04	.26	.04	.65
26	.68	.18	.18	.11	.07	.15	.13	.20	.00	.62
33	.61	.03	-.05	.00	.27	-.02	.12	-.28	.14	.56
18	.52	.25	.32	.08	.08	.03	.24	.06	-.23	.56
25	.45	.24	-.07	-.04	.02	.58	-.11	.08	.01	.62
27	.44	-.03	.11	.18	-.04	.08	.11	.38	.17	.43
32	.43	.30	-.14	-.08	.15	-.03	.02	.02	-.01	.32

Eigenvalue of Factor I	7.64
Percentage of Variance of Factor I	31.12
Cumulative Percentage of Variance of Factor I	31.12

associating the results of actions with individuals. The four items with the highest loadings on this factor are presented in Table 4-4 and include Item 30, I evaluate my subordinates by means of the budget (.81); Item 24, my superior mentions budgets when talking to me about my efficiency as a manager (.67); Item 13, I am evaluated on my ability to meet the budget for my unit (.63); Item 23, my superior expresses dissatisfaction to me about results in my unit when the budget has not been met (.46). This is an important factor as it accounts for almost 11% of the common variance of all the items. It reflects budget-oriented behavior that is strongly evaluation-oriented. Some aspect of managers' behavior can be traced to the fact that their abilities and efficiencies are being measured by their superiors at least partially by means of the budget. These same managers use the budget as a device to evaluate the performance of their subordinates. While the emphasis in the first factor is on cost objects, the emphasis in this factor is on persons.

Budget Factor III: Difficulty in meeting budget. This factor reflects the performance demands and the time demands that a budgeting system places on managers. Performance demands and time demands can cause stress and strain on those involved in budgets. Differences in managers' budget-oriented behavior can be partially explained by this dimension

Table 4-4

Factor II: Evaluation by the Budget

Questionnaire Item Number	Factors									Communi- nality
	I	II*	III	IV	V	VI	VII	VIII	IX	
30	.15	.81	.01	.11	.06	.14	.15	-.09	-.03	.74
24	.26	.67	.07	.21	.04	.17	.00	.12	.14	.63
13	.17	.63	.14	.23	.03	.22	.09	.20	.16	.62
23	.00	.46	.18	.09	.31	.22	.09	.17	.21	.47
Eigenvalue of Factor II						2.66				
Percentage of Variance of Factor II						10.85				
Cumulative Percentage of Variance of Factor II						41.97				



of budgeting. The items with the highest loadings on this factor are presented in Table 4-5 and include Item 14, I have difficulty meeting the budget for my unit (-.69); Item 21, my superior calls me in to discuss variations from the budget (.51); Item 9, new budgets include changes I have suggested (.56); Item 3, I am not able to spend as much time as I would like preparing the budget for my unit (-.46). Note that the loading for items 14 and 3 is negative while the loading is positive for the other two items. This is what is called a bipolar factor.<sup>1</sup> Items with negative loading can be regarded as measuring the negative aspect of the usual type of factor which is the difficulty in meeting budget. It is easy to remark that a manager whose budget includes changes he has suggested (item 9) will have less difficulty in meeting the budget (item 14). However, the conciliation between item 21 and item 14 is more difficult unless variations from the budget are interpreted as favorable budget variances. Managers with higher scores on this factor are those who more often do not have difficulty meeting the budget. This is a relatively important factor, accounting for 8% of the common variance in the data.

Budget Factor IV: Usefulness of budgeting. This factor reflects the positive view of budgeting by managers. As a dimension of budget-oriented behavior, it helps explain

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<sup>1</sup>For a detailed discussion of bipolar factors, see Harman (1976).

Table 4-5

Factor III: Difficulty in Meeting Budget

Questionnaire Item Number	Factors									Communi- nality
	I	II	III*	IV	V	VI	VII	VIII	IX	
14	.02	-.09	-.69	.02	.03	-.11	-.02	.11	.00	.51
9	.06	.03	.56	.00	.12	.06	-.06	.19	.03	.37
21	.26	.37	.51	.08	-.08	.08	.04	.22	-.02	.53
3	.05	.03	-.46	-.03	.03	-.02	.10	.02	-.02	.22

Eigenvalue of Factor II 2.09  
 Percentage of Variance of Factor III 8.51  
 Cumulative Percentage of Variance of Factor III 50.48

differences in behavior by relating them to differences in managers' attitude toward budgeting. Managers with higher scores on this factor more often view the budgeting process as useful and worthwhile. This factor stresses the positive impact of budgeting on managers. The items with the highest loadings on this factor are presented in Table 4-6 and include Item 39, the budget enables me to keep track of my success as a manager (.75); Item 40, the budget enables me to be a better manager (.75); and Item 38, the budget enables me to be more innovative (.64). What these items have in common is the enabling features of budgets. They stress the role of budgets in managers' self-appraisal. Managers view the budget as an important device to evaluate their own performance. The usefulness of budgeting factor accounts for 7% of the common variance for all items.

Budget Factor V: Involvement and personal attention to budgeting. This factor reflects managers' budget-oriented behavior that is self-oriented. Managers with higher scores on this factor more often give personal attention to budgeting questions within their own units. The items with the highest loadings on this factor are presented in Table 4-7 and include Item 29, I personally investigate budget variances in my unit (.68); Item 20, my methods of reaching budgeted performance are accepted without question by my subordinates (.51); Item 11, preparing the budget for my unit requires my attention to a great number of details (.50); Item 28, I am

Table 4-6

Factor IV: Usefulness of Budgeting

Questionnaire Item Number	Factors									Communi- nality
	I	II	III	IV*	V	VI	VII	VIII	IX	
39	.10	.16	.01	.75	.17	.15	-.01	.14	-.01	.66
40	.01	.04	-.02	.75	.20	.21	.02	-.12	-.11	.67
38	.04	.19	.15	.64	.09	-.07	.24	.00	-.17	.56

Eigenvalue of Factor IV 1.74  
 Percentage of Variance of Factor IV 7.11  
 Cumulative Percentage of Variance of Factor IV 57.59

Table 4-7

Factor V: Involvement and Personal Attention to Budgeting

Questionnaire Item Number	Factors									Communi- nality
	I	II	III	IV	V*	VI	VII	VIII	IX	
29	.06	.10	-.03	.15	.68	.06	.21	-.06	-.18	.58
20	.13	-.11	.17	.15	.51	.01	-.14	.00	-.38	.50
11	.07	.07	.08	.07	.50	.08	.25	.32	-.06	.44
28	.24	.15	-.04	.31	.46	.02	.12	.03	.11	.41

Eigenvalue of Factor V 1.63  
 Percentage of Variance of Factor V 6.67  
 Cumulative Percentage of Variance of Factor V 64.26

required to trace the cause of budget variances to groups or individuals within my unit (.46). This factor accounts for about 6% of the common variance in the data.

Budget Factor VI: Participation in planning. This factor reflects budget-oriented behavior related to the manager's involvement in planning. It stresses the interactive aspect and the reciprocal communications aspect of the budgeting process. The items with the highest loadings on this factor are presented in Table 4-8 and include Item 7, I work with financial staff people in preparing the budget for my unit (.64); Item 6, I work with other unit heads in preparing the budget for my unit (.61); Item 25, I ask for assistance from staff departments concerned with budgeting (.58); Item 8, I am consulted about special factors I would like to have included in the budget being prepared (.52); Item 15, I am shown comparisons of actual and budgeted performance for other units (.46). Managers with higher scores on this factor more often interact with managers of other units and coordinate their efforts with the rest of the organization. This behavior is related to their actual participative role as well as to their perceived participation role. This factor accounts for 5% of the common variance of all items.

Budget Factor VII: Influence in budget systems. This factor reflects budget-oriented behavior that is influential in nature. This behavior reflects the active participation

Table 4-8

Factor VI: Participation in Planning

Questionnaire Item Number	Factors									Communi- nality
	I	II	III	IV	V	VI*	VII	VIII	IX	
7	.17	.15	.08	.12	-.11	.64	.43	.01	-.03	.67
6	-.12	.08	.07	.04	.11	.61	.21	.02	.06	.45
25	.45	.24	-.07	-.04	.02	.58	-.11	.08	.01	.62
8	.18	.20	.16	.01	.14	.52	.00	.23	-.13	.45
15	.09	.30	.20	.03	.38	.44	-.10	-.03	.12	.50
Eigenvalue of Factor VI						1.43				
Percentage of Variance of Factor VI						5.83				
Cumulative Percentage of Variance of Factor VI						70.00				

of the manager in budget-setting and the influence he has in the functioning of the budgeting system. The items with the highest loadings on this factor are presented in Table 4-9 and include Item 36, the budgeting system is changed in accordance with my suggestions (.68); Item 1, I start preparing the budget for my unit before I am asked to (.58); Item 35, I offer suggestions for the improvement of budget systems (.50); Item 10, the budget is not finalized until I am satisfied with it (.46). Note also that Item 7, I work with financial staff people in preparing the budget for my unit, although it pertains to the domain of Factor VI, participation in planning, with a load of .64, it loaded high on Factor VII too (.43). This factor stresses the actual, active and influential aspects of participation in budgeting, not merely a pseudo-participation. Managers with higher scores on this factor suggest changes and actually get the budget changed in accordance with their suggestions since the budget is not finalized until they are satisfied with it and they offer suggestions to improve the budget system as a whole. This factor accounts for 5% of the common variance in the data.

Budget Factor VIII: Interaction with superior and subordinate. This factor reflects budget-oriented behavior that is superior-subordinate oriented. Managers with higher scores on this factor more often initiate actions that make them interact both with their superiors and subordinates. The items which have the highest loadings on this factor are



Table 4-9

Factor VII: Influence in Budget Systems

Questionnaire Item Number	Factors									Communi- nality
	I	II	III	IV	V	VI	VII*	VIII	IX	
36	.15	.17	-.15	.09	.23	.03	.68	.00	.00	.59
1	.15	-.11	-.03	.07	-.02	.29	.58	-.01	-.20	.50
35	.27	.08	-.12	.21	.31	.08	.50	.02	.11	.50
10	-.07	.12	.27	-.04	.07	.02	.46	.16	.10	.33
7	.17	.15	.08	.12	-.11	.64	.43	.01	-.03	.67
Eigenvalue of Factor VII						1.30				
Percentage of Variance of Factor VII						5.29				
Cumulative Percentage of Variance of Factor VII						75.38				

presented in Table 4-10 and include Item 4, I work with my superior in preparing the budget for my unit (.61); Item 17, I go to my superior for advice on how to achieve my budget (.57); and Item 5, I work with my subordinates in preparing the budget for my unit (.54). This factor accounts for 5% of the common variance of all items.

Budget Factor IX: Acceptance of budgeting as a managerial tool. This factor reflects budget-oriented behavior that depends on how well budgets fit with other organizational processes. It indicates how much acceptance the budgeting system has gained among managers and how well it has become part of their work traditions. The items that have the highest loadings on this factor are presented in Table 4-11 and include Item 22, my superior accepts my explanation of budget variances in my unit (-.51); Item 12, I am reminded of the importance of meeting the budget for my unit (.49); Item 37, I discuss budget items when problems occur (.46); Item 34, budget matters are mentioned in informal conversations (.45); Item 2, I spend time outside of normal working hours preparing the budget for my unit (-.43). Note that Item 22 and Item 2 have negative loadings. Managers with higher scores on this factor more often are expressive about budgeting, they discuss it when problems occur, mention it in their informal conversation and are constantly reminded of its importance. However, when it comes to working they usually do not work overtime on budgeting. This factor accounts for almost 4% of the common variance in the data.

Table 4-10

Factor VIII: Interaction with Superiors and Subordinates

Questionnaire Item Number	Factors									Commu- nality
	I	II	III	IV	V	VI	VII	VIII*	IX	
4	.08	-.10	.13	.00	-.08	.22	.08	.61	.18	.49
17	.14	.26	.07	-.20	.09	-.11	-.04	.57	.00	.47
5	.02	.22	-.14	.16	.24	.07	.04	.54	-.14	.46

Eigenvalue of Factor VIII 1.22  
 Percentage of Variance of Factor VIII 5.00  
 Cumulative Percentage of Variance of Factor VIII 80.38

Table 4-11

Factor IX: Acceptance of Budgeting as a Managerial Tool

Questionnaire Item Number	Factors									Communi- nality
	I	II	III	IV	V	VI	VII	VIII	IX*	
22	.20	-.02	.29	.22	.28	.07	-.03	.23	-.51	.57
12	.09	.02	.05	-.13	-.01	.04	-.09	.15	.49	.30
37	.28	.26	.40	.11	-.08	.05	.06	.01	.46	.54
34	.18	.20	.11	.37	-.04	-.11	.09	.02	.45	.44
2	.35	-.07	.08	.25	-.01	-.04	.07	.34	-.43	.50

Eigenvalue of Factor IX .970  
 Percentage of Variance of Factor IX 3.95  
 Cumulative Percentage of Variance of Factor IX 84.33

## Discussion of Results

### Structure of Managers' Budget-Oriented Behavior

Dimensions. The analysis of managers' budget-oriented behavior resulted in the identification of 9 factors capable of providing an economical yet reasonably complete description of how Tunisian managers behave when they carry out their budgeting functions. Nine behavioral factors accounted for more than 84% of the common variance contained in the 40 descriptive items.

It is interesting to note that the most important factor for explaining differences in behavior is a control-oriented one. The perceived and expressed concern of Tunisian managers over the constraints imposed upon them by the budgetary control process reflect the persistence of the traditional view of budgeting founded on the classical economic theory of the corporation and the traditional Tayloristic model of the organization. The budget is an important device for control and control is obviously necessary no matter what organization or environment it is used in, but it is the way it is administered that determines whether it is effective or not. In the Tunisian environment it seems that the emphasis is more on authority, accountability, and control. While only the examination of managers' scores on this factor can show whether or not Tunisian managers perceive the budgeting system more like a mechanical feedback system that measures progress and reported results, the nature and structure of the factor

itself is very important in the sense that any investigation of managers' behavior should focus first on the control dimension of budgeting.

As a result of a tight control procedure some dysfunctional behavior is expected. The concern of managers over budget overruns may result in actions that may not be beneficial to the organization (especially in the long run). The manipulation of figures and the interruption of activities are examples of such actions. Table 4-1 indicates that such actions do not occur very frequently relative to other activities, but the first budget-oriented behavior does identify these actions as associated with the control dimension of budget behavior.

The second important factor in explaining differences in budget-oriented behavior of Tunisian managers is evaluation-oriented and is very related to the first factor. The use of budgets as a basis for performance evaluation or more specifically the perception of managers that they are being evaluated by the means of budgets may contribute to the explanation of their behavior. How managers use budgeting as an evaluation device is crucial since they are in fact reinforcing or discouraging some kinds of behavior. We know from learning theory that when a behavior is reinforced, the probability that an individual behaves similarly in later periods changes. This factor offers a rich dimension for investigating behavior. When the concern is on budgeted level, and it usually is, and

when rewards and punishments are determined on the basis of performance against the budget, those who have to live with the budget usually learn the ropes of manipulating outcomes. The budget itself and what it is intended to accomplish may have little effect. The mere fact that it is perceived as a performance evaluation device has an impact on behavior. How effectively it motivates people to alter their behavior depends on many factors (acceptance of the performance evaluation system, the fairness of the system, and a host of personal motivations).

Another dimension along which budget-oriented behavior can be explained is the ability or lack of it of Tunisian managers to comply with budget constraints. Some managers may have more difficulty than others in meeting the requirements of the budgeting system in terms of time spent and performance. The high contribution of this factor, relative to the contribution of the remaining factors, may be attributed to the fact that budgeting as a formal managerial system is relatively new in the Tunisian business environment. As a result of people's differences in their ability to adapt to new systems and new requirements, differences in behavior can be expected.

Differences in managers' budget-oriented behavior may also be partially explained by managers' different perceptions of the usefulness of budgeting. The perception of usefulness is closely related to the psychological concept of motivation.

Motivation is defined by Berelson and Steiner (1964, p. 240) as an "inner state that energizes, activates, or moves . . . directs or channels behavior toward goals. In short, a motive results in and hence can be inferred from purposive means and behavior." In this sense, motivation can be inferred from the case when a manager behaves in a fashion to minimize the discrepancy between a condition that he believes should be and a state that either exists or potentially may exist. Hence, differences in managers' perceptions of the usefulness of budgeting may arise from the nature, content, relevance, and use of the budget itself, as well as individual differences such as the personalities and needs of managers. Factor IV stresses managers' perceptions of how useful the budgeting system is to them rather than its usefulness to the whole organization. Most managers have high scores on this factor. Because of the nature of the items that constitute this factor, it is suspected that some managers might have given what they consider to be a socially acceptable response to these items rather than an accurate one.

Factor IX, acceptance of budgeting as a managerial tool, is related to the usefulness of budgeting factor and together they account for 12% of the common variance in the data.

The statistical analysis of managers' budget-oriented behavior questionnaire has also identified managers' involvement and personal attention to budgeting as a separate



dimension capable of explaining differences in behavior. This factor reflects managers' efforts to investigate budget variances in their units, to trace the cause of these variances to groups or individuals and to take care of a number of details when preparing the budget for their unit.

It is interesting to note that the participation of managers in planning as a dimension of managers' budget-oriented behavior has a relatively low contribution to the common variance. This suggests that the participation aspect may not be very important for describing differences in how managers use budgeting. While Factor I, "concern with and actions brought about by expected budget overruns," accounts for 31% of the common variance, Factor VI, "participation in planning," accounts for 5% only of the common variance. It is suggested that in the Tunisian business environment, the control and performance measure aspects of budgeting offer a richer field for investigating managers' behavior than the participation aspect.

Two other factors with relatively low contributions are Factors VII and VIII. These factors reflect different aspects of a manager's budget-oriented behavior, including his influence in budget-setting, his offering suggestions for the improvement of budget systems, and his interaction with superiors and subordinates. Even though the contributions of these factors to the total variance explained are relatively low, they are identified as separate behavioral dimensions

which may be useful in describing differences in managers' budget-oriented behavior.

Reliability of the Instrument. Managers' budget-oriented behavior questionnaire has not been widely used and it is deemed important to test the reliability of the instrument. Osgood, Suci and Tannebaum (1957, p. 126) define reliability in the following manner: "The reliability of an instrument is usually said to be the degree to which the same scores can be reproduced when the same objects are measured repeatedly." The reliability test of the instrument strengthens the interpretation of results. It permits the researcher and the reader to judge whether scores are sufficiently dependable to support the drawn conclusions.

Internal consistency (coefficient alpha) reliabilities of the derived factors were computed. Only Factor III and Factor IX have reliabilities below acceptable level. The seven remaining factors have reliabilities that are either acceptable or high as it is shown below.

<u>Factor</u>	<u>Reliability</u>
I	.79
II	.83
III	.09
IV	.79
V	.64
VI	.74
VII	.63
VIII	.59
IX	.36

Cross-Cultural Comparison of Scales. Two previous studies used managers' budget-oriented behavior questionnaire. Swieringa and Moncur (1975) used a sample of 137 managers from four companies in the electronics industry. Bruns and Waterhouse (1975) used a sample of 284 managers from twenty-seven organizations from different industries, markets, and production methods. Thirteen factors were extracted in both studies accounting for, respectively, 68% and 62.4% of the common variance. The present study is conducted in a different environment, a developing country compared with a developed one where the two previous studies were conducted. Nine factors are derived, accounting for 84% of the common variance in the data. Because of differences in culture, economic and social environment, some differences in the structure and importance (relative contribution) of factors have arisen.

To compare the factors derived in each of the previous studies and the factors derived in the present study, two cross-classification matrices were prepared and are shown in Table 4-12 and Table 4-13. In these tables the derived factors are shown along the horizontal axis and the previous studies' factors are along the vertical axis. Both tables are constructed in the same manner. In Table 4-12, for example, the following criterion was utilized in order to place a particular item in the matrix: The items which loaded most significantly (the highest loading) on a particular factor

Table 4-12

## Cross-Classification of Factors

	Swieringa & Moncur Factors	Factors								
		I	II	III	IV	V	VI	VII	VIII	IX
I	30,24,23		30,24,23							
II	33,32	33,32								
III	12,13		13							12
IV	18,26,21 28,31	18,26 31		21					28	
V	4,17									4,17
VI	38,40,39				38,49,30					
VII	20,22 19,14			14		20				22
VIII	9,8,10 7,25			9			7,8 25	10		
IX	11,16,5 29,2					11,29			5	2
X	15,26,36	26					15	36		
XI	34,37									34 37
XII	6,7						6,7			
XIII	3,2,35			3				35		2

Table 4-13

Cross-Classification of Factors

Bruns & Waterhouse Factors	Factors								
	I	II	III	IV	V	VI	VII	VIII	IX
I 7,25,8 9,5,6			9			6,7 8,25		5	
II 23,24 13,30		23,24 30,13							
III 38				38					
IV 35,36							35,36		
V 33,32	33,32								
VI 40,39				40,39					
VII 20,19,22					20				22
VIII 26,18,31	26,18,31								
IX 4,17								4,17	
X 14,3,12			14,3						12
XI 15,34						15			34
XII 29,11					29,11				
XIII 2									2

were arrayed in the column representing that factor. Then the particular items were placed in the rows which correspond to the factors in which Swieringa and Moncur had placed the items. The numbers refer to the items as listed in the present study.<sup>2</sup>

If there were a high degree of correspondence between the factors of this study and the factors of either one of the previous studies, one would expect to see a "clustering" appearance of the items on the chart. Each factor would have the great majority of the items corresponding to one or two of the other study's factors. A wide dispersion of the items would mean a general lack of correspondence between factors in the two studies concerned.

The dispersion of the items in Table 4-12 is wider than in Table 4-13. Only two factors in this study, II and IV (see Table 4-14) for the names of factors), have an identical or almost identical composition to factors reported by Swieringa and Moncur while six factors, II, III, IV, VI, VII, and VIII, have almost the same composition as factors reported by Bruns and Waterhouse. These findings are a little surprising since Swieringa and Moncur's study is closer to the present study in terms of sample size and sample selection than is Bruns and Waterhouse's study (the cultural differences

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<sup>2</sup>Since 40 items only are used in this study while Swieringa and Moncur used 44 items, the four extra items are ignored and the items are renumbered so that a given number will correspond to the same item in either study.

factor is held constant). Even within the same cultural and economic environment, Swieringa and Moncur and Bruns and Waterhouse studies have only two factors in common. The general question addressed here is whether or not it is possible to arrive at some "standardized" managers' budget-oriented behavior scales that are reliable and valid across many different organizations and across different cultures. The practical implications of this question is whether or not it is necessary to routinely administer and factor analyze managers' budget-oriented questionnaire when the type of organization of interests has not been studied in the past. With the results of only three studies it is hard to draw conclusions. While some common factors did emerge between these three studies, there are differences due to the basic discrepancy between the organizations involved in terms of their differing environment, work practices, procedures and goals. In general, there is a trade-off between the specificity of an instrument versus its general applicability. Only replications of such studies in different organizations and different environments will determine the nature of this trade-off.

The relative contribution of each factor to the common variance in the data provides considerable insight into the relative importance of each factor for explaining differences in managers' budget-oriented behavior. By examining Table 4-14, we can note that in this study factors that are control and

Table 4-14  
Rank Order of Factors

Factors	Present Study	% of Variance
I	Concern with and actions brought about by expected budget overruns	31.1
II	Evaluation by the budget	10.9
III	Difficulty in meeting budget	8.5
IV	Usefulness of budgeting	7.1
V	Involvement and personal attention to budgeting	6.7
VI	Participation in planning	5.8
VII	Influence in budget systems	5.3
VIII	Interaction with superiors and subordinates	5.0
IX	Acceptance of budgeting as a managerial tool	4.0
X		
XI		
XII		
XIII		

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84.4

(continued)



Table 4-14 (continued)

Factors	Bruns and Waterhouse Study	% of Variance
I	Participation in planning	20.8
II	Evaluation by the budget	5.9
III	Enabling features of budgets	4.8
IV	Participation in budget systems	4.1
V	Limiting features of budgets	3.8
VI	Support from budget	3.4
VII	Acceptance of methods	3.3
VIII	Required explanation of variances	3.1
IX	Interaction with superior	2.9
X	Difficulty in meeting budget	2.8
XI	Participation in feedback	2.6
XII		2.5
XII		2.3
		<u>62.4</u>

(continued)

Table 4-14 (continued)

Factors	Swieringa and Moncur Study	% of Variance
I	Evaluation by superiors and of subordinates	18.7
II	Actions brought about by expected budget overruns	7.5
III	Responsibility for meeting budget	7.0
IV	Required explanation of budget variances	4.8
V	Interactions with superiors	4.5
VI	Usefulness of budgeting	4.0
VII	Acceptance of methods	3.8
VIII	Influence in budget settings	3.5
IX	Personal attention to budgeting	3.1
X	Involvement in budgeting	3.0
XI	Expressive about budgeting	2.7
XII	Interactions with peers and financial staff	2.6
XIII	Time demands of budgeting	2.3
		<u>67.5</u>

evaluation-oriented are relatively more important in describing differences in budget-related behavior than factors that are planning and participation-oriented. This order of importance is reversed in the Bruns and Waterhouse study, while the Swieringa and Moncur study ranks the evaluation and control-oriented factors higher in importance. Again, it is not appropriate to draw and generalize conclusions, especially since the two studies conducted in the same cultural and economic environment have shown rather different results.

#### Analysis of Organizational Climate

The organizational climate has been proposed as an important factor in explaining behavior. In this study, measures of organization climate are obtained by the administration of the Litwin and Stringer organization climate questionnaire. Factor analysis of managers' responses to this questionnaire led to the identification of a set of six summary measures of an organization climate. These measures constitute useful dimensions along which differences in management perception of the work environment can be explained.

The second objective of this research is to identify and measure some important variables that might have an effect on managers' budget-oriented behavior. The identified organizational climate dimensions of Tunisian business enterprises

are first reported and then discussed. The discussion includes a test of reliability of scales and a cross-cultural comparison between these scales and scales derived by other researchers in different environments.

### Factor Analysis Results

Factor I: General affective tone toward management/organization. This climate dimension identifies the way in which respondents perceive management (where "management" represents the organizational "higher ups"), co-workers and other people in the organization. It is suggested that the heretofore unidentifiable "they" that persons talk about in an organization, is actually represented by this particular factor. This factor reflects also the feeling that the respondent belongs to this organization, and he is a valuable member of a working team. The items with the highest loadings on this factor are presented in Table 4-15 and include: Item 27, a friendly atmosphere prevails among the people in this organization (.74); Item 16, we have a promotion system here that helps the best man to rise to the top (.65); Item 28, this organization is characterized by a relaxed, easy-going working climate (.57); Item 18, in this organization people are rewarded in proportion to the excellence of their job performance (.57); Item 35, the philosophy of our management emphasizes the human factor, how people feel, etc. (.52); Item 36, when I am on a difficult assignment I can usually count

Table 4-15

**Factor I: Affective Tone Toward  
Management/Organization**

Item Number	Factors						Communi- nality
	I*	II	III	IV	V	VI	
27	.74	-.14	.02	-.14	-.12	.02	.60
16	.65	.09	.32	-.20	-.20	-.01	.61
28	.57	-.10	.13	.16	-.04	.02	.37
18	.57	.11	.24	-.21	-.00	-.03	.43
35	.52	.36	.04	.01	-.00	-.10	.41
36	.52	-.01	.32	-.00	.20	.06	.41
34	-.46	.12	-.34	.14	.38	-.02	.50
40	.41	.26	.19	.17	-.11	.17	.30
17	.40	.06	-.00	-.00	-.13	.12	.19
48	.70	-.15	.06	-.18	.09	.12	.57
50	-.66	.21	-.02	-.02	.18	-.07	.51
47	.63	-.06	-.06	-.03	-.13	.13	.43
49	-.51	.02	-.10	.03	.08	.12	.29

Eigenvalue of Factor I	7.99
Percentage of Variance of Factor I	23.88
Cumulative Percentage of Variance of Factor I	23.88

on getting assistance from my boss and co-workers (.52); Item 34, people in this organization don't really trust each other enough (-.46); Item 40, management believes that if people are happy, productivity will take care of itself (.41); Item 17, in this organization the rewards and encouragements you get usually outweigh the threats and the criticism (.40). The identity aspect of this factor is suggested by the high loadings of the following items: Item 48, I feel that I am a member of a well-functioning team (.70); Item 50, in this

organization people pretty much look out for their own interests (-.66); Item 47, people are proud of belonging to this organization (.63); Item 49, as far as I can see, there isn't very much personal loyalty to the company (-.51). This factor is important in explaining differences in managers' perceptions of their organization and work environment and accounts for 23.88 of the common variance in the data.

Factor II: Responsibility and risk in decision making. This factor identifies the way the respondents feel about who has the ultimate responsibility for getting the job done. This involves the frequency of double-checking, individual judgment, and personal initiative.<sup>3</sup> It also reflects the sense of riskiness and challenge in the job and the degree of risk concomitant with management decision-making in the organization. Items that loaded high on this factor are presented in Table 4-16 and include: Item 13, our philosophy emphasizes that people should solve their problems by themselves (.67); Item 15, one of the problems in this organization is that individuals won't take responsibility (.59); Item 12, you won't get ahead in this organization unless you stick your neck out and try things on your own sometimes (.56); Item 9, we don't rely too heavily on individual

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<sup>3</sup>The interpretation of this factor is given by Paul M. Muchinsky who found the same items with high loadings on this factor in his study.

Table 4-16  
Factor II: Responsibility and Risk

Item Number	Factors						Communi- nality
	I	II*	III	IV	V	VI	
13	.19	.67	.08	.04	.05	.09	.50
15	-.27	.59	-.12	.26	.18	.16	.56
12	-.11	.56	.07	.19	.02	.10	.37
7	-.11	.48	.12	.01	.00	.01	.27
14	-.19	.46	-.04	.10	.04	-.19	.29
11	.29	.45	.14	.00	.08	.01	.31
10	-.10	.44	-.00	.26	-.15	.15	.31
23	.08	.58	.10	-.00	-.12	-.03	.30
24	-.01	.49	-.12	.07	.23	.08	.31
22	.20	.42	.11	-.23	-.20	-.07	.32

Eigenvalue of Factor II	5.47
Percentage of Variance of Factor II	16.34
Cumulative Percentage of Variance of Factor II	40.22

judgment in this organization; almost everything is double-checked (.48); Item 14, there are an awful lot of excuses around here when somebody makes a mistake (.46); Item 11, supervision in this organization is mainly a matter of setting guidelines for your subordinates; you let them take responsibility for the job (.45); Item 10, around here management resents your checking everything with them, if you think you've got the right approach, you just go ahead (.45). Note that it is surprising that some of these items didn't have negative loadings on this factor, which one might expect,

since some items suggest the existence of responsibility, while others suggest the lack of it. A possible explanation would be that efforts are being made to expand the sense of responsibility to the lower levels of management but effectively not much success has been achieved as it was sensed by the researcher during the interviews with top managers of the organizations concerned. The risk aspect of this factor is reflected in the high loadings of the following items: Item 23, our business has been built up by taking calculated risks at the right time (.58); Item 24, decision making in this organization is too cautious for maximum effectiveness (.49); Item 22, the philosophy of our management is that in the long run we get ahead fastest by playing it slow, safe, and sure (.42). This is also an important factor accounting for 16.34% of the common variance of all items.

Factor III: Organization structure. This climate dimension reflects the feeling that employees have about the organizational structure, which involves clarity of jobs and procedures, rules, regulations, red-tape, etc. The items with the highest loadings on this factor are presented in Table 4-17 and include: Item 3, the policies and organization structure of the organization have been clearly explained (.78); Item 4, red-tape is kept to a minimum in this organization (.73); Item 1, the jobs in this organization are clearly defined and logically structured (.68). This is a relatively



Table 4-17

## Factor III: Organizational Structure

Item Number	Factors						Communi- nality
	I	II	III*	IV	V	VI	
3	.28	.13	.78	.08	.02	.03	.71
4	.21	.15	.43	.13	.06	-.07	.62
1	.27	.04	.69	.17	.04	-.13	.59
Eigenvalue of Factor III							2.58
Percentage of Variance of Factor III							7.74
Cumulative Percentage of Variance of Factor III							47.96

important factor accounting for 7.74% of the common variance in the data.

Factor IV: Formalization and clarity of authority. This factor reflects the perceptions that employees have about decision-making processes in the organization, the degree to which authority and position responsibilities are formalized explicitly. The items that loaded high on this factor are presented in Table 4-18 and include: Item 5, excessive rules, administrative details, and red-tape make it difficult for new and original ideas to receive consideration (.68); Item 2, in this organization it is sometimes unclear who has the formal authority to make a decision (.59); Item 7, in some of the projects I have been on, I haven't been sure exactly who my boss was (.54); Item 6, our productivity sometimes suffers

Table 4-18

## Factor IV: Formalization and Clarity of Authority

Item Number	Factors						Communi- nality
	I	II	III	IV*	V	VI	
5	.16	.09	-.04	.68	-.01	-.10	.25
2	-.10	.10	.17	.59	.20	-.00	.43
7	-.15	.05	.32	.54	.20	.02	.45
6	-.43	.24	.20	.51	.09	.11	.39

Eigenvalue of Factor IV	2.20
Percentage of Variance of Factor IV	6.59
Cumulative Percentage of Variance of Factor IV	54.55

from lack of organization and planning (.51). This factor accounts for 6.59% of the common variance of all items.

Factor V: Reward. This climate dimension reflects managers' perceptions of the reward-punishment system. Here the emphasis is on punishments rather than rewards, a characteristic that is more apparent in a strict control system. The items with the highest loadings on this factor are presented in Table 4-19 and include: Item 21, if you make a mistake in this organization you will be punished (.70); Item 20, there is not enough reward and recognition given in this organization for doing good work (.67); Item 32, you don't get much sympathy from higher-ups in this organization if you make a mistake (.65); Item 19, there is a great deal of criticism in this organization (.55). This factor accounts for 5.64% of the common variance in the data.

Table 4-19  
Factor V: Reward

Item Number	Factors						Communi- nality
	I	II	III	IV	V*	VI	
31	.02	-.06	.08	-.01	.70	-.08	.50
20	-.21	.03	-.04	.26	.64	.03	.56
32	-.09	.06	.16	-.07	.65	-.00	.46
19	-.32	.16	-.11	.28	.55	.09	.52

Eigenvalue of Factor V	1.88
Percentage of Variance of Factor V	5.64
Cumulative Percentage of Variance of Factor V	60.19

Factor VI: Standards. This factor reflects the perceived importance of high job standards, the challenge represented in personal and group goals and the feeling of pressure to meet high performance standards. The items with the highest loadings on this factor are presented in Table 4-20 and include: Item 38, our management believes that no job is so well done that it couldn't be done better (.69); Item 39, around here there is a feeling of pressure to continually improve our personal and group performance (.55); Item 33, management makes an effort to talk with you about your career aspirations within the organization (.53); Item 37, in this organization we set very high standards for performance (.53); Item 25, our management is willing to take a chance on a good idea (.48); Item 45, we are encouraged to speak our

Table 4-20  
Factor VI: Standards

Item Number	Factors						Communi- nality
	I	II	III	IV	V	V*	
35	.15	-.00	-.03	-.13	.14	.69	.53
39	-.06	.11	-.12	.08	.06	.55	.34
33	.33	.18	.43	-.12	-.13	.53	.63
37	-.02	-.19	-.02	.27	-.06	.53	.39
25	.35	.12	.38	-.20	-.07	.48	.55
45	.29	.07	-.05	-.00	-.13	.44	.30
46	.40	.34	.24	-.02	.08	.40	.50
Eigenvalue of Factor VI						1.58	
Percentage of Variance of Factor VI						4.72	
Cumulative Percentage of Variance of Factor VI						64.91	

minds, even if it means disagreeing with our superiors (.44); Item 46, in management meetings the goal is to arrive at a decision as smoothly and quickly as possible (.40). This factor accounts for 4.72 percent of the common variance in the data.

#### Discussion of Results

Reliability of the Instrument. Although the organizational climate questionnaire has been used in different studies and most of its scales have shown a high degree of reliability, it is deemed important to test the reliability of this instrument in this study because of the different environment in which it is conducted.

Internal consistency (coefficient alpha) reliabilities of the derived factors were computed. Only Factor I has a reliability below .60. The five remaining factors have reliabilities that are either acceptable or high as is shown below.

<u>Factor</u>	<u>Reliability</u>
I	.54
II	.77
III	.87
IV	.71
V	.75
VI	.73

Cross-Cultural Comparison of Scales. Litwin and Stringer, who designed the organizational climate questionnaire used in this study, developed nine a priori scales with the intention of using them as climate scales in future research. Several studies have factor analyzed the Litwin and Stringer organizational climate questionnaire to see whether or not the a priori scales can be replicated. The present study takes the question one step further in order to find out whether these climate scales are acceptable in a different socio-economic environment. The investigators of four of the better known studies (Meyer, 1968; Downey et al., 1974; Sims and LaFollette, 1975; Muchinsky, 1975) each found six factors underlying the questionnaire. These factors are Responsibility, Reward, Standards, Constrained Conformity, Organizational Clarity, and Friendly, Team Spirit for Meyer (1968). Downey et al. (1974) referred to their factors as Decision Making,

Openness, Risk, Warmth, Rewards, and Structure. Sims and LaFollette (1975) referred to their factors as Affective Tone Toward Other People, Affective Tone Toward Management, Policy and Promotion Clarity, Job Pressure and Standards, Openness of Upward Communication, and Risk in Decision Making. The six factors found by Muchinsky (1975) are referred to as Interpersonal Milieu, Standards, Affective Tone Toward Management/Organization, Organizational Structure and Procedures, Responsibility, and Organizational Identification. While accurate comparisons of factors across studies on the basis of verbal descriptions can be tenuous because of the subjective judgment involved in giving names to factors, a close examination of the specific items that comprise each factor helps identify the major similarities and differences between the results of these studies. Some similarities or factors common to the several studies seem to exist. For example, a factor dealing with the importance of high performance is evidenced by the factors Standards (Meyer, Muchinsky, and the present study), Job Pressure and Standards (Sims and LaFollette). A factor dealing with the type of interpersonal atmosphere which prevails in the organization is evidenced in the factors Affective Tone Toward People (Sims and LaFollette), Interpersonal Milieu (Muchinsky), Affective Tone Toward Management/Organization (present study), Friendly, Team Spirit (Meyer), and Warmth

(Downey et al.). Other factors appear to be common to only two or three studies, as Responsibility (Meyer, Muchinsky and the present study), while some other factors appear to be unique to a specific study, as Openness of Upward Communication (Sims and LaFollette), and Constraining Conformity (Meyer).

It should be noted that while the several studies do not always use the same statistical analyses, differences in results that did occur cannot be attributed to methodological differences only. Differences in the characteristics of each respective sample, in work practices, procedures, and goals are expected to account for a major part of the discrepancy in the results. While some of the derived factors in the present study are common to studies conducted in the American economic and social environment, the present study did show some specificity. It identified two separate dimensions of organizational structure. The first involves the clarity of jobs and procedures, and the other involves the clarity of authority. Whether this can be attributed to the difference in the economic and cultural environment or simply to a difference in the types of organizations is somehow hard to determine, since the present study is the first one that used the organizational climate questionnaire in the Tunisian environment.

As indicated above, the practical implication of not having a standardized climate questionnaire applicable to a broad range of organizations is that it would be necessary to

routinely factor analyze the questionnaire every time the type of organizations of concern had not been studied before. The nine a priori scales developed by Litwin and Stringer were intended to avoid this procedural burden. The consequences that would have occurred had the a priori scales been used in this study instead of factor analyzing the climate questionnaire are presented in the following two tables. Table 4-21 is a cross-classification of factors and shows the degree of correspondence between the derived factors and the a priori scales. And Table 4-22 shows the reliability of the a priori scales when the collected data of the present study were applied to the measurement of these scales. The two tables are in a sense complementary and show that while some of the a priori scales (Structure, Responsibility and Standards) correspond closely to some of the derived factors, a number of a priori scales are different and would have been very unreliable had they been used in this study.



Table 4-21

Cross-Classification of Organizational Climate  
A Priori Scales and Derived Factors

Litwin and Stringer a priori scales	Derived Factors	Affective Tone Toward Management/Organization	Responsibility and Risk	Organizational Structure	Formalization and Clarity of Authority	Rewards	Standards
		I	II	III	IV	V	VI
Structure 1,2,3,4,5,6,7,8				1,3,4	2,5,6,7		
Responsibility 1,10,11,12,13 14,15			9,10,11 12,13 14,15				
Reward 16,17,18 19,20,21		16,17,18				19,20,21	
Risk 22,23,24,25,26			22,23,24				25
Warmth 17,28,29,30,31		27,28,30					
Support 32,33,34,35,36		34,35,36				32	33
Standards 37,38,39 40,41,42		40					37,35,39
Conflict 43,44,45,46							45,46
Identity 47,48,49,50		47,48,49,50					

Table 4-22

**Internal Consistency Reliabilities of  
the Organizational Climate A Priori  
Scales and the Derived Climate Factors**

<b>A Prior Scales</b>	<b>Reliabilities</b>
1. Structure	.75
2. Responsibility	.73
3. Reward	.31
4. Risk	.31
5. Warmth	.27
6. Support	.08
7. Standards	.44
8. Conflict	.24
9. Identity	.65
 <b><u>Derived Factors</u></b>	
1. Affective Tone Toward Mangement/ Organization	.54
2. Responsibility and Risk	.77
3. Organizational Structure	.87
4. Formalization and Clarity of Authority	.71
5. Reward	.75
6. Standard	.73

### Personality Variables

In this study, the manifest need questionnaire was used to measure those needs found to be more important for work attitudes and behavior. The four specific needs measured are:

- 1) Achievement: to accomplish something important or very difficult, to do one's best.
- 2) Affiliation: to be loyal, to be a member of a group, to share or do things with friends.
- 3) Autonomy: to be independent of others in making decisions, to avoid responsibilities and obligations, to be "in command."
- 4) Dominance: to persuade and influence others, to supervise others, to be regarded as a leader.

The means, standard deviations and correlations between the scales are presented in Table 4-23. Of the four needs, the need for achievement is the strongest. With a mean of 5.27 (the maximum strength is 7) Tunisian managers have shown a very strong need for achievement. However, it should be noted that the items that constitute the achievement scale are relatively more loaded with social desirability. The affiliation need, although strong among Tunisian managers, is the weakest of the four needs (mean 3.96). Dominance and autonomy are respectively the second strongest (4.94) and the third strongest (4.11) needs. The standard deviations were

large enough to discriminate between managers on the four personality characteristics. Three of the six correlations between the scales were very low. The highest correlation was between the achievement and dominance scale (.31). The achievement and autonomy scales were found to be negatively correlated (-.22) while the dominance and affiliation scales were positively related (.20).

These four scales were selected a priori on the basis of their relevance to the work environment and are expected to have an effect on managers' budget-oriented behavior in Tunisian business enterprises.

Table 4-23  
Means, Standard Deviations and Correlations  
Between the Personality Scales

	Mean	S.D.	Achievement	Affiliation	Autonomy	Domination
Achievement need	5.26	.65	1.00			
Affiliation need	3.96	.59	.00	1.00		
Autonomy need	4.11	.93	-.22	.07	1.00	
Dominance need	4.94	.63	.31	.20	.08	1.00

### Demographic Variables

It has been suggested that several demographic variables may influence the budget-oriented behavior of Tunisian managers. Four demographic variables were considered in this research:

1) Age. Table 4-24 shows that the average age of Tunisian managers is 32 years. This is a relatively young population. Indeed 70% of the managers who responded to the questionnaire were under 35 years of age.

2) Educational level. The educational level variable was measured by the number of years of college. Table 4-24 shows that the managers in the sample have an average of three and a half years of college (the minimum number of years required to have a college degree is four). Eight percent of the respondents had some sort of college education and 50% had one or more college degrees.

3) Experience. Table 4-24 shows that the managers in the companies sampled have an average of seven years experience. It is interesting to note that the standard deviation of the variable "experience" is 5.5 years which is relatively high. This is probably due to the fact that some of the companies in the sample are much younger than others. Forty percent of the respondents have less than 5 years of experience.

Table 4-24  
Means, Standard Deviations and  
Correlations of Demographic Variables

	Mean	Standard Devia- tion	Correlations			
			Age	Educa- tional Level	Experi- ence	Hier- archical Level
Age	32.44	5.54	1.00			
Educational Level	3.62	2.27	-.27	1.00		
Experience	7.23	5.58	.85	-.53	1.00	
Hierarchical Level	7.27	1.86	.16	.62	.02	1.00

4) Hierarchical level. The different hierarchical levels that are presented in Table 4-25 were prepared during the conducting of the pilot study and were judged to be representative of the existing managerial levels in companies that pertain to the chemical sector. Table 4-25 also presents the number of participating managers belonging to each hierarchical level. Sixty-three percent of these managers have an organizational level falling between level 4 and level 7 which are the most representative of the middle-level manager.

As expected, there are strong correlations between some demographic variables (see Table 4-24). The strongest correlation is between age and experience (.85). Since the average age of the managers is only 32, this is the first job for many

Table 4-25  
Distribution of Managers by  
Hierarchical Level

Hierarchical Level	Number of Managers
Chief executive officer (President)	0
Executive vice president	3
Vice President	4
Chief engineer or head of division	12
Manufacturing manager and other head of major department	10
Engineer or department head	33
Deputy department head	15
Supervisors or section head	14
Foreman	8
Deputy head of section	<u>5</u>
Total	104

of them. It is, therefore, no surprise to have such a strong correlation between age and experience. Probably the most interesting thing to note is the strong correlation between the educational level and the hierarchical level (.62) on the one hand, and the relatively low correlation between age and managerial level (.16) on the other hand. This shows that the most commonly used criterion for selecting managers for high positions is still the high level of formal education. This traditional characteristic of the French system makes the formal level of education, rather than age or experience, the most important determinant of the manager's career. The negative correlation (-.53) between experience and educational

level can be explained by the fact that the young managers with high educational levels spent most of their past years in school rather than learning on the job.

#### Degree of Centralization

As indicated in Chapter IV, the degree of centralization or decentralization of an organization was chosen as an important variable for the study of budget-related behavior. A list of 27 more or less recurrent decisions covering a range of organizational activities (see Appendix E) was used in order to determine for each organization the lowest hierarchical level with the formal authority to make each decision. Table 4-26 presents the levels in the hierarchy and the number assigned to each level. Scores were obtained by scoring each decision according to the level at which it was taken. For example, a decision taken at the chief engineer or head of division level is scored seven.

Since higher levels in the hierarchy are assigned higher numbers, a high score means highly centralized. The possible score range is from the most decentralized organization with a score of 27 to the most centralized organization with a score of 270.

As expected, all six organizations in the sample were relatively highly centralized with a mean of 179. However, a closer examination of the obtained scores permits a classification



into two groups: (1) centralized organizations including Companies B, C, and D with scores, respectively: 150, 154, and 161; (2) highly centralized organizations including Companies A, E, and F with scores, respectively: 197, 209, and 206. The companies' age is the single most apparent factor distinguishing between the two groups. Organizations in the second group, especially companies E and F, are much older than organizations in the first group which have existed only for three or four years. While the older companies have maintained a centralized decision-making system in the Weberian sense, the younger companies have shown some timid signs of delegation of responsibilities.

Table 4-26

## Centralization Levels in the Hierarchy

Hierarchical Level	Assigned Score
Chief executive officer (President)	10
Executive vice president	9
Vice president	8
Chief engineer or head of division	7
Manufacturing manager or other head of major department	6
Engineer or department head	5
Deputy department head	4
Supervisor or section head	3
Foreman	2
Deputy head of section	1

Analysis of Relationships Between Predictor  
Variables and Measures of Manager's  
Budget-Oriented Behavior

In the last five sections of this chapter we reported the results of our efforts at variable identification, definition and measurement. These efforts yielded a list of nine measures of budget-oriented behavior, as well as a list of fifteen predictor variables consisting of six organizational climates, one organizational structure, four personality and four demographic variables. This section will report the results of the analysis of the relationships between these predictor variables and the measures of managers' budget-oriented behavior followed by a brief discussion of these results.

Analysis

The dimensions of budget-oriented behavior will be analyzed one at a time. The statistical results of a step-wise regression of predictor variables on each dimension will be reported in a separate table. The standardized regression coefficient, which represents the relative amount of contribution of a predictor variable, its t-value, and its  $R^2$ -change which shows its direct contribution to the accuracy of prediction, will be computed for the most important predictor variables.  $R^2$  will indicate the percentage of variation of the dependent variable explained by the predictor ones.

F-value will be used to test the significance level of the overall regression equation. Each table will be accompanied with a brief interpretation of the statistical results.

Budget Factor I: Concern with and actions brought about by expected budget overruns. Budget factor I reflects the use of budgeting as a control device. It stresses the concern of management with budget overruns and the requirements that stem from the existence of budget variances. As reported in Table 4-27, the most important variable explaining differences in the extent to which budgets are used as a control device is the degree of centralization of an organization. The results imply that, as the organization becomes more centralized, managers are more likely to use budgets to exercise control, are more concerned with budget overruns, are more often required to report and explain budget variances, and are more often ready to undertake cover-up actions. The variable centralization alone explains 37% of the variation in budget factor I. Experience or manager's time in company is the second most important predictor variable (although much less important than the first one). It has a negative effect on budget factor I, implying that the less time a manager has been with his company the more likely he may be to use the budget as a control device. This may be explained by two factors: (a) new managers are more likely to conform to the company's strategy of control, and they do not have enough

Table 4-27

Relationships Between Budget Factor I  
(Concern with and Actions Brought  
About by Budget Overruns)  
and Predictor Variables

	Centrali- zation	Experi- ence	Responsibility & Risk in D.M.	Educa- tional Level	Autonomy	Domi- nance
Regression Coefficient	.390	-.206	.114	-.100	.080	.074
t Value	4.081*	-1.794***	1.227	-.906	.864	.780
R <sup>2</sup> Change (R <sup>2</sup> =.43)	.37	.02	.01	.01	.01	.02
Adjusted R <sup>2</sup> = .40						
F Value = 3.68*						

\*Significant at .01 level.

\*\*Significant at .05 level.

\*\*\*Significant at .1 level.

familiarity with the system to rely on other devices; and (b) companies which are relatively less centralized in terms of decision-making authority are also relatively young, and hence managed by a group of managers with less experience. All other variables are statistically non-significant.

Budget Factor II: Evaluation by the budget. This budget factor reflects budget-oriented behavior that is strongly evaluation-oriented. Managers with higher scores on this factor more often use budgets to evaluate the performance of their subordinates and are being evaluated by their superiors by means of budgets too. Table 4-28 reports the results of the first six steps of the stepwise regression analysis. Centralization is again the most important variable, which explains differences in the extent to which managers use budgets as an evaluative device. This budget factor is, like budget factor I, control-oriented except that the emphasis here is on persons instead of on cost objects. The variable experience has negative effects on budget factor II too, presumably for the same reasons.

The personality variable, need for achievement, has positive effects on budget factor I. This is intuitively appealing since managers with strong need for achievement usually do not object to being evaluated, have a tendency to evaluate others, and probably find budgets a convenient evaluation device.

Table 4-28

Relationships Between Budget Factor II  
(Evaluation by the Budget)  
and Predictor Variables

	Centrali- zation	Experi- ence	Achieve- ment Need	Responsibility & Risk in D.M.	Standards	Generally Affective Tone Toward Management/ Organization
Regression Coefficient	.268	-.170	.170	.150	.106	-.098
t Value	2.687*	-1.726***	1.689***	1.570	1.120	-1.020
R <sup>2</sup> Change (R <sup>2</sup> = .37)	.23	.03	.03	.05	.01	.01
Adjusted R <sup>2</sup> = .33						
F Value = 2.70**						

\*Significant at .01 level.  
\*\*Significant at .05 level.  
\*\*\*Significant at .1 level.

All other predictor variables were not statistically significant, although the organizational climate variable, responsibility and risk in decision-making almost reached statistical significance. The overall regression equation is statistically significant and explains a relatively large percentage of the variation in the dependent variable ( $R^2=.37$ ,  $P<.05$ , d.f. = 6, 97).

Budget Factor III: Difficulty in meeting budget. This budget factor reflects the difficulties encountered by managers in meeting performance and time demands of budgeting. The results of the regression analysis are presented in Table 4-29. Two organizational climate variables and two demographic variables have important effects on this budget dimension. The negative relationships between the formalization and clarity of authority variable and the difficulty in meeting budget dimension can be explained by the fact that when roles and activities are more structured and responsibilities are clear and well-defined, there are less chances for ambiguity and confusion. It is, therefore, easier to meet the budget demands. However, the direction of relationships between the predictor variable, general affective tone toward management/organization, and budget factor III is not intuitively appealing.

The negative effects of the two demographic variables, experience and educational level are understandable. The more experience and educational background managers possess,

Table 4-29

Relationships Between Budget Factor III  
(Difficulty in Meeting Budget)  
and Predictor Variables

	Generally Affective Tone Toward Management/ Organization	Formalization and Clarity of Authority	Experi- ence	Educa- tional Level	Autonomy	Achievement
Regression Coefficient	.398	-.299	-.369	-.260	.109	.089
t Value	4.484*	-3.607*	-3.649*	-2.594**	1.223	1.009
R <sup>2</sup> Change (R <sup>2</sup> =.59)	.38	.12	.04	.04	.008	.005
Adjusted R <sup>2</sup> =.56						
F Value = 8.98*						

\*Significant at .01 level.

\*\*Significant at .05 level.

\*\*\*Significant at .1 level.



the less difficulties they encounter in meeting the budget. All other predictor variables were not statistically significant. The overall regression equation is statistically significant ( $P < .01$ , d.f. = 6, 97), and about 59% of the variation in budget factor III is explained by the multiple regression equation.

Budget Factor IV: Usefulness of budgeting. This factor reflects the positive view of budgeting by managers and also stresses the positive impact on them of the use of the budgeting system in their companies. The most important variable for explaining differences in managers' attitudes toward the usefulness of budgeting is the need for autonomy. The direction of relationship is negative (see Table 4-30). This suggests that managers with a strong need for autonomy may regard budgets as less useful, irrelevant or of little use in aiding them in achieving their objectives. Presumably, this is a result of the emphasis put on the control aspect of budgeting as well as the lack of participation and innovation.

The organizational climate variable, responsibility and risk in decision-making has negative effects on managers' perceived usefulness of budgeting too. Managers who perceive a sense of riskiness and challenge in their job, and a degree of risk concomitant with management decision-making in their organizations have less positive attitudes toward the way

Table 4-30

Relationships Between Budget Factor IV  
(Usefulness of Budgeting)  
and Predictor Variables

	Autonomy	Responsibility & Risk in D.M.	Organization Structure	Centrali- zation	Formalization and Clarity of Authority
Regression Coefficient	-.201	-.168	.120	.109	.096
t Value	-2.059**	-1.720***	1.188	1.053	.981
R <sup>2</sup> Change (R <sup>2</sup> = .29)	.18	.05	.03	.015	.015
Adjusted R <sup>2</sup> = .25					
F Value = 1.828***					

\*Significant at .01 level.  
\*\*Significant at .05 level.  
\*\*\*Significant at .1 level.

budgeting is used in their companies. They would prefer a much looser system with decision-making capability at lower levels.

As Table 4-30 indicates, about 29% of the variation in this budget dimension are explained by the multiple regression equation which is statistically significant at the .1 level of confidence.

Budget Factor V: Involvement and personal attention to budgeting. This factor reflects the extent to which managers give personal attention to budgeting questions. Managers with high scores on this factor more often personally investigate budget variances, pay attention to a great number of details in preparing the budget, etc. The results of the stepwise regression analysis of this factor are presented in Table 4-31.

The most important predictor variable of this factor is the educational level of the manager. Managers with higher educational levels are better equipped to understand the functioning of the budget system. Consequently, they have more reasons to be involved in it. Moreover, managers with high educational levels hold high hierarchical positions in the organizations (this is indicated by the high positive correlation between educational and hierarchical levels) and have, therefore, to be more involved in budgeting.

Two other demographic variables contributed to the explanation of variance in the dependent variable: (1) the

Table 4-31

Relationships Between Budget Factor V  
(Involvement and Personal Attention to Budgeting)  
and Predictor Variables

	Educational Level	Experi- ence	Age	Affilia- tion	Domi- nance	Autonomy
Regression Coefficient	.425	.375	-.417	-.244	.243	-.183
t Value	3.65*	1.71***	-2.22**	-2.77*	2.65*	-2.11**
R <sup>2</sup> Change (R <sup>2</sup> =.54)	.33	.02	.02	.06	.07	.04
R <sup>2</sup> Adjusted = .50						
F Value = 6.95*						

\*Significant at .01 level.

\*\*Significant at .05 level.

\*\*\*Significant at .1 level.

experience of the manager, which suggests that the longer a manager has been with his company the more sensitized he is to the use of budgets, and also the more likely it is that he may be personally involved in budgeting; and (2) the age of the manager which implies that younger managers, as suggested by Hofstede (1967), are more figure conscious, understand figures and want to use them.

Three personality variables are important in explaining variation in budget factor V. They are the need for affiliation, the need for autonomy, and the need for dominance. While the existence of a relationship between a manager's need for affiliation and the extent to which he gets involved and pays personal attention to budgeting is understandable, the negative direction of this relationship is not intuitively appealing unless we consider the control-orientation of this factor. It is more likely that managers with stronger needs for dominance are involved in budgeting, personally investigate budget variances, and trace the cause of budget variances to groups or individuals within the units. These are control-oriented aspects of budgeting that do not appeal to managers with a strong need for autonomy as implied by the negative coefficient of the variable autonomy in the regression equation. The three personality variables combined with the three demographic variables explain more than half of the variation in budget factor V ( $R^2 = .54$ ,  $P < .01$ , d.f. = 6, 97).

Budget Factor VI: Participation in planning. This factor reflects the involvement of managers in planning and stresses the interactive and coordinative aspects of budgeting. Table 4-32 presents the statistical results of the stepwise regression analysis of this budget-oriented dimension.

The most important variable for explaining differences in the extent to which managers participate in budget planning is their hierarchical level. It alone explains 25% of these differences. These important and positive effects would especially be expected in a highly hierarchical system with discretions allowed at a relatively high level.

Two organizational climate variables have opposite effects on budget factor VI. Managers who have a high general tone toward management/organization more often participate in planning, while managers who perceive their organization to be highly structured less often participate in budget planning. The direction of the latter relationship is not very surprising because, as stated by Child (1972b), usually the structuring of roles and activities is used as a way of exercising control by the less centralized organizations.

The personality variable, need for affiliation, is revealed to be an important predictor of budget factor VI. The direction of relationship suggests that managers with a strong need for affiliation, for belonging to an organization, and for being a member of a working team are more likely to participate in the planning and coordinating activities of

Table 4-32

Relationships Between Budget Factor VI  
(Participation in Planning)  
and Predictor Variables

	Hier- archical Level	Organi- zation Structure	Affilia- tion	Generally Affective Tone Toward Management/ Organization	Reward	Standard
Regression Coefficient	.237	-.259	.233	.174	-.094	-.085
t Value	2.52**	-2.86*	2.56**	1.93***	-1.03	-.92
R <sup>2</sup> Change (R <sup>2</sup> =.47)	.25	.09	.08	.03	.01	.01
F Value = 4.63*						

\*Significant at .01 level.

\*\*Significant at .05 level.

\*\*\*Significant at .1 level.

budgeting. While all the remaining predictor variables have coefficients that are statistically non-significant, the overall regression equation is statistically significant and explains a relatively large percentage of the variation in the dependent variable ( $R^2 = .47$ ,  $P < .01$ , d.f. = 6, 97).

Budget Factor VII: Influence on budget systems. This factor reflects the active participation of managers in budget setting and the influence they have on the functioning of the budgeting system. The results of the first five steps of the stepwise multiple regression are presented in Table 4-33.

The most important variable for explaining differences in the extent to which managers are influential in the budgeting process is responsibility and risk in decision-making. Managers who perceive their work environment as challenging, subject to rapid changes, or involving some degree of riskiness more often suggest changes and actually get the budget changed in accordance with their suggestions. This variable alone explains about 19% of the variation in the dependent variable. Its regression coefficient, .22, is significant at the .05 level of confidence and suggests that in a predictive sense .22 unit change in the dependent variable are associated with a unit change on the managers' perception of the riskiness of their work environment.



Table 4-33

Relationships Between Budget Factor VII  
(Influence on Budget Systems)  
and Predictor Variables

	Responsibility & Risk in D.M.	Centrali- zation	Generally Affective Tone Toward Management/ Organization	Affiliation	Educational Level
Regression Coefficients	.227	-.163	.147	.156	-.115
t Value	2.38**	-1.70***	1.55	1.63	-1.20
R <sup>2</sup> Change (R <sup>2</sup> =.35)	.19	.04	.06	.03	.03
Adjusted R <sup>2</sup> = .31					
F Value = 2.80**					

\*Significant at .01 level.  
\*\*Significant at .05 level.  
\*\*\*Significant at .1 level.

The variable centralization also is important in explaining differences in budget factor VII. The direction of relationship which is negative suggests that managers affiliated with less centralized organizations are more influential in budgeting than those who are in more centralized organizations. This is intuitively appealing, since it is known that the majority of managers who participated in this study were in the middle levels in the hierarchy.

Budget Factor VIII: Interaction with superiors and subordinates. Managers with higher scores on this factor more often initiate actions that make them interact both with their superiors and subordinates. Table 4-34 presents the statistical results of the regression analysis of this factor.

Managers' need for achievement was found to be the most important variable in explaining differences in this factor. The positive relationship suggests that managers who have a strong need for achievement, who strive to accomplish something important or difficult, and who try to do their best, more often initiate actions and also work with their superiors and subordinates.

The second most important predictor of the extent to which managers interact with their superiors and subordinates is the hierarchical level variable. The negative sign of the relationship suggests that managers at the lower levels of hierarchy more often work with their superiors in preparing the budget for their unit, go to their superiors for advice

Table 4-34

Relationships Between Budget Factor VIII  
(Interaction with Superiors and Subordinates)  
and Predictor Variables

	Achieve- ment	Hier- archical Level	Reward	Age	Generally Affective Tone Toward Management/ Organization	Centrali- zation
Regression Coefficients	.322	-.229	.151	-.159	.098	.074
t Value	3.25*	-2.34**	1.61	-1.65	1.04	.76
R <sup>2</sup> Change (R <sup>2</sup> =.43)	.25	.12	.03	.02	.01	.005
Adjusted R <sup>2</sup> = .39						
F Value = 3.81*						

\*Significant at .01 level.  
\*\*Significant at .05 level.  
\*\*\*Significant at .1 level.

and work with their subordinates. The negative sign of the relationship may be explained by the apparent emphasis of budget factor VIII on interaction with superiors. Also, many managers in the sample were drawn from middle to low hierarchical levels. This means they are more likely to work with their superiors than with their subordinates.

All the other predictor variables were not statistically significant although the organizational climate variable, reward and the demographic variable, age, almost reached statistical significance at the .1 level of confidence. The regression equation, including the six independent variables presented in Table 4-34, explains a large percentage of the variation of budget factor VIII ( $R^2 = .43$ ,  $P < .01$ , d.f. = 6, 97).

Budget Factor IX: Acceptance of budgeting as a managerial tool. This factor reflects how much acceptance the budgeting system has gained among managers and how well it has been integrated into their work traditions. Statistical results of the regression analysis of this factor are presented in Table 4-35.

Two organizational climate variables: reward and organizational structure were found to be important in explaining differences in the extent to which managers accept budgeting as a managerial tool. The positive effects of organization structure on budget factor IX suggest that managers who perceive the policies of their organization as being clearly

Table 4-35

Relationships Between Budget Factor IX  
(Acceptance of Budgeting as a Managerial Tool)  
and Predictor Variables

	Organi- zation Structure	Reward Punishment	Dominance	Affiliation	Hier- archical Level
Regression Coefficients	.174	.175	-.180	.163	-.127
t Value	1.79**	1.82**	-1.82**	1.66**	-1.14
R <sup>2</sup> Change (R <sup>2</sup> =.33)	.17	.05	.05	.04	.2
F Value - 2.41**					

\*Significant at .01 level.

\*\*Significant at .05 level.

\*\*\*Significant at .1 level.

explained, and the jobs and roles clearly defined and logically structured, are more likely to accept budgeting as a managerial tool. Managers' perceptions of the extent to which the reward-punishment system is working in the organizations contributed to the explanation of variation in budget factor IX. The negative direction of relationship may be explained by the fact that the organizational climate factor, reward-punishment, emphasizes punishments rather than rewards (see Table 4-19). This may encourage managers to reject the budgeting system, although accepting it doesn't mean appreciating it.

Two personality variables: need for affiliation and need for dominance have important and opposite effects on managers' acceptance of budgeting as a managerial tool. Managers with stronger needs for affiliation are more likely to accept the budgeting system as part of their work traditions, while managers with stronger needs for dominance are more likely to reject it.

### Discussion of Results

The above analysis of relationships between the nine dimensions of managers' budget-oriented behavior and the fifteen predictor variables showed that all but one predictor variable have important relationships with one or more aspects of managers' budget-oriented behavior. The only predictor variable whose coefficient didn't reach statistical significance

in any of the nine regression equations is the organizational climate variable standard. This variable was the last factor extracted by factor analyzing the data from the organizational climate questionnaire. Although sufficiently reliable, this factor is the least important in explaining differences in managers' perceptions of their organizations' climates.

Because of the intercorrelation existing between and within some groups of predictor variables, usually the first few steps of the stepwise regression analysis were sufficient for exhausting most of the predictive power of the combined independent variables. The overall regression equations maintained (statistically significant at least at the .1 level of confidence) explained between 29% and 59% of variations in the dependent variables.

For reasons indicated in Chapter II, it was not practical to formulate exhaustive and specific hypotheses. It is, therefore, not possible nor appropriate to definitely decide on the basis of the results obtained whether the hypotheses should be rejected or not. However, a closer look at the results will reveal much support for the expectations.

Hypothesis I is almost fully supported by the results of the analysis. As expected, the organizational structure variable, centralization, had positive effects on the two measures of managers' budget-oriented behavior most descriptive of the controlling aspect of budgeting. These are the

evaluation by the budget and the concern with and actions brought about by budget overruns. Also as hypothesized, the centralization variable had negative effects on the extent to which managers have influence on budget systems. The hypothesized negative relationships between centralization and managers' participation in planning did not show up in the results where the hierarchical level of the manager had the most effect.

The variable centralization had important effects on managers' budget-oriented behavior despite the existence of two factors worth mentioning: (a) It did not discriminate sharply between the companies in the sample which were classified into centralized and highly centralized only, and (b) It was measured by the level in the hierarchy at which decisions are taken. The list of decisions used included very few budgetary decisions.

In  $H_2$  important relationships were hypothesized to exist between organizational climate variables and the aspects of budget-oriented behavior most descriptive of interpersonal relationships. Although the results provide some support for this hypothesis, the predictive power of the organization climate variables was rather overestimated. No organizational climate variable had important relationships with more than two budget factors.

Variables organization structure and general affective tone toward management/organization are the most important



organizational climate variables for explaining differences in how managers use budgeting for carrying out their management functions. Subject to a few exceptions, the organizational context within which the budgeting system is used is ignored in the literature about the behavioral effects of budgeting. To the best of the researcher's knowledge, organizational climate variables have never been used in a study on budgeting. Although the results didn't measure up to the expectations, they are somewhat satisfying. Organization climate variables are found to be important determinants of five out of nine aspects of managers' budget-oriented behavior.

The fact that the organizations in the sample are part of the same industrial sector and almost in the same geographic area as well as the fact that the perceptual approach to organizational climate was used in this research, may have reduced the explanatory power of the organizational climate variables at the advantage of personality variables.

The results of the analysis largely support the third hypothesis concerning the effects of personality variables on different aspects of managers' budget-related behavior. Four personality variables contributed to the explanation of variation on six out of nine measures of budget-oriented behavior.

Of particular interest is the variable need for affiliation which had effects on three measures of how managers use

budgeting. In a traditional society, employment is usually considered a form of permanent affiliation. Competence and performance are usually viewed as a threat to stability. This is probably the explanation of the negative relationship between the need for affiliation and budget factor V which emphasizes the investigation of budget variances and the tracing of the causes of budget variances to groups or individuals within the unit. It was mentioned before that Tunisia is experiencing social change. Because data related to previous years is lacking, it is not possible to indicate how many changes are taking place. However, the data gathered for the research indicate that the need for affiliation is still strong among Tunisian managers, and it helps explain some aspects of their budget-oriented behavior.

The three other personality variables were also important determinants of some aspects of how managers use budgeting in carrying out their management functions. The needs described by the four personality variables are of such a nature as to suggest that they would be important determinants in a budgeting context. This is especially true of organizations where the personal character of relationships is still predominant. With respect to the existing literature in this area, these results do not solve the already controversial issue of whether personalities are good predictors of behavior or not; more than one additional study is needed to establish credibility on either side.

Demographic variables, especially the hierarchical and educational levels, were expected, according to the fourth hypothesis, to be important for explaining differences in the extent to which managers participate in planning, interact with their superiors and subordinates, experience difficulties in dealing with budgets and are personally involved in budgeting. The results largely support the expectations. Each of these aspects of budget-oriented behavior were in part explained by one or more demographic variables.

The hierarchical level of the manager was the most important predictor of the extent to which he participated in planning, while his educational level was the most important predictor of the degree of his involvement in budgeting activities within his unit. Knowing the centralized characteristic of Tunisian organizations and the importance of a high level of formal education in the Tunisian society, one would not find these results surprising.

The effects of managers' experience on their budget-oriented behavior were underestimated. The results showed that the variable experience helped explain more aspects of budget related behavior than any other demographic variable. It should be noted that experience discriminated sharply between managers (a standard deviation of 5.5 years to an average of 7.23 years of experience). The variable experience, which is highly correlated with the age of the manager, did not leave much explanatory power to add to the regression

equation for the latter variable. The variable age had significant relationship only with budget factor V, involvement and personal attention to budgeting.

In conclusion, the results of the analysis of relationships between the measures of managers' budget-oriented behavior and the predictor variables supported many of the a priori expectations. The implications of these results for accounting and for future research, as well as the study's limitations which should be kept in mind for any eventual use of these results, are treated in the next chapter.

CHAPTER V  
IMPLICATIONS AND LIMITATIONS OF THE RESEARCH

Summary of Results

The first objective of this study has been to identify and measure in behavioral terms the managerial actions and interactions that are brought about by companies' use of budgeting in the Tunisian business environment. Factor analysis of the managers' budget-oriented behavior questionnaire led to the identification of a set of 9 summary measures of this behavior. The first two important factors in explaining differences in budget-oriented behavior of Tunisian managers are evaluation and control-oriented. Together they accounted for about 40% of the common variance in the data and therefore, offer a rich dimension for investigating behavior. Another dimension along which budget-oriented behavior can be explained is the ability or lack of it of Tunisian managers to comply with budget constraints. Managers' different perceptions of the usefulness of budgeting as well as their different degrees of acceptance of budgeting as a managerial tool contributed to the explanation of differences in managers' budget-oriented behavior. The statistical analysis of the questionnaire has also identified managers' involvement and personal attention to budgeting as a separate dimension capable of explaining differences in behavior.

Contrary to the control and evaluation-oriented factors the participation of managers in planning factor has a low contribution to the common variance. This suggests that the participation aspect may not be very important for describing differences in how managers use budgeting. Finally the influence in budget systems and the interaction with superior and subordinate were identified as separate behavioral dimensions which may be useful in describing differences in managers' budget-oriented behavior, although their contributions to the explanation of the common variance in the data were relatively low.

Seven of the identified factors have reliabilities that are either acceptable or high. Only the difficulty in meeting budget and the acceptance of budgeting as a managerial tool factors have reliabilities below acceptable level. A cross-cultural comparison of these factors with the factors derived in two other studies in a different environment showed some differences in the nature of the factors as well as their relative importance. These differences are due to the basic discrepancy between the organizations involved in terms of their differing environment, work practices, procedures, and goals.

The second objective of this study has been to identify and measure some of the variables that might have an effect on managers' budget-oriented behavior. Factor analysis of managers' responses to the organizational climate questionnaire

led to the identification of six summary measures accounting for about 64% of the common variance in the data. These measures were labeled: general affective tone toward management/organization; responsibility and risk in decision making; organization structure; formalization and clarity of authority; reward; and standards. These measures constitute useful dimensions along which differences in management perceptions of the work environment can be explained.

The degree of centralization was selected as an important organization structure variable capable of explaining differences in managers' budget-oriented behavior. All six organizations in the sample were found to be relatively centralized. However, it was possible to classify them into centralized and highly centralized organizations. The companies' age was the single most apparent factor distinguishing the two groups.

The personality of the manager was measured by four scales: need for achievement, need for affiliation, need for dominance, and need for autonomy. Of the four needs, the need for achievement was the strongest while the need for affiliation was the weakest.

The age of the manager, his experience, his educational level, and his hierarchical level were selected as demographic variables. Managers in the sample have an average age of 32

years, an average experience of 5.5 years, and an average of 3.5 years of college. Sixty-three percent of these managers are middle-level managers.

The third objective of this study has been to identify and measure the relationships that might exist between the above selected variables and managers' budget-oriented behavior. As expected, the organizational structure variable centralization, had positive effects on the two measures of managers' budget oriented behavior most descriptive of the controlling aspect of budgeting and negative effects on the extent to which managers have influence on budget systems.

Although the organizational climate variables were found to be important determinants of five out of nine aspects of managers' budget-oriented behavior, their predictive power was rather overestimated. Not a single organizational climate variable, for instance, had significant relationships with the budget-related behavior factor labeled interaction with superior and subordinate as one would expect.

Personality variables were found to be good predictors of behavior. Four personality variables contributed to the explanation of variation on six out of nine measures of budget-oriented behavior. The variable need for affiliation was the most important and had effects on three measures of how managers use budgeting in carrying out their management functions. The three other personality variables were also important determinants of some aspects of managers' budget-oriented behavior. These results largely support the expectations.



Finally, the four demographic variables, especially managers' experience and hierarchical levels were found to be important for explaining differences of the extent to which managers interact with their superiors and subordinates, participate in planning, experience difficulties in dealing with budgets, and are personally involved in budgeting.

#### Implications for Management Accounting

As noted in Chapter I, budget systems are important managerial tools that help define and achieve organizational goals. The budget is the primary accounting technique for allocating inputs and measuring outputs. That budgeting affects behavior is self-evident. What is not always self-evident is "how" and "why." The aim of this research was to explore the extent to which the budget-oriented behavior of Tunisian managers is dependent on the structure and climate of the organization in which budgets are administered, and on some personality and demographic aspects of these managers. Thus, this study concentrated on a research area where little is known about and on an environment not previously explored.

Recent literature points to the need for such study. In a recent symposium on management accounting,<sup>1</sup> the following summary comment was made by Argyris.

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<sup>1</sup>See Management Accounting (1980).

To get behavioral research into a more respectable position, we have to get out and describe what is actually going on, do longitudinal studies, do "case" studies where you describe what is actually going on....behavioral science flounders when we get up into the abstract world and do not connect it with every day behavior. We should put more emphasis on what people are really doing.

The first objective of this study responded to this need for discovering what is going on. "Managers' budget-oriented behavior" was proposed by Swieringa and Moncur (1975) as a key concept for describing budgeting in behavioral terms and was adopted in this study to describe the behavior process associated with the use of budgeting by Tunisian managers. Knowing what actions and interactions are brought about by a company's use of budgeting may have important implications.

By identifying and measuring various dimensions of managers' budget-oriented behavior, a company may have a better and more accurate idea about how budgeting is actually used. Documents such as flow charts, job descriptions, and memoranda can at best describe how budgeting was intended to be used, not how it is actually used. The discovery or identification of new budgeting dimensions, the measurement of the extent to which each dimension is able to explain differences in budgeting behavior may be considered useful information, especially if some changes in the budgeting systems are sought. Obtaining systematic information about managers' budget-oriented behavior may reveal the existence or lack thereof of inconsistencies

and discrepancies between how managers actually use budgeting and how the company expected them to use it. It can help the company decide whether to reformulate its policies or take steps to implement its existing policies.

From the comparison of actual against intended budget-oriented behavior, the company is able to obtain considerable insight into what should probably be done in order to gain more cooperation from its managers. Although one is not able to conclude that adjusting the budgeting system to fit the managers' opinion will necessarily improve performance, it could be an appropriate approach if the existing system is not satisfactory.

As noted in Chapter IV, the two most important factors in explaining differences in budget-oriented behavior of Tunisian managers are control and evaluation-oriented. Participation of managers in planning is a relatively less important dimension of budget-related behavior. This suggests that in the Tunisian business environment (more accurately in the chemical sector), the control and performance measure aspects of budgeting offer a richer field for investigating managers' behavior than the participation aspect. These findings may be of importance to the involved companies, especially since for sometime now and at least on an informal basis, management has been interested in increasing the participative aspects of the budgeting process.

In the same thrust to discover what is taking place, some organizational aspects of Tunisian companies were investigated. It was found that the sampled companies have a centralized system of decision making. This is more apparent in the older companies. The investigation of the organizational climate revealed six factors underlying managers' perceptions of their work environments. If these scales were proved to be consistent in future replications of this study, a practical implication would be to use these scales in future studies instead of factor analyzing the organizational climate questionnaire every time.

The need for ascertaining what the relevant variables for understanding the accounting systems are and what relationships exist between them has been increasingly emphasized. The importance, for instance, of finding the determinants of budgeting behavior or the extent to which budgeting behavior is contingent on other factors has been increasingly stressed. In this sense, the present study can be considered a contribution to the field of managerial accounting. The analysis of relationships between managers' budget-oriented behavior and the predictor variables in this study is intended to reveal which predictor variables or combination of them are most important for explaining differences in behavior. Although the analysis can reveal only the existence or lack thereof of association (the direction of association can not be affirmed), the company could use this information to determine which

predictor variables to manipulate in order to improve some dimensions of managers' budget-oriented behavior.

The results of the analysis showed that the degree of centralization of an organization is a good predictor of the control and evaluation-oriented dimensions of managers' budget-oriented behavior. Managers in highly centralized organizations are more involved in control and evaluation-oriented activities of the budgeting process than managers in relatively less centralized organizations. As noted before, the instrument used to measure the degree of centralization of the decision making system did not include many decisions directly related to budgeting. Thus, the variable centralization cannot be taken for an equivalent of a non-participative budgeting system and the inadequacy of explaining a variable by itself or its equivalent is avoided. The implication is that it might be important for a company to recognize that to bring about a change in the budget-oriented behavior of its managers, it must bring about complementary changes within some of the structural properties of its organization.

Personality and demographic variables were revealed important predictors of how managers use budgeting, while the organizational climate variables were somewhat less important than expected. At present there are indications that a change in emphasis is taking place in behavioral accounting research. Studies reported by Khandwalla (1972), Bruns and Waterhouse (1975), Watson (1975), Hayes (1977), Sathe (1978), Hopwood

(1978) point to the increasing interest in the organizational, as distinct from individual, behavior. The present study shows that in the Tunisian environment, the individual characteristics of the manager are still important factors for understanding behavior. The implication for a company would be to rely on a selective system of hiring as a means to assure the occurrence of a desired behavior. Of course, the relative importance of a group of variables depends on what other variables are included in the study and on the broad context and environment in which the study is conducted. This is why more definitive results and implications should await replications and extensions of the present study.

#### Future Research

It is apparant that this study is exploratory in nature. Thus, much is left for future research to accomplish. Replications and extensions of the present study are urgently needed and will serve complementary purposes.

This study has identified two sets of scales: Managers' budget-oriented behavior and organizational climate scales. It should be noted that this study was conducted in the chemical sector of industry in Tunisia. The companies included in the sample represent about three quarters of this sector, and in this respect, it is safe to say that the derived scales are representative of the chemical industry. Before these scales

can be validated, standardized, and generalized to the rest of Tunisian business enterprises, however, replications of the present study in other branches of industry are needed.

The empirical investigation revealed the highly centralized character of the organizations involving the chemical industry, as well as the emphasis placed on control and evaluation-oriented aspects of its managers' budget-oriented behavior. Before any generalization and/or any judgment regarding the efficiency of the budgeting system can be made, we need to (a) check the stability of the chemical industry environment and the degree of change the involved technology is subject to; (b) find some measurements and criteria for evaluating budgeting systems; and (c) replicate (with extension (b)) this study in different environments requiring different technologies. This suggestion for future research is made with the view of Waterhouse reported by Sathe (1978, p. 89) in mind.

....organizations in stable environments and operating with routine technologies can exercise effective control via procedure specification and centralized authority. Organizations in uncertain environments and operating with non-routine technologies, cannot exercise effective control via such standardization and centralization, however. These situations require decentralization of decision making authority; control is then typically exercised via personnel selection, socialization, planning, internal resource allocation, and performance measurement...

Another extension of the present study would involve the inclusion of other variables that might be important in explaining budget-related behavior. Organizational, personality,

and demographic factors were all considered as independent variables in this study. The effects of these variables could be mediated by some other variables such as the size of the company or of its sub-units, the structuring of activities, the complexity of the control system, etc. It might also be important to measure their intervening effects.

A more ambitious extension would be to provide some evidence for the direction of relationships by building some control into the study and by increasing its internal validity. The use of a quasi-experimental research design may be appropriate in a first stage. Because of the modernization process that is taking place or expected to take place in business management practices in Tunisia, many companies are expected to make changes in their management system, which includes their budgeting systems. This would offer a good opportunity for a before-and-after observation of changes kind of analysis and help provide evidence for the direction of some relationships. The use of a longitudinal research design is another alternative that can be considered, although it might be prohibitive in terms of the time required for accomplishing the study and obtaining results. And, finally, only when the question of what is taking place is answered can true experimental design in laboratory settings be suggested for future research.



### Limitations

The major limitations of this study are associated with the overall research design and the research methods. This study was conducted in a natural setting. While a field study is strong in realism, its major weakness lays in its low internal validity. Internal validity and external validity are two primary criteria for evaluating research and unfortunately any research design that emphasizes one type of validity necessarily weakens the other. Although it was attempted to build some control into this field study by drawing the sample of companies from the same industrial sector, it was not possible to control, manipulate, or even measure other variables.

In realistic situations, as is the case of this study, extraneous independent variables usually abound. As a result of allowing many of these variables to vary freely and the existence of uncontrolled "noise," it is not possible to draw causal inferences. Thus, the results of this study should be interpreted with this limitation in mind even if the terminology used sometimes suggested more than the mere existence of relationships.

Other limitations associated with the research methods include the use of questionnaires and the use of factor analysis. The questionnaire approach has the advantage of providing standardized questions and response formats. However, it has some limitations which include:

- 1) The number and kind of items included in the questionnaire. Most respondents glance at the questionnaire before completing it. An unreasonably long questionnaire and/or a questionnaire containing some sensitive or irritating items can discourage respondents from completing it.
- 2) The interpretation of questions. Although careful wording of questions can reduce the risk of ambiguity, different interpretations by different individuals can still persist.
- 3) The specificity of questions. Some questions may demand knowledge that the respondent does not have and/or the matters covered by a particular question may not apply to a particular manager.
- 4) The objectivity of answers. Respondents might react in favor of socially desirable or acceptable answers instead of objective and accurate answers.

Attempts were made to reduce the effects of these limitations. These attempts included a pilot study, the strict confidentiality of the answers, and an indication that no right or wrong and good or bad answers exist. A last limitation associated with the questionnaire approach is that the obtained information is based upon managers' perceptions of their organizational climate or of their use of budgeting rather than

any observation of "actual" facts by the researcher. Although treated as a limitation one can find arguments in favor of the perceptual approach. Its supporters argue that managers' perception is what counts most because of its importance in inducing behavior and that it is not appropriate to substitute the researcher's (observer) perception for managers' perceptions.

Finally, a note on the use of factor analysis in this study. Like other mathematical models, factor analysis aims at explaining the underlying behavior of the data. A degree of subjectivity is involved both in performing the selection of important relationships and in interpreting these relationships. Thus, one cannot claim, on the basis of the results of factor analysis, to have established the only possible true relationships. This limitation is not unique to factor analysis and as noted by Harman (1976) there is a frequent misunderstanding of the relationship between a mathematical model and observed data. The following caution stated by Bliss (1933, p. 472) should be noted here:

Furthermore, it is sometimes inferred that nature behaves in precisely the way which the mathematics indicates. As a matter of fact, nature never does behave in this way, and there are always more mathematical theories than one whose results depart from a given set of data by less than the errors of observations.

## APPENDIX A

## LIST OF BUDGET-ORIENTED BEHAVIOR ITEMS

1. I start preparing the budget for my unit before I am asked to.
2. I spend time outside of normal working hours preparing the budget for my unit.
3. I am not able to spend as much time as I would like preparing the budget for my unit.
4. I work with my superior in preparing the budget for my unit.
5. I work with my subordinates in preparing the budget for my unit.
6. I work with other unit heads in preparing the budget for my unit.
7. I work with financial staff people in preparing the budget for my unit.
8. I am consulted about special factors I would like to have included in the budget being prepared.
9. New budgets include changes I have suggested.
10. The budget is not finalized until I am satisfied with it.
11. Preparing the budget for my unit requires my attention to a great number of details.
12. I am reminded of the importance of meeting the budget for my unit.
13. I am evaluated on my ability to meet the budget for my unit.
14. I have difficulty meeting the budget for my unit.
15. I am shown comparisons of actual and budgeted performance for other units.
16. I investigate favorable as well as unfavorable budget variances for my unit.
17. I go to my superior for advice on how to achieve my budget.
18. I am required to prepare reports comparing actual results with budget.
19. My methods of reaching budgeted performance are accepted without question by my superior.
20. My methods of reaching budgeted performance are accepted without question by my subordinates.
21. My superior calls me in to discuss variations from the budget.
22. My superior accepts my explanation of budget variances in my unit.
23. My superior expresses dissatisfaction to me about results in my unit when the budget has not been met.
24. My superior mentions budgets when talking to me about my efficiency as a manager.
25. I ask for assistance from staff departments concerned with budgeting.

26. I am required to submit an explanation in writing about causes of large budget variances.
27. I use the budget to plan activities in my unit.
28. I am required to trace the cause of budget variances to groups or individuals within my unit.
29. I personally investigate budget variances in my unit.
30. I evaluate my subordinates by means of the budget.
31. I am required to report actions I take to correct causes of budget variances.
32. I find it necessary to stop some activities in my unit when budgeted funds are used up.
33. I find it necessary to charge some activities to other accounts when budgeted funds for these activities have been used up.
34. Budget matters are mentioned in informal conversations.
35. I offer suggestions for the improvement of budget systems.
36. The budgeting system is changed in accordance with my suggestions.
37. I discuss budget items when problems occur.
38. The budget enables me to be more innovative.
39. The budget enables me to keep track of my success as a manager.
40. The budget enables me to be a better manager.

## APPENDIX B

THE LITWIN AND STRINGER ORGANIZATION CLIMATE  
QUESTIONNAIRE (FORM B)Structure

1. The jobs in this Organization are clearly defined and logically structured.
2. In this Organization it is sometimes unclear who has the formal authority to make a decision.
3. The policies and organization structure of the Organization have been clearly explained.
4. Red-tape is kept to a minimum in this Organization.
5. Excessive rules, administrative details, and red-tape make it difficult for new and original ideas to receive consideration.
6. Our productivity sometimes suffers from lack of organization and planning.
7. In some of the projects I've been on, I haven't been sure exactly who my boss was.
8. Our management isn't so concerned about formal organization and authority, but concentrates instead on getting the right people together to do the job.

Responsibility

9. We don't rely too heavily on individual judgment in this Organization; almost everything is double-checked.
10. Around here management resents your checking everything with them; if you think you've got the right approach you just go ahead.
11. Supervision in this Organization is mainly a matter of setting guidelines for your subordinates; you let them take responsibility for the job.
12. You won't get ahead in this Organization unless you stick your neck out and try things on your own sometimes.
13. Our philosophy emphasizes that people should solve their problems by themselves.
14. There are an awful lot of excuses around here when somebody makes a mistake.
15. One of the problems in this Organization is that individuals won't take responsibility.

### Reward

16. We have a promotion system here that helps the best man to rise to the top.
17. In this Organization the rewards and encouragements you get usually outweigh the threats and the criticism.
18. In this Organization people are rewarded in proportion to the excellence of their job performance.
19. There is a great deal of criticism in this Organization.
20. There is not enough reward and recognition given in this Organization for doing good work.
21. If you make a mistake in this Organization you will be punished.

### Risk

22. The philosophy of our management is that in the long run we get ahead fastest by playing it slow, safe, and sure.
23. Our business has been built up by taking calculated risks at the right time.
24. Decision making in this Organization is too cautious for maximum effectiveness.
25. Our management is willing to take a chance on a good idea.
26. We have to take some pretty big risks occasionally to keep ahead of the competition in the business we're in.

### Warmth

27. A friendly atmosphere prevails among the people in this Organization.
28. This Organization is characterized by a relaxed, easy-going working climate.
29. It's very hard to get to know people in this Organization.
30. People in this Organization tend to be cool and aloof toward each other.
31. There is a lot of warmth in the relationships between management and workers in this Organization.

### Support

32. You don't get much sympathy from higher-ups in this Organization if you make a mistake.
33. Management makes an effort to talk with you about your career aspirations within the Organization.
34. People in this Organization don't really trust each other enough.
35. The philosophy of our management emphasizes the human factor, how people feel, etc.
36. When I am on a difficult assignment I can usually count on getting assistance from my boss and co-workers.

### Standards

37. In this Organization we set very high standards for performance.
38. Our management believes that no job is so well done that it couldn't be done better.
39. Around here there is a feeling of pressure to continually improve our personal and group performance.
40. Management believes that if the people are happy, productivity will take care of itself.
41. To get ahead in this Organization it's more important to get along than it is to be a high producer.
42. In this Organization people don't seem to take much pride in their performance.

### Conflict

43. The best way to make a good impression around here is to steer clear of open arguments and disagreements.
44. The attitude of our management is that conflict between competing units and individuals can be very healthy.
45. We are encouraged to speak our minds, even if it means disagreeing with our superiors.
46. In management meetings the goal is to arrive at a decision as smoothly and quickly as possible.

### Identity

47. People are proud of belonging to this Organization.
48. I feel that I am a member of a well functioning team.
49. As far as I can see, there isn't very much personal loyalty to the company.
50. In this Organization people pretty much look out for their own interests.



## APPENDIX C

## MANIFEST NEEDS QUESTIONNAIRE

1. I do my best work when my job assignments are fairly difficult.
2. When I have a choice, I try to work in a group instead of by myself.
3. In my work assignments, I try to be my own boss.
4. I seek an active role in the leadership of a group.
5. I try very hard to improve on my past performance at work.
6. I pay a good deal of attention to the feelings of others at work.
7. I go my own way at work, regardless of the opinions of others.
8. I avoid trying to influence those around me to see things my way.
9. I take moderate risks and stick my neck out to get ahead at work.
10. I prefer to do my own work and let others do theirs.
11. I disregard rules and regulations that hamper my personal freedom.
12. I find myself organizing and directing the activities of others.
13. I try to avoid any added responsibilities on my job.
14. I express my disagreements with others openly.
15. I consider myself a "team player" at work.
16. I strive to gain more control over the events around me at work.
17. I try to perform better than my co-workers.
18. I find myself talking to those around me about non-business related matters.
19. I try my best to work alone on a job.
20. I strive to be "in command" when I am working in a group.

## APPENDIX D

## DEMOGRAPHIC QUESTIONS

1. What is your age?
2. What is your educational level?  
(years of high school and college)
3. How many years of experience have you had?
4. What is your hierarchical level in your company?  
Please put a mark (x) at the hierarchical level  
which is closest to yours.

Chief executive officer (President)

Executive vice president

Vice president

Chief engineer or head of division

Manufacturing manager or other head of major department

Engineer or department head

Deputy department head

Supervisor or section head

Foreman

Deputy head of section

## APPENDIX E

DEGREE OF CENTRALIZATION  
(CONCENTRATION OF AUTHORITY)Decisions

1. Appointment of supervisory staff.
2. Promotion of supervisory staff.
3. Salaries of supervisory staff.
4. To spend unbudgeted or unallocated money.
5. What type, or what brand, new equipment is to be.
6. To determine a new product or service.
7. To determine marketing territories covered.
8. The extent and type of market to be aimed for.
9. What shall be costed.
10. What operations shall be work studied.
11. Dismiss a supervisor.
12. Training methods to be used.
13. Buying procedures.
14. Which suppliers of materials are to be used.
15. What and how many welfare facilities are to be provided.
16. The price of the output.
17. To create a new department.
18. To create a new job.
19. To represent the company in labor conflicts.
20. To work overtime.
21. Personnel selection procedures.
22. Job assignment to employed work force.
23. Substitution arrangement in case of absences.
24. Work stoppage decisions.
25. Personnel evaluation.
26. Decisions regarding business travel.
27. Decisions regarding vacations.

APPENDIX F  
THE DISTRIBUTED PACKAGE

ETUDE DU COMPOTEMENT DU MANAGEMENT  
ENVERS LA BUDGETISATION DANS LES ENTREPRISES TUNISIENNES

La budgetisation est sans doute un outil très important pour la bonne gestion des entreprises. L'engagement qu'a pris la Tunisie pour l'industrialisation et la croissance économique accélérée imposent des besoins plus grands en matière de planification et de contrôle. Il est cependant important de faire le point et voir où on en est en matière de budgétisation. Cette mise au point servira de base à toute suggestion et amélioration. C'est en effet dans ce cadre que s'inscrit cette étude empirique qui a pour objectif:

- d'identifier et mesurer les fonctions des managers tunisiens qui ont une relation avec l'utilisation des budgets.

- d'identifier les différentes variables qui pourraient avoir un effet sur la façon d'utiliser les budgets par les managers tunisiens; et d'essayer de mesurer l'importance de ces effets.

Votre collaboration et participation à cette étude sont très importantes et très appréciées. Vous êtes prié de répondre au questionnaire suivant aussi objectivement que possible et de n'omettre aucune question. Le caractère strictement confidentiel de vos réponses est assuré.

Vos réponses seront anonymes et il vous est garanti qu'aucune personne à part le chercheur n'aura accès à vos réponses.

Ce questionnaire sera adressé à des managers de différentes compagnies et occupant différentes fonctions, c'est pour cette raison que le mot "budget" doit être interprété dans son sens le plus large pour inclure aussi bien les budgets financiers que les standards techniques ou autres selon le cas. Quand au poste de travail du manager, il peut s'agir de toute une usine, un département, un service, une section, une division, une unité ou autres.

Nous vous rappelons l'importance de répondre à toute les questions et ce, pour permettre le bon achèvement de cette étude.

Nous vous remercions infiniment de votre collaboration.

Questionnaire A

COMPORTEMENT DES MANAGERS EN  
RELATION AVEC LES BUDGETS

Vous trouvez ci-dessous une liste de caractéristiques ou qualités qui se rattachent à votre utilisation du budget.

Vous êtes prié de donner la fréquence de chaque caractéristique en marquant d'une croix la case que vous jugez mesurer la fréquence de la caractéristique.

EXEMPLE:

Je donne au travail budgétaire la priorité sur les autres travaux.

Toujours

Souvent

Parfois

Rarement

Jamais

Si vous pensez que vous donnez souvent au travail budgétaire la priorité sur les autres travaux vous mettez une croix dans la case marquée "souvent" comme c'est le cas dans cet exemple. Alternativement si cette caractéristique de votre utilisation du budget n'arrive que rarement vous devrez mettre la croix dans la case marquée "rarement" et ainsi de suite.

Commencez s'il vous plait à répondre et veuillez n'omettre aucune question.

1/ - Je commence à préparer le budget dans ma division avant qu'on ne me le demande.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

2/ - Je passe du temps en dehors de mes heures normales de travail dans la préparation du budget de ma division.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

3/ - Je n'arrive pas à passer autant de temps que je désire à la préparation du budget de ma division.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

4/ - Je travaille avec mes supérieurs dans la préparation du budget de ma division.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

5/ - Je travaille avec mes subordonnés dans la préparation du budget de ma division.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

6/ - Je travaille avec les chefs des autres unités dans la préparation du budget de ma division.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

7/ - Je travaille avec le personnel financier quand je prépare le budget de ma division.

Toujours      Souvent      Parfois      Rarement      Jamais

8/ - On me consulte à propos de facteurs spéciaux qui relèvent de mon service et que je désire inclure dans le budget en cours de préparation.

Toujours      Souvent      Parfois      Rarement      Jamais

9/ - Les nouveaux budgets contiennent les changements que j'ai suggérés.

Toujours      Souvent      Parfois      Rarement      Jamais

10/ - Le budget n'est pas finalisé avant que j'en sois satisfait.

Toujours      Souvent      Parfois      Rarement      Jamais

11/ - La préparation du budget de ma division exige de moi une particulière attention à un grand nombre de détails.

Toujours      Souvent      Parfois      Rarement      Jamais



12/ - On me rappelle l'importance de réaliser le budget de ma division.

Toujours      Souvent      Parfois      Rarement      Jamais.

13/ - Je suis jugé sur la base de ma capacité de réaliser le budget de ma division.

Toujours      Souvent      Parfois      Rarement      Jamais

14/ - J'éprouve des difficultés à réaliser le budget de ma division.

Toujours      Souvent      Parfois      Rarement      Jamais

15/ - On m'informe des réalisations des autres unités comparées à leurs prévisions budgétaires.

Toujours      Souvent      Parfois      Rarement      Jamais

16/ - Je cherche les causes aussi bien des écarts défavorables que des écarts favorables dans ma division.

Toujours      Souvent      Parfois      Rarement      Jamais

17/ - Je sollicite l'aide de mon supérieur pour réaliser les objectifs de mon budget.

Toujours      Souvent      Parfois      Rarement      Jamais

18/ - Je suis tenu de préparer des rapports de performance comparant les résultats réels avec les budgets.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

19/ - Les méthodes que j'utilise pour atteindre la performance budgétée sont acceptées sans réserves par mes supérieurs.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

20/ - Les méthodes que j'utilise pour atteindre la performance budgétée sont acceptées sans réserves par mes subordonnés.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

21/ - Mon supérieur m'appelle pour discuter les écarts.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

22/ - Mon supérieur accepte mon explication des écarts dans ma division.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

23/ - Mon supérieur m'exprime sa non satisfaction concernant les résultats de ma division quand le budget n'est pas réalisé.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

24/ - Mon supérieur mentionne les budgets quand il me parle de mon efficacité comme manager.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

25/ - Je demande l'assistance du personnel du département des budgets.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

26/ - Je suis tenu de soumettre une explication par écrit concernant les causes des grands écarts.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

27/ - J'utilise le budget pour planifier les activités dans ma division.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Souvent	Parfois	Rarement	Jamais

28/ - Je suis tenu d'enquêter auprès des groupes ou individus au sein de ma division pour trouver la cause des écarts.

Toujours

Souvent

Parfois

Rarement

Jamais

29/ - Je cherche personnellement les causes des écarts dans ma division.

Toujours

Souvent

Parfois

Rarement

Jamais

30/ - Je juge mes subordonnés par le moyen des budgets.

Toujours

Souvent

Parfois

Rarement

Jamais

31/ - Je suis tenu de faire un rapport sur les actions que j'entreprends en vue de corriger les causes des écarts.

Toujours

Souvent

Parfois

Rarement

Jamais

32/ - Je me trouve obligé d'arrêter certaines activités dans ma division quand les fonds budgétés sont épuisés.

Toujours

Souvent

Parfois

Rarement

Jamais

33/ - Je me trouve obligé d'imputer les frais de certaines activités à d'autres comptes quand les fonds budgétés pour ces activités sont épuisés.

Toujours      Souvent      Parfois      Rarement      Jamais

34/ - Les questions de budget sont évoquées durant les conversations informelles.

Toujours      Souvent      Parfois      Rarement      Jamais

35/ - Je donne des suggestions pour l'amélioration des systèmes budgétaires.

Toujours      Souvent      Parfois      Rarement      Jamais

36/ - Le système budgétaire est retouché en accord avec mes suggestions.

Toujours      Souvent      Parfois      Rarement      Jamais

37/ - Quand il y a des problèmes le budget est évoqué.

Toujours      Souvent      Parfois      Rarement      Jamais

38/ - Le budget me permet d'être plus innovateur.

Toujours      Souvent      Parfois      Rarement      Jamais

39/ - Le budget me permet de suivre mes succès en  
tant que manager.

Toujours

Souvent

Parfois

Rarement

Jamais

40/ - Le budget me permet d'être un meilleur manager.

Toujours

Souvent

Parfois

Rarement

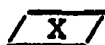
Jamais

Questionnaire BCLIMAT DE L'ORGANISATION

Vous trouvez ci-dessous une liste de descriptions concernant le climat qui peut régner au sein d'une organisation. Vous êtes prié d'indiquer jusqu'à quelle point chacune de ces descriptions est appropriée à décrire votre organisation. Pour cela veuillez indiquer le degré de votre accord avec chacune des descriptions suivantes. (Prière faire de sorte que votre réponse soit en rapport avec votre propre organisation).

EXEMPLE

Dans cette organisation, les travaux sont affectés selon les capacités de chacun.



complètement  
d'accord



tend à être  
d'accord



tend à être  
en désaccord



complètement  
en désaccord

Si vous êtes complètement d'accord avec cette description de votre organisation, vous mettez une croix dans la case marquée "complètement d'accord" comme c'est le cas dans cet exemple. Alternativement si vous tendez à être en désaccord, vous mettez la croix dans la case marquée "tend à être en désaccord" et ainsi de suite.

Commencez s'il vous plait à répondre.

1/ - Les tâches dans cette organisation sont clairement définies et logiquement structurées.



complètement d'accord



tend à être d'accord



tend à être en désaccord



complètement en désaccord

2/ - Dans cette organisation il n'est parfois pas clair de connaître la personne qui formellement détient l'autorité de prendre une décision.



complètement d'accord



tend à être d'accord



tend à être en désaccord



complètement en désaccord

3/ - Les politiques et structures d'organisation sont bien expliquées dans cette organisation.



complètement d'accord



tend à être d'accord



tend à être en désaccord



complètement en désaccord

4/ - La bureaucratie est réduite à son minimum dans cette organisation.



complètement d'accord



tend à être d'accord



tend à être en désaccord



complètement en désaccord

5/ - Les règles excessives, les détails administratifs et la bureaucratie font que les idées originales ne reçoivent pas facilement l'attention.



complètement d'accord



tend à être d'accord



tend à être en désaccord



complètement en désaccord



6/ - Notre productivité souffre parfois d'un manque d'organisation et de planning.

complètement d'accord

tend à être d'accord

tend à être en désaccord

complètement en désaccord

7/ - Dans certains projets auxquels j'ai participé, je ne savais pas exactement qui était mon Chef.

complètement d'accord

tend à être d'accord

tend à être en désaccord

complètement en désaccord

8/ - Notre direction n'est pas tellement concernée par l'organisation formelle et l'autorité, mais se consacre plutôt à réunir les personnes appropriées pour faire le travail.

complètement d'accord

tend à être d'accord

tend à être en désaccord

complètement en désaccord

9/ - On ne compte pas beaucoup sur le jugement individuel dans cette organisation; presque chaque chose est doublement vérifiée.

complètement d'accord

tend à être d'accord

tend à être en désaccord

complètement en désaccord

10/ - Ici la Direction est gênée du fait que vous vérifiez chaque chose avec elle; si vous pensez que vous avez l'approche appropriée foncez.

complètement d'accord

tend à être d'accord

tend à être en désaccord

complètement en désaccord

11/ - La supervision dans cette organisation est essentiellement une affaire d'établissement de lignes directrices pour vos subordonnés; vous les laissez prendre responsabilité de leur tâche.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

12/ - Vous ne pouvez pas avancer dans cette organisation à moins que vous efforciez parfois de faire des choses de votre propre initiative.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

13/ - Notre philosophie met l'accent sur le fait qu'on doit résoudre ses problèmes par soi-même.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

14/ - Il y a un tas d'excuses quand quelqu'un commet une faute ici.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

15/ - L'un des problèmes dans cette organisation est que les individus ne prennent pas de responsabilité.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

16/ - Nous avons un système de promotion qui aide le meilleur à s'élever jusqu'au sommet.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

17/ - Dans cette organisation, les rémunérations et encouragements qu'on obtient généralement l'emportent sur les menaces et critiques.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

18/ - Dans cette organisation on est rémunéré proportionnellement à l'excellence dans la performance de son travail.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

19/ - Il y a beaucoup de critiques dans cette organisation.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

20/ - Il n'y a pas assez de rémunération et de reconnaissance accordées à l'exécution d'un bon travail dans cette organisation.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

21/ - Si on commet une erreur dans cette organisation on est puni.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

22/ - La philosophie de notre management c'est qu'à long terme, on progresse plus rapidement quand on joue le jeu lentement et sûrement.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

23/ - Notre business s'est développé en prenant des risques calculés au moment opportun.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

24/ - La prise de décision dans cette organisation est trop prudente.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

25/ - Notre management est disposé à donner des chances pour une bonne idée ou une bonne initiative.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

26/ - Nous devons occasionnellement prendre d'assez grands risques pour continuer à devancer la concurrence dans notre business.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

27/ - Une atmosphère amicale règne entre les gens de cette organisation.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

28/ - Cette organisation est caractérisée par un climat de travail relaxé et à l'aise.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

29/ - Il est très difficile de se faire des connaissances dans cette organisation.



complètement  
d'accord



tend à être  
d'accord



tend à être  
en désaccord

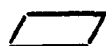


complètement  
en désaccord

30/ - Les gens dans cette organisation tendent à être froids et distants l'un de l'autre.



complètement  
d'accord



tend à être  
d'accord



tend à être  
en désaccord

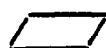


complètement  
en désaccord

31/ - Il y a beaucoup de chaleur dans les relations entre le management et les travailleurs dans cette organisation.



complètement  
d'accord



tend à être  
d'accord



tend à être  
en désaccord



complètement  
en désaccord

32/ - On ne reçoit pas beaucoup de sympathie de la part des échelons élevés dans cette organisation si on commet une erreur.



complètement  
d'accord



tend à être  
d'accord



tend à être  
en désaccord



complètement  
en désaccord

33/ - Le management fait l'effort de parler avec vous de vos aspirations concernant votre carrière au sein de cette organisation.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

34/ - Les gens dans cette organisation ne se font pas réellement confiance.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

35/ - La philosophie de notre management met l'accent sur le facteur humain, les sentiments des gens etc.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

36/ - Lorsque j'ai une tâche difficile, je peux généralement compter sur l'aide de mon Chef, et de mes collaborateurs.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

37/ - Dans cette organisation on établit des standards très élevés de performance.

complètement  
d'accord

tend à être  
d'accord

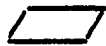
tend à être  
en désaccord

complètement  
en désaccord

38/ - Notre management croit qu'on peut toujours améliorer un travail, même s'il est déjà bien fait.



complètement  
d'accord



tend à être  
d'accord

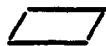


tend à être  
en désaccord



complètement  
en désaccord

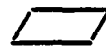
39/ - Il y a un sentiment de pression pour améliorer continuellement notre performance personnelle et de groupe.



complètement  
d'accord



tend à être  
d'accord



tend à être  
en désaccord



complètement  
en désaccord

40/ - Le management croit que si les gens sont contents, la productivité marchera toute seule.



complètement  
d'accord



tend à être  
d'accord



tend à être  
en désaccord



complètement  
en désaccord

41/ - Pour aller de l'avant dans cette organisation, il est plus important de s'entendre que d'être un bon producteur.



complètement  
d'accord



tend à être  
d'accord



tend à être  
en désaccord



complètement  
en désaccord

42/ - Dans cette organisation, les gens ne semblent pas être très fiers de leur performance.



complètement  
d'accord



tend à être  
d'accord



tend à être  
en désaccord



complètement  
en désaccord



43/ - Ici le meilleur moyen de donner une bonne impression est d'éviter les disputes et les désaccords.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

44/ - L'attitude de notre management est que le conflit entre les divisions concurrentielles et les individus peut être très bénéfique.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

45/ - Nous sommes encouragés à dire ce que nous pensons même si cela signifie être en désaccord avec nos supérieurs.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

46/ - Dans les réunions de management, le but est d'arriver à une décision aussi calmement et rapidement que possible.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

47/ - Les gens sont fiers d'appartenir à cette organisation.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

48/ - Je sens que je suis membre d'une équipe qui  
fonctionne bien.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

49/ - Pour autant que je sâche, il n'y a pas une grande  
fidélité personnelle à la compagnie.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

50/ - Dans cette organisation, les gens cherchent surtout  
leurs propres intérêts.

complètement  
d'accord

tend à être  
d'accord

tend à être  
en désaccord

complètement  
en désaccord

Questionnaire CLES TRAITS DE PERSONNALITE

Vous trouvez ci-dessous une liste de 20 déclarations décrivant différentes choses que les gens font ou essaient de faire dans leur travail. On voudrait avoir une description aussi exacte que possible de votre comportement lorsque vous êtes au travail. Pour cela, et pour chacune des phrases ci-dessous, veuillez mettre une croix dans la case qui décrit le mieux votre propre action.

EXEMPLE:

J'évoque des questions personnelles dans les discussions de travail.

Toujours

Presque  
toujours

Souvent

Parfois

Rarement

Presque  
jamais

Jamais

Si vous pensez que vous n'évoquez des questions personnelles dans les discussions de travail que rarement vous mettez la croix dans la case marquée "rarement".

On voudrait vous rappeler qu'il n'y a pas de réponses justes ou fausses. Vous êtes prié de répondre à toutes les questions franchement. Le caractère strictement confidentiel de vos réponses est assuré.

1/ - Je travaille mieux lorsque le travail qui m'est assigné est assez difficile.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

2/ - Quand j'ai le choix, j'essaye de travailler en groupe plutôt que seul.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

3/ - Dans l'accomplissement de mon travail, j'essaye d'être le Chef de moi même.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

4/ - Je cherche un rôle actif dans la Direction d'un groupe.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

5/ - Je fais beaucoup d'effort pour améliorer ma performance au travail.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

6/ - J'accorde beaucoup d'attention aux sentiments des autres dans mon travail.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

7/ - Je fais les choses à ma guise au travail sans me soucier des opinions des autres.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

8/ - J'évite d'essayer d'influencer ceux autour de moi à voir les choses à ma manière.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

9/ - Je prends des risques modérés et je cherche à avancer dans mon travail.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

10/ - Je préfère faire mon propre travail et laisser les autres faire le leur.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

11/ - Je ne prends pas en considération les règles et normes qui entravent ma liberté.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

12/ - Je me trouve organiser et diriger les activités des autres.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

13/ - J'essaye d'éviter toute responsabilité supplémentaire dans mon travail.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

14/ - J'exprime mes désaccords avec les autres ouvertement.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

15/ - Je me considère comme un "membre" d'une équipe dans mon travail.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

16/ - Je tâche de gagner plus de contrôle sur les événements au tour de moi au travail.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

17/ - J'essaye de réaliser une performance meilleure que celle de mes collègues.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

18/ - Je me trouve parler à ceux autour de moi d'affaires qui ne se rapportent pas à notre business.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

19/ - Je fais de mon mieux pour travailler seul.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

20/ - Je tâche de prendre le commandement quand je travaille en groupe.

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Toujours	Presque toujours	Souvent	Parfois	Rarement	Presque jamais	Jamais

Questionnaire DDONNEES DEMOGRAPHIQUES

Veillez répondre aux questions suivantes:

1/ - Quel âge avez - vous

. . . . . Ans

2/ - Quel est votre niveau d'études

. . . . . Ans d'études secondaires

. . . . . Ans d'études supérieures

3/ - Nombre d'années d'expérience

. . . . . Ans

4/ - Quel est votre niveau hiérarchique dans votre entreprise. Veuillez marquer d'une croix le niveau hiérarchique le plus proche du votre.



P. D. G.	!	)
-----		
D. G. A.	!	)
-----		
DIRECTEUR	!	)
-----		
INGENIEUR EN CHEF OU CHEF DE DIVISION	!	)
-----		
INGENIEUR PRINCIPAL OU CHEF DE SERVICE PRINCIPAL	!	)
-----		
INGENIEUR OU CHEF DE SERVICE	!	)
-----		
INGENIEUR CATEGORIE 12 OU CHEF DE SERVICE ADJOINT!	!	)
-----		
CONTREMAITRE PRINCIPAL OU CHEF DE SECTION	!	)
-----		
CONTREMAITRE OU CHEF DE SECTION	!	)
-----		
CONTREMAITRE ADJOINT OU CHEF DE SECTION ADJOINT	!	)
-----		

Questionnaire ECENTRALISATION

Vous trouvez ci-dessous une liste de décisions se rapportant à diverses activités dans une organisation. Veuillez indiquer pour chaque décision la dernière personne dans l'échelle hiérarchique qui détient l'autorité de la prendre. L'objectif est de déterminer le plus bas niveau hiérarchique possible auquel le responsable peut prendre la décision et autoriser l'exécution d'une action même si une confirmation routinière de son supérieur est exigée subséquemment.

LISTE DE DECISIONS

- 1/ L'embauche de contremaîtres ou chefs d'équipe
- 2/ La promotion de contremaîtres ou chefs d'équipe
- 3/ Les salaires de contremaîtres ou chefs d'équipe
- 4/ Dépenser des sommes non budgétées ou non allouées
- 5/ Décider de la marque ou du type d'un nouvel équipement
- 6/ Lancement d'un nouvel produit ou service
- 7/ Déterminer le territoire de marketing à couvrir
- 8/ L'étendu et le type de marché à viser
- 9/ Les composantes du coût
- 10/ Quelles sont les opérations qui doivent être étudiées

- 11/ Renvoyer un contremaître ou chef d'équipe
- 12/ Les méthodes de formation à utiliser
- 13/ Le choix des procédures d'achats
- 14/ Le choix des fournisseurs de matériel
- 15/ Le nombre et la nature des avantages sociaux à accorder
- 16/ Le prix des produits finis ou semi-finis
- 17/ Création d'un nouveau département
- 18/ Création d'un nouveau job
- 19/ Représentation de l'organisation dans les conflits de travail
- 20/ Travail en temps supplémentaire
- 21/ Les méthodes de sélection du personnel
- 22/ La répartition du travail sur les travailleurs disponibles
- 23/ La détermination du représentant en cas d'absence d'un responsable
- 24/ Décision d'arrêter une unité de production
- 25/ La notation du personnel
- 26/ Décision concernant les missions de travail
- 27/ Décision de donner des autorisations ou des congés

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