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INVESTIGATION.

The Ohio State University, Ph.D., 1977
Accounting

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THE RELATIONSHIP BETWEEN THE BUDGETARY PROCESS AND
THE QUANTITY OF RESOURCES AVAILABLE TO
SUBUNITS: A PRELIMINARY INVESTIGATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

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The Ohio State University
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Finally, my wife Fay provided continued support through the lengthy period of the project.
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Introduction

Previous field research in budgeting has focused on a variety of variables related to the budgetary process. Most commonly, various kinds of budget related behavior by subunit managers, their immediate supervisors and members of the controller's or budget staff have been studied in relation to the attitude of SMs toward budgets, the performance of SMs, or the leadership styles of supervisors.

In particular, Hofstede (1968) conducted field studies in several manufacturing organizations. His primary dependent variables were the attitude of the SM toward the budget and the relevance of the budget to the SM. The major explanatory variables were the degree of SM participation in budget development, the use of variances from budgets in evaluation of SM performance (both of these were important aspects of the SM-supervisor relationship), and

---

1 A subunit is defined as "a group of individuals within the organization charged with a formally defined set of responsibilities directed toward the attainment of a basic but circumscribed goal of the organization, such as research and development or the maintenance of fiscal records."

2 Since the term subunit managers will be used frequently in this paper, it will be abbreviated as SM.
the nature of the SM-budget staff relationship. He recommended that budget staff members and supervisors endeavor to create a "game spirit" around the budgeting process. He argued that the role of the supervisor was critical in developing an attitude around the budgeting process which was congruent with the longer-term interests of the organization.

At approximately the same time, research by DeCoster and Fertakis (1968) was published on the relationship between budget pressure as perceived by a SM and his perceptions of certain types of leader behavior exhibited by his supervisor. They reported that, for their sample of SMs in manufacturing organizations, greater budget pressure was positively and significantly correlated with activity structuring behavior and considerate behavior by supervisors.

Hopwood (1972, 1974) continued the leader behavior aspect of these inquiries by an extensive field study in a single organization. He described four managerial styles defined by the degree of emphasis placed on budgetary goals relative to other evaluation criteria. Two of the styles heavily emphasized "meeting the budget," a term that implied (in that organization) an evaluation style that stressed continual achievement of short-term cost budgets. The third style emphasized long-run cost minimization and the fourth did not heavily emphasize either of these two
criteria. Responses of SMs (cost center heads) were used to define the supervisor style which they felt was applied to them. These groups of SMs were contrasted with respect to relations with supervisors, relations with peers, and job attitude. Hopwood found that the two styles which emphasized "meeting the budget" reported poorer relations with peers and supervisors and a greater tendency to manipulate cost and performance figures.

Swieringa & Moncur (1972) administered a modification of the budget pressure questionnaire of DeCoster and Fertakis to branch managers of a large bank, and factor analyzed the results. Despite a rather unfavorable ratio of respondents to questionnaire items, the factor analysis appeared to produce four fairly well delineated behavior responses to budget-related conditions. Using factor scores for each respondent, the researchers correlated these scores with a variety of size, position, attitude and performance variables. Three of their behavioral responses had very few significant relationships with the other variables. However, the fourth behavioral response, described as active participant behavior, was positively and significantly correlated with the SMs' perceptions of the degree to which they should structure activities (their own leadership behavior), their confidence in the organization, and job satisfaction while being negatively and significantly correlated with job related ambiguity.
Each of these previous research efforts was conducted either in one research site or, if more than one organization was used, no formal attempt was made to assess organizational effects on the variables of interest. Bruns and Waterhouse (1975) departed from this pattern by relating aspects of budgetary control (the modified DeCoster and Fertakis questionnaire) to various organizational variables gathered from 26 diverse manufacturing and service organizations. The budgetary control results were factor analyzed according to description (how frequently the behavior occurs) and satisfaction (how frequently should the behavior occur), factor scores were computed for each individual and organizational scores were computed by averaging the responses of the members of each organization. These organizational characteristics of budgetary control were compared with selected organizational variables: structuring of activities, concentration of authority, perceived control, and complexity of control systems. They concluded that since there were some associations between organizational structure and budget-related behavior, research on budgetary behavior must consider in some fashion the organizational context(s) from which the data are obtained.

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3Structuring of activities as used by Bruns & Waterhouse was an organizational variable, not a leader behavior variable, and was assessed by the degree of specialization and formalization in the organization.
Certain observations can be made from this previous field research on budgeting:

(i) The general leadership style of the supervisor appears to be associated with his budget-related behavior.

(ii) The supervisor's style regarding budgets is associated with the quality of SM-supervisor and SM-peer relations.

(iii) To date, there has been no successful attempt to relate accounting-based measures of performance to budget-related behavior.

(iv) In field studies that are based on data from several different types of organizations, researchers should be sensitive to the possible effects of organizational variables on budget-related behavior.

(v) Little attention has been given to the relationship, if any, between SM budget-related behavior and the quantity of resources obtained by the SM. This last observation indicates the purpose of this research: to explore this relationship between budget behavior and resource quantity.

The budgetary process is viewed as having three distinct phases: development, implementation and feedback-evaluation. In this process there are three principal actors: a subunit manager, his immediate supervisor, and members of the budget staff. The focus is the budgetary
process related to a subunit and the relationships between the SM and his immediate supervisor and members of the budget staff.

The development phase refers to the process of developing a subunit budget for a fiscal period. The major interest is the degree of participation that the SM has relative to his supervisor and members of the budget staff involved in budget development for the subunit. The implementation phase refers to the process of carrying out the budget plan during the fiscal period. The feedback-evaluation phase refers to the use that the supervisor and the budget staff make of variances from the budget and the effects of this usage on the actions of the SM.

In chapter two, the nature and assessment of resource quantity is presented. In chapter 3, the relationships between the principal actors in the budgeting process, the techniques used in the budgeting system and the quantity of resources available to the SM are developed.
Chapter 2 The Measurement of the Dependent Variable Adequacy of Resources

2.1 Introduction

The adequacy of the resources available to a subunit can be assessed in two major ways: through total budget dollars and through direct assessments of adequacy by the SM. The first method requires a comparison of dollar quantities relative to subunit workload in order to assess adequacy. In the second method, this comparison is carried out by the subunit manager himself.

2.2 Measurement of Resource Adequacy by Total Budget Dollars

Assessment of resource adequacy by total budget dollars is very difficult, even for homogeneous subunits. For a group of subunits, variations in the mix of outputs\(^1\) can cause differences in total budget dollars without necessarily implying a higher or lower degree of resource adequacy relative to the workload of the subunit. Even

---

\(^1\)The term mix of outputs refers to two subunits having the same elements in their set of outputs but having variations in the levels of some (or all) of these outputs due to emphasis on different elements.
without variations in the mix of outputs, simple comparisons of total budget dollars break down for several reasons, as illustrated in the following paragraphs.

To illustrate, assume the subunit has the following types of costs: (i) direct and variable or step function costs requiring working capital and sensitive to the level of certain outputs, e.g., raw materials and direct labor skills; (ii) direct costs requiring working capital, but fixed or discretionary in nature, e.g., supervisory salaries and lease payments for rented equipment; (iii) direct costs not requiring working capital, e.g., depreciation on owned equipment; and (iv) indirect costs such as allocated occupancy costs.

The first difficulty with dollar measures is that similar subunits from various organizations are likely to differ in size. Obviously greater size does not imply greater resources relative to workload. There are two ways to adjust budget figures to eliminate the effect of size: by some denominator level of activity and by percentage changes.

Since most subunits have a set of outputs rather than a single output, the choice of a denominator level of activity requires a focus on only one output, or a weighted measure for the outputs, or the use of input quantities (e.g., direct labor hours). None of these are satisfactory. The first and second break down for subunits that emphasize
different outputs to different degrees. The third breaks down when limited substitution of another resource for the resource chosen as the denominator is possible, e.g., use of diagnostic equipment to replace human diagnostic skills.

Percentage changes provide measures of changes in budgets since the base period. This would be a satisfactory measure of resource adequacy only if all subunits started the base period with the same level of resources relative to workload. However, such is not the case. A subunit with slight declines in budgets over several periods may presently have more adequate resources relative to workload than another subunit that shows moderate increases in budgets over time.

A second difficulty with total budget dollars as a measure of resource quantity is resource specificity. To illustrate, quantities of specialized labor skills and computer time are highly specific resources. Budgets with similar total dollars may differ in the degree of resource specificity. Comparison of resource adequacy is difficult because low specificity resources cannot always acquire high specificity resources in the short run. To illustrate, use of a corporate facility may be allocated on a physical units basis, e.g., computer time. Within the budget period, a SM who has been allocated a small number of computer hours and many dollars of spending authority may have less adequate resources than another SM with a larger allocation
of hours and a smaller spending authority if the SM cannot obtain additional computer hours through his spending authority.

A third difficulty with total budget dollars as a measure of resource adequacy is differences in the cost of specific resources in different geographic areas. The cost of certain inputs, e.g., labor skills and office space, may be higher in one area than another. Yet, the SM obtains the same resource. This difficulty can be overcome through use of index numbers to adjust the affected costs. However, adjustment for these differences in a multi-organizational field study would require use of various indices appropriate to specific resources and geographic areas as well as very detailed budget information.

A fourth difficulty is posed by long-lived resources which may be owned, or leased on a short or long term basis. Comparisons of budget levels for two subunits that own similar long-lived assets could be confounded by differences in depreciation methods and age. Age affects comparisons by its effect on depreciation costs when accelerated depreciation methods are used and, in the absence of price-level adjustments, on the acquisition costs of similar assets acquired at different times and nominal prices. Financing methods combined with common accounting practices also make comparisons difficult. An asset that provides essentially the same resource to two SMs can have quite
different budget figures associated with it, e.g., subunit A's owned asset may be in the 6th year of a ten year life using a sum-of-years digits depreciation while subunit B is in the second year of a long term lease of a similar asset.

A fifth difficulty relates to the management accounting practice of distinguishing between controllable and non-controllable budget items. Depreciation is often treated as a non-controllable item, and, depending on reporting practices, non-controllable items may not be shown on budget documents. Thus, subunit A's cost of a certain fixed asset (depreciation) may not be included in its budget while subunit B's cost (lease payments) may be included. The extent of cost allocations vis-a-vis the distinction between controllable and noncontrollable costs could also affect comparisons between subunits.

As with input cost differences due to geographic areas, these problems could be overcome by obtaining extensive information. In a study of the subunits of one firm, it might be feasible to develop a reasonably complete measure of the cost of resources directly traceable to particular subunits. However, in a study of similar subunits across many organizations, it is not feasible to obtain the necessary information:

In conclusion, it appears extremely difficult to obtain a high quality ordering of resource adequacy from budgetary information. Extensive information would be required from
each organization as well as information to make adjustments for differences in input costs, in financing methods and in accounting practices.

An alternative to the use of budget figures is reliance on perceptions of managers regarding the adequacy of the major classes of resources made available to their subunits.

2.3 Measurement of Resource Adequacy by Perceptions of Subunit Managers

As mentioned above, the assessment of the adequacy of resources requires a comparison of the quantity of resources against the workload of the subunit. If the dollar amount of resources is used as the measure of quantity, then the comparison to workload must be made as a separate step in the assessment process. This assessment is likely to be very difficult given (i) certain nuances in organization structure and tasks across organizations and (ii) nuances in the emphasis on various subunit outputs (objectives) across organizations and indeed over time within a single organization.

Measures of resource adequacy can be obtained directly and simply through inquiry of subunit managers. The adverb "simply" is used in the sense that this method does not require a separate assessment of quantity relative to the workload of the subunit. This step is avoided by obtaining
the measurement after the subunit manager has made the comparison.

This approach offers certain advantages relative to the other method discussed. First, it avoids the pitfalls of that approach. Second, the comparison between quantity and workload is carried out by the person most familiar with the relationship - the SM. Third, it utilizes a methodology that is similar to that used for most of the other major variables, which are presented in Chapter 3.

This approach also suffers from certain limitations. First, while the subunit manager may be the most knowledgeable person in the organization concerning the relationship between resources and workload, he has limited organizational experiences and biases which can affect the validity of his assessments relative to other managers. One possible bias is that bad personal relations between a SM and persons he interacts with could significantly bias his perception of the adequacy of resources. Second, there are likely to be some differences in the interpretations by various managers of verbal descriptions of various states of resource adequacy. Third, this measurement technique imposes certain restrictions on the research design. These restrictions are discussed below.
2.4 Research Design Implications

The assessment of the adequacy of major classes of resources for a number of subunits is easier if the subunits are relatively homogeneous. Homogeneity with respect to the input set allows the research to determine the major classes of resources and thus structure the assessment method. A homogeneous output set increases the likelihood that the subunits are linked to the rest of the organization and its environment in a similar fashion.

Two research methodologies are apparent from the above. One is to study a number of homogeneous subunits in a single organization. The second is to study a number of homogeneous subunits in several organizations. The first approach offers the advantage of identical organizational context, but that particular context can exert a unique and unknown effect on the relationship between the budgeting process and the perceived adequacy of resources. The second approach requires some control for organizational context.

Since the dependent variable is the adequacy of resources, an important element of the subunit's environment is the stream of resources available to the organization. An important determinant of this stream is profitability. In general one would expect high profit organizations to have more resources available than low profit organizations. In general one would expect SMs in organizations with more resources to report greater perceived adequacy of resources.
There are two ways to control for profitability: by direct use of accounting income (or rate of return) numbers and by utilizing certain institutional arrangements.

The direct use of accounting income (or rate of return) numbers is subject to some of the same difficulties discussed above in connection with the use of budget dollars as a measure of resource adequacy. Variations in generally accepted accounting principles as well as certain deficiencies in these principles make direct comparisons suspect.²

Fortunately, there are certain institutional arrangements which largely eliminate (or compensate for) different accounting practices and also make the deficiencies in accounting practices relatively uniform among the organizations involved. The group of organizations is regulated private utilities. Accounting methods are imposed upon them in greater detail than for non-regulated organizations. Also, the profitability of the utilities is regulated by the regulatory agencies of various states. Thus by using homogeneous subunits of regulated private utility companies, it is possible to obtain information from several organizations with similar organizational contexts. This strategy

²For a brief illustration of the impact of the choice of different generally accepted accounting principles on accounting income numbers, see "Accounting Magic" in Davidson, et. al. (1975-1976), pp. 56-59. Examples of deficiencies in current accounting practices for certain types of organizations include the non-recognition of loss by a bank upon restructuring of customer's loans and the inadequate recognition of pension costs by municipalities.
was followed here.

In appendix A, the subunit chosen for this study, the major categories of resources utilized in this subunit and the questionnaire used to assess the perceived adequacy of resources are described.

2.5 Variables Related to the Budgeting Process

The primary variables related to the budgeting process are three: the sophistication of the budgeting system used in the organization, the nature of the SM-supervisor and SM-staff relationships *vis a vis* the budgeting process. These variables are developed in the following chapter.
Chapter 3  The SM-Supervisor and SM-Budget Staff Relationships

3.1 Introduction

The immediate supervisor of the SM and members of the budget staff have obvious and direct involvement in the budgeting process in a subunit. Previous researchers have studied the relationship between a SM and his supervisor and/or between a SM and the budget staff. They include DeCoster and Fertakis (1968), Hofstede (1968), Hopwood (1972 and 1974), Swieringa and Moncur (1972) and Bruns and Waterhouse (1975).

3.2 The SM-Supervisor Relationship

3.2.1 Previous Research: DeCoster & Fertakis

DeCoster and Fertakis hypothesized relationships between budget pressure and general measures of leadership style. They hypothesized that budget pressure perceived by SMs would be positively associated with their perception of their supervisor's initiating structure behavior and negatively associated with consideration behavior. To assess the supervisor's perceived behavior, the Leader Behavior Description Questionnaire (LBDQ) scales for initiating
structure and consideration were used. A lengthy questionnaire was devised by the researchers to assess budget pressure from several sources.

The results confirmed the hypothesis regarding initiating structure behavior. However, budget pressure was also found to be significantly and positively associated with the level of supervisor consideration behavior. In particular, the immediate supervisor as a source of budget pressure was very strongly associated with both the leader behavior dimensions.

DeCoster and Fertakis advanced the explanation that as supervisors were put under pressure to be more effective, they responded by both increased efforts at structuring of activities and considerate behavior. Their explanation introduced an element that was not considered in their research design — the supervisor's response over time to increased effectiveness demands. The more straightforward explanation is that supervisors who exerted budget pressure on SMs tempered that pressure with consideration.

1 A summary of the Leadership Behavior Description Questionnaire is given in Stogdill (1965) and in the scoring manual by Stogdill (1963). DeCoster & Fertakis apparently used the form of the questionnaire which assesses two dimensions of leadership behavior: initiating structure and consideration. A variety of forms are available.

2 The respondents were employed by manufacturing firms. It is difficult to determine their hierarchical level, or if it was similar across the eight organizations which participated in the study.
As they noted, previous researchers had indicated the opposite, namely that increased performance pressure, especially in terms of accounting-based criteria, leads to a decrease in considerate behavior by supervisors.  

3.2.2 Previous Research: Hofstede

Hofstede (1968) studied the relationships between managers, supervisors and members of the budget staff. He utilized an interview-questionnaire technique with first-second-and third level managers (from the bottom) in several firms. He recommended that managers and the budget staff endeavor to create a "game spirit" about the budgeting process. He believed that managers operating under the game spirit would have the following characteristics:

- they show high motivation and achievement
- they feel the standards are challenges for achievement
- they have free scope for acting
- the department's results play a role in their appraisal, but not an extreme role...There is a separation between the "real-life facts" of appraisal and salary determination and the area of results measured by standards.
- they accept the rules of the budgeting system...
- they show a team spirit."  

Hofstede interpreted his results as indicating that the supervisor plays the dominant role in determining the

---

3 For examples of this research, see Argyris (1952) and Likert and Seashore (1963).

4 Hofstede (1968), p. 265.
circumstances in which the budgeting process is conducted.

3.2.3 Previous Research: Hopwood

Hopwood (1972) continued the emphasis on the supervisor's role in the budgeting process. He defined three managerial styles:

1. Budget Constrained Style. Despite the many problems in using accounting data as comprehensive measures of managerial performance, the evaluation is primarily based upon the cost center head's ability to continually meet the budget on a short-term basis. This criterion of performance is stressed at the expense of other valued and important criteria and a cost center head will tend to receive an unfavorable evaluation if his actual costs exceed the budgeted costs, regardless of other considerations.

2. Profit Conscious Style. The performance of the cost center head is evaluated on the basis of his ability to increase the general effectiveness of his unit's operations in relation to the long-term purposes of the organization. One important aspect of this at the cost center level is his concern with the minimization of long-run costs. For this purpose the accounting data must be used with some care in a rather flexible manner.

3. Nonaccounting Style. Accounting data play a relatively unimportant part in the supervisor's evaluation of the cost center head's performance. Hopwood's emphasis was on the Budget Constrained (BC) and Profit Conscious (PC) styles. He hypothesized that:

- If a cost center head perceives that he is evaluated on the basis of a Budget Constrained style he is (a) more likely to experience job related tension; (b) more likely to report having poor relations with his supervisor; (c) more likely to report having poor relations with his peers; (d) more likely to engage in falsification of the accounting data and dysfunctional decision making, than if he perceives that he is

---

evaluated on the basis of either a Profit Conscious or a Nonaccounting style.\textsuperscript{6}

The supervisor's management style was determined by the SM's perception of the three most important criteria of performance used by his supervisor from a set of eight criteria. The criteria were "cooperation with colleagues, getting along with the boss, effort put into the job," "concern with quality," "attitude toward the work and company," "ability to handle men" "meeting the budget" and "concern with costs."\textsuperscript{7} The last two criteria were used to determine the supervisor's management style. The budget constrained (BC) style was defined by a SM ranking the criterion "meeting the budget" in the top three criteria, but not including "concern with costs" in the top three; the profit conscious (PC) style was defined by just the opposite treatment of these two criteria; and the non-accounting style was determined by having neither of these two criteria in the top three. A fourth style emerged: The budget profit (BP) style, defined as including both "concern with costs" and "meeting the budget" in the top

\textsuperscript{6}Ibid, p. 163

\textsuperscript{7}Ibid, p. 165.
The dependent variables of job-related tension, relations with supervisors and with peers were measured by indices that had been used extensively in previous research. In addition, he utilized a measure of cost related tension and some historical repair and maintenance expense information.

In general, Hopwood's hypotheses were confirmed. In utilizing his results, it should be noted that the SMs were cost center heads in a large manufacturing division of a corporation. The management hierarchy in the division had nine levels and most cost center heads were general foreman in the third level from the bottom. His respondents were at a hierarchical level similar to Hofstede's respondents.

By examination of his results, it appears that the PC style is consistent with Hofstede's budget game spirit while

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8 Ibid, p. 165. As Hopwood points out, the Nonaccounting style is better described as "a low relative importance to the accounting related criteria." The key phrases "concern with costs" and "meeting the budget" may be unique to the particular company used by Hopwood as a research site. They were used by SMs at the site and Hopwood is quite confident that they capture the essence of the different managerial styles, at that site.

9 The BP group did not show significant differences from the BC group. Thus where both criteria were ranked in the top three, "meeting the budget" appeared to dominate. Ibid, p. 174.
the BC style is antithetical to it. This idea is developed in the following paragraphs.

In most subunits, there are multiple objectives and often these objectives are in conflict. For the subunits studied by Hopwood (and for the subunits studied in this research) long-run cost minimization was consistent with the long-run objectives of the organization. The PC style seemed to capture the essence of this long-run objective. In contrast, the BC style emphasized continual achievement of short-term budgets. Thus conflict would occur when a SM saw an opportunity to reduce costs over more than one budget period but which would result in an unfavorable variance in the current period.

One key aspect of the PC style was the opportunity to explain unfavorable budget variances in the current period in relation to future cost savings. In the BC style, this opportunity generally was not present. Thus, in Hofstede's words, SMs had greater freedom of scope in their actions relative to budget matters under the PC style.

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10 Certain variations of the NA style may be more attuned than the PC style to the game spirit conditions. However, Hopwood did not provide any breakdowns of this NA style except to note that informal conversations with some senior managers gave the impression that these NA supervisors were viewed as being somewhat above or below average capability, but not average. Ibid, p. 191.

In the Hopwood study, the two management styles differed with respect to the use of subunit results in performance evaluation. This difference was reflected in the perceived justness of evaluation with the BC group reporting a significantly lower degree of justness than the PC group. Given the difference in perceived justness of evaluation, it is reasonable to expect differences in the quality of relations with supervisors, as reported by SMs. Since the supervisor is judged by Hofstede to be important in creating the game spirit, it follows that use of a BC style would make it more difficult to create the game spirit.

In particular, Hopwood used eight indices of relations with supervisors. The indices were "trust in the supervisor, respect for the supervisor, the perception of the supervisor's understanding of job problems, the perceived reasonableness of the supervisor's expectations, satisfaction with the supervisor's technical knowledge, satisfaction with the supervisor's administrative ability, satisfaction with the supervisor's human relations skills and general satisfaction with the supervisor." The BC group reported significantly lower scores on seven of the eight indices, the exception being reasonableness of supervisor's

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12 Ibid, p. 168 and Table 2.

13 Ibid, p. 166; these indices were developed at the Institute for Social Research at the University of Michigan.
expectations. On the other hand, the PC style does not imply that some use of subunit budget results in evaluation of SMs will be detrimental in fostering the game spirit. Hopwood's respondents were asked to rank the importance of each of the eight performance evaluation criteria on an absolute scale. In the NA and PC groups, but not the BC group, there was a positive and significant association between goal clarity and the absolute importance of meeting the budget. Yet, for the entire group of respondents, the absolute importance of each of the two criteria, "concern with costs" and "meeting the budget," was positively and significantly associated with seven of the eight indices of relations with supervisors. As Hopwood notes, this result is in part due to the influence of the large NA group on the entire group. Thus, the unfavorable effect of the BC style on SM-supervisor relations stemmed, not from the importance attached to meeting the budget per se, but rather from the management style which had developed around the BC style and which was described in this organization by the phrase "meeting the budget." The PC style appears to be

14 It should be noted that the difference is probably significant at the .10 level, though not at the .05 level which Hopwood used. The differences on the other indices between the BC and PC styles were significant at the .01 level.


consistent with the conditions for a game spirit (namely "the department"s [budget] results play a role in [SM] appraisal, but not an extreme role...")\(^\text{17}\) while the BC style appears to be antithetical to the game spirit.

Hofstede states that a team spirit is a necessary part of the context in which budgets can be used most successfully.\(^\text{18}\) Relations with peers would be an important ingredient of team spirit. Hopwood found that the PC style was associated with significantly higher indices of peer relations than the BC style on five of the six measures he used.\(^\text{19}\) However, for his entire respondent group, the absolute importance of each of the criteria "concern with costs" and "meeting the budget" was positively and significantly associated with four of six measures of relations with peers. These results indicate that concern with long-run costs and concern with meeting short-term budgets are not in themselves associated with poorer relations with peers. However, the management style that had developed in this organization around each of these two criteria was

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\(^\text{17}\) Hofstede (1968), p. 265.

\(^\text{18}\) Ibid, p. 265.

\(^\text{19}\) The six indices were peer supportiveness - achievement, peer supportiveness - affiliation, peer agreement, peer helpfulness, respect for peers and peer friendship. These indices were developed at the Institute for Social Research at the University of Michigan. Hopwood (1972), p. 166.
associated with differences in peer relations. Thus it appears that the PC style is more supportive of the game spirit than the BC style.

The extent and crucial nature of the BC-PC difference in Hopwood's research site is illustrated by his analysis of repair and maintenance costs. For these subunits, this item was budgeted on a monthly basis as a percentage of production volume. In these subunits, it appeared that it would be better to do the actual repairs and maintenance during periods of low production.

For a small number of subunits, the correlations between production volume and reported repair and maintenance expenses for a period of time were obtained. In all six BC cost centers, the correlation was positive and three of the coefficients were significant at the .05 level. However, in the eight PC cost centers, four of the correlations were negative and none of the eight were statistically significant. In subunits subject to a BC management style, repairs and maintenance costs were more likely to be incurred at an undesirable time, i.e., during periods of high production volume. This is evidence of the undesirable effect the BC style can have upon managerial behavior.

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20 The phrase "BC cost center" means that the cost center head felt his supervisor used the BC style. An analogous interpretation applies to the phrase "PC cost center" in the next sentence.

21 Hopwood, (1972) pp. 170-72 and Table 5.
of SMs. The greater willingness of SMs operating under a PC style to schedule repair and maintenance costs at more opportune times, i.e., during periods of low productivity, is evidence of the consistency between the PC style and the game spirit. Because of the opportunity to explain variances under the PC style, these SMs had greater discretion with respect to budgetary matters. In essence, their supervisors recognized that conformance with a budget did not capture all of the important elements for SM evaluation.

The final element of Hopwood's work to be considered here concerns the LBDQ and relates to the DeCoster and Fertakis article discussed earlier. He found that SMs evaluated under either a BC or a PC style perceived their supervisors as seeking job structure, while the NA supervisors were not perceived in this manner.22 This result is consistent with DeCoster & Fertakis' results on structure. However, both PC and NA supervisors were perceived as considerate of SMs while BC supervisors were not. This result is contrary to DeCoster & Fertakis' findings on consideration.23

One possible explanation of this difference is the hierarchical level of the supervisors. In Hopwood's study


23 DeCoster & Fertakis (1968), pp. 245.
they were at the third or fourth level from the bottom of the management hierarchy. As noted previously, it is difficult to determine the hierarchical level of DeCoster and Fertakis' respondents.

3.2.4 Previous Research: Swieringa and Moncur

Swieringa and Moncur (1972) conducted an analysis of SM budget-oriented behavior and various attitude, position, size and performance measures. They sought to control the organizational context by using only one organization and one hierarchical level of respondent, namely branch managers of a large bank.

The budget-oriented behavior of these branch managers was assessed using a modification of the DeCoster and Fertakis budget pressure questionnaire discussed previously. Attitude variables were confidence in organization, job-related ambiguity, job satisfaction and job-related tension, measured using indices developed by Kahn (1964). Position variables were the length of time in profession, organization, branch, and job, and allocation of time among subordinates, home office personnel, customers, and by themselves. Size and performance were measured by average total deposits, average total loans, average total staff, branch earnings and budget variances. The size and performance variables were obtained from the bank's accounting records. Information was also obtained about leader
behavior by having the SMs describe how frequently they (the SMs) should engage in considerate and initiating structure behavior. This normative, self-evaluation differs from the use of the LBDQ by DeCoster and Fertakis and Hopwood.

The budget behavior questionnaire was factor analyzed and four factors were extracted that explained 44% of the common variance. Standard factor scores were computed for each factor for each respondent and then correlations were developed with the variables described above.

The four factors developed from the budget behavior questionnaire were described by the authors as follows.

Factor I was named "active participant behavior" because a high score on this factor primarily reflected managers' budget-oriented behavior that was active and influential in the activities and interactions associated with the budget process.

Factor II was named "involved exponent behavior" because a high score on this factor reflected managers' budget-oriented behavior brought about by the explanation and correction of budget variances.

Factor III was named "reluctant victim behavior" because a high score on this factor reflected managers' budget-oriented behavior that diverted their time and attention from what were for them more important affairs.

Factor IV was named "unconcerned recipient behavior" because a high score on this factor reflected managers' budget-oriented behavior that was

\[ \text{Swieringa and Moncur (1972), pp. 197-99.} \]
\[ \text{Ibid, p. 200.} \]
essentially passive and lacked concern over the use of the budget as an evaluative mechanism.\textsuperscript{26}

The correlations between the four factors themselves were very weak. Factors II, III, and IV in total showed only four significant correlations with the 16 attitude, position, size and performance measures. The first factor, Active Participant behavior, was significantly associated with ten of the 16 other variables.\textsuperscript{27} There were no significant correlations between any of the factor scores and the three size and performance measures.\textsuperscript{28}

An inspection of the questions loaded on the factors reveals certain similarities to the management styles of Hopwood and the game spirit of Hofstede. Factors II and III indicate a budget constrained atmosphere. For example, managers rating high on factor II had to trace causes of variances, report corrective actions, submit written explanations and had variances prominently mentioned during interviews and pay and promotion evaluations. Those scoring high on factor III found it necessary to stop activities or charge other accounts when budgeted accounts were gone.\textsuperscript{29}

\textsuperscript{26}Ibid, pp. 200-01.

\textsuperscript{27}In total there were 14 significant correlations between the four factors and the 16 other variables. Of these, eight were significant between the .05 and .10 levels.

\textsuperscript{28}Swieringa and Moncur (1972), Table 2. The authors did not report any data concerning average total deposits and average total staff.

\textsuperscript{29}Ibid, Table 2.
On the other hand, factor IV certainly does not represent SM behavior in response to a BC style, but perhaps is in greater accord with the NA style. The budget was not perceived as having overriding importance nor was it perceived as a game. SMs who scored high on factor IV were not criticized by their supervisors because of not meeting the budget and apparently were not evaluated in large part on the basis of budgets. The budget seemed to be accepted as a necessary part of their environment.

Factor I has many consistencies with the PC style. Managers scoring highly on this factor had a high degree of participation in the budgeting process, consistent with Hofstede's suggestion. Variances were discussed with supervisors and SMs had the opportunity to explain variances since there were included in the performance reports for their subunits.

Significant correlations between the SMs' factor I scores and other variables included (with the level of significance indicated in parenthesis) initiating structure, .32 (.10); confidence in organization, .44 (.05); job related ambiguity, -.37 (.10); job satisfaction, .50 (.01); and job related tension, .40 (.05). The negative

31Recall that the LBDQ was prepared by the SMs on a normative, self-evaluative basis.
32Swieringa & Moncur (1972), Table 2, p. 208.
correlation with job related ambiguity supports the contention that Factor I is consistent with the PC management style. The PC style was significantly associated with greater goal clarity. The other significant correlations certainly are not in conflict with the PC management style and a game spirit.

3.2.5 Summary on SM-Supervisor Relationship

In this chapter, previous research dealing with the supervisor-SM relationship in the budgeting process has been summarized. In particular, the BC and PC management styles have been compared to the conditions advanced for the game spirit in budgeting. The BC style was seen as being antithetical to the game spirit while the PC style seemed consistent with the conditions of the game spirit for the following reasons: (i) better relations between SMs and their supervisors; (ii) better relations between SMs and their peers; and (iii) limited use of accounting information in performance evaluation, promotion, and pay increase discussions with (iv) the opportunity to deal with conflicting short-run and long-run objectives by justification of budget variances.

Thus in exploring the relationship between the budgeting process and the adequacy of resources available to the subunit, one proposition is that supervisor behavior consistent with the PC style and supportive of the game
spirit will be associated with greater perceived resource adequacy by SM than behavior that is consistent with the BC style and antithetical to the game spirit.

Each of the studies cited above has recognized in some fashion the possible impact of more general supervisor leadership style upon the SM-supervisor relationship in the budgeting process. In three of the studies, the LBDQ was used as a general measure of leadership style; in the Hofstede research, his interview – questionnaire technique covered some of the more general aspects of leadership style. Thus, the general leadership style may be an intervening variable between supervisor budgeting process behavior and the perceived adequacy of resources available to the SM.

In Appendix B, the questions used to assess the SM-supervisor relationship are described. In Appendix C, the LBDQ scales used to assess leader behavior are described.

3.3 The SM-Budget Staff Relationship

In reviewing the SM-supervisor relationship, two managerial styles were seen as recurring themes in the research cited. These same two styles are useful in exploring the SM-budget staff relationship.
3.3.1 Previous Research: Argyris, McGregor and Simon, et.al.

The importance of the budget staff in the budgeting process was documented by Argyris (1952). In his study, SMs viewed the budget staff as second in importance only to production control in determining their job environment.33 McGregor provided a case illustration of conflict between SMs and budget staff due to SMs' feelings that the budget staff were attempting to dominate the SMs.34 Simon, et.al. concluded that the budget staff must actively develop channels of communication with SMs in order to effectively provide information.35

3.3.2 Previous Research: DeCoster and Fertakis

DeCoster and Fertakis included questions about budget pressure caused by the behavior of the budget staff. They used seven categories of budget pressure, with some apparent overlap.36 Their attempt to isolate sources of budget pressure

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33 Argyris, 1952, p. 10.
34 McGregor, 1960, Chapter 11.
35 Simon, et.al. (1953), pp. 47-56.
36 The seven categories were: pressure from procedures in formulating the budget, pressure from procedures in budget administration, pressure caused by need to correct budget deviations, pressure from immediate supervisor, pressure from staff departments on budgeting, intradepartmental pressure caused by budget, and pressure from lack of formal outlet for dissatisfactions. From their illustrative questions, it is clear that the supervisor was involved in three categories besides the pressure from immediate supervisor.
pressure apparently did not succeed.

3.3.3 Previous Research: Hofstede

Hofstede found the quality of communications between SMs and the budget staff affected the attitude of SMs toward the budget. However, the effect was only as a hygienic factor: that is, poor communications were very likely to be associated with a poor budget attitude, but good communications did not ensure a positive budget attitude. Thus, he concluded that the role of the budget staff in developing the game spirit was largely limited to not impeding its development. In Hofstede's opinion, the budget staff could do the most to create a game spirit by devoting considerable time to educating SMs on the uses of the budgetary process in managing their own subunits. ³７

In terms of the profit conscious (PC) and budget constrained (BC) styles developed earlier, it is clear that budget staff behavior in the BC mode is quite likely to induce poor budget attitudes among SMs, as described by category. A similar overlap appears likely with respect to pressure from staff.

In their discussion of results, the only category that was mentioned as being significantly correlated with leader behavior as measured by the LBDQ was the pressure from the immediate supervisor category.

³７Hofstede (1968), Chapter 11.
Argyris and McGregor. The education role prescribed by Hofstede is clearly a long-run outlook and thus consistent with the PC style.

3.3.4 Previous Research: Swieringa and Moncur

The four behavior patterns found by Swieringa & Moncur contain illustrations of budget staff behavior that can be characterized as BC style or PC style.\(^{38}\) Factor I, active participant behavior, was described earlier as basically consistent with the PC style. The questions regarding staff behavior that loaded onto Factor I have a PC orientation. SMs who scored highly on Factor I had open communication channels with the budget staff. These SMs regarded the budget staff as a source of assistance in managing their subunits (questions 2, 4, 58 and 65). On the other hand, factor II, involved exponent behavior, was described earlier as basically consistent with the BC style. Managers who scored highly on factor II were required to submit written explanations to the budget staff about large variances detailing the causes and the corrective actions taken (questions 42, 49 and 52).

Factor III, reluctant victim behavior, was also described earlier as basically consistent with the BC style. However the budget staff related questions that loaded on

\(^{38}\) All references in this section are to Swieringa & Moncur (1972) Table I.
this factor are not as clearly BC style as for factor II. In particular, SMs who scored highly on factor III asked the budget staff for assistance and reported that the budget staff expressed satisfaction when the budget was attained (questions 37 and 38). However, they also viewed the budgets as requiring extra paperwork (question 47). Thus the SMs who scored highly on Factor III viewed the budget essentially as an accounting rather than a managerial tool. They sought assistance and, perhaps due to their expression of concern about budgets, received expressions of satisfaction from the budget staff when actual results were as budgeted. This behavior pattern can be interpreted as emphasizing the achievement of a series of short-run budgets.

3.3.5 Summary on the SM-Budget Staff Relationship

Much of the previous research on the SM-budget staff relationship can be interpreted in game spirit terms similar to the approach used for the SM-supervisor relationship. Thus budget staff behavior that is consistent with a PC style and supportive of the game spirit is expected to be associated with greater perceived adequacy of resources by SMs than budget staff behavior that is consistent with a BC style and antithetical to the game spirit.

In the SM-supervisor relationship, the leadership style of the supervisor was presented as a possible intervening variable between supervisory behavior in the budgeting
process and the SMs' perception of the adequacy of resources. It is possible that the leadership style of the supervisor could influence the SM-budget staff relationship as well, although in a less direct fashion.

In Appendix B, the questions used to assess the SM-budget staff relationship are discussed.

3.4 Budget System Techniques
3.4.1 Introduction

Various budgeting techniques have been developed to improve the usefulness of operating budgets and the budgeting process as managerial tools. These techniques determine in part the nature of the budgeting system and, for our purposes, are called budget system characteristics. They are properties of a budgeting system that are

(i) separate from interpersonal relationships,
(ii) determined by upper level management, both line and staff, and
(iii) stable in the short-run although subject to change over time.

They may influence the nature of the interpersonal relationship between a SM and his supervisor and/or budget staff, but they are not determined by the relationship. In other words, within a group of similar subunits in one

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39 Operating budgets are the focal point here rather than capital budgets.
organization these characteristics would be expected to be the same across different SMs, different supervisors, and different budget staff people involved with the various subunits.

The techniques that are used in a budget system determine the sophistication of the system itself. The use or nonuse of following techniques indicates the degree of sophistication of the budgeting system:

(i) the use of rolling or single period budgets
   (including consideration of the length of the budget period),
(ii) the distinction between controllable and noncontrollable items,
(iii) the use of program or line budgets, and
(iv) the use of flexible or static budgets.

In the following sections, each of these techniques is discussed with respect to the sophistication of the budget system.

3.4.2 Rolling versus Single Period Budgets

A rolling budget covers the next n budget periods; as one period is completed, another period is added to the rolling budget. The decision to use a rolling budget cannot be considered independently of the length of the budget period since the total time period covered is a function of
both the size of \( n \) and the length of each budget period.

The fiscal year emphasis in financial accounting and in managerial planning has carried over to the budgeting process as well. The simple approach is a single period budget for the fiscal year. A more sophisticated approach is a rolling budget using periods shorter than one year. This technique provides (i) quicker feedback of current results and (ii) reduces the "blinders" aspect of the simpler system by forcing those involved in the budgeting process to look beyond the current fiscal period and, quite possibly, the current fiscal year, to hopefully see interrelationships (i.e., opportunities) between the budget periods. Thus a rolling budget with periods shorter than one year represents a more sophisticated budgeting technique.

3.4.3 The Distinction Between Controllable and Non-Controllable Items

The simpler approach, related to the use of absorption costing, is to use product- or service-costing information for SM evaluation. Thus, all direct costs of a subunit and a fair share of the indirect costs are assigned to the products or services of the subunit using various cost accounting procedures including cost allocations and overhead rates. The SM evaluation with respect to budgetary criteria is based on this same information.
A more sophisticated approach recognizes that evaluation of a SM should be based on factors over which he has control or substantial influence. All of the indirect costs to a subunit are either partly controllable by the SM or not controllable at all, e.g., building occupancy costs. Also, certain direct costs, e.g., depreciation on equipment used in the subunit, usually are not controllable by the SM. Budget reports prepared under this more sophisticated approach separate controllable from non-controllable costs and may report the latter in such a way as to not influence the variances for the subunit.

3.4.4 Use of Program or Line Budgets

A line budget is composed of functional expenses, e.g., salaries, rent and supplies. The focus is on the particular mix of inputs rather than on the relationship of those inputs to the outputs of the subunit. The line budget often tends to restrict the SM's flexibility in changing the mix of inputs.

A program budget is composed of programs to be undertaken by the subunit with the inputs (perhaps in somewhat aggregated form) required by the programs. Since different programs usually relate to different aspects of the subunit's goals, the emphasis is on outputs and the relative input requirements of the various programs. There is less
concern with shifting the mix of resources within a program and more concern with a shift of inputs between programs, since this indicates a shift in the emphasis of various outputs. A program budget is a more sophisticated budgeting tool because it relates inputs more clearly to specific outputs of the subunit.

3.4.5 Use of Flexible Budgets or Static Budgets

A flexible budget allows for changes in the budgeted input mix based upon differences between the output mix originally anticipated and the actual output mix. Conventionally, this change is based on one parameter, e.g., pounds of product X produced. Thus the comparison of actual inputs used to budgeted inputs utilizes a budget based on the actual output of the period. On the other hand, with a static budget the comparison is between the budgeted input set for the planned output and the actual input set for the actual output. The comparison is invalid if the actual output differs from the planned output. Because the flexible budget facilitates a comparison of actual inputs with the inputs that should have been used given the output set, it is a more sophisticated budgeting technique.

3.4.6 Assessment of Budget System Sophistication

In the descriptions of each of the four preceding techniques (including length of budget period with the use
of rolling budgets) a dichotomy was suggested: the use of a simple or a sophisticated technique. However, it should be recognized that there are varying degrees of sophistication in the use of each of the sophisticated techniques. To illustrate, consider the distinction between controllable and non-controllable items.

In a budget system that does not make the distinction, the SM, his supervisor and members of the budget staff may recognize it in an informal manner. However, their perceptions of controllability may differ. On the other hand, in a budget system that does make this distinction, certain costs may be incorrectly classified. As far as comparing the sophistication of budget systems, the imperfectly recognized distinction is viewed as more sophisticated than the system that does not recognize the distinction.

Consider now a change in the imperfectly recognized distinction towards a more correct classification of costs. Obviously the level of sophistication has improved, but how should this be measured?

Similar illustrations can be made of the degree of use of the other techniques. In an exploratory use of these variables, a simple categorical assessment seems warranted. Thus the use of the sophisticated technique will be viewed as indicating a higher level of sophistication than the use of the simpler technique, regardless of any informal
recognition of the shortcomings of the simpler technique.

Besides the problem of assessing sophistication with respect to each technique, there is the problem of weighting the techniques. Again there is very little previous work for guidance. In the absence of guidelines, two procedures seem viable. First is an assessment of sophistication by weighting each technique equally. Thus the use of any three techniques is viewed as more sophisticated than the use of any two. Second is an examination of popular patterns of budget systems to discover any apparent differences in other variables.

The relationship between the number of sophisticated techniques used in a budgeting system and the perceived adequacy of resources is discussed in the next chapter. The questions used to elicit information on the techniques in use and the scoring of these questions are discussed in Appendix D.

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40 One risk of this assessment method is that a sophisticated technique could be used in such a poor fashion that the misinformation provided more than offsets the beneficial effects of a more sophisticated manner of viewing subunit cost behavior and SM responsibilities.
Chapter 4  Statement of Hypotheses

4.1  Introduction

In the preceding chapters, research on the SM-supervisor and the SM-budget staff relationships in the budgeting process has been summarized. Particular attention has been given to SM, supervisor, and budget staff behavior in the development, implementation and evaluation phases of the budgeting process. The degree of sophistication of the budget system techniques has also been presented as a variable that may be related to the perceived adequacy of resources. Since no previous field studies have been conducted on the relationship between the perceived quantity of resources and the budgeting process, the hypotheses below represent exploratory notions at best.

4.2  Hypotheses

The propositions set forth in Chapter 3, plus some other expected relationships lead to the hypotheses presented below.

H1. SMs reporting relationships with their supervisors which are consistent with the game spirit will report greater perceived adequacy of resources.
H2. SMs reporting relationships with the budget staff which are consistent with the game spirit will report greater perceived adequacy of resources.

These hypotheses are based on the research previously discussed and related to specific phases of the budgeting process. For the development phase, Hofstede (1968) found that participation was associated with more positive attitudes towards budgets and he recommended participation in budget development as a means of developing the game spirit. Swieringa and Moncur (1972) found that active participant behavior (factor I) included participation in budget development and was positively and significantly correlated with confidence in the organization and job satisfaction. Finally it seems reasonable to hypothesize that greater involvement in the budget development phase would give the SM an opportunity to influence the allocation of resources.

In the implementation phase, the hypotheses imply that less direct and detailed interference by both the supervisor and the budget staff will be associated with greater perceived resource adequacy. The hypotheses are also based on Hofstede's freedom of scope notion as a necessary element in creating a budget game atmosphere. They are also consistent with a long-run outlook rather than a short run (How are you going to meet the budget?) outlook, thus implying greater flexibility for the SM to modify the budget
plan during implementation in order to respond to problems or opportunities.

For the feedback and evaluation phase, the hypotheses imply that when SMs do not have to stop or delay activities or charge other accounts simply because budgeted funds are used up, they will report greater perceived adequacy of resources. This is in part because unfavorable budget variances are not viewed as per se indicators of poor performance. This situation implies a longer-run outlook and also a recognition that budget variances do not capture all the important facets of a SM's performance.

The hypotheses imply that a strong umbrella function by the supervisor and a favorable attitude by the budget staff contribute to the creation of a game spirit and hence to greater perceived adequacy of resources. A strong umbrella function enhances the SM's freedom of scope by reducing the amount of direct interference by upper level management in the SM's sphere of activity. A favorable attitude by the budget staff implies that they represent another source of assistance, rather than intimidation for the SM.

H3. The SM-supervisor relationship score will be positively correlated with the tolerance of freedom subscale of leader behavior.

Many of the questions in the SM-supervisor relationship scale relate to the freedom of scope that a SM has in
carrying out his responsibilities. This is the notion that the tolerance of freedom subscale is supposed to measure, but it is more comprehensive, covering more than the budgeting process.

H4. SMs operating with more sophisticated budget system techniques will report greater perceived adequacy of resources.

Each of the more sophisticated budget system techniques represents an improvement in the rationality of the budgeting system or in the reporting of timely and relevant information. It is hypothesized that with improved rationality or improved reporting, the resources will be perceived as more adequate.

Before reporting the tests of the hypotheses, the nature of the variables involved should be reviewed. The methods of aggregation and the type of measurement scales that are obtained have implications for testing the hypotheses.

4.3 Variable Aggregation and the Type of Measurement

There are five major variables: the perceived adequacy of resources, the quality of the SM-supervisor relationship with respect to the budgeting process, the quality of the SM-budget staff relationship with respect to the budgeting process, the leader behavior of the supervisor as perceived by the SM, and the sophistication of the budget system. Each of these major variables is a sum of
the scores on questions answered by the respondents.¹

The perceived adequacy of resources is the sum of the perceived adequacy of resource score for each of the seven major resource categories used in the subunits under study. Each of the major resource categories is equally weighted in this summation. The SM-supervisor relationship variable is composed of eight variables (questions). There are two questions on each of the three phases of the budgeting process (development, implementation, feedback and evaluation) and two questions on the supervisor's umbrella function. Each of these eight questions is weighted equally in the summation. The same is true for the SM-budget staff relationship variable except that there are two questions on the budget staff's attitude in place of the questions on the umbrella function. The leader behavior variable is composed of four subscales, each consisting of 10 equally weighted questions.

There are two concerns that must be addressed. First, for each of these variables, are multiple dimensions of the variable concept being compressed into a one dimensional measure through an arithmetical operation? Second, since the resulting measure may not be an interval scale, what

¹There is another step in scoring the sophistication of the budget system variable. The responses of the SMs were used by the researcher to categorize each system as using or not using a particular sophisticated technique. The sophistication score is the number of sophisticated techniques in use.
statistical methods are appropriate for testing relationships between variables?

The first question does not appear difficult to answer. The leader behavior scale and subscales have been extensively used and refined, and thus the result of the summation process can be viewed as a logical one. The SM-supervisor relationship and SM-budget staff relationship variables have not been extensively used as such although most of the individual questions have been utilized in varying form in several research projects. The phases of the budgeting process, development, implementation, feedback and evaluation, are not clearly separate and there are interactions across time periods between the phases. For example, the feedback and evaluation phase of one period may have impact upon the development or implementation phase of the next period(s). Such a blending of effects provides considerable justification for summing the questions in this manner. The summation would appear most objectionable for the perceived adequacy of resources variable. However there is limited substitutability between these resources, thus making it possible to overcome certain shortages in some categories by the use of additional resources from other categories. Furthermore, the multiple dimensions problem would exist if dollar measures were being utilized for each resource, especially given the shortcomings of dollar measures as discussed in Chapter 2.
With respect to the second concern, one certainly cannot equivocably state that an interval scale is derived when frequency responses are assigned numerical values. However, the implications of this are not certain. Some argue that since interval data is not assured, tests that are appropriate to the next lower scale (ordinal) should be utilized. On the other hand, Labovitz has demonstrated that procedures for assigning numbers to ordinal categories and viewing measurement scales as interval scales lead to quite similar correlations between the alternative assignment procedures. Thus when the data are almost interval, he feels that statistics which conceptually require an interval scale may be given their interval interpretation with very little additional misinterpretation risk.

The resolution of this controversy over the use of parametric or non-parametric statistical methods on data that cannot be viewed with certainty as interval is outside the scope of this research. In the budgeting studies discussed in Chapter 3, several have used parametric statistics with data similar to the data of this study. Others have

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2 Labovitz views this procedure as an unstated "sacred cow" in sociological research, and an unstated procedure which became dominant sometime after Stevens' (1946) paper. Labovitz (1972), p. 20.

3 Labovitz (1970) and (1967).

4 For a discussion of this term, see Somars (1962).

used non-parametric statistics.  

The strategy used here is to present both parametric and non-parametric results. Thus, the reader has more information at his disposal.

In one area, the parametric procedures have a decided advantage. In studying leader behavior as a moderating variable between perceived adequacy of resources and the SM-supervisor relationship, parametric methods will be utilized since a test of significance is not available for a non-parametric test of partial correlation.

The budget system sophistication variable is interesting with respect to this interval or ordinal data concern. If the variable is narrowly viewed as a measure of the number of sophisticated techniques in use, then it is clearly an interval scale. However, if it is viewed as a measure of budget system sophistication, the likelihood that it is an interval scale measure is reduced. The mapping of budget system techniques to an overall measure of budget system sophistication is unclear. As between different techniques, the use of a certain technique may represent a much greater increment in sophistication than

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6 Specifically, Swieringa and Moncur and Bruns and Waterhouse used factor analysis and product moment correlation while Hopwood and DeCoster and Pertakis used Spearman rank-order correlation. Hofstede used both parametric and non-parametric methods.
the use of another technique. Within a single technique, the manner or extent to which it is used may likewise have a complex relationship to system sophistication. A categorical relationship is utilized here; a relationship with more than two categories, a continuous linear or a non-linear relationship is certainly possible.
Chapter 5  Results

5.1 Summary of Scores of Major Variables

In the following paragraphs, the scores of major variables for the respondent group are presented together with salient features regarding the components of these variables. The intent is to provide an overview of the data.

Demographic Variables  Demographic information on age, length of time employed by company and length of time employed in present job\(^1\) was obtained from each respondent and is summarized in Table 1. It is clear from Table 1 that the

\(^1\)The respondents also indicated the type of utility by which they were employed, their own, their supervisor's and subordinates job titles. Responses were received from 69 of the 142 managers to whom questionnaires were sent. Two of them indicated that budgetary control did not extend down to their subunit and thus their responses were discarded. Eighteen of the respondents were judged by their job titles and the fact that their name was the only one supplied by their company to have overall rather than regional responsibility for motor vehicle maintenance and repairs. The remaining 49 responses were from managers with regional responsibility and were used in the data analysis. Appendix F describes the process followed to obtain the names and addresses of the managers.
Table 1  Summary of Demographic Information

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Range</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>48.9</td>
<td>31-64</td>
<td>8.2</td>
</tr>
<tr>
<td>Tenure with company</td>
<td>24.8</td>
<td>5-42</td>
<td>9.7</td>
</tr>
<tr>
<td>Tenure in present job</td>
<td>6.0</td>
<td>2-16</td>
<td>4.4</td>
</tr>
</tbody>
</table>

Vast majority of these managers have worked up to this position over several years. Their employment with their present company covered the bulk of their lifetime employment period but only about 25% of that tenure had been spent in their present job.

The SM-Supervisor and SM-Budget Staff Relationships

The SM-supervisor relationship score was obtained by summing eight questions covering the development, implementation, and feedback-evaluation phases of the budgeting process plus the quality of the supervisor's umbrella function. This relationship had an average score of 29.0, a

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2 As indicated in Appendix B, each question in the SM-supervisor and SM-budget staff relationship scales had response codes of always, often, occasionally, seldom, and never to indicate frequency of the described behavior. Each question was scored so that a numerically higher score was assigned to behavior consistent with the profit conscious-game spirit style. For questions where greater frequency was consistent with this style, always was scored as 5, often as 4, etc. For questions where greater frequency was not consistent with this style, always was scored as 1, often as 2, etc. When questions that were scored in this latter manner are mentioned in the discussion, they are referred to as recoded questions. For a list of such questions, see the last page of Appendix B. Each question had a possible range of 1 to 5 and each of the two scales had a possible range of 8 to 40 inclusively.
range of 22-35, and a standard deviation of 3.1. The SM-staff relationship score was obtained in a similar manner. The average was 25.5 the range 19-32, with a standard deviation of 2.9. Both distributions were somewhat flatter than would be expected in a normal distribution but there was very little skewness.

Within these two relationships, there were some items of interest. The respondents reported that the problems they mentioned to their supervisor were frequently given consideration in the next budget (mean of 4.2 with 43 of 49 respondents choosing always or often). They reported only slightly less than equal influence between their supervisors, members of the budget staff and themselves in developing the final budget, (means of 2.8 and 2.96 after recoding of responses).

In the implementation phase, the respondents reported that both the supervisor and the budget staff frequently accepted their cost control methods and refrained from giving detailed suggestions on carrying out the tasks of their subunits. The means on these four questions ranged from 3.6 to 4.0. There was positive kurtosis on the cost control methods questions and mild, negative kurtosis on the detailed directions questions.

In the feedback-evaluation phase, the respondents generally did not stop activities or charge other accounts
simply because budgeted funds were already used (mean of 3.6 after recoding, 27 respondents answered never or seldom).

The respondents operated under quite strong umbrella functions. Their supervisors' support in meetings on budget matters was extremely strong (mean of 4.4, 44 of 49 respondents chose always or often). They did not have frequent contact initiated by higher level management regarding budget matters (mean of 3.7 after recoding).

The budget staff attitude scores were also fairly high with averages of 3.5 and 3.4 respectively. However, the standard deviations on these questions were higher than on an; other questions in the SM-supervisor and SM-budget staff relationships (1.23 and 1.32 respectively).

**Budget System Characteristics**  The responses on these variables were characterized by a lack of diversity. No respondents described a process of budget adjustment that was interpreted as a flexible budgeting adjustment. Of the 49 respondents, 45 reported the use of a budget period of less than one year; 41 reported that a rolling budget was not used; 36 reported that the budget reports did not distinguish between controllable and non-controllable items;

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3A few respondents described processes by which changes in the workload of the current period affected the budget of the following period, but not the budget of the current period. Five respondents did not answer the flexible budgeting questions.
11 reported a line budget system, 6 a program budget system, and 32 a system that provided both line and program budget information.\(^4\) When the responses to the system techniques were aggregated, scores ranged from zero to 4 with the following distribution: zero, 1; one, 7; two, 27; three, 12; and four, 1.\(^5\) The most frequent set of techniques was the use of a short budget period and the program reporting system with 24 such cases; the second most frequent set also included the controllable-non-controllable distinction with 8 such cases.\(^6\)

**Leader Behavior** Each of the four leader behavior scales had a possible range of 10-50.\(^7\) They all had about the same averages, between 38.0 and 38.7. These averages

\(^4\)For determining budget system sophistication, those reporting that the budget system provided both types of information were classified with the program budget respondents so that 38 respondents were judged to be operating under the more sophisticated technique.

\(^5\)There were five responses with unanswered questions for the flexible budgeting technique, and one for the controllable-non-controllable distinction. Since in the other 44 responses, there were no instances of the use of a flexible budget, it seemed overly conservative to throw out these responses due to missing data. These were classified as if the flexible budgeting technique was not used. The response that was missing both the flexible budget and controllable-non-controllable distinction was treated as missing data and omitted.

\(^6\)These two patterns were scored as two and three respectively in the aggregated system variable.

\(^7\)The leader behavior questions had the same response set as the questions for the SM-supervisor and SM-budget staff relationships. With the exception of four questions that were recoded per the scoring manual, always was scored as 5, often
were very close to the averages obtainable from Stogdill (1963) for initiating structure behavior and tolerance of uncertainty; they were slightly below (less than 2.5) the averages for considerate behavior and upward influence behavior. The standard deviations for the tolerance of freedom, consideration and upward influence scales were slightly higher than the average standard deviations obtainable from Stogdill.\(^8\)

**Perceived Adequacy of Resources** The responses to these questions were characterized by the predominance of the response choice "adequate", which was scored as a three.\(^9\)

For the seven resource categories, means ranged from 2.75 for garage and yard space to 3.27 for parts and supplies inventory. Standard deviations ranged from .49 for general purpose equipment to .92 for training programs. In general,

\(^8\)Standard deviations were 7.2, 7.7, and 5.1 respectively versus average standard deviations from Stogdill's reports of 5.3, 5.3, and 4.0. See Stogdill (1963), Table 1.

\(^9\)The response set for these questions was very adequate—almost excessive, more than adequate, adequate, inadequate, and very inadequate. These were scored as 5, 4, etc. There were seven major classes of resources for a theoretical range on the aggregated perceived adequacy of resources variable of 7 to 35. There were 49 respondents for a total of 343 indications of resource adequacy. Of these, 196 or 57% were "adequate." There were 5 unanswered questions affecting four respondents. These were omitted in subsequent analysis. The questions are presented in Appendix A.
kurtosis was positive and skewness was to the right. The aggregate adequacy variable had an average of 21.4, a range of 17-31 on a theoretically possible range of 7-35, and a standard deviation of 3.13.

5.2 Relationships Between Demographic Variables and Other Variables

Some significant and intriguing relationships between the demographic variables and other variables were observed. These are summarized in Table 2.

Perhaps the most interesting relationship was between tenure in job and the SM-budget staff relationship. The strong negative relationship was evidenced by consistently negative correlations: seven of the eight budget staff questions were negatively correlated with tenure in job. The older SMs felt the budget staff was more likely to "spot fat" and attempts to "spend the budget." This may also tie in with their greater tendency to stop activities or charge other accounts because budgeted funds had been consumed.

5.3 Tests of Hypotheses

In the initial tests, the hypotheses concerning perceived adequacy of resources were not supported. The relationships between the key variables are summarized in Table 3. Certain results were in the direction expected. The influence of the SM in the development of the budget
<table>
<thead>
<tr>
<th>Variable</th>
<th>Correlated with</th>
<th>Tenure in Pearson Correlation ( a )</th>
<th>Spearman Correlation ( a )</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM-supervisor relationship: frequency of charging other accounts or &quot;stopping activities&quot; (recoded)</td>
<td>X</td>
<td>(-.29 (.022))</td>
<td>(-.31 (.016))</td>
</tr>
<tr>
<td>frequency of contact with higher level management on budget matters (recoded)</td>
<td>X</td>
<td>(-.35 (.007))</td>
<td>(-.28 (.027))</td>
</tr>
<tr>
<td>SM-budget staff relationship influence of budget staff relative to SM (recoded)</td>
<td>X</td>
<td>(-.49 (.001))</td>
<td>(-.45 (.002))</td>
</tr>
<tr>
<td>ability of budget staff to &quot;spot fat&quot; in budget (recoded)</td>
<td>X</td>
<td>(-.24 (.049))</td>
<td>(-.26 (.042))</td>
</tr>
<tr>
<td>ability of budget staff to spot attempts to &quot;spend the budget&quot; (recoded)</td>
<td>X</td>
<td>(-.35 (.007))</td>
<td>(-.34 (.010))</td>
</tr>
<tr>
<td>Leader behavior - four scales aggregated</td>
<td>X</td>
<td>(.24 (.057))</td>
<td>(.19 (&gt; .10))</td>
</tr>
<tr>
<td>Leader behavior - four scales aggregated structuring of activities</td>
<td>X</td>
<td>(.20 (.092))</td>
<td>(.21 (.085))</td>
</tr>
<tr>
<td>upward influence</td>
<td>X</td>
<td>(.34 (.011))</td>
<td>(.33 (.014))</td>
</tr>
<tr>
<td>Perceived adequacy of resources garage &amp; yard space</td>
<td>X</td>
<td>(.23 (.061))</td>
<td>(.22 (.073))</td>
</tr>
<tr>
<td>special purpose equipment</td>
<td>X</td>
<td>(.22 (.068))</td>
<td>(.20 (.089))</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>(.24 (.053))</td>
<td>(.26 (.039))</td>
</tr>
</tbody>
</table>

\( a \)The significance level of the correlation coefficient is given in parentheses.
Table 3  Relationships Between Major Variables and Perceived Adequacy of Resources

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pearson Correlation</th>
<th>Spearman Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM-Supervisor Relationship (Hypothesis 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influence relative to supervisor in budget development</td>
<td>.20 (.093)</td>
<td>.15 (&gt; .10)</td>
</tr>
<tr>
<td>Acceptance of cost control methods by supervisor</td>
<td>.28 (.032)</td>
<td>.34 (.011)</td>
</tr>
<tr>
<td>Frequency of direct contact with upper level managers</td>
<td>-.21 (.081)</td>
<td>-.20 (.099)</td>
</tr>
<tr>
<td>SM-Budget Staff Relationship (Hypothesis 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influence relative to budget staff in budget development</td>
<td>.18 (&gt; .10)</td>
<td>.10 (&gt; .10)</td>
</tr>
<tr>
<td>Frequency of expressions of satisfaction from budget staff</td>
<td>.28 (.036)</td>
<td>.17 (&gt; .10)</td>
</tr>
<tr>
<td>Budget System Sophistication (Hypothesis 4)</td>
<td>-.23 (.067)</td>
<td>-.23 (.069)</td>
</tr>
</tbody>
</table>
was weakly significant. Likewise, the supervisor's acceptance of the cost control methods of the SM and the frequency of useful suggestions from the budget staff were in the expected direction and significant. However, the frequency of direct contact on budget matters by upper level management behaved opposite to expectations. Also, there were five questions which were negatively and weakly associated (p<.10) with perceived adequacy of resources. The results were opposite to hypothesis four regarding budget system sophistication.

Hypothesis three was supported. The SM-supervisor relationship and the tolerance of freedom scale of leader behavior were positively and significantly correlated, Pearson r=.35(.009). There were no relationships between the SM-budget staff variable and the leader behavior scales which were significant at the .10 level; all but supervisor upward influence behavior were weakly and negatively associated with the SM-budget staff relationship.

Because general leader behavior had been viewed as a possible mediating variable between the SM-supervisor

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10 The five questions were frequency of detailed directions from supervisor and the budget staff (recoded), ability of the budget staff to "spot fat," necessity of tracing variances to specific causes at request of the budget staff (recoded), and frequency of budget staff expressions of satisfaction.

11 The Spearman correlation was .47(.001).
relationship and the perceived adequacy of resources, a series of partial correlations were done utilizing the leader behavior measure and its subscales as controlling variables. The outcomes of these tests were quite similar: the relationship between SM-supervisor and perceived adequacy of resources weakened somewhat and the relationship between SM-budget staff and resource adequacy was strengthened. For example, controlling for structuring of activity behavior, the former correlation became .16(p<.10) and the latter correlation became .30(.036).

Because of the several unexpected relationships between age and tenure in job and the major variables of interest, the respondent group was partitioned at the mid-point of the age variable. As discussed in the next three sections, the two groups obtained from the age separation differed quite substantially. A split of the respondents by tenure in job, did not yield significant results.

There were multiple responses from several companies. The two groups of SMs as determined using the age split were examined to see if the age split could also be interpreted as a split by type of utility or by company. The younger group had 20 of the 37 respondents from the electric and gas and electric groups, a fairly even split. The respondents from telephone companies did not split so evenly as only 3 of the 9 were in the younger group. There were six companies with two or more respondents; in three companies, the respondents split as evenly as possible into the two age groups. In the other companies, the respondents were distributed as follows: (total respondents, younger respondents, older respondents) 5,1,4; 8,5,3; 2,0,2. Thus, the split by age did not correspond to a split among companies.
5.4 Summary of Scores of Major Variables for Respondents Split by Age

The median age was between 49 and 50; groups of 23 and 26 respectively were obtained by splitting the group at age 49.5. Table 4 summarizes the scores of major variables for each group.

While the overall SM-supervisor and SM-budget staff relationship scores were not significantly different between the two groups, the older group of SMs were more likely to stop activities or charge other accounts. There were also some distributional differences. The responses from the older group on the frequency of expressions of satisfaction from the budget staff formed a bimodal distribution with 7 reporting seldom and 10 reporting always. The younger group's responses were more evenly spread over a narrower range. The scores for acceptance of cost control methods by the supervisor and SM influence relative to the budget staff for the younger group were quite spread out as compared to the scores for the older group.

On the leader behavior variables, the scores reported by the older group were consistently greater than those reported by the younger group. The same was true for the components of perceived adequacy of resources except for training programs for which the younger SMs reported slightly greater adequacy.
### Table 4 Scores of Major Variables by Age Groups

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Age Less Than 49.5</th>
<th>Age Greater Than 49.5</th>
<th>Significance of Difference in Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenure in job</td>
<td></td>
<td>4.5</td>
<td>7.3</td>
<td>(.02)</td>
</tr>
<tr>
<td>SM-Supervisor relationship</td>
<td></td>
<td>29.4</td>
<td>28.6</td>
<td>(.02)</td>
</tr>
<tr>
<td>Frequency of charging other accounts or stopping activities (recoded)</td>
<td></td>
<td>4.0</td>
<td>3.3</td>
<td>(.01)</td>
</tr>
<tr>
<td>Importance of variances from budget in promotion decisions (recoded)</td>
<td></td>
<td>3.1</td>
<td>2.6</td>
<td></td>
</tr>
<tr>
<td>SM-Budget Staff relationship</td>
<td></td>
<td>25.7</td>
<td>25.4</td>
<td></td>
</tr>
<tr>
<td>Influence relative to budget staff in budget development (recoded)</td>
<td></td>
<td>3.1</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td>Ability of budget staff to &quot;spot fat&quot; (recoded)</td>
<td></td>
<td>2.6</td>
<td>2.2</td>
<td></td>
</tr>
<tr>
<td>Frequency of helpful suggestions from budget staff</td>
<td></td>
<td>3.6</td>
<td>3.2</td>
<td></td>
</tr>
<tr>
<td>Leadership Behavior - sum of four scales</td>
<td></td>
<td>148.6</td>
<td>155.9</td>
<td>(.08)</td>
</tr>
<tr>
<td>structuring of activities scale</td>
<td></td>
<td>36.5</td>
<td>39.3</td>
<td>(.10)</td>
</tr>
<tr>
<td>Perceived adequacy of resources</td>
<td></td>
<td>20.51</td>
<td>22.17</td>
<td>(.08)</td>
</tr>
<tr>
<td>perceived adequacy of unskilled labor supply</td>
<td></td>
<td>2.87</td>
<td>3.32</td>
<td>(.06)</td>
</tr>
<tr>
<td>perceived adequacy of parts &amp; supplies inventory</td>
<td></td>
<td>3.13</td>
<td>3.40</td>
<td>(.02)</td>
</tr>
<tr>
<td>perceived adequacy of special purpose equipment supply</td>
<td></td>
<td>2.83</td>
<td>3.28</td>
<td>(.02)</td>
</tr>
</tbody>
</table>

*aSignificance of difference in means assessed by t statistic in the left column and by a Mann-Whitney U test in the right column.*
With regard to budget system sophistication, the two groups were quite even on two techniques, but quite different on two others. All eight SMs that reported a rolling budget system belonged to the older group and eight of the eleven managers that reported a line budget system were in the older group. Of the two most common patterns described earlier, 13 of the 24 respondents reporting a short period with program information and 5 of the 8 respondents reporting a short period with program information and a distinction between controllable and non-controllable items were in the older group.

5.5 The Younger Respondent Group

The hypotheses concerning perceived adequacy of resources were supported to a far greater extent for the younger group than for the entire respondent group. The relationships between the major variables and perceived adequacy of resources are summarized in Table 5.

The association between the SM-supervisor relationship, and perceived adequacy of resources was as expected and of modest strength. The association was characterized by two quite strong correlations, acceptance of cost control methods by the supervisor and frequency of charging other accounts or stopping activities when budgeted funds are used up (recoded). One umbrella function question (frequency of
direct contact from higher level managers regarding budget matters, recoded) was negatively associated with perceived adequacy of resources \((r=-.20, p>.10)\). The other questions for this relationship were positively but weakly associated with the adequacy variable. Thus hypothesis 1 was supported.

Hypothesis 2 was also supported with about the same strength as Hypothesis 1. However, the support was due to the collective influence of the several aspects of this relationship. All questions were positively correlated with the adequacy variable except the frequency of requirements to trace variances to specific causes (recoded). The correlation for the SM-budget staff relationship variable exceeded the correlations of any of the elements. The sum of the two SM relationships was strongly related to perceived adequacy of resources, associated with some 36% of the variance in the adequacy variable. Thus, for the younger group of respondents, budget-related behavior by the supervisor and budget staff consistent with a profit conscious-game spirit style was strongly associated with perceptions of greater resource adequacy.

The association between the SM-supervisor relationship and the tolerance of freedom scale of leader behavior for the younger group was as expected and supported Hypothesis 3, although the association did not have great

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\[13\] The Spearman correlation was \(-.16(>.10)\).
Table 5  Relationships Between Major Variables and Perceived Adequacy of Resources for the Younger Group

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pearson Correlation</th>
<th>Spearman Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM-supervisor relationship (Hypothesis 1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acceptance of cost control methods by supervisor</td>
<td>.39 (.036)</td>
<td>.28 (&gt; .10)</td>
</tr>
<tr>
<td>Frequency of charging other accounts or stopping activities (re-coded)</td>
<td>.58 (.002)</td>
<td>.60 (.002)</td>
</tr>
<tr>
<td>SM-budget staff relationship (Hypothesis 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Influence of supervisor relative to budget staff (re-coded)</td>
<td>.43 (.023)</td>
<td>.50 (.009)</td>
</tr>
<tr>
<td>Influence of budget staff relative to SM (re-coded)</td>
<td>.42 (.032)</td>
<td>.43 (.031)</td>
</tr>
<tr>
<td>Frequency of detailed directions from budget staff (re-coded)</td>
<td>.39 (.036)</td>
<td>.36 (.051)</td>
</tr>
<tr>
<td>Combined SM-supervisor and SM-budget staff relationships score</td>
<td>.60 (.002)</td>
<td>.56 (.006)</td>
</tr>
<tr>
<td>Budget systems sophistication (Hypothesis 4)</td>
<td>.05 (&gt; .10)</td>
<td>.01 (&gt; .10)</td>
</tr>
<tr>
<td>Leader behavior - all scales summed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structuring of activities</td>
<td>-.33 (.073)</td>
<td>-.39 (.040)</td>
</tr>
<tr>
<td>Considerate behavior</td>
<td>-.34 (.064)</td>
<td>-.34 (.065)</td>
</tr>
</tbody>
</table>

aThe significance level of the correlation coefficient is given in parentheses.
strength. The Pearson correlation was .34 (.060).\textsuperscript{14} The considerate behavior scale was also significantly associated with this relationship; the Pearson correlation was .34 (.059).\textsuperscript{15}

There was one strong association between leader behavior and the SM-budget staff relationship; the upward influence scale had a correlation of .50 (.013).\textsuperscript{16} The other leader behavior scales were weakly and negatively correlated ($|r| < .12$) with the SM-budget staff relationship. Thus it appeared that for this subgroup, the SM and budget staff had similar perceptions of the supervisor's upward influence and this tended to increase their profit conscious-game spirit behavior (or perhaps to decrease their budget-constrained behavior) toward the SM. This relationship is discussed further in the next section.

The younger and older groups had markedly different relationships between the leader behavior scales and the perceived adequacy of resources. For the younger group, all the scales were negatively correlated with this variable except the upward orientation scale ($r = .05$). Consideration

\textsuperscript{14}The Spearman correlation was .50(.010). The Pearson correlation was the same as for the entire group.

\textsuperscript{15}The Spearman correlation was .39(.038).

\textsuperscript{16}The Spearman correlation was .58(.004).
and structuring of activities had the strongest correlations, as indicated in Table 5. Because the relationship between these variables and perceived adequacy of resources was quite different for the older subgroup, discussion of these results is deferred to the next section.

Because of the possible moderating effects of general leader behavior, a series of partial correlations was run, controlling for the leader behavior scales. The association between the SM-budget staff relationship and the adequacy variable was very stable with partial correlations of .37 to .42, very close to the original correlation of .42. The greatest effect was seen in controlling for consideration, where the partial correlation coefficient was .37(.068). The association between the SM-supervisor relationship and the adequacy variable was more sensitive to the moderating effects of the leader behavior scales, with partial correlation coefficients rising to between .39 and .49. Consideration had the greatest effect on the association with a partial correlation coefficient of .49(.020). However, for the variable formed by aggregating both SM relationships, the partial correlation coefficients ranged from .51 with upward influence as the controlling variable to .55 with consideration as the controlling variable.

For the younger group of respondents, both of the SM relationships were significantly related to perceived adequacy of resources, and this relationship was not
particularly sensitive to the moderating effects of leader behavior. The two SM relationships themselves were weakly correlated, \((.28, p>.10)\), and, when combined, the resulting variable was strongly correlated with the adequacy variable. While the correlation between the SM-supervisor relationship and the adequacy variable could be strengthened somewhat through controlling for moderating variables, especially consideration, the combined variable was not strengthened by control for leader behavior.

Hypothesis 4 was not supported. The relationship between budget system sophistication and perceived resource adequacy was in the expected direction, but not significant. This finding is discussed more extensively in the next section.

5.6 The Older Respondent Group

The hypotheses concerning perceived adequacy of resources were not supported by the data obtained from the older group of SMs. However, some interesting relationships were found as presented in Table 6.

The correlations related to hypotheses 1 and 2 were very weak and possibly not in the direction hypothesized, given the Spearman correlations coefficients. The sharpest contrast with the younger group was provided by the

\(^{17}\) The Spearman correlation was \(.34(.066)\).
correlations for the frequency of detailed directions from the budget staff. The younger group reported greater perceived adequacy of resources associated with lower frequency of detailed directions from the budget staff while the older SMs reported just the opposite relationship.\textsuperscript{18}

The leader behavior scales were utilized as intervening variables between the adequacy variable and the two SM relationships. The association between the adequacy variable and the SM-supervisor relationship was not appreciably improved by controlling for any of the leader behavior variables. However, the association between adequacy and the SM-budget staff relationship was affected considerably, in particular by controlling for activity structuring behavior. The Pearson partial correlation was .41(.047), a level quite similar to that for the younger group.

Hypothesis 3 concerning the SM-supervisor relationship and the tolerance of freedom scale was supported and the correlations were somewhat stronger than for the younger group. The Pearson correlation was .39(.028); the Spearman correlation was .40(.004).

The correlations between the leader behavior scales and the SM-budget staff relationship were quite different.

\textsuperscript{18}There was very little difference between the two groups as to the frequency of detailed directions, (recoded), 3.96 for the younger group and 4.1 for the older group.
Table 6  Relationships Between Major Variables and Perceived Adequacy of Resources for the Older Group

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pearson Correlation</th>
<th>Spearman Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM-supervisor relationship (Hypothesis 1)</td>
<td>.10 (p&gt;.10)</td>
<td>-.09 (p&gt;.10)</td>
</tr>
<tr>
<td>Influence of supervisor relative to SM (recoded)</td>
<td>.33 (.065)</td>
<td>.06 (p&gt;.10)</td>
</tr>
<tr>
<td>Frequency of detailed directions from supervisor (recoded)</td>
<td>-.40 (.029)</td>
<td>-.51 (.007)</td>
</tr>
<tr>
<td>Importance of cost variances in promotion (recoded)</td>
<td>.36 (.045)</td>
<td>.33 (.064)</td>
</tr>
<tr>
<td>SM-budget staff relationship (Hypothesis 2)</td>
<td>.05 (p&gt;.10)</td>
<td>-.15 (p&gt;.10)</td>
</tr>
<tr>
<td>Frequency of detailed directions from budget staff (recoded)</td>
<td>-.33 (.064)</td>
<td>-.38 (.039)</td>
</tr>
<tr>
<td>Frequency of expressed satisfaction from budget staff</td>
<td>.44 (.017)</td>
<td>.45 (.016)</td>
</tr>
<tr>
<td>Frequency of helpful suggestions from budget staff</td>
<td>.30 (.080)</td>
<td>.28 (.100)</td>
</tr>
<tr>
<td>Combined SM-supervisor and SM-budget staff relationship scores</td>
<td>.13 (p&gt;.10)</td>
<td>-.14 (p&gt;.10)</td>
</tr>
<tr>
<td>Budget system sophistication (Hypothesis 4)</td>
<td>-.48 (.010)</td>
<td>-.50 (.009)</td>
</tr>
<tr>
<td>Leader behavior - all scales summed</td>
<td>.49 (.014)</td>
<td>.33 (.079)</td>
</tr>
<tr>
<td>Structuring of activities</td>
<td>.49 (.010)</td>
<td>.49 (.011)</td>
</tr>
<tr>
<td>Consideration</td>
<td>.49 (.009)</td>
<td>.50 (.008)</td>
</tr>
</tbody>
</table>

aThe significance level of the correlation coefficient is given in parentheses.
for the two age groups. For the younger group, the only significant correlation was for the upward orientation scale with Pearson r = .50 (.013). For the older age group, this correlation was -.32 (.081). Notable similarities and differences in the correlations between the upward orientation scale and elements of the SM-budget staff relationship for the two age groups are presented in Table 7.

The general image suggested by the data for the younger group was that the SMs' perceptions were shared by the budget staff and this in turn influenced their behavior toward the SMs. Thus, where the supervisors were viewed as having strong upward influence, the budget staff

- more frequently accepted the cost control methods of the SMs,
- was more frequently viewed as a source of helpful suggestions by the SMs, and
- more frequently expressed satisfaction with the budget related results in the subunits.

By contrast, for the older SM group, when they perceived their supervisor to have strong upward influence, the budget staff

- more frequently gave the SMs detailed instructions on the operations of the subunit, (recoded), and
- more frequently required the SMs to trace variances to particular causes within the subunit (recoded).

For the older group, it appeared that either the budget staff did not share the perceptions of the SMs regarding the supervisors' upward influence or did not feel that the
<table>
<thead>
<tr>
<th>Variable</th>
<th>Older Group</th>
<th></th>
<th>Younger Group</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pearson</td>
<td>Spearman</td>
<td>Pearson</td>
<td>Spearman</td>
</tr>
<tr>
<td>SM-budget staff relationship</td>
<td>-.32(.081)</td>
<td>-.23</td>
<td>.50(.013)</td>
<td>.58(.004)</td>
</tr>
<tr>
<td>Influence of budget staff relative to SM in development (recoded)</td>
<td>.22</td>
<td>.18</td>
<td>.22</td>
<td>.14</td>
</tr>
<tr>
<td>Acceptance of cost control methods by budget staff</td>
<td>.00</td>
<td>.08</td>
<td>.38(.041)</td>
<td>.36(.049)</td>
</tr>
<tr>
<td>Frequency of detailed suggestions from budget staff (recoded)</td>
<td>-.28(.092)</td>
<td>-.28(090)</td>
<td>-.14</td>
<td>-.12</td>
</tr>
<tr>
<td>Extent required by budget staff to trace variances (recoded)</td>
<td>-.47(.010)</td>
<td>-.38(.032)</td>
<td>.20</td>
<td>.21</td>
</tr>
<tr>
<td>Frequency of expressions of satisfaction by budget staff</td>
<td>.01</td>
<td>-.08</td>
<td>.29(.099)</td>
<td>.17</td>
</tr>
<tr>
<td>Frequency of helpful suggestions from budget staff</td>
<td>.08</td>
<td>.11</td>
<td>.37(.045)</td>
<td>.33(.067)</td>
</tr>
</tbody>
</table>

*The level of significance of the correlation coefficient is given in parentheses.*
The type of treatment seen in the younger group was appropriate for the older SMs.

The strong, negative relationship between the degree of budget system sophistication and resource adequacy was unexpected and was contrary to Hypothesis 4. One interpretation of this result is that the older SMs were not able to cope as well with more sophisticated budget systems, and thus were less effective in obtaining adequate resources under such systems. The very weak associations between the SM relationships and the adequacy variable support this argument, namely that the budgeting process, especially in more sophisticated budgeting systems, did not play a significant role (in the SMs' view) in the acquisition of adequate resources.

As noted in Table 6, there were strong positive correlations between some of the leader behavior scales and perceived adequacy of resources. For the younger group, the correlations were generally negative and not quite as strong. The structuring of activities and consideration scales showed the sharpest differences as compared to the younger group. Given the weak associations between the SM relationships and the adequacy variable, as compared with the younger group, it appeared that general leader behavior as perceived by the older SMs was more strongly associated with the acquisition of resources than was the budgeting...
process itself as assessed by the two SM relationship scales.

The differences associated with age were not anticipated and will be considered more thoroughly in the next chapter.
Chapter 6 Discussion of Results and the Age Phenomenon

The quite different associations between variables in the younger group and the older group of respondents was an unexpected development. As such, it warrants further discussion. To set the stage, a recap of the different results for two age groups is in order.

For the younger group, there were moderately strong relationships between the SM-supervisor, SM-budget staff relationships and perceived adequacy of resources, thus supporting hypotheses 1 and 2. Furthermore, since the two SM relationships were not strongly correlated, a variable formed by summing the two relationships was quite strongly associated with the adequacy variable. The general leader behavior scales were weakly and negatively associated with the adequacy variable and in general did not exert any strong effect upon the associations between the SM relationships and the adequacy variable. The fourth hypothesis was not supported as perceived adequacy was positively but not significantly associated with budget system sophistication.

For the older group, hypotheses 1 and 2 were not supported. The use of the leader behavior scales as
intervening variables improved the correlation between the
SM-budget staff relationship and the adequacy variable, but
did nothing for the SM-supervisor relationship. The fourth
hypothesis was emphatically rejected by a strong, negative
correlation between budget system sophistication and per-
ceived adequacy of resources. However, there were quite
strong positive correlations between two of the leader be-
havior scales, initiation of structure and consideration,
and the adequacy variable.

6.1 The Age Phenomenon

In order to gain a better understanding of the differ-
ences in results between the two age groups, a further
examination of the demographic variables was undertaken and
personal managers in utility companies were interviewed to
obtain career path information. Finally the two SM relation-
ships were examined for significant differences.

6.1.1 Demographic Variables and Career Path

A further analysis of demographic variables for each
group illuminated some similarities and one main difference.
Using averages as representative, both groups were about the
same age when they began working for their utilities, as
seen in Table 8. However, the younger group has moved to
their present position in markedly less time than did the
older group.
Table 8. Analysis of Average Age Upon Joining Company and Length of Company Tenure to Obtain Present Position

<table>
<thead>
<tr>
<th></th>
<th>Younger Group</th>
<th>Older Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average age</td>
<td>41.2</td>
<td>55.8a</td>
</tr>
<tr>
<td>Average tenure with company</td>
<td>18.9</td>
<td>32.0</td>
</tr>
<tr>
<td>Average age when joined company</td>
<td>22.3</td>
<td>23.8</td>
</tr>
<tr>
<td>Average tenure in job</td>
<td>4.5</td>
<td>8.4b</td>
</tr>
<tr>
<td>Average tenure in company</td>
<td></td>
<td></td>
</tr>
<tr>
<td>at time present job commenced</td>
<td>14.4</td>
<td>23.6</td>
</tr>
</tbody>
</table>

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a Average tenure in company for older group was restated by omitting two individuals who had worked only five and seven years for their companies. The next lowest tenure in the older group was 19 years. No such adjustment was made for the younger group as the lowest tenures were 7 and 10 years respectively.

b Average tenure in job was adjusted for the two older SMs who had been employed for fairly short periods of time. They had held those positions for 4 and 1 years respectively. There were three other older SMs who had held their present jobs for less than one year. If the unadjusted tenure in job had been subtracted from the unadjusted tenure in company, the result would have been 22.7 years.
Discussions were held with a small number of personnel managers for private regulated utilities. In their opinion, education level was unlikely to be significantly different between the two groups or a significant factor in choosing personnel for this management job. Each personnel manager contacted stressed the need for extensive experience in the motor vehicle area before one would be qualified to move into the department manager position. Thus they expected that the vast majority of these managers had come up through the skilled labor and foreman categories. This career path notion was supported by the long tenure in company before reaching their present management positions, even for the younger SMs. Also, for both groups, tenure in company accounted for a very large portion of the total time these managers have been in the work force.

Thus, for this particular management position, the typical career path is to move up from the skilled labor ranks. In recent years, there does appear to be less emphasis on seniority, as evidenced by the reduction in average tenure in company before reaching present job between the older and younger groups.

Since there was a sizeable difference in the average age of the two groups, it was possible that major world events such as wars and economic conditions could have affected them quite differently and influenced their
perceptions. In Table 9, the ages of the two groups during such significant events are presented. Major economic events considered were the year of entrance into the labor force, assumed to be at age 18, the ages at the stock market crash of 1929 and the upturn in the US economy associated with the early stages of World War II. The military events were the major wars of the past 40 years beginning with World War II.

There appears to be considerable similarity between the age groups with respect to eligibility for military service and subsequent GI benefits. Much of the older group and the very oldest of the younger group were eligible for military service in World War II. Approximately the oldest quarter of the younger group and the youngest of the older group were eligible for service in the Korean War. Approximately the youngest one quarter of the younger group were eligible for the early years of the Vietnam War. Thus eligibility for military service and the subsequent GI benefits would not appear to be significantly different between the two groups. As noted previously, level of education did not appear to be a likely factor in the differences between the two groups.

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1Some of the managers may have entered the labor market earlier, especially those who dropped out of high school. However, the personnel managers consulted felt that most of these managers would have completed high school.
Table 9  Comparison of Ages of Two Groups at Significant World Events

<table>
<thead>
<tr>
<th></th>
<th>Younger Group</th>
<th>Older Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Youngest</td>
<td>Average</td>
</tr>
<tr>
<td>Age, in 1976</td>
<td>31</td>
<td>41.2</td>
</tr>
<tr>
<td>Year of entrance into labor market(^a)</td>
<td>1963</td>
<td>1953</td>
</tr>
<tr>
<td>Age, stock market crash (1932)</td>
<td>Not Relevant</td>
<td>6</td>
</tr>
<tr>
<td>Age, upturn in US economy (1937)</td>
<td>11</td>
<td>16.8</td>
</tr>
<tr>
<td>Age, beginning of US military involvement in WWII (1941)</td>
<td>-</td>
<td>6.2</td>
</tr>
<tr>
<td>Age, end of WWII (1945)</td>
<td>-</td>
<td>10.2</td>
</tr>
<tr>
<td>Age, beginning of Korean War (1950)</td>
<td>5</td>
<td>15.2</td>
</tr>
<tr>
<td>Age, end of Korean War (1952)</td>
<td>7</td>
<td>17.2</td>
</tr>
<tr>
<td>Age, beginning of extensive US military involvement in Vietnam war (1964)</td>
<td>19</td>
<td>29.2</td>
</tr>
<tr>
<td>Age, end of Vietnam War (1973)</td>
<td>28</td>
<td>38.2</td>
</tr>
</tbody>
</table>

\(^a\)Age at entrance into labor market assumed to be 18 years.
However, it is possible that major economic events could have had some influence on the perceptions of the two groups. The older group most likely can well remember the shortages of the Depression years. Those near the middle of the older group entered the labor market around the mid-1930's, at a time when jobs, especially those with good security such as positions with large utilities, were highly valued. Virtually all of the older group would vividly recall the shortages of World War II, either from military experiences or as consumers living in an economy with relatively few consumer goods. By contrast, only the older half of the younger group could have recollections of the scarcity during World War II and virtually none of them could recall the scarcity of the Depression years.

The older group reported significantly higher perceived adequacy of resources than did the younger group, as shown in Table 4. One possible explanation for this is the relative amounts of scarcity the two groups were subject to, as represented in crude terms by the Depression years and World War II. A contributing factor could also be the highly prized security of utility positions to the older group.

6.1.2 Comparison of the SM Relationships Between the Two Groups

With the analysis of demographic variables and world events as background, the major variables were examined to
focus on the differences between the two groups. In the two SM relationships, the correlations between components of each relationship were compared. Then the correlations of these components with perceived adequacy of resources were compared.

Within the SM-supervisor relationship, most of the correlations between components were of the same sign for both groups. In the younger group, the umbrella function question, frequency of support from supervisor in budget meetings, had the largest number of significant correlations with other components. In the older group, the development phase question, influence of supervisor relative to SM (recoded), had the largest number of significant correlations with other components. In both groups the umbrella question, frequency of direct contact with upper level management regarding budget matters, was negatively correlated with most of the other components. This will be discussed in a later section.

Within the budget staff relationship, there were very few differences between the two groups in the signs of the correlations between components. In both groups, the attitude question about the budget staff as a source of helpful suggestions had the largest number of significant correlations with the other components. As with the umbrella question mentioned above, several of these correlations were negative. Thus, within each of these two relationships,
the differences between the older and younger groups were relatively few.

The correlations between perceived adequacy of resources and components of the SM relationships showed several differences. In the younger group, greater adequacy of resources was associated with:

(i) less frequent detailed directions from the supervisor $r = .28$, $p > .10$;
(ii) less frequent detailed directions from the budget staff $r = .30$, $(.085)$;
(iii) greater acceptance of cost control methods by the supervisor, $r = .58 (.002)$; and
(iv) less frequent charging of other accounts when budgeted funds are used up, $r = .43 (.023)$.

In the older group, exactly the opposite relationships existed for the frequency of detailed directions from the supervisor and the budget staff, $r = -.40 (.029)$ and $-.33 (.064)$ respectively. In addition, items (iii) and (iv) above had very weak $(r < .12)$, positive correlations with the adequacy variable rather than the fairly strong correlations for the younger group.

In the leader behavior scales, the older group had a significantly higher perception of their supervisor's activity structuring behavior.

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2The older group average was 39.3, the younger group average was 36.5 and the difference was significant at the .10 level, as noted in Table 4.
This variable was also strongly correlated with the adequacy variable, \( r = .49(.010) \). In light of the negative correlations reported above concerning detailed directions, it appears that in the older group, greater structuring of activities took the form of detailed directions from the supervisor, since the structuring scale was negatively correlated with both the detailed directions questions (recoded), \( r = -.50(.005) \) and \(-.62(.001)\). In the younger group, these correlations were also negative but considerably weaker, \( r = -.06 \) and \(-.31(.078)\) respectively.

6.1.3 Summary on the Age Phenomenon

The different results between the two age groups is not easily explained. Education and career path differences do not seem likely explanations, although the younger group has reached their present position in considerably less time than the older group and hence may, on the average, move further up into the organizational hierarchy. The two groups seem quite similar in the two SM relationships. One difference that appears to have possible explanatory content is the impact of the scarcity of the Depression years and World War II upon the older group's perception of the adequacy of resources. The other difference with possible explanatory content is the relationship between detailed directions and adequacy for the two groups, combined with perceived structuring of activity behavior.
of the supervisor.

The implication of these differences depends upon the reason for their occurrence. A difference due to chance has no implications. On the other hand, older SMs may react to and use budgetary procedures in different ways and part of these differences may have been exposed by the limited scope of this research.

6.2 Discussion of Results and Implications for Further Research

The results and implications of this research are discussed under four headings: the assessment of resource adequacy, the implications of the results regarding system sophistication, the usefulness of conceptualization of budget-related behavior, and possible different reactions to and uses of the budgetary process by older and younger managers.

6.2.1 The Assessment of the Adequacy of Resources

As noted in the introduction, the relationship between the budgeting process and the quantity of resources available to subunits had not been studied in field research. While dollar measures of resources is the obvious assessment method, one concern with them was that quite detailed budgetary information would be necessary in order to obtain a ranking of subunits with respect to adequacy of resources.
An unstated concern closely related to that was the likely reluctance of SMs and organizations to divulge such detailed information. The method used here has one clear advantage over one based on dollar measures—managers will respond, as indicated by the nearly 50% response rate.

The major difficulty with the method as utilized here was the strong tendency of managers to select the middle response category, "adequate." It may be that there is little difference in the extent to which resources are made available by various companies to such subunits. On the other hand, it may be that the term "adequate" was an easy out for the respondents and, in their view, avoided some potential public relation problems given the current public concern over utility rates and resources.

There are at least two ways of modifying the assessment method used here. Both would attempt to more finely partition the responses that would likely fall into the adequate category under the present method. The first is to utilize a response scale with an even number of categories. The "adequate" category would be replaced by categories such as "barely adequate" and "slightly inadequate." The other

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3 As noted in Chapter 5, footnote 9, 57% of the assessments of adequacy were "adequate."

4 For this scale, the numbers assigned to the response categories might not be one digit apart; e.g., 1, 2.5, 4, 5, 6.5, 8 might be an a priori more reasonable scale.
categories would remain unchanged.

The second approach would be to develop the assessment in two stages. The first step would be a categorical assessment: adequate, inadequate. The second step (assuming a response of adequate) would have the respondent indicate the extent by which the current supply of this resource to his subunit could be reduced and still be classified as adequate. By choosing from a set of percentage ranges an adequacy scale could be developed.  

Turning away from field research, experiments could be carried out with allocation of resources to participants and manipulation of the interpersonal relationships through a hierarchy created within the experimental setting. This would allow more precise manipulation and also direct measurement of the resource(s) allocated to various categories of participants.  

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5 The analogous question for a resource classified as inadequate would be the necessary percentage expansion of supply in order to attain the adequate category. Where possible, the contraction (expansion) could be stated in physical terms such as square feet of garage space and number of highly skilled employees. This would phrase the question in terms that are more familiar to the SMs and avoid certain dollar measures with which they may not be familiar such as occupancy costs for buildings.

6 See Pondy and Birnberg (1969) for an example of such research.
6.2.2 The Implications of the Results Concerning Sophistication of Budget Systems

The hypothesis that increased budget system sophistication would be associated with greater perceived adequacy of resources was not supported for either group of SMs. As noted in Chapter 3 and Appendix D, there are severe problems in assessing sophistication, such as the weighting of various techniques and distinctions among degrees of use of a particular technique.

One additional problem emerged in this research. The techniques in use in a budgeting system were assumed to be stable across homogeneous subunits of the same organization. That belief is still held. However, in some of the situations where multiple responses were obtained from one company, there were conflicting responses among the SMs. These were usually not difficult to resolve, e.g. when one respondent out of five from the same company differed on some aspect of the budget system, his interpretation of the budgeting system technique was judged to be in error and was modified to conform to the opinion of the other SMs from that company.

The reason for this problem may have been a failure to effectively communicate to the respondents that the primary concern of the questionnaire was operating budgets, and not capital budgets. For example, rolling budgets may be more

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frequently used in capital budgeting.

Another reason for these inconsistencies may be that it is inherently difficult for non-accountants to describe or respond to descriptions about budget system techniques, even if a conscious effort is made to avoid the use of budget jargon. This problem may be greater for this group of respondents than for some other groups since it appears that most of them have not had formal education that would have included an exposure to a variety of budgeting techniques nor experience in a managerial capacity with a number of organizations.

An alternate way to develop such information that would avoid these problems would be to use interviews with controllers or budget directors. In this way budget forms could be examined and questions raised to more clearly and reliably determine the techniques that are used as well as the extent of their usage.

6.2.3 The Usefulness of Conceptualizations of Budget-Related Behavior

The previous research of Hopwood (1972) and Swieringa and Moncur (1972) demonstrated that different behavior styles do evolve around the budgeting process, and can be described and related to other variables. In the present research, such style differences were assumed, assessed on a budget constrained-profit conscious continuum and related to another variable, perceived adequacy of resources.
In the Hopwood research, the residual "nonaccounting" category (more properly described as low relative importance attached to accounting-oriented criteria by a supervisor) constituted a large part of his sample and could not be fully analyzed given his methodological structure that stressed budget-related behavior. In the Swieringa and Moncur research, the "active participant" behavior was the only factor (of the four factors described) to have several significant correlations with other variables. Thus the implications of high or low scores on the other three behavior factors were not clear.

In the present research, somewhat the opposite problem may exist. That is, instead of having a large non-accounting category or respondents with high scores on factors which are not strongly correlated with other variables, the residual category, loosely described as low relative importance of accounting criteria, may have been blended into the extremes of the budget constrained-profit conscious continuum. To illustrate, a SM whose supervisor does not attach much importance to accounting oriented criteria might respond that his supervisor always accepts his cost control methods, thus receiving a high profit-conscious score. On the other hand, such a supervisor may not provide strong support for his SMs in budget meetings with upper level management or the budget staff. In this case, the SM gets a low score indicative of budget
constrained behavior when, in fact, the non-accounting style is more descriptive.

In the Hopwood and Swieringa and Moncur research, a distinction was not made between the various stages of the budgetary process. It may be useful to distinguish management styles within the different phases as these may have different impact on other variables of interest. In fact, the fairly small number of strong correlations between components in the two SM relationships may have been due to different supervisor styles in different phases of the process.

To summarize, it may be desirable to assess the importance of budget-related criteria in fairly broad terms and, when the process is fairly important, to rank respondents along a budget constrained-profit conscious continuum for various phases of the budgeting process.

Three of the questions used to assess SM relationships did not behave in the manner expected. One of these can perhaps be explained by the particular subunit chosen, one by the beforementioned possible lack of effectiveness in specifying that operating budgets were the focal point, and the third may be related to the discussion just concluded.

The umbrella question, "managers above my supervisor contact me directly on budget matters concerning my department," was scored so that high frequency was viewed as
anti-game spirit. The reasoning was that such frequent, direct contact initiated by upper level management would reduce the scope of action that the SM might have arranged with his supervisor. The mean score on this question (after recoding) was 3.7 indicating seldom to occasional contact. This question was negatively correlated with perceived adequacy of resources for both age groups. The question was also negatively correlated with most of the other SM-supervisor relationship questions in both groups.

These unexpected relationships may be due to the reciprocal interdependence of repair and maintenance sub-units with the subunits they serve. Their work originates as a result of an operating subunit's use of equipment. Their outputs (serviced motor vehicles) are then an input to the operating subunit. When a vehicle is being repaired or maintained, the costs of the repair and maintenance sub-unit and an operating sub-unit are affected. In the latter,

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8 That is, this was a recoded question as indicated in Appendix B.

9 The Pearson correlations for both groups were about -.20, not significant for each group, but significant at the .081 level for the entire respondent group.

10 In the younger group, six of the seven correlations were negative. In the older group, three were negative, two were positive and two had an absolute value less than .03.

11 The concept of reciprocal interdependence is discussed in Thompson (1967), pp.54-55 and Emery (1969), pp.21-23, under the term "feedback coupling."
there may be crew down-time due to the unavailability of a vehicle, or less efficient assignment of crews to vehicles, or less efficient dispatching of crews to work sites. In view of this type of interdependence, it is appropriate for managers to explicitly consider the budgetary impacts in two or more departments, and this may involve upper level management.

Thus, what constitutes budget constrained or profit conscious behavior may depend in part upon the type of structural relationships between the subunit and other subunits.

Another contributing factor to the unexpected relationships may have been the operating-capital budget distinction discussed previously. Many of the SMs indicated that they had a responsibility for preparation of capital budgets. With respect to capital budgets, one would expect a higher amount of direct contact by upper level management.

Two of the budget staff relationship questions did not behave as expected. For both groups, the frequency of requirements to trace variances to particular causes (re-coded) was negatively correlated with the adequacy variable and had quite mixed correlations with the other budget staff components. It may be necessary to distinguish between frequent requirements to do some tracing and frequent requirements to do large amounts of such work. Some tracing
of variances to causes may help both the SM and the budget staff gain a better understanding of the factors that influence costs. This may not be in conflict with the profit conscious-game spirit style. However, with extensive tracing of variances to causes, the search may become inverted such that "causes" are found by the SM in order to satisfy the desire of the budget staff for such information. The latter situation was part of the "involved exponent" behavior discussed by Swieringa and Moncur. This situation would typify budget constrained behavior.

The other budget staff question with unanticipated results was the attitude question, frequency of helpful suggestions from the budget staff. This variable was positively correlated with the adequacy variable, as expected, but negatively correlated with most of the other staff components. In this question, the phrase "controlling costs...or for suggestions on dealing with problems" was intended to convey an interest in the SMs' perceptions of the budget staff as a management resource rather than just as an accounting group. The lack of strong relationships with the rest of the budget staff components may be influenced by a "non-accounting" group, who do not perceive the budget staff as being particularly relevant.
6.2.4 The Budgetary Process and Organizational Slack

The term organizational slack can have a variety of meanings. In the context of regional repair and maintenance subunits, organizational slack would exist in the form of more than an optimal quantity of subunit resources, resulting in greater than necessary subunit costs. The measurement of organizational slack is extremely difficult since some notion of optimal resources must be available as a basis for comparison. The use of the budgetary process to generate organizational slack has been documented by Schiff and Lewin (1968). Williamson (1963) concurs with Schiff and Lewin that the formulation of organizational slack at the subunit level is very likely to be an objective of the subunit manager.

In some respects, the resource adequacy measure utilized in this research can be viewed as a measure of organizational slack. It does consider the quantity of resources relative to the workload of the subunit. It does utilize a very crude idea of the optimal quantity of resources for a subunit through the comparisons made by the SM between workload and resource quantity in order to

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12 Organizational slack can have a variety of meanings. For further discussions of organizational slack, see Cyert and March (1963) and Williamson (1963). For a clear statement of the problems of measuring organizational slack, see Wolf (1971).
respond to the perceived adequacy of resources questions. At best, it may present a crude ordering of organizational slack. For example, SMs with scores of 24 can be viewed as having more organizational slack than SMs with scores of 20.

Interpreted in this manner, the organizational slack of the older SMs was greater than that of the younger SMs. For the older group, the level of slack was strongly correlated with their perceptions of their supervisor's activity structuring and considerate behavior. For the younger group, the level of slack was correlated with budgetary processes that could be interpreted as consistent with the game spirit. This may imply that younger SMs with greater organizational slack are more likely than the older group to approach the budgetary process through "active participant" behavior. They may view the process as a device for generating slack at the subunit level. On the other hand, those SMs in the older group with more slack perceived their supervisors as clearly defining the supervisor's and the SM's roles. These SMs may behave so as to encourage their supervisors to clearly define their role and, by so doing, stake out an area of responsibility within which these SMs can have some freedom of scope. Thus the budgetary process may not be as important a process for generating organizational slack for these older SMs.
Appendix A: Operationalizing Perceived Adequacy of Resources

Three major steps were involved in operationalizing a measure of perceived resource adequacy. First was the selection of a homogeneous subunit; second was the determination of the major resource categories for that particular type of subunit and third was the development of questions and a scoring methodology to assess the SM's perception of resource adequacy.

A.1 Selection of Homogeneous Subunits

In Chapter two, it was suggested that the use of homogeneous subunits from private, regulated utility companies would provide a control for organizational profitability, organizational environment and accounting methods. Two additional criteria were considered in choosing a subunit type: the number of such subunits and a high probability that budgetary controls would be used at the subunit level. The latter criterion suggested that the sample be drawn from large organizations. The former suggested that there be more than one such subunit per organization. A subunit type which met these criteria, as well as the
homogenity criterion, was the regional motor vehicle repair and maintenance departments of large, private, regulated gas, electric and telephone utility companies.

A.2 Determination of Major Classes of Resources

A list of the major classes of resources was developed through conversations with managers of repair and maintenance subunits. The classes were skilled labor, nonskilled labor, training programs, parts and supplies inventory, garage and yard space, general purpose equipment, (e.g., wrenches, hoists, impact tools), and special purpose equipment, (e.g., alignment machines, exhaust analyzers).

A.3 Questions and Scoring Methodology

The perceived adequacy of each of the resource classes was assessed using the following questions and response codes:

**Questions:**

**Skilled Labor**

How adequate is the quantity of skilled labor relative to the work of your department?

**Unskilled Labor**

How adequate is the quantity of unskilled labor relative to the work of your department?
Training Programs

How adequate are the resources for initial training programs and advanced training programs to keep skilled labor up to date with technical changes?

Parts & Supplies Inventory

How adequate is the parts and supplies inventory relative to the work of the department?

Garage & Yard Space

How adequate is the garage and yard space (consider both the quantity and the design) relative to the work of the department?

Equipment-general purpose

How adequate is the supply of general purpose equipment relative to the work of the department?

Equipment-special purpose

How adequate is the quantity of special purpose equipment relative to the work of the department?

Response Codes:

A. Very adequate, almost excessive
B. More than adequate
C. Adequate
D. Inadequate—sometimes not enough relative to work of the department
E. Very inadequate—difficult to accomplish work of the department because of the shortage of the resource.

The responses were scored as A=5, B=4, etc. A measure of
adequacy was obtained by adding together these individual scores. The possible range of scores was 7 to 35, inclusive.
Appendix B: Assessing the SM-Supervisor and SM-Budget Staff Relationships

The budget process was viewed as having three phases: development, implementation and evaluation. The nature of the SM-supervisor relationship and the SM-budget staff relationship was assessed by a questionnaire that covered these two relationships and the three phases. In addition, a fourth aspect was included for each relationship to provide an overview: the strength of the supervisor's umbrella function and the attitude of the budget staff.¹

In the paragraphs below, these questions are presented together with a summary of past usage of the question (or closely related questions) in research and significant findings.² Unless otherwise indicated, the response choices

¹The questions are described in the following paragraphs by notation using the following: SUP for a SM-supervisor relationship question, STF for a SM-budget staff relationship question, DEV for a development phase question, IMP for an implementation phase question, EVL for a feedback-evaluation phase question, UMB for an umbrella function question and ATD for a budget staff attitude question. The numbers 1 and 2 refer to the order of the question in the questionnaire, which was determined by random selection.

²Since many of these questions have been used by DeCoster and Fertakis and Swieringa and Moncur, there will be frequent references to their findings. The appropriate reference is given here rather than for each individual question: DeCoster and Fertakis (1968), pp.240-43 and Swieringa and Moncur (1972), Table I, p.206.
were A=Always, B=Often, C=Occasionally, D=Seldom, E=Never.

B.1 Development (DEV)

B.1.1 Questions for the Development Phase

**SUPDEV1** Special problems that I mention to my supervisor receive consideration in the next budget.

**SUPDEV2** What is your influence relative to that of your immediate supervisor in determining the final budget for your department? (Circle the appropriate number.)

I. My influence is very low, my supervisor's influence is very high.

II. I do have some influence, but my supervisor has greater influence.

III. My influence and my supervisor's influence are about equal.

IV. My supervisor has some influence, but my influence is greater.

V. My influence is very high, my supervisor's influence is very low.

**STFDEV1** What is your influence relative to that of the budget staff in determining the final budget for your department? (Circle the appropriate number.)

I. My influence is very low, the staff's influence is very high.

II. I do have some influence, but the staff's influence is greater.

III. My influence and the staff's influence are about equal.

IV. The staff has some influence, but my influence is greater.

V. My influence is very high, the staff's influence is very low.
B.1.2 Discussion of Development Phase Questions

**SUPDEV1** Swieringa & Moncur used three similar questions (#2, 62 and 65) which loaded on Factor I, Active Participant Behavior. A respectful attitude by the supervisor for the budget problems raised by the SM is consistent with the PC-game spirit approach. Bruns and Waterhouse used two similar questions (#8 and 9) which loaded on the descriptive factor Participation in Planning. This factor was significantly correlated with structuring of activities and with perceived control. Thus, high frequency on this question was viewed as consistent with the game spirit conditions.

**SUPDEV2 and STFDEV1** Hofstede used similar questions. He found that, in general, involvement in the development phase of the budgeting process was associated with higher budget motivation. He concluded that participation in the development phase is an integral part of the budget game.

Swieringa and Moncur used a similar question (#1) which loaded on Factor I, active participant behavior. Thus, a high degree of SM influence relative to the supervisor or budget staff was viewed as consistent with the game spirit-PC conditions.

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3Bruns and Waterhouse (1975), tables 3, 7 and p.201, r=.44, p<.05 with structuring of activities and r=.64, p<.001 with perceived control.

4Hofstede (1968), Chapter 9.
STFDEV2 This question is used to determine the SM's opinion of the expertise of the budget staff. A low frequency on this question was interpreted as implying a situation where the SM can more easily obtain resources for his subunit.

B.2 Implementation (IMP)

B.2.1 Questions for the Implementation Phase

SUPIMP1 My supervisor suggests to me in detail the best ways to carry out the tasks of my department.

SUPIMP2 My methods for keeping costs in line with the budget for my department are accepted without question by my supervisor.

STFIMP1 My methods for keeping costs in line with the budget for my department are accepted without question by the budget staff.

STFIMP2 The budget staff suggest to me in detail the best way to carry out the tasks of my department.

B.2.2 Discussion of Implementation Phase Questions

SUPIMP1 and STFIMP2 A question similar to these has been used by DeCoster and Fertakis and by Swieringa and Moncur (#23). Their question used the phrase "achieve a specific budget goal" rather than the phrase "carry out the tasks of my department." DeCoster and Fertakis viewed high frequency on this question as indicative of high budget pressure. Swieringa and Moncur found this question loaded on Factor I, active participant behavior. This loading is consistent with high degree of interaction between the
supervisor and the SM, but on the surface, is not consistent with the PC-game spirit thesis. However, if the budget is viewed somewhat in a game context, such behavior could be in the nature of devising methods to meet a specific budget goal while not detracting from the primary tasks of the subunit.

The revised question emphasizes tasks or outputs of the subunit. Thus high frequency of this type of supervisor or staff behavior was viewed as diminishing the free scope of activity of the SM.

**SUPIMP2** and **STFIMP1** This question has been used by DeCoster and Fertakis; high frequency implied low budget pressure. For Swieringa and Moncur, the question (#25) was negatively loaded on Factor II, involved exponent behavior, or relatively low BC type behavior. Thus high frequency on this question was viewed as consistent with some degree of freedom in management activities, consistent with the game spirit.

### B.3 Feedback-Evaluation (EVL)

#### B.3.1 Questions for the Feedback-Evaluation Phase

**SUPEVL1** I find it necessary to stop or postpone some department activities or to charge the costs to other accounts because budgeted funds have been used up.

**SUPEVL2** My supervisor considers cost overruns (actual costs exceeding budgeted costs) and cost under-runs to be important factors in promotion and/or pay raise decisions.
The budget staff requires me to trace differences between actual and budgeted costs to specific causes in my department.

The budget staff understands the activities in my department well enough to be able to spot expenditures made to "spend the budget."

B.3.2 Discussion of the Feedback-Evaluation Phase

Decoster and Fertakis felt that high frequency on a question similar to this indicated high "pressure caused by the need to correct budget deviations." This source of pressure can be alleviated by the supervisor providing an opportunity to explain variances or indeed by supporting a shift within budget categories.

Swieringa and Moncur used two separate questions (54, 55); both loaded heavily onto factor III, reluctant victim behavior, thus indicating BC type behavior.

Bruns and Waterhouse found the three questions (the Decoster and Fertakis question on shifting performance figures, and the two Swieringa and Moncur questions) formed the factor labeled "Limiting Features of Budgets" which was negatively correlated with perceived control.

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5 Both loaded positively, as would be expected, but not significantly, on factor II, involved exponent behavior.

6 Bruns and Waterhouse (1975), pp. 186 and 192; r = -.35 at the .10 confidence level
Thus high frequency on this question indicated that adherence to the budget is emphasized in evaluation to such an extent that it interferes with job performance. This was viewed as antithetical to a game situation.

**SUPEVL2** Swieringa and Moncur used two separate questions (#35, 53); both loaded on factor II, involved exponent behavior. High frequency on this question was viewed as consistent with BC behavior, and contrary to the PC style and game spirit situation.

**STFEVL1** Swieringa and Moncur used three similar questions (#42, 49, 52); they all loaded on factor II, involved exponent behavior. Each of their questions was indicative of BC type behavior. Thus high frequency of this type of behavior was viewed as antithetical to the game spirit.

**STFEVL2** This question, like STFDEV2, is used to assess the SM's opinion of budget staff expertise. A high frequency on this question was viewed as making it more difficult for the SM to obtain resources.

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**B.4 Overview: The Supervisor's Umbrella Function (UMB) and the Budget Staff's Attitude (ATD)**

**B.4.1 Questions for the Supervisor's Umbrella Function**

**SUPUMB1** In meetings between myself, my supervisor, and higher level management or the budget staff, my supervisor supports my position on budget matters.

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_Hopwood (1972), p. 172._
B.4.2 Discussion of Supervisor's Umbrella Function

Questions

S U P U M B 1 DeCoster and Fertakis used a similar question; high frequency was associated with low budget pressure. In their question, the term "budget problems" was used rather than "budget matters." Swieringa and Moncur used the same question (#43, with the term "budget problems") and found it loaded on factor III, reluctant victim behavior. Their use of this question in the verbal description of this factor indicates that they felt this question was contrary to the basic tone of the factor: "even though...superiors supported their position on budget problems..." (p. 200).

On the other hand, Hofstede suggests that a supervisor "should protect his subordinates from any undue pressure... by higher superiors or staff departments."8 The difference in findings and opinions may center around the term "budget problems."

A BC supervisor will attempt to minimize the unfavorable budget variances of subordinates. The existence of unfavorable variances is a reflection upon his management performance. Thus, he is faced with the unpleasant choice of not supporting his subordinates' performance or uniting

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8 Hofstede (1968), p. 266.
with the subordinate in criticizing the budget base.

If the term "budget problems" is generally interpreted by respondents as referring to actual or anticipated unfavorable budget variances, as seems reasonable, then the above explanation for its loading on a basically BC type factor may be viable.

Thus, a modification of the question was used, with the phrase "budget matters" in place of "budget problems." This phrase should cover the three phases of the budgeting process. It should not connotate unfavorable variances. Thus it should be a better measure of the nature of the supervisor's umbrella function. Hence, high frequency on this question was viewed as consistent with the game spirit.

SUPUMB2 DeCoster and Fertakis used a similar question; high frequency of this type of behavior was viewed as creating high budget pressure. Swieringa and Moncur also used a similar question, (#16), but its strongest association was a weak, negative loading on factor I, active participant behavior. The sign of this loading on factor I is as would be expected.

Consistent with the above and following Hofstede as noted in the discussion of SUPUMB1, high frequency on this question was viewed as inconsistent with the game spirit.

B.4.3 Questions on the Budget Staff's Attitude

STFATD1 Budget staff people express satisfaction when the budget for my department is met.
STFATD2 I can turn to the budget staff for helpful suggestions on controlling costs in my department or for suggestions on dealing with problems.

B.4.4 Discussion of Budget Staff Attitude Questions

STFATD1 Swieringa and Moncur used a similar question (#38); it loaded on factor III, reluctant victim behavior. In their discussion of this factor, their wording indicates that they were somewhat surprised by its strong association with this factor: "even though budget people expressed satisfaction..." (p.200). Its strong association with a factor that is basically BC in nature is intuitively upsetting. Perhaps high frequency on this question indicated an over-zealous attitude by the budget staff towards the budget of the current period, as contrasted with a longer run outlook.

However, for this question, the general recommendations of Hofstede\(^9\) and intuition were followed, and high frequency on this question was viewed as consistent with the game spirit.

STFATD2 Swieringa & Moncur used two similar questions (#39, 65); both loaded on factor I, active participant behavior. Thus high frequency on this question was viewed as consistent with the game spirit-PC conditions.

\(^9\)Hofstede (1968), Chapter 11.
B.5 Recoding of Questions

Some of the questions were phrased in such a way that higher frequency was associated with the game spirit. The questions which were not phrased in this manner were recoded before statistical procedures were initiated. The recoded questions were SUPPAR2, SUPIMP1, SUPEVL1, SUPEVL2, SUPUMB2, STFPAR1, STFPAR2, STFIMP2, STFEVL1, and STFEVL2.
Appendix C: Assessing Leadership Behavior

C.1 Introduction

The SM-supervisor relationship has been viewed with respect to the three phases of the budgeting process and the umbrella function. This relationship has more general aspects and these were expected to influence the SM's view of the behavior of his supervisor with respect to budget matters. Since the respondents were from various organizations and different supervisors within organizations, leadership behavior in a more general sense was viewed as a potentially important bridge between the SM-superior relationship and the perceived adequacy of resources.

The Leader Behavior Description Questionnaire (LBDQ) has evolved into a general assessment instrument with several subscales, each associated with a different dimension of leader behavior. Because of the extensive previous use of this instrument, it was selected for this research.\footnote{The LBDQ, its scoring, and results with leaders from various occupations are described in Stogdill [1963].}
C.2 The Leader Behavior Description Questionnaire

Four subscales of the LBDQ were particularly relevant to the SM-supervisor relationship vis-à-vis the budgeting process. These subscales were:

Initiation of Structure - clearly defines own role, and lets followers know what is expected.

Tolerance of Freedom - allows followers scope for initiative, decision, and action.

Consideration - regards the comfort, well-being, status, and contributions of followers.

Superior Orientation - maintains cordial relations with superiors; has influence with them; is striving for higher status.²

Previous researchers on the budgeting process have utilized the initiation of structure and consideration subscales; their results have been summarized in Chapter three.

The tolerance of freedom subscale was used as a more general measure of the extent to which the supervisor allowed the SM's freedom of scope in their activities. This was of interest since the SM-supervisor assessment relationship scale was based in part on the use the budgeting process by the supervisor in such a way as to inhibit the scope of action of the SM.

Finally, the superior orientation scale was included because this behavior dimension has an a priori relationship to the quantity of resources that a supervisor would be able to obtain. One would expect that supervisors with greater

²Ibid, p. 3.
influence with upper management, as measured by the supervisor orientation scale, would obtain a greater share of resources.

The selected LBDQ questions are presented below. They are in the order used in the form XII. Questions 1, 5, 9, etc. are for Structure, Questions 2, 6, 10, etc. are for Tolerance of Freedom, Questions 3, 7, 11, etc. are for Consideration, and Questions 4, 8, 12, etc. are for Superior Orientation. All questions are scored as A=5, B=4, etc. except for questions 23, 26, 35 and 39, which are scored A=1, B=2, etc.
DIRECTIONS:

a. READ each item carefully.

b. THINK about how frequently your supervisor engages in the behavior described by the item.

c. DECIDE whether he (A) always, (B) often, (C) occasionally, (D) seldom or (E) never acts as described by the item.

d. DRAW A CIRCLE around one of the five letters (A B C D E) following the item to show the answer you have selected.

A - Always
B - Often
C - Occasionally
D - Seldom
E - Never

1. He lets group members know what is expected of them.
2. He allows the members complete freedom in their work.
3. He is friendly and approachable.
4. He gets along well with the people above him.
5. He encourages the use of uniform procedures.
6. He permits the members to use their own judgment in solving problems.
7. He does little things to make it pleasant to be a member of the group.
8. He keeps the group in good standing with higher authority.
9. He tries out his ideas in the group.
10. He encourages initiative in the group members.
11. He puts suggestions made by the group into operation.
12. He is working hard for a promotion.
13. He makes his attitudes clear to the group.
14. He lets the members do their work the way they think best.
15. He treats all group members as his equals.
16. His superiors act favorably on most of his suggestions.
17. He decides what shall be done and how it shall be done.
18. He assigns a task, then lets the members handle it.
19. He gives advance notice of changes.
20. He enjoys the privileges of his position.
21. He assigns group members to particular tasks.
22. He turns the members loose on a job, and lets them go to it.
23. He keeps to himself.
24. He gets his superiors to act for the welfare of the group members.
25. He makes sure that his part in the group is understood by the group members.
26. He is reluctant to allow the members any freedom of action.
27. He looks out for the personal welfare of group members.
28. His word carries weight with his superiors.
29. He schedules the work to be done.
30. He allows the group a high degree of initiative.
31. He is willing to make changes.
32. He gets what he asks for from his superiors.
33. He maintains definite standards of performance.
34. He trusts the members to exercise good judgment.
35. He refuses to explain his actions.
36. He is working his way to the top.
37. He asks that group members follow standard rules and regulations.
38. He permits the group to set its own pace.
39. He acts without consulting the group.
40. He maintains cordial relations with superiors.
Appendix D: Assessing Budget System Techniques

D.1 Introduction

In order to determine what budgeting system techniques were being utilized, the SMs were asked a series of questions from which categorical assessments could be made. This approach was used rather than direct questions using the names of these techniques because of the high likelihood that the respondents would not be familiar with the different terms used to describe these techniques or would utilize those terms in a different manner than intended here.

D.2 Length of Budget Period and Use of Rolling Budgets

The following questions were used to determine the use of these two techniques by the respondent's organization.

1. When does your company's fiscal year end?

2. After a fiscal year has been completed, do you receive reports comparing actual costs with budgeted costs for the year? 
   Yes 
   No

3. During the fiscal year, do you receive reports comparing actual costs with budgeted costs?
   Yes, go to question 4.
   No, go to question 6.
4. During the fiscal year, how frequently are reports prepared that compare actual costs with budgeted costs?

- monthly
- quarterly
- every six months
- some other time period, (please fill in)

5. What comparisons are made between actual and budgeted costs in these reports?

a. Actual expenditures are compared with a budget,
   - Yes / No

b. Actual expenditures are compared with the budget for the fiscal year as a whole.
   - Yes / No

c. Actual expenditures are compared with actual expenditures for the same time period of last year.
   - Yes / No

6. Do the budget reports for your department contain any budgeted costs for future periods (months, quarters, or any other period of time) beyond the end of the fiscal year?

- Yes / Go to Question 7
- No / Go to Question 8

7. How many future periods of time does the budget cover?

8. What is the total time period covered by your department's budget, including any future periods?

   to

The most sophisticated technique was defined as use of a rolling budget with short periods; the least sophisticated
as a long, single period budget. Because of the heavy emphasis given to periods of one year, a short budget period was defined as any length of time less than one year.

In order for the budget period to be designated as short, the following answers were necessary: question 3 yes, question 4 filled in, and question 5a yes. Otherwise the budget period was judged to be long, i.e. one year or longer.

The budget system was assessed as rolling if the following pattern of answers was given: question 6 yes, question 7 filled in, question 8 filled in, and if the number of future periods and the total time period covered were consistent (using question 4).

The short period, rolling budget technique was given a score of two; the long, single period budget was given a score of zero. A short, non-rolling technique was given a score of one. The fourth possibility, a long, rolling budget was not expected to be encountered since the focus was on operating budgets.\footnote{Such systems are often used for capital budgets.}

D.3 Distinction Between Controllable and Non-Controllable Items

In order to determine whether this technique was used in the budgeting system, the following questions were used:
9. Please list some cost items in your budget that you can control or influence to a high degree and the percentage of these items to total budget dollars. Please do likewise for cost items that you can control or influence only very slightly or not at all.

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<tr>
<th>High Controllability</th>
<th>%</th>
<th>Low Controllability</th>
<th>%</th>
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10. Which one of the following statements seems to best describe the budget forms and reports for your department? (circle letter of the most applicable statement)

a. Cost items over which I have a high degree of control are listed separately from items over which I have a low degree of control.

b. An attempt is made in the budget forms and reports to distinguish high control costs from low control costs. However, in my opinion, some costs are misclassified; that is, some items are listed as high control even though I actually cannot control them, or listed as low control items even though I have a high degree of control over them.

c. No attempt is made in the budget forms and reports to separate items over which I have a high degree of control from those over which I have a low degree of control.

d. My supervisor sometimes describes items as highly controllable or uncontrollable even though such a distinction is not made in the budget forms and reports.

Question 9 was used to orient the SM's thinking toward degrees of cost controllability, apart from their treatment in budget reports. In question 10, the emphasis was shifted to the treatment of items in the budget forms and reports. The several alternatives permitted the respondents to distinguish between the treatment of items by the
budgeting system and by the supervisor. Choices a and b indicated that the controllable-non-controllable distinction was made in the budget forms and reports; choices c and d indicated that the distinction was not made.

D.4 Flexible and Static Budgets

In order to determine if a flexible budget technique was used, a description of the circumstances that make a flexible budget more useful and an illustration of its use were given.

11. When a budget system is used, budgets are usually prepared for a time period; then, after the time period, a report is prepared comparing actual costs with a budget.

The amount of work done in a department can vary considerably from the amount anticipated at the time of budget preparation. In some reports that compare actual cost with budgeted costs, the budgeted costs are adjusted to reflect the actual amount of work done. For example, the original budget might have been based on responsibility for 100 vehicles. If the actual number of vehicles is 110, the budgeted costs (all or some) might be increased by 10% and then compared with actual costs.

In the reports for your department that compare actual costs with budgeted costs, are the budget figures revised in this manner?

Yes ☐ go to question 12.
No ☐ go to question 13.

12. Please describe the type of adjustment that is made to budgeted costs to reflect the actual work done.
In order for a system to be scored as utilizing the flexible budget technique, question 11 had to be answered yes and the description of the adjustment process in question 12 had to indicate that the adjustment for the level of activity in the department was applied in the budget reports themselves to the budgeted figures of a period just completed rather than to the budget of a future period.

D.5 Program and Line Budgets

The use of program or line budgets in the system was assessed by the following questions.

13. A list of some of the major responsibilities of managers with jobs similar to yours is given below. Please put X's beside the statements that you feel reasonably describe your responsibilities. Please describe below any other major responsibilities you have.

___a. Responsibility for development and implementation of preventative maintenance schedules. Preventative maintenance refers to work done based on the passage of time or accumulation of mileage or operating hours.

___b. Responsibility for vehicle repairs. Repairs refers to work done due to breakdown or impaired performance of the vehicle.

(The above two responsibilities may include responsibilities for purchases of tools and equipment, supervision of personnel, and procurement of parts and supplies.)


___d. Responsibility for development or selection of training programs and/or selection of personnel to participate in training programs.
e. Responsibility for development and implementation of safety inspection programs for vehicles.

Any Additional Major Responsibilities?

14. Costs can be classified according to the type of item or service acquired, for example, wages, equipment rental, equipment depreciation, lubricants, parts, etc. Costs can also be classified according to the major activities or responsibilities of the department. For example, wages might be broken down into wages of employees performing vehicle maintenance, wages of employees performing vehicle repairs, and wages of employees participating in training programs. As another example, equipment rental or depreciation could be classified as a training cost if the equipment is used solely for training purposes.

In your budget, how are costs classified?

By type, e.g. wages, depreciation, supplies, with no classification by activity, e.g. training, safety, repairs.

By activity, e.g. training, safety, repairs, with no classification by type, e.g. wages, depreciation, supplies.

By type and by activity.

Question 13 was used to orient the SMs thinking toward the different aspects of their job and also to serve as a screening device to identify respondents who in fact did not have the job responsibilities originally anticipated.²

²Responsibility for preparation of capital budgets was not necessary in order to meet the requirements for being a respondent. It was included in the list because many of the respondents were expected to have that responsibility.
Question 14 was used to categorize the budget system. The first choice was scored as a line budget and a zero, the second and third choices were scored as a program budgets, i.e. a one.

D.6 Assessment of Sophistication
As described in Chapter three, sophistication was assessed by counting the number of sophisticated budget techniques used in the budget system of the organization.
Appendix E: Pretest of Questionnaire

A pretest of the questionnaire was conducted. Because the questions on resource adequacy and budget system characteristics were developed in this research, the pretest was needed to improve the wording and layout of the questionnaire.

E.1 Scope of the Pretest

To achieve the above objectives, a pretest utilizing a relatively small number of managers was performed. Revisions to the questionnaire were made during the pretest based on the comments and questions of the participants. These revisions were modifications of response layout and minor changes in the wording of questions or examples.

Because of cost considerations, the pretest was limited to the Buffalo, New York metropolitan area. Within this area, the SMs of motor vehicle repair and maintenance departments in utility companies had already participated in preliminary discussions concerning the resources used by such departments and certain aspects of budgetary systems. Thus managers from other organizations were selected for the pretest.
The questionnaire presented to the participants had five parts: demographic information, SM-supervisor and SM-staff relations, budget system characteristics, resource adequacy, and the four LBDQ subscales. A total of 10 managers were interviewed from seven different organizations. Because many of the managers of repair and maintenance departments were not directly involved with budgets, it was necessary to interview some managers who did not have repair and maintenance responsibilities but whose subunits were under budgetary control. From this mix of managers, each part of the questionnaire except the LBDQ was pretested by at least seven managers.¹

¹The LBDQ portion was not included in most of the pretests because (i) it has been widely used and (ii) its length (40 statements) would have lengthened the interviews without appreciable benefit to the pretest.
Table 10 PARTICIPANTS IN PRETEST

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<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Frank Bradley</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Associated-Eastern Transport, Inc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Dennis Sullivan</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>John Cowper Construction Co.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>William Westadt</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Carborundum Company</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Clark Miller</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
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<tr>
<td>Carborundum Company</td>
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<td></td>
<td>X</td>
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<tr>
<td>Frank Denig</td>
<td>X</td>
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<td>X</td>
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<td>X</td>
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<tr>
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<td></td>
<td>X</td>
</tr>
<tr>
<td>Peter Barth</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Carborundum Company</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Totals</td>
<td>9</td>
<td>7</td>
<td>8</td>
<td>7</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
Appendix F: Obtaining Lists of Managers for Questionnaire Mailing

The process of obtaining a mailing list for the questionnaire was somewhat lengthy. Directories such as the Electrical World Directory of Utilities published by McGraw-Hill did not provide a detailed enough list of company managers to include the desired group of SMs. The process was then segmented according to the type of utility.

For the telephone group, AT&T provided a list of the desired SMs for many of its affiliated companies. The American Gas Association provided a similar list for many of its larger members. While the process of obtaining these names was quite short from the researcher's viewpoint, many of the managers appeared to have overall responsibility for motor vehicle repair and maintenance rather than the regional responsibility that had been sought.

For the electrical group, the Electrical World Directory of Utilities was utilized to obtain a list of the largest electric utilities. The largest 35 companies were contacted by a letter to the Transportation Manager or Public Relations Manager, or if neither were listed, to a Vice-President. The letter described the research project and listed the regional areas of the particular utility as
reported in the directory. Second requests for information were generally sent to the Executive Vice-President level. While no formal records were kept, it seemed that requests sent to the vice-president level or higher were most effective in generating names and addresses of managers of regional motor vehicle repair and maintenance subunits.

A summary of the number of companies from whom information was received and the number of managers by various types of utilities is in Table II. The electric and gas and electric companies were combined in this summary. There was some overlap between the companies reported by the American Gas Association and those listed in the Electrical World Directory of Utilities since many companies are large in both electric and gas distribution.

Also included in Table II is a summary of the number of companies and subunit managers in each category that responded to the research questionnaire.
<table>
<thead>
<tr>
<th></th>
<th>Managers With Regional Responsibility</th>
<th>Managers With Overall Responsibility</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Names Obtained</td>
<td>Responses Received</td>
<td>Names Obtained</td>
</tr>
<tr>
<td>Electrical and Gas &amp; Electric</td>
<td>11, 75</td>
<td>11, 37</td>
<td>10</td>
</tr>
<tr>
<td>Gas</td>
<td>1, 7</td>
<td>0, 0</td>
<td>6</td>
</tr>
<tr>
<td>Telephone</td>
<td>9, 35</td>
<td>8, 12</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td><strong>21,117</strong></td>
<td><strong>19, 49</strong></td>
<td><strong>25</strong></td>
</tr>
</tbody>
</table>

In the regional responsibility and total columns, the number of companies and the number of managers' names obtained are indicated. The responses from managers with regional responsibility were used in this research.

In the overall responsibility column, the number of companies and the number of managers' names are the same since the managers listed appeared to have overall responsibility for motor vehicle repair and maintenance.
Appendix G: The Questionnaire

I. Respondent Information

1. Do you work for a gas, electric or telephone utility company? (Please circle appropriate choice) GAS, ELECTRIC, GAS & ELECTRIC, TELEPHONE.

2. What is the title of your present job?

3. What is the title of your immediate supervisor?

4. What is the title of your immediate subordinate(s)?

5. How long have you worked for this company?

6. How long have you held your present job?

7. How old are you?
11. Operating Relationships Survey

The following statements concern relationships between you and your immediate supervisor and between you and members of the budget staff.

The term "budget staff" refers to people from a budgeting department or from the controllers' office with whom you have contact concerning financial matters in your department.

DIRECTIONS

a. READ each item carefully.

b. THINK about how frequently the described situation occurs.

c. DECIDE whether the situation occurs (A) always, (B) often, (C) occasionally, (D) seldom, or (E) never.

d. DRAW A CIRCLE around one of the five letters (A B C D E) following the item to show the answer you have selected.

   A = Always
   B = Often
   C = Occasionally
   D = Seldom
   E = Never

1. My methods for keeping costs in line with the budget for my department are accepted without question by the budget staff. A B C D E

2. The budget staff requires me to trace differences between actual and budgeted costs to specific causes in my department. A B C D E
3. I find it necessary to stop or postponing some department activities or to charge the costs to other accounts because budgeted funds have been used up. 

4. Special problems that I mention to my supervisor receive consideration in the next budget.

5. Budget staff people express satisfaction when the budget for my department is met.

6. My supervisor suggests to me in detail the best ways to carry out the tasks of my department.

7. In meetings between myself, my supervisor, and higher level management or the budget staff, my supervisor supports my position on budget matters.

8. What is your influence relative to that of the budget staff in determining the final budget for your department? (Circle the appropriate number).
   I. My influence is very low, the staff's influence is very high.
   II. I do have some influence, but the staff's influence is greater.
   III. My influence and the staff's influence are about equal.
   IV. The staff has some influence, but my influence is greater.
   V. My influence is very high, the staff's influence is very low.
A=Always, B=Often, C=Occasionally, D=Seldom, E=Never

9. The budget staff understands the activities within my department well enough to spot most attempts to put "fat" into the budget. A B C D E

10. My methods for keeping costs in line with the budget for my department are accepted without question by my supervisor. A B C D E

11. I can turn to the budget staff for helpful suggestions on controlling costs in my department or for suggestions on dealing with problems. A B C D E

12. The budget staff understands the activities in my department well enough to be able to spot expenditures made to "spend the budget." A B C D E

13. Managers above my supervisor contact me directly on budget matters concerning my department. A B C D E

14. The budget staff suggest to me in detail the best way to carry out the tasks of my department. A B C D E

15. My supervisor considers cost overruns (actual costs exceeding budgeted costs) and cost underruns to be important factors in promotion and/or pay raise decisions. A B C D E
16. What is your influence relative to that of your immediate supervisor in determining the final budget for your department? (Circle the appropriate number).

I. My influence is very low, my supervisor's influence is very high.
II. I do have some influence, but my supervisor has greater influence.
III. My influence and my supervisor's influence are about equal.
IV. My supervisor has some influence, but my influence is greater.
V. My influence is very high, my supervisor's influence is very low.
III. Budget System Characteristics Questionnaire

The budget for a department may consist of many parts or sub-budgets or supporting schedules. My interest in this questionnaire is the master budget or overall budget that covers responsibilities in the motor vehicle maintenance area.

1. When does your company's fiscal year end?  

2. After a fiscal year has been completed, do you receive reports comparing actual costs with budgeted costs for the year?  

3. During the fiscal year, do you receive reports comparing actual costs with budgeted costs?  

4. During the fiscal year, how frequently are reports prepared that compare actual costs with budgeted costs?  
   monthly  
   quarterly  
   every six months  
   some other time period, (please fill in)
5. What comparisons are made between actual and budgeted costs in these reports?
   a. Actual expenditures are compared with a budget for the same time period.
      Yes ☐ No ☐ Continue
   b. Actual expenditures are compared with the budget for the fiscal year as a whole.
      Yes ☐ No ☐ Continue
   c. Actual expenditures are compared with actual expenditures for the same time period of last year
      Yes ☐ No ☐

6. Do the budget reports for your department contain any budgeted costs for future periods (months, quarters, or any other period of time) beyond the end of the fiscal year?
   Yes ☐ Go to Question 7
   No ☐ Go to Question 8

7. How many future periods of time does the budget cover?

8. What is the total time period covered by your department's budget, including any future periods?

9. Please list some cost items in your budget that you can control or influence to a high degree and the percentage of these items to total budget dollars. Please do likewise for cost items that you can control or influence only very slightly or not at all.

<table>
<thead>
<tr>
<th>High Controllability</th>
<th>%</th>
<th>Low Controllability</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
10. Which one of the following statements seems to best describe the budget forms and reports for your department? (circle letter of the most applicable statement)

   a. Cost items over which I have a high degree of control are listed separately from items over which I have a low degree of control.

   b. An attempt is made in the budget forms and reports to distinguish high control costs from low control costs. However, in my opinion, some costs are misclassified; that is, some items are listed as high control even though I actually cannot control them, or listed as low control items even though I have a high degree of control over them.

   c. No attempt is made in the budget forms and reports to separate items over which I have a high degree of control from those over which I have a low degree of control.

   d. My supervisor sometimes describes items as highly controllable or uncontrollable even though such a distinction is not made in the budget forms and reports.

11. When a budget system is used, budgets are usually prepared for a time period; then, after the time period, a report is prepared comparing actual costs with a budget.

   The amount of work done in a department can vary considerably from the amount anticipated at the time of budget preparation. In some reports that compare actual cost with budgeted costs, the budgeted costs are adjusted to reflect the actual amount of work done. For example, the original budget might have been based on responsibility for 100 vehicles. If the
actual number of vehicles is 110, the budgeted costs (all or some) might be increased by 10% and then compared with actual costs.  

In the reports for your department that compare actual costs with budgeted costs, are the budget figures revised in this manner?

Yes ☐ go to question 12.  
No ☐ go to question 13.

12. Please describe the type of adjustment that is made to budgeted costs to reflect the actual work done.
13. A list of some of the major responsibilities of managers with jobs similar to yours is given below. Please put X's beside the statements that you feel reasonably describe your responsibilities. Please describe below any other major responsibilities you have.

_a._ Responsibility for development and implementation of preventative maintenance schedules. Preventative maintenance refers to work done based on the passage of time or accumulation of mileage or operating hours.

_b._ Responsibility for vehicle repairs. Repairs refers to work done due to breakdown or impaired performance of the vehicle.

(The above two responsibilities may include responsibilities for purchases of tools and equipment, supervision of personnel, and procurement of parts and supplies.)

_c._ Responsibility for preparation of capital budgets for the acquisition of motor vehicles.

_d._ Responsibility for development or selection of training programs and/or selection of personnel to participate in training programs.

_e._ Responsibility for development and implementation of safety inspection programs for vehicles.

Any Additional Major Responsibilities?
14. Costs can be classified according to the type of item or service acquired, for example, wages, equipment rental, equipment depreciation, lubricants, parts, etc. Costs can also be classified according to the major activities or responsibilities of the department. For example, wages might be broken down into wages of employees performing vehicle maintenance, wages of employees performing vehicle repairs, and wages of employees participating in training programs. As another example, equipment rental or depreciation could be classified as a training cost if the equipment is used solely for training purposes.

In your budget, how are costs classified?

By type, e.g. wages, depreciation, supplies, with no classification by activity, e.g. training, safety, repairs.

By activity, e.g. training, safety, repairs, with no classification by type, e.g. wages, depreciation, supplies.

By type and by activity.
IV Resource Questionnaire

Directions
Listed on the following pages are seven types of resources: skilled labor, unskilled labor, training programs, parts and supplies inventory, garage and yard space, general purpose equipment, and special purpose equipment. For each resource, there are three questions.

Read each question. Choose a response for each question based on the response choices given below. Then circle the appropriate letter for each question.

<table>
<thead>
<tr>
<th>Quantity of Resource</th>
<th>Your Authority to Acquire Resource</th>
<th>Frequency of Acquiring Outside Formal Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Very adequate, almost excessive</td>
<td>A. A great deal of authority</td>
<td>A. Very often</td>
</tr>
<tr>
<td>B. More than adequate</td>
<td>B. Considerable authority</td>
<td>B. Often</td>
</tr>
<tr>
<td>C. Adequate</td>
<td>C. Some authority</td>
<td>C. Occasionally</td>
</tr>
<tr>
<td>D. Inadequate-sometimes not enough relative to work of the department</td>
<td>D. Little authority</td>
<td>D. Seldom</td>
</tr>
<tr>
<td>E. Very inadequate-difficult to accomplish work of the department because of the shortage of the resource</td>
<td>E. No authority at all</td>
<td>E. Never</td>
</tr>
<tr>
<td><strong>Skilled Labor</strong></td>
<td><strong>How adequate is the quantity of skilled labor relative to the work of your department?</strong></td>
<td><strong>How much authority do you have to hire skilled labor directly on a permanent or temporary basis without (i) prior approval of another department or (ii) promoting unskilled laborers to the skilled labor category?</strong></td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>A B C D E</td>
<td>A B C D E</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Unskilled Labor</strong></th>
<th><strong>How adequate is the quantity of unskilled labor relative to the work of your department?</strong></th>
<th><strong>How much authority do you have to hire unskilled labor on a temporary or permanent basis without prior approval of another department such as personnel?</strong></th>
<th><strong>Do you sometimes acquire the services of unskilled labor without following formal channels?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A B C D E</td>
<td>A B C D E</td>
<td>A B C D E</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Training Programs</strong></th>
<th><strong>How adequate are the resources for initial training programs and advanced training programs to keep skilled labor up to date with technical changes?</strong></th>
<th><strong>How much authority do you have to initiate training programs without the prior approval of another department?</strong></th>
<th><strong>Do you sometimes start training programs without following formal channels?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A B C D E</td>
<td>A B C D E</td>
<td>A B C D E</td>
</tr>
</tbody>
</table>
## Parts & Supplies Inventory

How adequate is the parts and supplies inventory relative to the work of the department?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
</table>

### Garage & Yard Space

How adequate is the garage and yard space (consider both the quantity and the design) relative to the work of the department?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
</table>

### Equipment-general purpose

How adequate is the supply of general purpose equipment relative to the work of the department?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
</table>

(examples include wrenches, hoists, impact tools)

How much authority do you have to purchase or rent general purpose equipment without the prior approval of another department such as purchasing?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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</thead>
</table>

### Equipment-special purpose

How adequate is the quantity of special purpose equipment relative to the work of the department?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
</table>

(examples include alignment machines, exhaust analyzers)

How much authority do you have to purchase or rent special purpose equipment without prior approval of another department such as purchasing?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
</table>

Do you have the authority to acquire parts & supplies without prior approval of another department?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
</table>

Do you sometimes acquire parts and supplies without following formal channels?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
</table>

Do you sometimes acquire garage and yard space without following formal channels?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
</table>

Do you sometimes purchase or rent general purpose equipment without following formal channels?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
</table>

Do you sometimes purchase or rent special purpose equipment without following formal channels?

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
</table>
V SELECTED ITEMS
LEADER BEHAVIOR DESCRIPTION QUESTIONNAIRE—Form XII

Bureau of Business Research
College of Administrative Science
The Ohio State University

DIRECTIONS:
a. READ each item carefully.
b. THINK about how frequently your supervisor engages in the behavior described by the item.
c. DECIDE whether he (A) always, (B) often, (C) occasionally, (D) seldom or (E) never acts as described by the item.
d. DRAW A CIRCLE around one of the five letters (A B C D E) following the item to show the answer you have selected.

A-Always
B-Often
C-Occasionally
D-Seldom
E-Never

1. He lets group members know what is expected of them
   A B C D E

2. He allows the members complete freedom in their work
   A B C D E

3. He is friendly and approachable
   A B C D E

4. He gets along well with the people above him
   A B C D E

5. He encourages the use of uniform procedures
   A B C D E

6. He permits the members to use their own judgment in solving problems
   A B C D E

7. He does little things to make it pleasant to be a member of the group
   A B C D E

8. He keeps the group in good standing with higher authority
   A B C D E

9. He tries out his ideas in the group
   A B C D E

10. He encourages initiative in the group members
    A B C D E

11. He puts suggestions made by the group into operation
    A B C D E
A=Always  B=Often  C=Occasionally  D=Seldom  E=Never

12. He is working hard for a promotion  

13. He makes his attitudes clear to the group  

14. He lets the members do their work the way they think best  

15. He treats all group members as his equals  

16. His superiors act favorably on most of his suggestions  

17. He decides what shall be done and how it shall be done  

18. He assigns a task, then lets the members handle it  

19. He gives advance notice of changes  

20. He enjoys the privileges of his position  

21. He assigns group members to particular tasks  

22. He turns the members loose on a job, and lets them go to it  

23. He keeps to himself  

24. He gets his superiors to act for the welfare of the group members  

25. He makes sure that his part in the group is understood by the group members  

26. He is reluctant to allow the members any freedom of action  

27. He looks out for the personal welfare of group members  

28. His word carries weight with his superiors  

29. He schedules the work to be done  

30. He allows the group a high degree of initiative  

31. He is willing to make changes  

32. He gets what he asks for from his superiors
A=Always, O=Often, C=Occasionally, D=Seldom, E=Never

33. He maintains definite standards of performance
34. He trusts the members to exercise good judgment
35. He refuses to explain his actions
36. He is working his way to the top
37. He asks that group members follow standard rules and regulations
38. He permits the group to set its own pace
39. He acts without consulting the group
40. He maintains cordial relations with superiors

Please check the box below if you would like to receive a statistical summary drawn from the responses.

[ ]
BIBLIOGRAPHY


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_____, Manual for the Leader Behavior Description Questionnaire - Form XII, An Experimental Revision, (Columbus, Ohio: Bureau of Business Research, The Ohio State University, 1963).


