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The effect of program commitment on the degree of participative congruence and managerial performance in a budgeting setting

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**THE EFFECT OF PROGRAM COMMITMENT ON THE DEGREE OF
PARTICIPATIVE CONGRUENCE AND MANAGERIAL
PERFORMANCE IN A BUDGETING SETTING**

A Dissertation

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy

in

The Accounting Department

by

Kevin T. Breaux

B.S., Nicholls State University, 1997

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December 2004

dedicated to
my wife, Genea T. Breaux;
my parents, Patricia L. and Charles J. Breaux, Jr.;
and family, for their love, support, and
faith in me.

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ABSTRACT

The purpose of this research endeavor is to investigate the effect that the degree of participative congruence has on the relationship between program commitment and managerial performance. The degree of participative congruence (Clinton and Hunton 2001) is a new measure of participation designed to determine the amount of congruence between the perceived need for participation and the degree of participation allowed. This study used a questionnaire to evaluate the antecedents of and effects of the degree of participative congruence (DPC) in a budgeting setting. In order to investigate these effects, the questionnaire was mailed to a sample of 1,500 AICPA members. The results of the SEM offer some support of the proposed model; however, the results provided stronger evidence in support of an alternative model. Program commitment has a significant relationship with DPC, but there is no significant relationship between DPC and managerial performance. Evidence suggests that DPC has a positive effect on performance through the positive effect that DPC has on program commitment.

1. INTRODUCTION

Participation in the budgeting process has been of great interest to management accounting researchers because they want to define the link between participation in the budget-setting process and employee/organizational performance (Merchant 1981). The purpose of this research is to investigate the effect that the degree of participative congruence (agreement between the perceived need for participation and the degree of participation allowed) has on the linkage between program commitment¹ (employee attachment to a specific program within the organization) and managerial performance (self-rated performance in eight dimensions) in a budgeting setting. Additionally, this research examines the impact of certain situational factors (rewards, leader behavior, and co-worker behavior) and individual factors (organizational commitment, teamwork orientation, and change efficacy) on program commitment to create a more comprehensive participative budgeting model. The research model examined is based on theoretical constructs provided by prior literature, and any lack of significance in testing theoretical relationships may be attributed to (1) the lack of power or (2) construct validity associated with the tests, in addition to observing a valid lack of statistical significance between the variables of interest. Therefore, the reader should interpret such results with caution.

The budgetary process can be viewed as a managerial accounting system. “A fundamental purpose of managerial accounting is to enhance firm value by ensuring the effective and efficient use of scarce resources” (Sprinkle 2003, 288). Furthermore, a managerial accounting system (e.g., budgetary process) has the potential and capability (1) to provide information necessary for planning and decision-making and (2) to

motivate individuals' performance. The budgetary process, like other managerial accounting systems, uses managerial accounting information to make better-informed decisions. These better-informed decisions could be considered a performance measure.² Therefore, this study will examine how program commitment and participation in the budgetary process affect managerial performance.

Before proceeding further, it is necessary to first define participation and participative budgeting. Brownell (1982a) defines participation as

An organizational process whereby individuals are involved in, and have influence on, decisions that have direct effects on those individuals (124).

With participation defined, Brownell (1982a) defines participative budgeting as

A process in which individuals, whose performance will be evaluated, and possibly rewarded, on the basis of their achievement of budgeted targets, are involved in, and have influence on, the setting of these targets (124).

The participative budgeting literature has provided a link between participative budgeting and employee performance (Milani 1975, Kenis 1979, Merchant 1981, and Brownell 1982b) and more recently has provided a link between the degree of participative congruence in the budgetary process and organizational performance (Clinton and Hunton 2001). By examining the linkage between participative budgeting and employee/organizational performance, researchers have attempted to determine whether participative budgeting leads to higher employee performance (Milani 1975, Kenis 1979, Merchant 1981, and Brownell 1982a) or higher organizational performance (Clinton and Hunton 2001). While research in this area appears to be inconclusive due to differing sample groups, research settings (experimental or survey), and variables of interest, researchers continue to examine this linkage to help improve our knowledge of this conceptual relationship. Furthermore, participative budgeting research that

investigates the relationship between budget participation and performance reveals significantly positive relationships (Merchant 1981, Brownell 1982b, Brownell 1982c, Brownell and McInnes 1986, and Chong and Chong 2002), non-significant relationships (Milani 1975, Kenis 1979, Chenhall and Brownell 1988, and Wentzel 2002), and some even reveal negative relationships (Stedry 1960 and Bryan and Locke 1967). These mixed results were probably due to various factors such as different sample groups, different research settings, and inconsistency in the variables of interest.

The majority of the participative budgeting literature examines the moderating and mediating effects that certain factors or variables have on the participation-performance linkage. These moderating and mediating effects include factors such as locus of control, job related tension, role ambiguity, motivation, job difficulty, and environmental uncertainty. However, Shields and Shields (1998) believe that the inconclusive results observed may have been due to the lack of investigation into antecedent variables such as task uncertainty, environmental uncertainty, and information asymmetry. Based on Shields and Shields' belief that an investigation into the antecedents of participative budgeting is necessary to provide some insight into the inconclusive findings in the participative budgeting literature, this research is an investigation of program commitment as a possible antecedent of participative budgeting.

This study combines a theory developed in the psychology literature that addresses individual and situational factors that affect program commitment with theory from the accounting and budgeting literature about the relationship between participation and performance and applies that relationship in a participative budgeting setting. Additionally, this study expands the research application of the degree of participative

congruence (DPC) in the participative budgeting literature. In general, I hypothesize that an individual's program commitment is positively associated with his/her DPC, and this association has a positive effect on performance. In addition, individual and situational factors theorized to affect an individual's program commitment are examined. Structural equation modeling is used to examine the hypotheses, which are tested with data collected via questionnaire from members of the American Institute of Certified Public Accountants (AICPA).

Evidence that program commitment directly affects an individual's degree of participative congruence and indirectly affects an individual's performance through DPC contributes to the participative budgeting literature and to practice in multiple ways. First, there are few studies investigating the effects of antecedent variables on the participative budgeting-performance linkage. Evidence suggesting that program commitment leads to a higher degree of participative congruence should encourage researchers to investigate other possible antecedents of participation. Second, finding a positive association between DPC and performance would be consistent with Clinton and Hunton's (2001) results and should strengthen the theoretical participation-performance argument. Finally, evidence suggesting that individual and situational factors influence an individual's program commitment should provide organizations with additional insight into the characteristics that appear to be most beneficial to the multifaceted aspects of successful operational programs.

In summary, this study examines the effects of an antecedent variable, program commitment, on the participation-performance linkage, while re-evaluating DPC, a new participation metric in the participative budgeting literature.

1.1 End Notes

- 1 Neubert and Cady (2001) define program commitment as “a measure of attachment to a specific program or initiative of planned scope within the organization” (422). When referring to program commitment in this study, the program being referred to is the budgetary process.
- 2 Performance is not measured by individuals’ decisions, but it is important to acknowledge that in the overall scheme of things, better-informed decisions should result in better or higher performance.

2. SIGNIFICANT LITERATURE

2.1 Program Commitment and Its Antecedents

Antecedent variables are variables that lead to independent variables (Shields and Shields 1998). Thus, antecedent variables affect or influence independent variables and are important because they offer suggestions or insights into independent variables.

In an attempt to research antecedent variables, Neubert and Cady (2001) investigated program commitment and its association with organizational outcomes and a set of potential antecedents because they believed that the success of organizational programs could be achieved by obtaining the commitment of employees to these programs. The researchers tested a number of hypotheses related to program commitment and its effects on participation and performance. In addition, Neubert and Cady tested hypotheses focusing on how certain compliance (situational) and affective (individual) perceptions affected program commitment. Neubert and Cady conducted two longitudinal studies; the first focused on program commitment and outcome variables, and the second focused on program commitment and its antecedents. In the first study, Neubert and Cady hypothesized that program commitment would be positively associated with participation and performance and that participation would mediate the relationship between program commitment and performance. In the second study, the researchers hypothesized that both compliance perceptions (e.g. rewards, leader behavior, and co-worker behavior) and affective perceptions (e.g. organizational commitment, change efficacy, and teamwork orientation) would be positively associated with program commitment.

Neubert and Cady found support for their first study indicating that program commitment was positively associated with participation and performance. Additionally, the results indicate that participation mediates the relationship between program commitment and performance. The results of this study indicate that all three affective perceptions (i.e., organizational commitment, change efficacy, and teamwork orientation) are positively related to program commitment, while only the compliance measure, co-worker behavior, is associated with program commitment. The positive relationships between the three affective perceptions and program commitment suggest that these factors play an important role in determining an individual's program commitment. The positive relationship between co-worker behavior and program commitment is important because it indicates that peers play an important role in affecting the commitment of an individual to a program. This relationship also indicates that the hopes of rewards and the influence of immediate supervisors are not as important to an individual's program commitment as performing in accord with the beliefs and norms of his/her peers.

Neubert and Cady (2001) examined a wide variety of antecedent variables, some of which were previously examined in the literature. The antecedent variables that appear in the literature will be covered in the following section.

2.1.1 Rewards and Commitment

Prior to the Neubert and Cady (2001) study, Rusbult and Farrell (1983) examined the effects of the rewards offered by the corporation, job costs, the investment made to the job by the employee, and the quality of alternative jobs. Based on the model examined, the authors expected job commitment to increase with increases in rewards, decreases in job costs, increases in investments, and decreases in alternative jobs. The

results of the study supported the general proposition that job commitment was positively affected by higher rewards, lower job costs, higher investments, and lower quality job alternatives. These findings offer managers possible determinants for affecting increased job commitment. While some of these determinants are not controllable by management, Rusbult and Farrell believe that management can provide job rewards such as high pay to employees to increase the level of job commitment.

While Rusbult and Farrell's (1983) results suggested that rewards are positively associated with job commitment, Riedel, Nebeker, and Cooper (1988) hypothesized a similar proposition. They examined the effects of monetary incentives on goal commitment and task performance. Specifically, the researchers addressed (1) whether monetary incentives would positively affect goal commitment and (2) whether goal commitment operated as a mediating variable between monetary incentives and performance. The results of this study indicate that subjects who receive monetary incentives have higher levels of goal commitment, supporting the proposition that providing monetary incentives generates greater individual commitment to the goals of the task. In addition, goal commitment acts as a mediating variable to some degree, with incentives leading to higher commitment, which in turn leads to higher performance; however, monetary incentives also have a direct and significantly positive effect on performance. These results provide evidence that incentives have a two-pronged positive effect on performance – both through their indirect effect, thereby increasing commitment, and through their direct effect on performance.

In an attempt to extend Rusbult and Farrell's (1993) study, Oliver (1990) investigated the impact of corporate rewards, investments made by the employee, and

alternative employment opportunities on organizational commitment. This study extended Rusbult and Farrell's (1993) study by encompassing commitment to the corporation rather than just commitment to the job. Oliver proposed that commitment could be explained by a combination of the rewards, the investments, and the opportunity for alternative employment. The results do not support the full model, indicating that organizational commitment is not satisfactorily explained by a simple combination of rewards, investments, and alternatives; however, the results do provide evidence that the individual factors of rewards, investments, and alternative employment explain organizational commitment as well as job commitment.

To further investigate the effects of reward on commitment, Rhoades, Eisenberger, and Armeli (2001) examined the mediating effects of perceived organizational support (POS) on the relationship between organizational rewards and affective commitment. These researchers define affective commitment as employees' emotional bond to their corporation (organizational commitment) and POS as employees' beliefs that the corporation value their contributions and care about their well being. Rhoades et al. hypothesized that POS would mediate the positive association between organizational rewards and affective commitment. Their findings provide support for their hypothesis; POS mediate the positive association between organizational rewards and affective commitment. Rhoades et al. also tested a more complex model that incorporated the direct path from organizational rewards to affective commitment as well as the mediating effects of POS on that relationship. However, this model does not explain these relations significantly better than the original model, and the added direct path is not significant. This finding provides additional evidence of the mediating effect

of POS, and that organizational rewards positively affect affective commitment, but only through their positive influence on POS.

2.1.2 Leader Behavior and Commitment

O'Reilly and Roberts (1978) investigated the effects of supervisory influence and leader behavior on job satisfaction, organizational commitment, and performance. Specifically, O'Reilly and Roberts hypothesized that supervisory influence would mediate the relationships between leader behavior and outcome variables (job satisfaction, organizational commitment, and performance). The results of the study indicate that, in fact, supervisory influence acts as a mediator in the association between leader behavior and these outcome variables. In addition, supervisory influence and considerate leader behaviors are associated with increased subordinate organizational commitment. This result indicates that a subordinate's commitment is affected by a leader's behavior, and corporations should have leaders with considerate behaviors if they want high subordinate commitment.

In an exploratory study, Covin and Kilmann (1990) attempted to identify those types of issues that have highly positive and highly negative effects on the success of change programs in corporations by measuring the perceptions of participants involved in such changes. Through examination of participants' responses to the questionnaire, they found six issues that had positive effects on the change program. These issues are: visible management support and commitment, preparation for a successful change, encouragement of employee participation, a high degree of communication, recognition of a strong business-related need for change, and a reward system that supports necessary change. Additionally, eight issues had negative effects: lack of management support, top

managers forcing change, inconsistent actions by key managers, unrealistic expectations, lack of meaningful participation, poor communication, unclear program purpose, and lack of placement or misplacement of responsibility. The issue of management support appeared as both a positive and a negative effect on change programs. However, under the positive impact issues, visible management support was identified as positive while under the negative impact issues, a lack of management support was identified as negative. Thus, corporate management should obtain the support of top management and make that support visible before implementing a program of change.

Bycio, Hackett, and Allen (1995) examined the effects of transactional and transformational leadership styles on employee commitment. Leaders who “identified the needs of their followers and exchanged rewards for appropriate levels of effort and performance” were classified as transactional leaders. In contrast, transformational leaders were viewed as “moving beyond transactions to increase the level of followers’ awareness for valued outcomes by expanding and elevating their needs and encouraging them to transcend their self-interests” (468). While not specifically stated, Bycio et al. hypothesized that affective commitment (i.e., an employee’s commitment to the corporation) is more positively related to transformational leadership than continuance commitment (i.e., the costs an employee associates with leaving) and normative commitment (i.e., an employee’s commitment to stay). The results provide support for this hypothesis. Transformational leadership is more positively associated with affective commitment than continuance and normative commitment. The importance of this finding is that transformational leadership has significant motivating effects on affective commitment.

A similar study, conducted by Rhoades, Eisenberger, and Armeli (2001), examined the mediating effects that perceived organizational support (POS) has on the relationship between supervisor support and affective commitment (organizational commitment). POS is described as employees' beliefs that the organization values their contributions and cares about their well being. Rhoades et al. hypothesized that POS would mediate the positive association between supervisor support and affective commitment, and their findings provide support for this hypothesis, suggesting that organizations need the support of top managers or supervisors to obtain the commitment of subordinates.

2.1.3 Organizational Commitment and Other Commitments

Aranya and Jacobson (1975) empirically investigated theories of organizational commitment and occupational commitment. In the study, they hypothesized that organizational commitment and occupational commitment are positively correlated. The results of the study suggest that there is a strong positive correlation between organizational commitment and occupational commitment, indicating that one type of commitment is capable of influencing another type of commitment.

Hunt and Morgan (1994) investigated two competing views of organizational commitment. The first view suggests that organizational commitment is one of many independent commitments that affect organizational outcomes. The second view suggests that organizational commitment is a mediating variable between an individual's commitment to individual parts of the corporation and organizational outcomes. Hunt and Morgan hypothesized that organizational commitment is positively associated with other more specific commitments within the corporation. Their results provide evidence

that supports the hypothesis. Specifically, there are significantly positive relationships between organizational commitment and (1) supervisor commitment and (2) top management commitment. The importance of this research is to provide empirical evidence that organizational commitment was associated with other more specific commitments within the corporation.

2.1.4 Teamwork Orientation and Commitment

Moorman and Blakely (1995) examined the individual differences between individualism and collectivism with respect to their relationship with organizational citizenship behavior. Moorman and Blakely define citizenship behavior as “behaviors that are often performed by employees to support the interests of the group or corporation even though they may not directly lead to individual benefits” (127). Moorman and Blakely hypothesized that individuals with more of a collectivist orientation are positively associated with interpersonal helping, individual initiative, and loyal boosterism. The results supported this hypothesis; collectivistic values were positively associated with interpersonal helping, individual initiative, and loyal boosterism. This finding suggests that collectivist-oriented individuals are more likely to find ways to help the well being or interests of the group even though helping does not directly affect their individual interest.

2.1.5 Commitment and Its Effects

Porter, Steers, Mowday, and Boulian (1974) investigated the attitudinal effects of organizational commitment on employee turnover, which was suggested to be a measure of participation. Porter et al. predicted organizational commitment to be inversely related to employee turnover. This prediction suggests that individuals high in organizational

commitment are less likely to leave the corporation. The results of the study provide support for the hypothesis. Specifically, the level of organizational commitment for individuals who leave the corporation is consistently lower than the level of organizational commitment for individuals who remain. This result indicates that organizational commitment can play an important role in the participation decision. Furthermore, the finding indicates that corporations can reduce turnover by increasing individuals' organizational commitment.

In a similar study, Marsh and Mannari (1977) investigated the effects of organizational commitment on employee turnover. Specifically, Marsh and Mannari hypothesized that organizational commitment and turnover (a measure of participation) have a negative association. The results of the study do not provide significant statistical support for the authors' prediction. While the relationship between organizational commitment and turnover is negative, the relationship is not significant. Thus, Marsh and Mannari failed to reject their null hypothesis of no association.

While Porter et al. (1974) and Marsh and Mannari (1977) investigated the relationship between organizational commitment and employee turnover (i.e., turnover), Van Maanen (1975) studied the relationship between organizational commitment and performance. While no specific hypothesis was tested, Van Maanen investigated the effect that organizational commitment has on individual performance. The results of the study provide evidence of a positive association between organizational commitment and individual performance. This result provides evidence that organizational commitment is related to performance, and may in fact play an important role in improving an individual's performance.

Similar to Van Maanen (1975), Meyer, Paunonen, Gellatly, Goffin, and Jackson (1989) examined the relationship between individuals' organizational commitment and their performance. Meyer et al. hypothesized that organizational commitment and performance are positively related. The results of the study support the authors' prediction. Specifically, performance increases as the level of organizational commitment increases. This finding indicates that when an individual identifies with and is involved in the corporation (organizational commitment), the corporation benefits due to the increased performance. Therefore, corporations should try to increase an individual's organizational commitment to increase performance, which was believed to benefit the corporation.

Just as Van Maanen (1975) and Meyer et al. (1989) examined organizational commitment and performance, so did Mayer and Schoorman (1992). Specifically, Mayer and Schoorman hypothesized that an individual with a higher level of organizational commitment has higher performance. The results of the study support the authors' hypothesis, indicating that organizational commitment is significant and positively correlated with performance. These results suggest that employees higher in organizational commitment are more likely to have higher performance.

2.2 Participative Budgeting and Performance

Extensive research has been conducted in the area of participative budgeting (Hopwood 1972, Milani 1975, Otley 1978, Kenis 1979, Merchant 1981, and Brownell 1982a). The results are inconsistent in explaining linkages between participative budgeting and outcome variables such as job satisfaction and job performance. These inconsistent results may be due to different experimental settings, which have used

diverse sample groups, research settings (experimental or survey), and variables of interest, or due to common omitted variables; therefore, research has continuously attempted to provide consistency with respect to this research question. Before an attempt can be made to reconcile these mixed results and provide consistency, a review of some of the seminal works in the participative budgeting literature will be conducted, beginning with the early work of Stedry (1960).

Stedry (1960) investigated the relationship between the types of goals represented by a budget employed in management practice and individual performance. Specifically, Stedry studied the differences in performance across “implicit,” “medium,” “high,” and “low” budget conditions and concludes that participation in setting budget goals is negatively related to performance.

In a related participative budgeting environment, Bass and Leavitt (1963) examined the relationship between three types of planning activities and performance. The planning activities include individuals who planned for themselves, individuals who were assigned plans, and individuals who spent no time planning at all. The results of the study indicate significant differences in performance between the self-planning groups and the assigned plan groups, with the performance being significantly higher for the self-planning groups than for the assigned plan groups. Additionally, a strong positive relationship exists between participation in planning and performance.

Similar to Stedry (1960) and Bass and Leavitt (1963), Bryan and Locke (1967) investigated the relationship between participatively set goals and performance. Specifically, they studied individuals with low motivation versus those with high motivation in a laboratory experiment. Subjects were given tasks and told to “do their

best” or were assigned a specific goal. The results of the study indicate that assigning goals to subjects with low motivation increases performance. On the other hand, the results indicate that assigning goals to highly motivated subjects has a negative effect on performance.

In a seminal work, Hopwood (1972) empirically examined the effects of accounting data used in performance evaluation on cost center manager attitudes. Hopwood hypothesized that cost center managers who perceived that they were evaluated based on a Budget Constrained style of performance evaluation rather than a Profit Conscious or a Non-accounting style were (1) more likely to experience job related tension, (2) more likely to report having poor relations with their supervisor, (3) more likely to report having poor relations with their peers, and (4) more likely to falsify accounting data and make dysfunctional decisions. A Budget Constrained style of performance evaluation was concerned only with meeting the budget on a short-term basis, not costs. A Profit Conscious style of performance evaluation was concerned with minimizing long-run costs, but not meeting the budget. Finally, a Nonaccounting style of performance evaluation was not concerned with meeting the budget or costs.

Using questionnaire data obtained from 167 cost center managers of a manufacturing division of a large Chicago-based company, Hopwood (1972) was able to test the hypotheses. The results of the study indicate that a Budget Constrained style of evaluation, which emphasizes budget related performance, is significantly positively associated with job related tension as compared to a Profit Conscious or Nonaccounting style of performance evaluation. While corporations may implement a Budget Constrained style of evaluation to improve performance, performance will likely

deteriorate due to the increased job related tension. The results also indicate that a Budget Constrained style of evaluation is associated with less favorable relations with both supervisors and peers as compared to a Profit Conscious or Nonaccounting style of evaluation. These results suggest that managers tried to pass the blame for unfavorable budget variances onto supervisors or peers. In addition, the results indicate that a Budget Constrained style of evaluation is significantly positively associated with misrepresentation of accounting data as compared to a Profit Conscious or Nonaccounting style of evaluation. This is important because it suggests the possibility that cost center managers may falsify accounting data in order to obtain a higher performance evaluation due to poor budget-related performance. The main contribution of this study was its generation of an area of accounting research focused on the issues of participation and employee performance.

Latham and Yukl (1975) studied the effects of assigned versus participatively set goals on performance. The results of the study indicated that participatively set goals have a significantly positive impact on performance. In addition, when individuals are involved in the goal-setting process, higher goals are associated with those individuals than individuals who are not involved in the goal-setting process. Further analysis indicates that higher performance for the individuals is due in part to the higher goals they set through their participation in the goal-setting process.

Otley (1978) investigated the use of budgetary accounting data in managerial performance evaluation with the goal of replicating and extending Hopwood's (1972) study. This extension focused primarily on measuring managers' performance rather than budget-related performance. Otley hypothesized that a manager's perceptions of a

budget-oriented style of evaluation lead to higher job-related tension, which results in lower performance. The findings do not provide evidence of a budget-oriented style of evaluation leading to higher job-related tension, which contradicts Hopwood's (1972) results. Additionally, the results of Otley's study provide no indication of an association between job-related tension and performance. An examination of the direct effect of the budgetary evaluation style and performance was also conducted, with the results providing no indication of an association between the budgetary evaluation style and performance.

The mixed results of Hopwood (1972) and Otley (1978) prompted the Brownell (1982c) study. In this study, Brownell hypothesized that there is no direct association between the evaluation style used by superiors and performance due to the moderating effect of participation. Results of this study indicate that performance depends on the interaction between participation and budget emphasis (high or low). However, a more important finding of the study shows that higher levels of participation are associated with higher levels of performance, which has been a prevailing theme in the participative budgeting literature.

Other studies in the participative budgeting literature focused on participation and its effects on employees' attitudes and performance. Milani (1975) investigated the effects of budgetary participation on attitudes and performance. Specifically, Milani investigated whether (1) the degree of participation in budget-setting and performance are positively related, (2) the degree of participation in budget-setting and attitude toward the job are positively related, and (3) the degree of participation in budget-setting and attitude toward the company are positively related. Results of the study indicate that there is no

significant relationship between participation and performance. However, strong support exists for both the relationship between participation and (1) attitude toward the job and (2) attitude toward the company. This finding is important because it suggests a way for managers to increase individuals' attitudes toward the job and toward the company, and this increased morale may lead to higher individual and organizational performance. In Milani's results, the correlations between the attitudinal measures and performance are not significant, indicating that attitude toward the job and the company do not act as intervening variables. Overall, the results of Milani's study indicate that participation does not directly affect performance, nor does participation affect performance through its positive effect on job and company attitudes.

In addition to the results discussed above, Milani (1975) investigated the intervening roles that attitude toward the job and attitude toward the company have on the participation-performance linkage. This finding is important because it indicates that participation does not directly influence performance; rather, participation results in higher attitudes toward the job or the corporation, which may lead to higher performance.

While Milani (1975) investigated the roles of attitude toward the job and toward the company, Kenis (1979) examined the effects of budgetary goal characteristics on job-related attitudes, budget-related attitudes, and self-rated performance. Specifically, Kenis investigated the hypothesis that participative budgeting, budget goal clarity, and budgetary feedback have a positive effect on budgetary performance and job performance. The results indicate that participative budgeting and budget goal clarity are both positively related to budgetary performance. However, the findings fail to support

the hypothesized positive effects of participative budgeting on the job performance of managers.

While Kenis (1979) studied the direct effects of individuals' attitudes on performance, Brownell (1981) focused on the moderating effects of individuals' locus of control on the participative budgeting and managerial performance relationship in a laboratory setting. While previous studies examined attitudes such as job satisfaction, morale, and attitudes toward the job and company, this study introduces and examines a personality variable (i.e., locus of control). Locus of control is the degree to which individuals accept personal responsibility for what happens to them. Individuals with an internal locus of control believe that they are responsible for what happens to them, while individuals with an external locus of control believe that they are not responsible for what happens to them. Brownell hypothesized that participation and locus of control interact to affect performance, and his findings support his hypothesis; the participative budgeting and performance relationship is moderated by an individual's locus of control. Specifically, the results indicate that participative budgeting has a positive effect on performance for individuals with an internal locus of control and a negative effect for individuals with an external locus of control. Additionally, Brownell examined the direct relationship between participation and performance and found a significantly positive association between the two.

In an effort to validate and extend the findings of Brownell (1981), Brownell (1982a) examined the effects of participative budgeting and locus of control on performance and job satisfaction in a field setting. The main purpose of this study was to validate the results obtained in the 1981 study, in which the moderating effects of locus

of control had a positive (negative) effect for internals (externals) on the participation-performance linkage. Specifically, Brownell tested the hypothesis that there is a significant interaction between participation and locus of control affecting performance. The results of this study indicate that the interaction between participation and locus of control significantly affect performance, with internally oriented individuals having higher performance than externally oriented individuals. This finding is important because it validated the findings of the 1981 laboratory experiment, suggesting that an individual characteristic such as locus of control is capable of leading to higher performance through its effects on participation. In addition to this finding, Brownell's results indicate that participation does not have a significant direct effect on job satisfaction, but that individuals' locus of control has a moderating effect on the relationship between participation and job satisfaction. Specifically, the results indicate that the interaction between participation and locus of control significantly affects job satisfaction, with internally oriented individuals experiencing higher job satisfaction than externally oriented individuals. Thus, the results are able to (1) validate the findings from the 1981 study by providing evidence of an interaction effect between participation and locus of control affecting performance and (2) extend the 1981 study by providing evidence of an interaction effect between participation and locus of control affecting job satisfaction.

In a later study, Brownell (1983) broadened his propositions by investigating the effects of participative budgeting and leadership style on performance. Brownell hypothesized that there is a significant interaction between participation and leadership style affecting performance. The results of the study provide evidence that performance

is significantly positively affected by the interaction between participative budgeting and the leadership style of consideration. Subordinates perceive leaders believed to have high levels of consideration as supportive and helpful. This finding is important because it indicates that when the consideration leadership style is used, it generates greater participation, which results in higher performance.

Just as Brownell (1981) and Brownell (1982a) examined the effects of individuals' attitudes on performance, so did Tiller (1983). He investigated the effects of participative budgeting on commitment to budget goals and participants' performance under two particular settings. The first was one in which the participant perceived to be taking part in the formulation of budgeting goals (participative budgeting) and a second in which the participant was assigned a goal (nonparticipative budgeting). Specifically, Tiller hypothesized that

- (1) Participation leads to higher budget goal commitment and higher performance when there is low pay and a high budget goal than when there is high pay and a high budget goal; and
- (2) Participation leads to higher budget goal commitment and higher performance when there is low pay and a high budget goal than when there is low pay and a low budget goal.

The study's results provide support consistent with the proposed hypotheses. These findings are important because they indicate that participants need to perceive themselves as having some influence in setting the budget in order to have a successful participative budgeting program.

Brownell (1985) examined the effects of participative budgeting on performance, comparing marketing to research and development (R & D) units, two departments believed to have different environmental conditions. In this study, Brownell

hypothesized that participative budgeting has a greater impact on managerial performance in the R & D unit than in the marketing unit because the R & D divisions are believed to face a more difficult environment than marketing divisions. A more difficult environment refers to the number of elements that are believed to be critical to decision making. The results indicate that participation leads to higher performance in the R & D unit than in the marketing unit. The importance of this result is its suggestion that different departments in a corporation encounter different working environments, an indication that units place different degrees of emphasis on budgets. This finding suggests to corporations that participative budgeting does not produce the same effects in all departments or units of a corporation, implying that corporations must acknowledge the different environments these units face and implement systems (e.g., participative budgeting) in the units having more difficult working environments. In addition, the results provide no significant evidence of a direct association between participation and performance.

Brownell and Hirst (1986) examined the three-way interaction between budget emphasis, budgetary participation, and task uncertainty on job-related tension and performance. This study assessed the extent to which Brownell's (1982) results were determined by task uncertainty. Brownell and Hirst hypothesized that compatible combinations of participation and budget emphasis are more effective in reducing job-related tension in low, as opposed to high, task uncertainty activities. They believed that participation serves a vital purpose in a high task uncertainty situation, whether budget emphasis is matched or not. This belief is founded on the proposition that participation can provide the opportunity for managers to gain access to resources, which then can be

used to buffer task performance. These researchers also hypothesized that compatible combinations of participation and budget emphasis have positive effects on performance in low, as opposed to high, task uncertainty activities. The results of this study support the proposition that compatible combinations of participation and budget emphasis are more effective in reducing job-related tension but not in improving performance in low task uncertainty activities.

In a related study, Brownell and McInnes (1986) investigated the participative budgeting-performance linkage by incorporating the mediating effects of motivation. Brownell and McInnes hypothesized that participation positively affects motivation, which subsequently results in higher performance. The study's results indicate a significantly positive relationship between participation and performance, but fail to support the prediction of a mediating effect of motivation on the participation-performance linkage. The lack of support for motivation's mediating effect was primarily due to the insignificant relationship between participation and motivation.

While Brownell and Hirst (1986) examined the effects of task uncertainty and Brownell and McInnes (1986) examined the effects of motivation, Chenhall and Brownell (1988) studied the effects of participative budgeting on job satisfaction and performance by examining how role ambiguity affects the participation-satisfaction/performance linkage. Role ambiguity is believed to be present when the required behaviors and expected performance levels are not clear to individuals. These researchers hypothesized that participation reduces role ambiguity, which in turn enhances job satisfaction and subordinate performance. The results of the study support their predictions that participation reduces role ambiguity and that lower role ambiguity

leads to higher job satisfaction and subordinate performance. Chenhall and Brownell also found that, with respect to subordinates, participation is significantly related to job satisfaction but not to performance.

Similarly, Mia (1988) investigated the moderating effects of motivation and an individual's attitude toward the job and company on the participation-performance relationship. Mia hypothesized that performance is affected by both the participation and attitude interaction as well as the participation and motivation interaction. Examining this proposition is relevant to the literature because it tests how individuals' attitudes affect the relationship between participation and performance. Mia's results indicate that the interactions between participation and (1) attitude toward the job and company and (2) motivation are associated with higher performance. These findings indicate that participative budgeting by motivated individuals with positive attitudes results in increased performance. Mia also observed the direct relationship between participation and performance and found that participation does not have a significant direct effect on performance.

Dunk (1989) investigated the effects of budget emphasis and participative budgeting on managerial performance. This research was motivated by the conflicting results of Brownell (1982c) and Brownell and Hirst (1986). This research was a replication study of these two prior studies. Replication studies offer a way to confirm the external validity and generalizability of prior research. Dunk hypothesized that the interaction of high participative budgeting and high budget emphasis increases managerial performance. The study's results indicate that the interaction effect is significant; however, the interaction tends to decrease performance rather than increase it

as hypothesized. The study's model also allows the direct effect of participation on performance to be measured. The findings fail to indicate a significant relationship between participation and performance. This particular result supported the non-significant relationship found by Brownell and Hirst (1986) but contradicted the significantly positive relationship found by Brownell (1982c).

Mia (1989) examined the effects of participative budgeting and job difficulty on managerial performance by investigating the interaction of participation and job difficulty on performance. Mia hypothesized that managerial performance increases in circumstances of high (low) job difficulty and high (low) participation. The results support the hypothesis, indicating that an interaction between high (low) job difficulty and high (low) participation leads to higher managerial performance. However, the analysis does not examine the potential for a direct relationship between participation and performance.

While prior research focused on managerial performance, Brownell and Merchant (1990) examined the effects of product standardization and automated manufacturing processes on the relationship between participative budgeting and departmental performance. Specifically, they hypothesized that product standardization moderates the participation-performance relationship, with product standardization having a more positive influence when there is less product standardization. With respect to automation, Brownell and Merchant made no directional predictions of its effects. The study's results provide evidence that participative budgeting has a significantly more positive effect on performance when product standardization is low than when it is high. In addition, the findings provide no evidence that automation has a moderating effect on the

participation-performance relationship. With respect to any direct relationship between participation and performance, the results suggest that participation does not significantly affect performance.

Similar to Brownell and Hirst (1986) and Dunk (1989), Brownell and Dunk (1991) examined the effects of task uncertainty and its interaction with budgetary participation and budget emphasis on managerial performance. Brownell and Dunk believed that previous research in this area might have accurately captured their measures of task uncertainty. Therefore, the researchers partitioned task uncertainty into two groups based on task difficulty and task variability. Brownell and Dunk's results provide evidence that the level of budget participation should be matched with the level of budget emphasis under conditions of low task uncertainty. Further analysis indicates that the task difficulty dimension of task uncertainty, and not task variability, is primarily responsible for the finding.

Frucot and Shearon (1991) investigated the effects of participative budgeting and locus of control on managerial performance and job satisfaction. Motivated by the 1982 Brownell study, Frucot and Shearon were interested in examining whether cultural differences affect Brownell's results. In order to observe cultural differences, Frucot and Shearon used managers from Mexican corporations in their sample, contradicting Brownell's (1982a) use of managers from U.S. corporations. The authors' choice of subjects resulted from their belief that Mexico's culture would be an interesting contrast to that of the U.S. as categorized on four dimensions (i.e., power distance, uncertainty avoidance, individualism, and masculinity). Power distance refers to "the degree to which cultures prefer a more autocratic structure" (83), which is interpreted to be the

degree of participation that is favored in an organizational context. Uncertainty avoidance is a measure of anxiety level; corporations that have high uncertainty avoidance favor rigid rules that decrease uncertainty. Individualism refers to the importance of independence from the corporation. Therefore, cultures low in individualism favor more dependence on the corporation. Finally, masculinity refers to the cultural importance of income, recognition, and advancement compared to the cultural importance of work relations, cooperation, and security. The two cultures selected for comparison were believed to be opposite on the dimensions of power distance, uncertainty avoidance, and individualism, with the U.S. having low power distance and uncertainty avoidance and high individualism. With respect to masculinity, both the U.S. and Mexican cultures were classified as high. It was hypothesized that in Mexican culture (1) participative budgeting would lead to higher performance and (2) the interaction between internal (external) locus of control and high (low) participation would increase performance. The results of this study using Mexican managers support the hypotheses. These findings are consistent with the findings of Brownell (1982a), suggesting that there is no cultural effect when comparing Mexican and U.S. firms.

In an attempt to provide evidence from Hong Kong, Gul, Tsui, Fong, and Kwok (1995) examined the effects of decentralization on the participative budgeting-performance relationship. Specifically, Gul et al. hypothesized that (1) budgetary participation would have positive effects on performance in decentralized corporations and (2) budgetary participation would have negative effects on performance in centralized corporations. Their results indicate strong support for the hypotheses; as the level of decentralization increases, the positive effect of participative budgeting on

performance increases. The study's findings suggest that before implementing or encouraging programs such as participative budgeting, management should consider the degree of decentralization the firm possesses because participative budgeting effects may be conditioned on this variable. The researchers performed no examination of a potential direct relationship between participation and performance.

Dunk (1993) investigated the moderating effects of participation on the relationship between job-related tension and managerial performance. He hypothesized that the interaction between participative budgeting and job-related tension affects managerial performance. The study's results indicate no significant interaction effect between job-related tension and participative budgeting on performance. Further analysis indicates that job-related tension has a significantly negative direct effect on performance, while participation has a significantly positive direct effect on performance.

Chong and Chong (2002) investigated the budget goal and informational effects of participative budgeting on job performance. They hypothesized that

- (1) Participative budgeting and budget goal commitment are positively related;
- (2) Budget goal commitment and job-relevant information are positively related;
and
- (3) Job-relevant information and job performance are positively related.

The findings support the theoretical model. Specifically, Chong and Chong found that participation and performance are positively related through the mediating effects of goal commitment and job relevant information. While there is no specific hypothesis testing mediation, they used a type of structural equations model that allows sequential testing of the interactions.

In a similar study, Wentzel (2002) examined whether perceived fairness in the budgeting process improved performance by increasing managers' commitment to budgetary goals. Specifically, Wentzel hypothesized that the impact of participative budgeting on performance (budgetary and managerial) is significant when fairness perceptions and goal commitment act as mediating variables in the model. Additionally, Wentzel examined the direct relationship between participation and both budgetary and managerial performance measures. The study's results support these propositions; participative budgeting leads to a sense of fairness resulting in higher budgetary goal commitment, thus enhancing performance. However, the findings do not provide evidence of a direct relationship between participation and performance, suggesting that participation does not directly influence performance; rather, participation leads to other factors which in turn increase performance. Wentzel attributed the non-significant relationship between participation and performance to the complexity of the budgetary process.

Due to the number of studies examined and the inconsistent findings, Table 2.1 summarizes the findings of previous research with respect to the participation-performance linkage.

2.3 Participative Budgeting and Its Antecedents

Merchant (1981) studied the influences of corporate budgeting systems on managerial behavior and organizational performance. In addition, his study examined the effects of corporate context (i.e., size, diversity, and degree of decentralization) on the level of participation. Merchant's results indicate that high levels of participation are significantly positively related to organizational performance in larger firms but not in

smaller firms. This result is important because it provides evidence that participative budgeting leads to higher organizational performance and that larger, more diversified, decentralized firms are more likely to encourage participation in the budgetary process as compared to smaller, less diverse, centralized firms.

Table 2.1 Participation-Performance Results

<i>Results:</i>	<i>Study:</i>
Significantly positive relationship	Bass and Leavitt (1963); Latham and Yukl (1975); Brownell (1981); Brownell (1982c); Brownell and McInnes (1986); and Dunk (1993)
Significantly negative relationship	Stedry (1960) and Bryan and Locke (1967)
No significant relationship	Milani (1975); Kenis (1979); Chenhall and Brownell (1988); Mia (1988); Dunk (1989); and Wentzel (2002)

Merchant (1984) subsequently investigated the effects of certain situational characteristics on the budgetary process. Specifically, Merchant hypothesized that departments with relatively routine production technologies (i.e., low task uncertainty) have more formal budget related communications (i.e., participative budgeting). The study's results indicate that managers responsible for more routine production processes believe that they have more influence over their budget. This finding suggests low task uncertainty is associated with participative budgeting.

While Merchant (1984) investigated the effects of task uncertainty on participation, Mia (1987) examined the effects of task difficulty and locus of control on participation. Additionally, the relationship between participation and attitude (toward the job and employer) was examined. Mia hypothesized that there is a negative relationship between (1) task difficulty and participation and (2) locus of control and

participation. Conversely, the relationship between participation and attitude was hypothesized to be positive. Mia's findings provide evidence of a significantly positive relationship between participation and attitude. In addition, the researcher observed (1) a significantly negative relationship between task difficulty and participation and (2) a non-significant relationship between locus of control and participation.

In a similar study, Shields and Young (1993) also investigated possible antecedents to participation. They investigated the information asymmetry between a superior and subordinate as an antecedent of participative budgeting. They hypothesized a positive association between the extent of information asymmetry and participative budgeting. The results of their study support the hypothesis, suggesting that as information asymmetry increases, there is a greater need for participative budgeting. Shields and Young also recommended "three other possible antecedents of participative budgeting that can be investigated: (1) a desire to positively influence individual attitudes, behavior and performance, (2) to reinforce a particular culture, and (3) to provide a mechanism for organizational learning" (265).

Shields and Shields (1998) reviewed a significant portion of the participative budgeting literature in attempting to provide a consistent pattern for future research in this area. They believed that determining the antecedents of participative budgeting would provide a major contribution to the participative budgeting research. Noting that the majority of the participative budgeting literature focused on moderating and mediating variables between the participative budgeting-performance linkage, Shields and Shields proposed more emphasis on including antecedent variables. Whereas previous studies had used environmental uncertainty, task uncertainty, or information

asymmetry as independent or moderating variables, economic, psychological, or sociological theory suggests that these constructs are antecedent variables. Another reason researchers focused on antecedent variables such as task uncertainty, environmental uncertainty, and information asymmetry was to determine which factors might lead employees to participate in the budget-setting process.

Clinton (1999) examined some of the antecedents identified in Shields and Shields (1998) relating to participative budgeting and (1) environmental uncertainty, and (2) information asymmetry. Specifically, Clinton examined organizational, situational, and individual categories as antecedents to the perceived need for participation (PNP), providing evidence on the three broad categories of factors that have been tested as either moderating or mediating variables in the literature. Clinton tested the following four hypotheses:

- (1) Subjects' perceived need for subordinate participative budgeting is positively associated with technological complexity;
- (2) Subjects' perceived need for subordinate participative budgeting is positively associated with situational factors;
- (3) Subjects' perceived need for subordinate participative budgeting is significantly different between individuals, given a specific organizational and situational context; and
- (4) Subordinate motivation and information asymmetry has an impact on the antecedents to subjects' perceived need for subordinate participative budgeting.

Clinton viewed technological complexity as an organizational factor, operationalized in the accounting literature as task uncertainty. Situational factors were defined as situation-specific decisions capable of influencing the degree to which participation was appropriate. Information asymmetry related to the incomplete or differing information that individuals used for decision-making. Subordinate participative budgeting referred

to the amount of subordinate participation allowed by managers. Clinton's results indicate that the first three hypotheses are supported (i.e., organizational, situational, and individual factors affect the PNP in budgetary decision making). These findings are important because they suggest that there are factors that lead to a higher perceived need for participative budgeting. The results also supported the fourth hypothesis, revealing that motivation and information asymmetry have an impact on the antecedents to subjects' perceived need for subordinate participative budgeting. This finding is important because it indicates that not only are antecedents to participative budgeting important, but also factors that affect antecedent variables are also essential in examining participative budgeting.

2.4 Degree of Participative Congruence

The literature review in the previous sections has documented the mixed findings appearing in the participative budgeting literature; in addition, it has established the importance of identifying specific antecedent variables in this research stream because only categories of variables (situational, organizational, and individual factors) were found to lead to participation. The literature review also highlights important findings, suggesting that there are moderating and mediating variables that affect the complex participation-performance linkage. Furthermore, this review demonstrates the need to identify new constructs that will enable researchers to resolve prior research's inconsistent evidence relating to the participative budgeting literature. Clinton and Hunton (2001) attempted to add a new dimension for this purpose.

Clinton and Hunton (2001) developed a new construct, the degree of participative congruence (DPC), in an effort to provide further insight into the inconsistent findings in

the participative budgeting literature. DPC is a measure designed to match decision makers' perceived need for participation (PNP) with their degree of participation allowed (DPA) in the budget process. DPC is measured by subtracting the DPA from the PNP; the closer the difference to zero, the higher the DPC. The study empirically tested the relationship between the DPC and organizational performance. Clinton and Hunton concluded that the degree of participative congruence (DPC) between the perceived need for participation (PNP) and the degree of participation allowed (DPA) is important to improve individual decision-making and organizational effectiveness. These researchers predicted that organizational performance measures would increase as the DPC measure approached zero. Data was collected via survey questionnaires from a diverse group of 386 accounting personnel in the publishing, paper manufacturing, and chemical products industries. Correlation analysis among DPC and several organizational performance measures (such as percent change in net income, percent change in stock price, percent change in return on investment, and perceived firm performance compared to industry peers) was used to test the researchers' hypothesis. Their results support Clinton and Hunton's hypothesis that organizational performance increases for all four measures of organizational performance as DPC approaches zero. In addition to these findings, Clinton and Hunton contributed to the participative budgeting literature by introducing a new measure, DPC.

3. RESEARCH METHOD

3.1 Hypothesis Development

Accounting researchers have long been interested in the participative budgeting-performance linkage (Figure 3.1). In their quest to provide consistent empirical evidence on this linkage, researchers examined the effects of numerous moderating and mediating variables. One such variable is the effect of budgetary participation on goal commitment. Goal commitment is the determination to try to achieve a budget goal and the persistence in continuing to pursue that goal. Research in the participative budgeting area also examined whether participation can result in greater goal commitment (Locke 1968). In other similar studies, participation was found to lead to higher goal commitment, which in turn led to increased performance (Chong and Chong 2002 and Wentzel 2002).

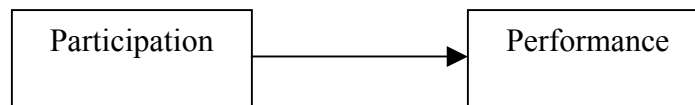


Figure 3.1 Participative Budgeting-Performance Linkage

A recent study by Neubert and Cady (2001) found that program commitment (i.e., commitment to a specific program), not goal commitment (i.e., commitment to the attainment of specific goals), leads to higher participation, which in turn leads to higher performance. This finding may be significant in terms of participative budgeting research because program commitment may prove to be a significant antecedent of participative budgeting. However, this finding also provides conflicting evidence regarding prior research in the participative budgeting literature because the participative budgeting literature shows that participation leads to commitment rather than commitment leading to participation.

Neubert and Cady (2001) conclude that program commitment leads to participation, which leads to higher performance (Figure 3.2). Generally, the participative budgeting literature has concluded that participative budgeting leads to higher goal commitment (program commitment was not tested), which leads to higher performance (Chong and Chong 2002 and Wentzel 2002). Examining the results of Neubert and Cady (2001), Chong and Chong (2002), and Wentzel (2002), the effects of program commitment in the participative budgeting setting should be investigated because it is a variable of interest not previously investigated in the participative budgeting literature. Furthermore, the antecedents of program commitment and its effects on participation and performance should also be included in this examination to give a better understanding of the factors that influence program commitment as well as the influence program commitment has on participation and performance in a budgeting setting. Therefore, the participative budgeting literature can be extended by testing an expanded framework built on the one used by Neubert and Cady (2001).

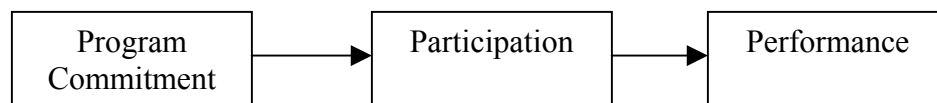


Figure 3.2 Mediated Model

While finding a significant relationship between participation and program commitment in itself would be relevant, Clinton and Hunton (2001) suggest that the fit between the perceived need for participation (PNP) and the degree of participation allowed (DPA) (i.e. the degree of participative congruence [DPC]) might be a more critical factor than either the PNP or the DPA alone. Therefore, it also would be

important to determine if this variable (DPC) will further resolve the mixed results of previous research using other participation measures while expanding the participative budgeting-performance model.

In an effort to expand the participative budgeting-performance linkage, Shields and Shields (1998) suggest that instead of focusing on the moderating and mediating variables, researchers should focus on antecedent variables. Antecedent variables lead to or affect independent variables (Shields and Shields 1998), whereas moderating variables affect the relationship between an independent and dependent variable (Shields and Shields 1998 and Sharma, Durand, and Gur-Arie 1981).

Sharma et al. (1981) identify two primary types of moderating variables; the first type affects the strength of the relationship between the independent and dependent variable while the second type affects the “form” of the relationship between the independent and dependent variable. Sharma et al. explain that the first type of moderator (i.e., strength) is not related to the independent and dependent variable, nor does it interact with the independent variable. Sharma et al. also explain that the second type of moderator (i.e., form) interacts with the independent variable to alter the form of the independent-dependent variable relationship; however, this moderator is not related to the independent or the dependent variable. Finally, a mediating (intervening) variable is determined by an independent variable and affects a dependent variable (Shields and Shields 1998). Therefore, this study proposes a more comprehensive model for the participative budgeting-performance linkage by combining existing participative budgeting-performance theory, Neubert and Cady’s (2001) theoretical model, and Clinton and Hunton’s (2001) DPC measure.

Using existing research evidence and the current development of theory, the proposed model suggests that program commitment (commitment to the budget) leads to increased DPC, which in turn leads to increased performance. In addition to this proposition, antecedents of program commitment will also be included in the model to determine if such factors are capable of leading to higher program commitment as suggested by Neubert and Cady (2001). The research model is illustrated in Figure 3.3.

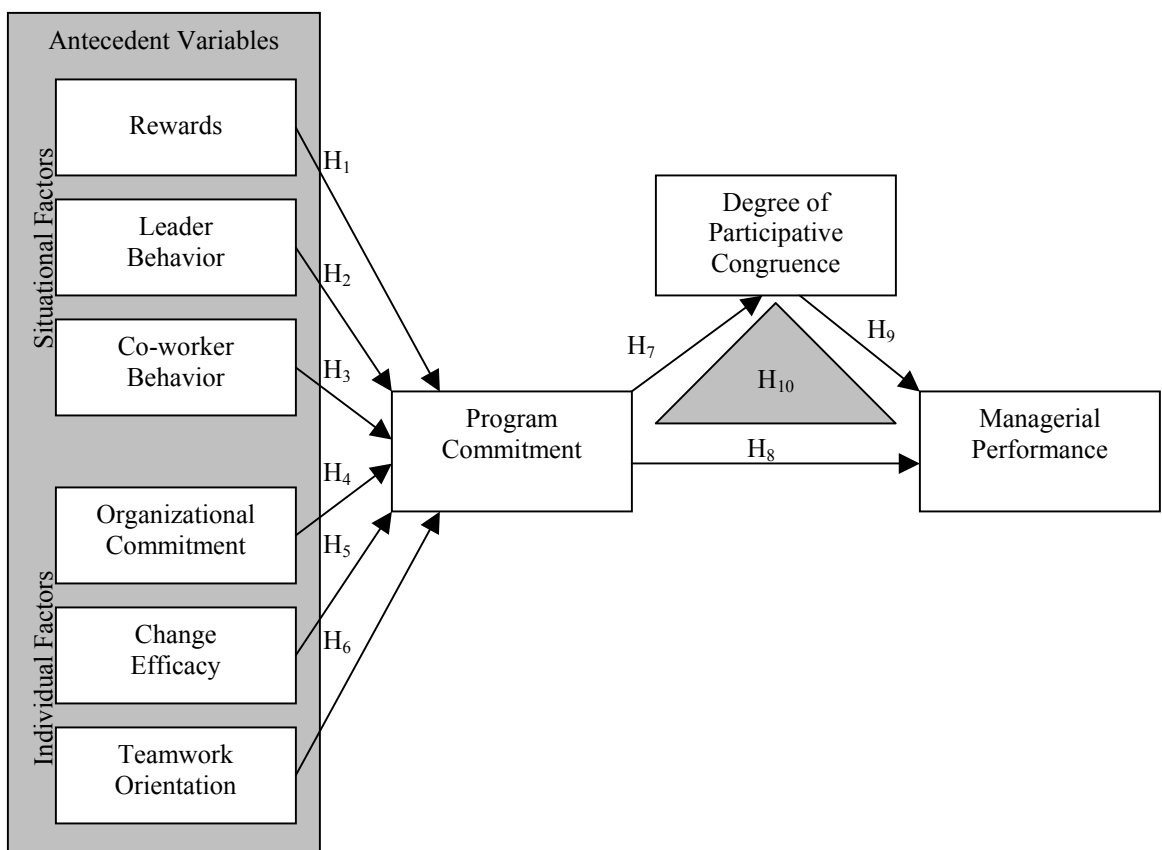


Figure 3.3 Research Model

The literature suggests that higher program commitment may lead to higher participation (Beer, Eisenstat, and Spector 1990). Beer et al. suggest that a high level of commitment to a program motivates individuals to put forth the effort, initiative, and cooperative behaviors required to successfully implement change. In addition, Conner

and Patterson (1981) suggest that committed employees demonstrate enthusiasm, get involved, persist in the face of difficulties, and take personal responsibility for a program's successful implementation.

In the study conducted by Clinton (1999), the author examines a number of situational, organizational, and individual factors. Specifically, Clinton tests the factors of technological complexity (organizational factor); decision quality, decision acceptance, subordinate development, and decision costs (situational factors); and personality, attitudes, culture, gender, and background (individual factors). While his study indicates that antecedents to participation at the organizational, situational, and individual levels influence the perceived need for participation appropriate in participative budgeting, he provides no evidence on specific antecedent-consequence linkages.

However, Neubert and Cady (2001) do provide evidence on specific antecedent-consequence linkages in their study. They found that certain compliance perceptions (rewards, leader behavior, and co-worker behavior) and certain affective perceptions (organizational commitment, change efficacy, and teamwork orientation) are antecedents of higher program commitment. Neubert and Cady also found that program commitment is a significant antecedent to participation.

To more fully justify the inclusion of the compliance and affective perceptions, a brief discussion is provided. Compliance perceptions are factors that encompass individuals' perceptions of the environment in which they work (Neubert and Cady 2001). Such perceptions included in the research model are rewards, leader behavior, and co-worker behavior. Rewards are shown to be a factor that can affect behaviors and

attitudes (Lawler and Jenkins 1992). Specifically, rewards increase commitment (Steers and Porter 1991, Riedel, Nebeker, and Cooper 1988, and Covin and Kilmann 1990) and performance through their effect on commitment (Riedel, Nebeker, and Cooper 1988). In other instances, the behaviors of leaders (e.g., supervisors and managers) increase employees' commitment when these leaders involve employees in the tasks of the program (Beer et al. 1990). Similarly, co-worker behavior affects employees and behaviors (Schein 1990). Bandura (1986) suggests that co-workers might act as role models, thus affecting an employee's program commitment.

The research model introduced affective perceptions, such as organizational commitment, change efficacy, and teamwork orientation, as antecedent variables. According to Hunt and Morgan (1994) and Locke and Latham (1990), organizational commitment is expected to affect program commitment. In addition, Neubert and Cady (2001) suggest that a high level of organizational commitment is positively associated with commitment to smaller programs because these programs are designed to benefit the entire corporation.

Another variable capable of affecting the level of program commitment is change efficacy, which can be described as "a person's beliefs about his or her ability to change" (Neubert and Cady 2001, 431). Armenakis, Harris, and Mossholder (1993) suggest that for an individual to positively respond to a proposed change, that individual must have high change efficacy. Finally, Neubert and Cady (2001) suggest that teamwork orientation influences the level of program commitment. This construct is assessed by evaluating an individual's orientation (e.g., collectivist or individualist). A collectivist-oriented individual values the idea of being in a group, whereas an individualist-oriented

individual is only interested in attaining personal goals (Chen, Chen, and Meindl 1995 and Moorman and Blakely 1995).

The main objective of this research is to provide additional empirical evidence of the participative budgeting-performance linkage. Specifically, it examines program commitment as an antecedent variable, which may prove helpful in describing this linkage. Examining program commitment as an antecedent variable is particularly important because commitment (program or goal) has not been investigated as an antecedent variable in the participative budgeting literature although goal commitment has been tested as a mediating variable. Testing for program commitment as an antecedent variable is important because evidence (Neubert and Cady 2001) suggests that higher program commitment leads to higher participation, which in turn leads to higher performance. Antecedents to the program commitment variable will also be observed to confirm prior research findings and to provide greater understanding of possible ways to increase commitment, the degree of participation congruence, and finally, performance. A discussion of the specific research hypotheses, in alternative form, follows.

The first three hypotheses relate to individuals' perceptions of specific situational factors. These factors are included to capture individuals' perceptions of the work environment. Steers and Porter (1991) argue that rewards lead to increased commitment due to individuals' behavioral changes in response to rewards. Rusbult and Farrell (1983) demonstrate that rewards increase job commitment. In a similar study, Oliver (1990) finds that rewards lead to increased organizational commitment as well as job commitment. Riedel, Nebeker, and Cooper (1988) examine the effects of monetary incentives on goal commitment and find that individuals who receive monetary

incentives have higher goal commitment than individuals who do not receive monetary incentives. Based on the results of these studies, the first hypothesis follows:

H₁: Perceptions of rewards will be positively associated with program commitment.

Support for this hypothesis would provide additional evidence that rewards lead to increased commitment. Rewards leading to increased program commitment would imply that management could increase employees' commitment by increasing their perceptions of rewards.

Beer et al. (1990) believe that subordinates would be more committed to tasks and changes if managers or supervisors were directly involved in these tasks and changes. In an exploratory study, Covin and Kilmann (1990) identify management support as being a key factor associated with the success of change programs. O'Reilly and Roberts (1978) provide statistical evidence that leader behavior is associated with increased subordinate organizational commitment. Rhoades, Eisenberger, and Armeli (2001) find that while supervisor support does not have a direct effect on organizational commitment, this relationship is mediated by perceived organizational support. Thus, the second hypothesis (stated in alternative form) is as follows:

H₂: Perceptions of leader's behavior will be positively associated with program commitment.

Acceptance of this hypothesis would provide managers with an increased awareness of the importance of the relationship between leader behavior and program commitment. A positive association between an individual's perceptions of his/her leader's behavior and program commitment confirms the notion that management support is an important precursor to introducing programs involving subordinates. Lack of

significance for this hypothesis could imply that program support from supervisors is not a viable means of increasing commitment.

Schein (1990) believes that peers can influence commitment by encouraging or discouraging programs through cultural norms. In addition, co-workers may act as role models, thus influencing an employee's program commitment. The possibility that co-workers may act as role models leads to the third hypothesis:

H₃: Perceptions of co-workers' behaviors will be positively associated with program commitment.

A significant association obtained in the third hypothesis would suggest to managers that subordinates can influence other subordinates' program commitments. The ability of a subordinate to influence another subordinate's program commitment would suggest that before introducing new programs, managers need the broad-based support of subordinates who may be informal leaders or role models to other subordinates.

The following hypotheses relate to how individuals perceive their roles within the organization. These hypotheses relate to characteristics of individuals, which may aid management in assigning individuals to certain programs or tasks.

Early research provides evidence that organizational commitment and occupational commitment are highly positively correlated (Aranya and Jacobson 1975), which indicates that one type of commitment may lead to another type of commitment. Later, Hunt and Morgan (1994) provide additional evidence that organizational commitment leads to other more specific commitments within the entity. The fourth hypothesis is as follows:

H₄: Organizational commitment will be positively associated with program commitment.

Evidence supporting this hypothesis would suggest to managers that an individual with high organizational commitment is more likely to have higher program commitment. A positive association between organizational commitment and program commitment would suggest to managers that they need to involve individuals who have higher organizational commitment in implementing programs.

Another individual characteristic capable of affecting program commitment is change efficacy. Change efficacy can be described as “a person’s beliefs about his or her ability to change” (Neubert and Cady 2001, 431). Armenakis, Harris, and Mossholder (1993) suggest that in order for an individual to positively respond to a proposed change, that individual must have high change efficacy. An individual with low change efficacy is likely to prefer things the way they are, suggesting that he/she will have lower commitment to a program requiring change. Thus, the fifth hypothesis is as follows:

H₅: Change efficacy will be positively associated with program commitment.

Support for the fifth hypothesis would suggest to corporations that individuals with high change efficacy are more likely to have higher program commitment than individuals with low change efficacy. Therefore, management should try to involve these individuals in program implementation because they are likely to be more committed.

A third individual characteristic capable of affecting program commitment is teamwork orientation. Chen, Chen, and Meindl (1995) discuss teamwork orientation in terms of an individual being a collectivist or an individualist. Chen et al. believe an individual with a collectivist orientation values group membership and will make sacrifices to benefit the group or organization. Individuals with an individualist

orientation, on the other hand, are believed to be interested in attaining personal goals. Moorman and Blakely (1995) provide evidence that collectivist oriented individuals are more likely to find ways to help the welfare of the group, even though helping does not directly affect their individual interest. Thus, hypothesis six is stated as follows:

H₆: Teamwork orientation will be positively associated with program commitment.

Acceptance of this hypothesis would suggest that a teamwork-oriented individual is more likely to have higher program commitment. Thus, managers should try to involve individuals who have higher teamwork orientations in implementing programs because these individuals are likely to demonstrate higher program commitment.

Organizational commitment has been shown to have a negative effect on employee turnover, which has been used as a measure of participation (Porter, Steers, Mowday, and Boulian 1974). Thus, by reducing turnover, commitment increases participation. In a similar study, Marsh and Mannari (1977) do not find statistical support for the negative association between commitment and participation; however, the sign on the association was negative. Based on the results of these studies, Neubert and Cady believe that program commitment has a positive association with participation. The study's results support their hypothesis, suggesting that individuals' program commitment has the ability to influence their participation. The measure of participation used in this study, the degree of participative congruence (DPC), aims at obtaining the congruence between the perceived need for participation and the degree of participation allowed. Thus, hypothesis seven is as follows:

H₇: Program commitment will be positively associated with DPC.

Support for this hypothesis would indicate that individuals with high program commitment are more likely to participate in the program than individuals with low program commitment.

Organizational commitment has also been shown to be positively related to performance (Van Maanen 1975, Meyer, Paunonen, Gellatly, Goffin, and Jackson 1989, and Mayer and Schoorman 1992). This finding suggests that commitment can have a positive effect on performance. Hypothesis eight is as follows:

H₈: Program commitment will be positively associated with performance.

Evidence supporting this hypothesis would imply that individuals with high program commitment are likely to have higher performance than individuals with low program commitment. However, if this hypothesis were not supported, it might suggest that an individual's program commitment does not affect his/her performance.

Prior research examines the relationship between participation and performance (Milani 1975, Kenis 1979, Merchant 1981, and Brownell 1982a) while Clinton and Hunton (2001) provide evidence that the degree of participative congruence is positively related to organizational performance. Although the results on the participation-performance linkage are inconsistent, theory suggests that this linkage should be positive. Hypothesis nine is as follows:

H₉: DPC will be positively associated with performance

Significant support for this hypothesis would signal to management that individuals who perceive the organization as having a high degree of participative congruence are likely to have higher performance than individuals who perceive the organization as having a low degree of participative congruence. Insignificant results

might imply that an individual's degree of participative congruence does not affect an individual's performance.

Neubert and Cady (2001) examined the mediating effects of participation on the relationship between program commitment and performance. Their results indicate that the mediating model fits the data better than a model allowing only a direct link from program commitment to performance. Hypothesis ten is as follows:

H₁₀: DPC will mediate the relationship between program commitment and performance.

Acceptance of this final hypothesis would suggest that program commitment increases performance through its mediating effects on the degree of participative congruence. Lack of significance for this hypothesis might imply that the degree of participative congruence does not have a mediating effect on the relationship between program commitment and performance.

3.2 Required Subjects

This study examines the effect of two factors on an individual's performance: (1) an individual's level of program commitment and (2) an individual's degree of participative congruence. In addition, this research examines the effects of situational and individual factors, as antecedent variables, believed to affect program commitment.

I used a randomly selected sample of members of the American Institute of Certified Public Accountants (AICPA). These individuals are appropriate subjects for the study because these AICPA members work in a variety of business and industry organizations as financial accounting management and financial accounting staff. Thus, these subjects are appropriate because they are highly likely to be involved in the budget-setting process.

3.3 The Research Instrument and Variable Definitions

I provided the subjects in this study with a questionnaire to measure the constructs of interest. The subjects indicated their responses to various statements referring to rewards, leader behavior, co-worker behavior, organizational commitment, change efficacy, teamwork orientation, program commitment, participation, and performance. A discussion of the measures used appears below. A Cronbach alpha coefficient of internal reliability will be calculated for each variable to measure the internal reliability of the construct. Each construct will be measured using a seven-point Likert-type scale. The scale ranges from 1=Strongly Disagree to 7=Strongly Agree for the measures of rewards, leader behavior, co-worker behavior, organizational commitment, change efficacy, teamwork orientation, and program commitment. The overall score for each measure is the mean of the construct.

This study uses a number of measures that have been previously validated in prior research. Neubert and Cady (2001) used a measure of rewards to estimate the extent to which employees believe that certain actions are rewarded or recognized by others in the organization. The measure of rewards consists of three items.

Neubert and Cady (2001) used leader behavior to measure subordinates' perceptions of the leadership behaviors demonstrated by their immediate supervisors. This item is measured using ten items selected from Podsakoff, MacKenzie, Moorman, and Fetter's (1990) transformation leadership behavior scale and Moorman's (1991) interpersonal justice scale.

Neubert and Cady (2001) used co-worker behavior to measure subordinates' perceptions of co-workers' behaviors and attitudes within their individual departments.

This item is measured using six items taken from the scale developed by Neubert and Cady (2001).

Neubert and Cady (2001) used organizational commitment to measure subordinates' levels of commitment to the organization. This nine-item scale was developed from the nineteen-item scale used by Mayer and Schoorman (1992).

Neubert and Cady (2001) used change efficacy to measure an individual's ability to and confidence in adapting to change. This three-item scale was developed from the thirteen-item scale of general self-efficacy used by Noe and Wilk (1993).

Neubert and Cady (2001) used teamwork orientation to measure an individual's preference for working individually or collectively. This three-item scale was developed as a result of a confirmatory factor analysis conducted by Moorman and Blakely (1995) and used by Neubert and Cady (2001).

Neubert and Cady (2001) used program commitment to measure an individual's commitment to a specific program. Neubert and Cady (2001) adapted this six-item scale from the goal commitment measure used by Hollenbeck, Klein, O'Leary, and Wright (1989).

Clinton and Hunton (2001) used the degree of participative congruence to measure the difference between an individual's perceived need for participation and an individual's degree of participation allowed. This six-item scale was developed from the three dimensions of participative budgeting proposed by Bruns and Waterhouse (1975). Clinton and Hunton (2001) identified two items from each dimension that loaded high on each dimension. This scale ranges from 1=Not Often At All to 7=Very Often. Each of the six items is composed of two parts, the first relating to the perceived need for

participation and the second relating to the degree of participation allowed. DPC is calculated by taking the difference between the PNP and the DPA for each of the six questions. The mean of DPC is then calculated to be included in the final analysis.

The performance measure used in this study was validated by a number of studies (Brownell 1982c, Brownell and Hirst 1986, Brownell and Dunk 1991, Chong and Chong 2002, and Wentzel 2002). Mahoney, Jerdee, and Carroll (1963) developed this eight-item scale. This scale ranges from 1=Well Below Average to 7=Well Above Average.

3.4 Statistical Tests of Hypotheses

Previous participative budgeting research relied principally on path analysis to test the proposed associations. Other studies have used regression analysis to analyze such relationships. However, structural equation modeling (SEM) may be a more appropriate methodology. SEM may be used as a more powerful alternative to multiple regression, path analysis, factor analysis, time series analysis, and analysis of covariance (Kline 1998), and offers the following advantages. First and foremost, SEM corrects for measurement error. This correction is very important due to the nature of the constructs used in this study. Second, SEM has more flexibility regarding model assumptions; particularly, it allows interpretation even in the event of multicollinearity. Another advantage is SEM's ability to test the overall model rather than individual coefficients. Fourth, SEM is capable of modeling mediating variables. Finally, SEM allows the estimation of all path coefficients simultaneously and the assessment of the "best" fit of the data for the proposed models.

SEM is considered a large sample technique requiring a sample size of 100 to 200 subjects as being optimal (Kline 1998). I used SEM, which is considered to be a hybrid

model comprised of both path analysis and confirmatory factor analysis. Path models are structural models showing causal relationships, but each construct of the model has only one measure. On the other hand, confirmatory factor analysis has multiple measures for each construct; however, measurement models such as this do not analyze the associations between the constructs (Kline 1998). Thus, the SEM used in this study employs multiple measures for each construct in addition to analyzing the causal relationships between the different constructs.

While the research model provides some replication of previous findings, such as the linkage between participation and performance, its main contribution is to investigate whether program commitment leads to DPC. This study also provides further evidence using the DPC measurement (Clinton and Hunton 2001) by testing it with a different performance measurement. Clinton and Hunton used organizational performance measures while this study focuses on individual performance measures.

3.4.1 Hypotheses 1 through 6

Previous theory development suggests that program commitment is influenced by rewards, leader behavior, co-worker behavior, organizational commitment, change efficacy, and teamwork orientation (Neubert and Cady 2001). Each of these exogenous constructs and its relationship to program commitment is evaluated by examining each of the path coefficients. The structural model presented below is used to test the significance of each path.

$$\eta_1 = \gamma_{11} + \gamma_{12} + \gamma_{13} + \gamma_{14} + \gamma_{15} + \gamma_{16} + \zeta_1; \quad (3.1)$$

where η_1 = Program commitment,
 γ_{11} = Path from rewards to program commitment,
 γ_{12} = Path from leader behavior to program commitment,
 γ_{13} = Path from co-worker behavior to program commitment,

γ_{14} = Path from organizational commitment to program commitment,
 γ_{15} = Path from change efficacy to program commitment,
 γ_{12} = Path from teamwork orientation to program commitment, and
 ζ_1 = Error term associated with program commitment.

Hypothesis 1 addresses the association between rewards and program commitment. Specifically, it is predicted that rewards will have a positive effect on program commitment. Thus, a significantly positive γ_{11} would allow rejection of the null in favor of the alternative, and Hypothesis 1 would be supported.

Hypothesis 2 examines the relationship between an individual's perceptions of his/her leader's behavior and program commitment. If an individual perceives his/her leader as being supportive of a program, he/she will likely be more committed to the program. Therefore, a significantly positive path from perceptions of leader's behavior to program commitment (γ_{12}) would allow rejection of the null in favor of the alternative, supporting Hypothesis 2.

Hypothesis 3 addresses the relationship between an individual's perceptions of co-workers' behaviors and program commitment. It posits that co-workers' support, or lack thereof, for a program will affect another individual's commitment toward that same program. Specifically, Hypothesis 3 states that an individual's perceptions of co-workers' behaviors will have a positive influence on that individual's program commitment. A significantly positive path coefficient between perceptions of co-workers' behaviors and program commitment (γ_{13}) would support this hypothesis.

Hypothesis 4 examines the relationship between organizational commitment and program commitment. Theory indicates that individuals with high organizational commitment are more likely to have higher program commitment than individuals with lower organizational commitment. Therefore, a significantly positive path coefficient

between organizational commitment and program commitment (γ_{14}) would support the fourth hypothesis.

Hypothesis 5 addresses the association between change efficacy and program commitment. If an individual possesses a high change efficacy (ability to change), he/she is more likely to commit to a program that requires change than an individual with a low change efficacy. Higher change efficacy is expected to lead to higher program commitment; therefore, a significantly positive path coefficient between change efficacy and program commitment (γ_{15}) would support Hypothesis 5.

Hypothesis 6 addresses the association between teamwork orientation and program commitment. Teamwork-oriented individuals value membership and are likely to be committed to a program if the program will help the welfare of the group. Thus, a significantly positive path coefficient between teamwork orientation and program commitment (γ_{16}) would support the sixth hypothesis.

3.4.2 Hypothesis 7

The following structural model will be used to test Hypothesis 7.

$$\eta_2 = \beta_{21} + \zeta_2 \tag{3.2}$$

where η_2 = DPC,
 β_{21} = Path from program commitment to DPC, and
 ζ_2 = Error term associated with DPC.

Hypothesis 7 examines the effect of program commitment on the degree of participative congruence. An individual's program commitment is believed to have a positive impact on the degree of participative congruence. Because the degree of participative congruence is the difference between the perceived need for participation and the degree of participation allowed, and a low score indicates high congruence, a

significantly negative path coefficient between program commitment and the degree of participative congruence (β_{21}) would provide support for Hypothesis 7.

3.4.3 Hypotheses 8 and 9

Hypotheses 8 and 9 focus on the endogenous variable, performance. To test these two hypotheses, the structural paths of the following equation will be examined.

$$\eta_3 = \beta_{31} + \beta_{32} + \zeta_3 \quad (3.3)$$

where η_3 = Managerial performance,
 β_{31} = Path from program commitment to managerial performance,
 β_{32} = Path from DPC to managerial performance, and
 ζ_3 = Error term associated with managerial performance.

Hypothesis 8 addresses the relationship between program commitment and performance. Previous research indicates that commitment to a program is likely to increase an individual's performance with respect to that program. Hypothesis 8 predicts that program commitment will have a positive influence on performance. Using the third structural equation, a significantly positive coefficient for β_{31} would allow rejection of the null in favor of the alternative, supporting Hypothesis 8.

Hypothesis 9 addresses the relationship between the degree of participative congruence and performance. Theory suggests that individuals with a high degree of participative congruence are more likely to have higher performance than individuals with a low degree of participative congruence. Because a low score for the degree of participative congruence indicates high congruence, a significantly negative path coefficient between the degree of participative congruence and performance (β_{32}) would provide support for Hypothesis 9.

3.4.4 Hypothesis 10

Hypothesis 10 addresses the mediating effect of the degree of participative congruence on the relationship between program commitment and performance and is conditional on hypotheses 7 and 9 being significant. This hypothesis suggests that program commitment affects performance indirectly through the degree of participative congruence. To complete the test for mediation, Baron and Kenny (1986) conduct a series of steps, each of which must be observed to be significant. The steps used by Baron and Kenny (1986) include: (1) testing for a significant path leading from program commitment to performance; (2) testing for a significant path leading from program commitment to DPC (the mediator); (3) testing for a significant path leading from DPC to performance, with program commitment as a predictor of performance as well; and (4) establishing that the path from program commitment to performance becomes zero when DPC is included as a mediating variable. It is necessary to point out that this test for mediation is conditioned on finding significance in prior tests; therefore, this test is considered high-risk and the joint probability of completing it is very low.

All hypotheses are tested using the three structural models presented in the previous section. Figure 3.4 summarizes these hypotheses in the form of the path model, with the appropriate structural equation notation for each one. This figure allows a more holistic view of the hypotheses tested in the structural model, allowing a more graphic depiction of the model's results.

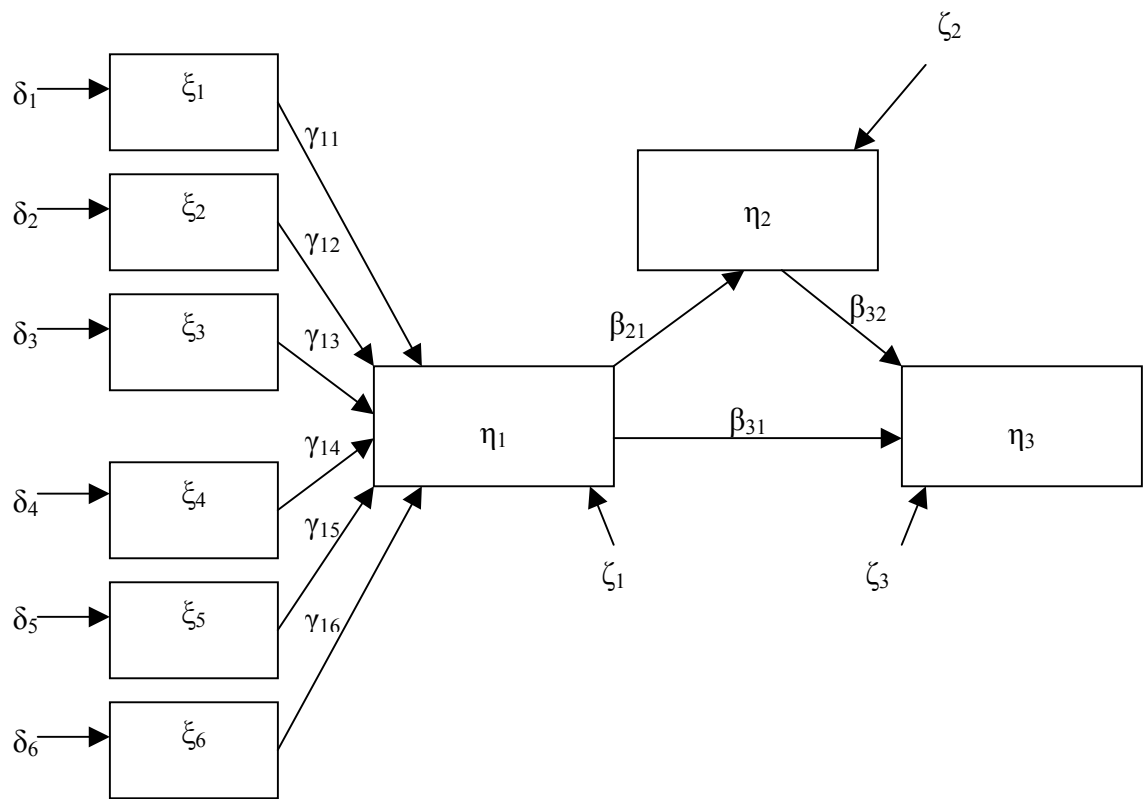


Figure 3.4 Structural Equations' Path Model

4. STATISTICAL RESULTS

This chapter consists of the data collection process and the hypotheses tests in the following sections: data collection and demographics (4.1), usable responses (4.2), test for nonresponse bias (4.3), confirmatory factor analysis (4.4), overall model fit (4.5), hypothesis testing (4.6), and model re-specification (4.7).

4.1 Data Collection and Demographics

This study focuses on individuals' beliefs about the budgetary process and their participation in this process. Therefore, this research requires subjects who are involved in and have information about the budgetary process. This section consists of the method used to administer the research instruments (i.e., questionnaires), the number of usable responses, and demographic information about the accountants that comprised the final sample.

4.1.1 Data Collection

The questionnaires (see Appendix C) were mailed to 1,500 members of the American Institute of Certified Public Accountants. Two hundred-twenty responses were received by means of individual postage-paid reply envelopes, resulting in a 14.7% response rate. No follow-up mail-outs were conducted due to the stipulations of confidentiality set forth by the company issuing the AICPA database.

4.1.2 Demographics

The demographics section evaluates the characteristics of the sample and is not considered a significant part of the study. Therefore, if respondents did not complete all of the demographics section, they were still included in the study. Due to this criterion, the demographics data is based on different numbers of responses. The average age of

respondents was 42 years having an average of 19 years of experience. A summary of the demographics section is reported in Table 4.1.

Table 4.1 Demographics

<i>Panel A: General demographics</i>	<u>Number</u>	<u>Mean</u>	<u>Min</u>	<u>Max</u>
Age	194	42.18	25	62
Years of employment at current job	196	7.08	1	35
Years position held at current job	196	3.66	1	20
Years of experience	196	18.73	3	40
Number of employees in organization	190	11,263	3	30,000
<i>Panel B: Education</i>	<u>Number</u>			
Bachelors	121			
Post Baccalaureate	75			
No response	1			
Total	197			

4.2 Usable Responses

Of the 220 responses received, 23 questionnaires were deemed unusable and therefore, not included in the study. First, 21 responses were not included in the analysis because the respondents indicated that their organizations did not engage in formal budgeting processes. One response was eliminated because the questions associated with the main variables of interest were not answered. Finally, one questionnaire was returned completely blank. Therefore, the final sample consisted of 197 usable questionnaires.

Table 4.2 summarizes the questionnaires that were discarded from the sample.

4.3 Test for Nonresponse Bias

An investigation of significant differences between the first one-third of the responses and the last one-third of the responses was undertaken to evaluate the existence of nonresponse bias. This method, described by Armstrong and Overton (1977), suggests that by using extrapolation methods, the respondents that responded later (i.e., the last one-third of the sample) are more like nonrespondents. At the five-percent level of

significance, there was no significant difference between the first one-third and the last one-third of the respondents with respect to age, years employed at their current organization, years that they have held their current title, and years of business experience. Therefore, because I found no difference between the first one-third and the last one-third of the sample, I assumed the entire sample to be valid respondents. These results support the argument that the respondents are representative of those members who chose not to respond to the questionnaire.

Table 4.2 Final Sample Composition

Total Responses	<u>Total</u> 220
Omitted Responses:	
No formal budgeting processes ^a	21
Significant data missing ^b	1
No data at all	1
Total observations omitted	23
Usable Responses	197
^a These respondents indicated that their organizations either did not engage in formal budgeting processes or they were unsure if their organizations engaged in formal budgeting processes.	
^b Significant data missing indicates that the main variables of interest could not be measured due to the omission of responses.	

4.4 Confirmatory Factor Analysis

Due to the research's dependence on questionnaire input, it is imperative to discuss validity. Validity can be described as the best approximation to the truth of propositions. There are two main types of validity, internal validity and external validity, which work together to provide research that has the ability to be generalized to the real world. Internal validity is concerned with whether the statistical tests being used are appropriate as well as the causation of variables. On the other hand, external validity is concerned with whether variables (constructs) are actually measuring and representing

real-world concepts. External validity is also concerned with whether the findings can be generalized to observations outside of those used in the study. This section is concerned with the former definition of external validity, which is called construct validity.

Insuring construct validity is a difficult task but is addressed using confirmatory factor analysis. Confirmatory factor analysis provides some confidence that each of the questions used for each measure are related to the same construct. Using confirmatory factor analysis, composite reliabilities were calculated by dividing the sum of the squared loadings by the sum of the squared loadings plus the sum of their unexplained variance (similar to an R^2 metric). These composite reliabilities assess the internal consistency of the indicators and are equivalent to Cronbach alphas (Medsker, William, and Holahan 1994). Composite reliabilities are calculated as follows:

$$\frac{\left(\sum_{i=1} \lambda_{yi}\right)^2}{\left(\sum_{i=1} \lambda_{yi}\right)^2 + \sum_{i=1} Var(\varepsilon_i)}; \quad (4.1)$$

where λ_y = factor loadings from model estimated and
 (ε_i) = Error term.

A confirmatory factor analysis was conducted on each of the exogenous and endogenous measures. The loadings for the exogenous constructs are shown in Table 4.3 and the loadings for the endogenous constructs are shown in Table 4.4.

Table 4.3 Exogenous Construct Factor Loadings

	<u>Factor Loading</u>	<u>Measurement Error</u>		<u>Factor Loading</u>	<u>Measurement Error</u>
Rewards			OC:		
R1	.80	.36	OC1	.76	.43
R2	.69	.52	OC2	.60	.64
R3	.80	.37	OC3	.56	.69
LB:			OC4	.62	.62
LB1	.85	.28	OC5	.90	.20
LB2	.79	.38	OC6	.82	.33
LB3	.71	.50	OC7	.90	.18
LB4	.87	.24	OC8	.92	.15
LB5	.87	.24	OC9	.87	.24
LB6	.78	.39	CE:		
LB7	.73	.47	CE1	.57	.68
LB8	.69	.52	CE2	.78	.40
LB9	.68	.54	CE3	.75	.43
LB10	.71	.49	TO:		
CB:			TO1	.85	.28
CB1	.71	.49	TO2	.89	.22
CB2	.76	.42	TO3	.75	.44
CB3	.82	.33			
CB4	.77	.41			
CB5	.88	.23			
CB6	.88	.23			

Table 4.4 Endogenous Construct Factor Loadings

	<u>Factor Loading</u>	<u>Measurement Error</u>		<u>Factor Loading</u>	<u>Measurement Error</u>
PC:			Performance		
PC1	.69	.53	P1	.43	.82
PC2	.78	.39	P2	.71	.50
PC3	.73	.47	P3	.54	.71
PC4	.61	.63	P4	.71	.50
PC5	.73	.46	P5	.80	.37
PC6	.60	.64	P6	.77	.41
DPC			P7	.59	.65
DPC1	.68	.54	P8	.42	.82
DPC2	.81	.35	P9		
DPC3	.69	.52			
DPC4	.67	.55			
DPC5	.86	.27			
DPC6	.82	.33			

Using these factor loadings and equation (4.1), the composite reliabilities were calculated. The reliabilities for each construct are summarized in Table 4.5. In order to illustrate the likeness between these composite reliabilities and Cronbach alphas, the Cronbach alpha reliability coefficients are also included in Table 4.5. Single composite measures are used for the remaining analysis based on the results of the confirmatory factor analysis, the composite reliabilities, and the Cronbach coefficient alphas. Composite measures were used in Milani (1975), Chong and Chong (2002), Wentzel (2002), and Neubert and Cady (2001) as well as other studies, advocating their use in this study. These single composite measures are calculated by summing each measure and dividing by the number of indicators or questions for that measure. Basically, the single composite measures are the means for each construct examined. The composite measures are used along with the composite reliabilities estimated using the confirmatory factor analysis loadings.

Table 4.5 Composite Reliabilities

	<u>Composite Reliabilities</u>	<u>Cronbach Alphas</u>
Exogenous variables:		
Rewards	.8075	.7991
Leader behavior	.9375	.9351
Coworker behavior	.9167	.9163
Organizational commitment	.9328	.9318
Change efficacy	.7449	.7362
Teamwork orientation	.8683	.8647
Endogenous variables:		
Program commitment	.8460	.8375
Degree of participative congruence	.8891	.8871
Performance	.8379	.8374

The basic input data for SEM is either a correlation or covariance matrix. Correlations are calculated using standardized estimates³, while covariances are

calculated using unstandardized estimates.⁴ This study uses correlations as its input data because the values can be interpreted the same for all variables (Kline 1998). Although there is a preference for unstandardized estimates (covariance matrices) in the SEM literature, the unstandardized estimates cannot be directly compared across variables with different scales.⁵ Kline (1998) also provides three situations when it is inappropriate to use correlations as input data. These situations include (1) a multiple group analysis; (2) longitudinal measurements or variables; and (3) existence of meaningful rather than arbitrary original metrics of the variables. Based on this information, a correlation matrix was deemed an acceptable form for the input data.

4.5 Overall Model Fit

Structural equations modeling was used to test the fit of the data to the hypothesized model as well as to investigate the significance of the individual paths. The remainder of this section will include an analysis of the overall fit of the model and also the results of each individual hypothesis test.

There are multiple measures used to determine the overall fit of the model. Medsker et al. (1994) indicate that the chi-square statistic (χ^2), χ^2 divided by the model's degrees of freedom (χ^2/df), root mean square error of approximation (RMSEA), the comparative fit index (CFI), the normed fit index (NFI), and the non-normed fit index (NNFI) can all be used to measure overall fit.

The χ^2 statistic evaluates whether the discrepancies between the model and the data are due to sampling variation rather than model misspecifications (Medsker et al., 1994). Joreskog and Sorbom (1989) indicate that large χ^2 values indicate bad fit and small values indicate good fit. Medsker et al. (1994) suggest that χ^2 statistics with p-

values less than .05 indicate poor fit and χ^2 statistics with p-values greater than .05 indicate good fit.

A second measure of overall fit suggested by Medsker et al. (1994) is χ^2/df . This measure is deemed more appropriate with larger sample sizes. Basic guidelines for acceptable fit vary from ratios of two or three to ratios of at least five (Medsker et al., 1994).

RMSEA is based on the non-centrality parameter and is referred to as the discrepancy per degree of freedom. Browne and Cudeck (1992) indicate that acceptable levels of overall model fit using RMSEA are models that have a RMSEA of 0.08 or lower. Neubert and Cady (2001) suggest that RMSEA levels of 0.17 reflect reasonable levels of fit. However, most researchers believe that a RMSEA of 0.10 is proof of acceptable fit.

Another measure of fit is the CFI. The CFI compares the covariance matrix predicted by the model to the observed covariance matrix (Bentler 1990). The CFI measures the percent of fit accounted for by going from the null model (i.e. the model with a covariance matrix of zeros) to the research model, assuming an independent model (i.e., the variables in the model are uncorrelated). Generally, a CFI of 0.90 or higher is recommended.

A third measure of fit is the NFI. The NFI is similar to CFI, except that the NFI does not assume independence. A disadvantage of the NFI is that it is affected by sample size, and even if the hypothesized model is correct, it may not be equal to one (Bentler 1990). Typically, a NFI of 0.90 or higher indicates good fit.

Finally, the NNFI is examined. The NNFI is similar to NFI and the values for indication of good fit are the same. However, the NNFI is not affected by sample size, and if the hypothesized model is correct, then the NNFI can be equal to one (Bentler and Bonett 1980).

Based on the results of the structural model, each of these measures will be calculated to evaluate overall fit. Table 4.6 illustrates the values for each of these measures of overall fit. The RMSEA for the proposed model is 0.15, an indication of reasonably adequate fit. The results of the research model indicate a CFI of 0.83, which is representative of marginal fit. The research model resulted in a NFI of 0.81, indicating marginal fit. The research model produced a NNFI of 0.48, an indication of inadequate fit.

Table 4.6 Research Model Overall Fit Indexes

	<u>Acceptable ranges</u>	<u>Research model</u>
χ^2	Small values; p-value > .05	67.31; p-value = 0.0000
χ^2/df	Greater than 2	5.6
RMSEA	0.05-0.15	.15
CFI	0.90	.83
NFI	0.90	.81
NNFI	0.90	.48

The collection of the overall model fit indices is somewhat contradictory. Due to these variant fit indices, the overall fit appears to be adequate but less than desired; therefore, the results obtained from the model should be analyzed with care. The lack of a tight overall fit may be an indication that theory leading to a better model specification is lacking.

4.6 Hypothesis Testing

The hypotheses are evaluated based on the significance of the path coefficients obtained in the structural equations model. The structural equations model results in three equations. The equations are:

$$\eta_1 = \gamma_{11} + \gamma_{12} + \gamma_{13} + \gamma_{14} + \gamma_{15} + \gamma_{16} + \zeta_1; \quad (4.2)$$

where η_1 = Program commitment,
 γ_{11} = Path from rewards to program commitment,
 γ_{12} = Path from leader behavior to program commitment,
 γ_{13} = Path from co-worker behavior to program commitment,
 γ_{14} = Path from organizational commitment to program commitment,
 γ_{15} = Path from change efficacy to program commitment,
 γ_{16} = Path from teamwork orientation to program commitment, and
 ζ_1 = Error term associated with program commitment;

$$\eta_2 = \beta_{21} + \zeta_2; \quad (4.3)$$

where η_2 = DPC,
 β_{21} = Path from program commitment to DPC, and
 ζ_2 = Error term associated with DPC; and

$$\eta_3 = \beta_{31} + \beta_{32} + \zeta_3; \quad (4.4)$$

where η_3 = Managerial performance,
 β_{31} = Path from program commitment to managerial performance,
 β_{32} = Path from DPC to managerial performance, and
 ζ_3 = Error term associated with managerial performance.

The significance of each path coefficient indicates whether the constructs being studied have an effect on other constructs in the model or if no association exists. The significance of each path is evaluated by examining the t-statistic for the path. Each of the hypotheses predicts direction and is therefore one-tailed. Due to the directionality, each t-statistic is deemed significant at (1) the 0.10 level of significance if the t-statistic is greater than 1.282; (2) the 0.05 level of significance if the t-statistic is greater than 1.645; and (3) the 0.01 level of significance if the t-statistic is greater than 2.326. A discussion

of the results with respect to each of the hypotheses is offered in the following sections. The results of the structural equations model are presented in graphical form in Figure 4.1, which gives an overall representation of the model and the significance of each of the paths. Additionally, Table 4.7 presents the parameter estimates, standard errors, t-statistics, and p-values for the structural equations.

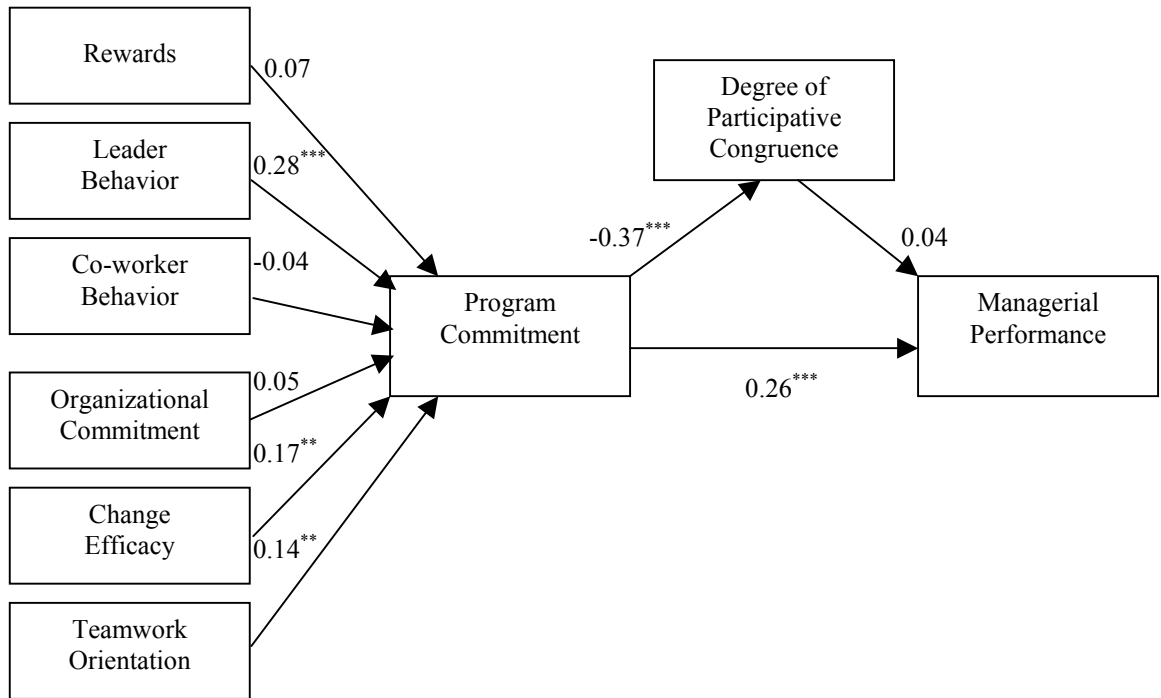


Figure 4.1 Structural Equations Model (Research Model)

- * Significant at the 0.10 level
- ** Significant at the 0.05 level
- *** Significant at the 0.01 level

Table 4.7 Structural Equations Results (Research Model)

$\eta_1 = \gamma_{11} + \gamma_{12} + \gamma_{13} + \gamma_{14} + \gamma_{15} + \gamma_{16} + \zeta_1$						
	<u>γ_{11}</u>	<u>γ_{12}</u>	<u>γ_{13}</u>	<u>γ_{14}</u>	<u>γ_{15}</u>	<u>γ_{16}</u>
Parameter estimate	0.07	0.28	-0.04	0.05	0.17	0.14
Standard error	0.14	0.11	0.09	0.12	0.09	0.08
T-statistic	0.50	2.50	-0.44	0.40	1.87	1.69
P-value	>0.10	<0.01	>0.10	>0.10	<0.05	<0.05
$\eta_2 = \beta_{21} + \zeta_2$						
	<u>β_{21}</u>					
Parameter estimate	-0.37					
Standard error	0.08					
T-statistic	-4.77					
P-value	<0.01					
$\eta_3 = \beta_{31} + \beta_{32} + \zeta_3$						
	<u>β_{31}</u>	<u>β_{32}</u>				
Parameter estimate	0.26	0.04				
Standard error	0.09	0.09				
T-statistic	2.93	0.40				
P-value	<0.01	>0.10				
$\eta_1 =$ Program commitment $\gamma_{11} =$ Path from rewards to program commitment $\gamma_{12} =$ Path from leader behavior to program commitment $\gamma_{13} =$ Path from co-worker behavior to program commitment $\gamma_{14} =$ Path from organizational commitment to program commitment $\gamma_{15} =$ Path from change efficacy to program commitment $\gamma_{16} =$ Path from teamwork orientation to program commitment						
$\eta_2 =$ DPC $\beta_{21} =$ Path from program commitment to DPC						
$\eta_3 =$ Managerial performance $\beta_{31} =$ Path from program commitment to managerial performance $\beta_{32} =$ Path from DPC to managerial performance $\zeta =$ Error term						

Each of the hypotheses discussed in the following subsections is stated in alternative form.

4.6.1 Hypothesis 1

The first hypothesis states that perceptions of rewards will be positively associated with program commitment. A review of the model indicates that the path leading from rewards to program commitment (γ_{11}) is 0.07, resulting in a t-statistic of 0.50. Based on the t-statistic, the first hypothesis is not supported.

4.6.2 Hypothesis 2

Hypothesis 2 states that perceptions of a leader's behavior will be positively associated with program commitment. Results of the model indicate a path coefficient of 0.28 for the leader's behavior-program commitment relationship (γ_{12}). The t-statistic for this path coefficient is 2.50, confirming the alternative hypothesis. This result suggests that when management and supervisors are inspirational, motivating, and encouraging, subordinates are more likely to be committed to the budgetary program.

4.6.3 Hypothesis 3

The third situational factor hypothesized to affect program commitment is co-workers' behavior. This hypothesis states that perceptions of co-workers' behavior will be positively associated with program commitment. The coefficient on the path from co-workers' behavior and program commitment (γ_{13}) is -0.04 , resulting in a t-statistic of -0.44 . Thus, the hypothesis is not supported.

4.6.4 Hypothesis 4

The fourth hypothesis is the first of three hypotheses focusing on individual antecedents. Hypothesis 4 states that organizational commitment will be positively associated with program commitment. The path coefficient on the relationship between organizational commitment and commitment to the budgetary process (γ_{14}) is 0.05. This

path coefficient resulted in an insignificant t-statistic of 0.40. Based on the t-statistic, this hypothesis is not supported.

4.6.5 Hypothesis 5

The second individual antecedent investigated is change efficacy. The fifth hypothesis states that change efficacy will be positively associated with program commitment. A review of the model's results indicates that the path coefficient leading from change efficacy to budgetary process commitment (γ_{15}) is 0.17, resulting in a t-statistic of 1.87. Thus, the t-statistic supports the alternative hypothesis at the 0.05 level of significance. These results indicate that change efficacy is positively associated with budgetary process commitment and are consistent with the notion that individuals having the ability to adapt to change are more likely to be committed to the budgetary process.

4.6.6 Hypothesis 6

Hypothesis 6 states that an individual's teamwork orientation will be positively associated with program commitment. The model calculated a path coefficient of 0.14 for the relationship between teamwork orientation and budgetary process commitment (γ_{16}). Based on the t-statistic of 1.69, the path coefficient is significant at the 0.05 significance level. The significance of this path suggests that teamwork orientation is positively associated with commitment to the budgetary process and that individuals with higher teamwork orientation are likely to be more committed to the budgetary process.

4.6.7 Hypothesis 7

Hypothesis 7 investigates the relationship between budgetary process commitment and the degree of participative congruence (DPC)⁶, with the latter measured on a declining scale (i.e., negative sign). The results of the model reveal a path

coefficient of -0.37 for this relationship (β_{21}) and a t-statistic of -4.77 , significant at the .01 level of significance. This finding supports the alternative hypothesis. The significantly negative path coefficient indicates a positive association between budgetary process commitment and DPC. This suggests that an individual with a high level of budgetary process commitment is more likely to perceive a high congruence of participation.

4.6.8 Hypothesis 8

The eighth hypothesis states that program commitment will be positively associated with managerial performance. The model resulted in a path coefficient (β_{31}) of 0.26, which based on the t-statistic of 2.93 is significant at the 0.01 level of significance. This t-statistic confirms the alternative hypothesis, suggesting that individuals with high levels of program commitment are more likely to have higher levels of performance.

4.6.9 Hypothesis 9

The ninth hypothesis investigates the relationship between DPC and managerial performance. Hypothesis 9 states that DPC will be positively associated with performance. Review of the results indicated a path coefficient (β_{32}) of 0.04. Based on the t-statistic of 0.40, this test provides insufficient evidence to support the alternative hypothesis.

4.6.10 Hypothesis 10

Hypothesis 10 states that DPC will mediate the relationship between program commitment and performance. This hypothesis is tested by investigating a series of steps used by Baron and Kenny (1986), and each of the steps must be observed to be significant to complete the test for mediation. The steps used by Baron and Kenny

(1986) include (1) test for a significant path leading from program commitment to performance; (2) test for a significant path leading from program commitment to DPC (the mediator); (3) test for a significant path leading from DPC to performance, with program commitment as a predictor of performance as well; and (4) establish that the path from program commitment to performance becomes zero when DPC is included as a mediating variable.

Each of the steps used by Baron and Kenny (1986) is investigated to examine the significance of hypothesis 10. First, the path from program commitment to performance is investigated and found to be significant. Second, the path from program commitment and DPC is investigated and found to be significant. The third step includes an investigation of the path from DPC to performance, but the path is not significant. Based on the results of step three, the fourth step becomes problematic. The hypothesis that DPC acts a mediator can therefore not be supported.

4.7 Model Re-specification

Based on the results of the structural equations modeling (SEM), it is evident that the theoretical model proposed may not have adequately explained the data. The theoretical model in this study is based on three main areas of research. First, the research model focuses on a new measure introduced into the participative budgeting literature, the degree of participative congruence (Clinton and Hunton 2001). The second area of research used in the research model is based on Clinton's (1999) belief in the need for an investigation into antecedents of budgetary participation. Finally, a study in the psychology literature proposes a model with program commitment as an antecedent to participation. Based on these studies and findings, the research model was developed.

While no research model is without its detractors, an alternative model specification may have included multiple antecedents of participation (or DPC) rather than having only one construct as an antecedent. This model may have the three situational and the three individual factors as antecedents of participation (DPC). The re-specification using situational and individual factors as antecedents may be warranted because Clinton (1999) posited that these types of variables should be investigated as antecedents of participation. Another argument can be made for re-specifying the relationship between program commitment and DPC. The theoretical model proposed that program commitment leads to DPC; however, it may be possible to argue that DPC leads to program commitment (Chong and Chong 2002 and Wentzel 2002).⁷

Based on the findings of the research model and the suggestion of Clinton (1999) to investigate organizational, situational, and individual factors, the model was re-specified. Figure 4.2 illustrates the re-specified model with the path estimates and their significance levels.

Examination of the re-specified model indicates a better fit than the original research model. The same fit measures that were used previously will be examined again to determine if the re-specified model improves the fit of the data. The RMSEA for the re-specified model is 0.105, an indication of adequate fit. The collection of the overall model fit indices are reasonably consistent. The re-specified model also results in a CFI of 0.92, a NFI of 0.89, and a NNFI of 0.75. Based on these fit indices, the overall fit appears to be adequate and a great improvement from the original research model. A summary of the fit indexes for the alternative model is presented in Table 4.8.

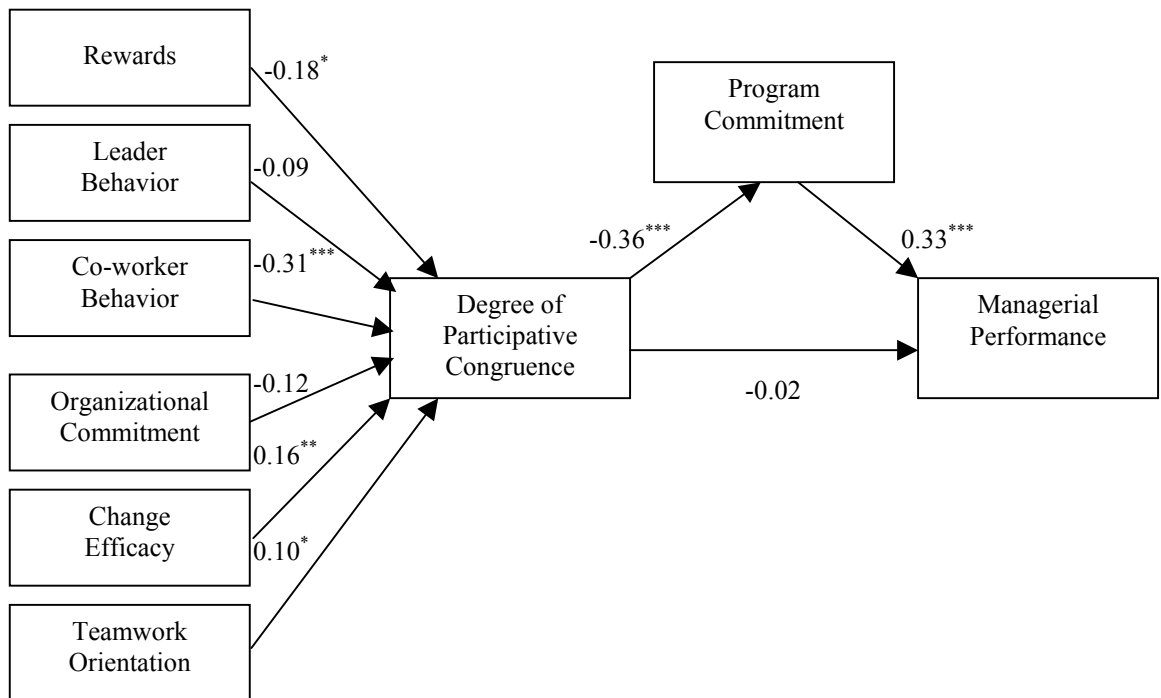


Figure 4.2 Structural Equations Model (Alternative Model)

- *Significant at the 0.10 level
- **Significant at the 0.05 level
- ***Significant at the 0.01 level

Table 4.8 Alternative Model Overall Fit Indexes

	<u>Acceptable ranges</u>	<u>Proposed model</u>
χ^2	Small values; p-value > .05	38.03; p-value = 0.00015
χ^2/df	Greater than 2	3.17
RMSEA	0.05-0.15	0.11
CFI	0.90	0.92
NFI	0.90	0.89
NNFI	0.90	0.75

While no specific research hypotheses are developed for the re-specified model, the significance of each path is examined. Because this model is exploratory in nature, with respect to the antecedents of participation or DPC, there are no directional expectations on these paths. Each of the six antecedent variables is discussed with

respect to each variable's effect on DPC. An analysis of each path is discussed in the following sections. In addition, the parameter estimates, standard errors, t-statistics, and p-values for the structural equations are presented in Table 4.9.

4.7.1 Antecedents and DPC

The first path investigates the relationship between rewards and DPC. The re-specified model results in a path coefficient of -0.18, which is significant at the 0.10 level of significance. This path coefficient implies that when there is a perception of rewards, it is likely that there will be a high degree of participative congruence.

The path from leader behavior to DPC is also examined. The model indicates a path coefficient of 0.09, which is not deemed significant at any respectable level of significance. Therefore, it is implied that leader behavior has no effect on the degree of participative congruence.

The third path investigates the relationship between co-worker behavior and DPC. The path coefficient estimated by this model is -0.31, significant at the 0.01 level of significance. This significant path implies that co-workers' behaviors have a significant impact on an individual's degree of participative congruence.

The next path examines the relationship between organizational commitment and DPC. The model estimates a path coefficient of -0.12, which is not significant at any of the reasonable levels of significance. The insignificant path implies that organizational commitment does not affect DPC.

Table 4.9 Structural Equations Results (Alternative Model)

$\eta_1 = \gamma_{11} + \gamma_{12} + \gamma_{13} + \gamma_{14} + \gamma_{15} + \gamma_{16} + \zeta_1$						
	<u>γ_{11}</u>	<u>γ_{12}</u>	<u>γ_{13}</u>	<u>γ_{14}</u>	<u>γ_{15}</u>	<u>γ_{16}</u>
Parameter estimate	-0.18	-0.09	-0.31	-0.12	0.16	0.10
Standard error	0.13	0.11	0.09	0.11	0.09	0.08
T-statistic	-1.39	-0.88	-3.59	-1.11	1.83	1.35
P-value	<0.10	>0.10	<0.01	>0.10	<0.05	<0.10
$\eta_2 = \beta_{21} + \zeta_2$						
	<u>β_{21}</u>					
Parameter estimate	-0.36					
Standard error	0.08					
T-statistic	-4.65					
P-value	<0.01					
$\eta_3 = \beta_{31} + \beta_{32} + \zeta_3$						
	<u>β_{31}</u>	<u>β_{32}</u>				
Parameter estimate	-0.02	0.33				
Standard error	0.09	0.09				
T-statistic	-0.21	3.70				
P-value	>0.10	<0.01				
$\eta_1 =$ DPC $\gamma_{11} =$ Path from rewards to DPC $\gamma_{12} =$ Path from leader behavior to DPC $\gamma_{13} =$ Path from co-worker behavior to DPC $\gamma_{14} =$ Path from organizational commitment to DPC $\gamma_{15} =$ Path from change efficacy to DPC $\gamma_{16} =$ Path from teamwork orientation to DPC						
$\eta_2 =$ Program commitment $\beta_{21} =$ Path from DPC to program commitment						
$\eta_3 =$ Managerial performance $\beta_{31} =$ Path from DPC to managerial performance $\beta_{32} =$ Path from program commitment to managerial performance $\zeta =$ Error term						

The fifth path examines the relationship between change efficacy and DPC. The re-specified model estimates a path coefficient of 0.16, which is significant at the 0.05 level of significance. While significant, the path coefficient does not have the expected sign, implying that an individual characterized as having high change efficacy is more

likely to have a low degree of participative congruence. It is important to point out that while no sign predictions were developed, the sign on the path is negative.

The final path that examines the effects of the antecedent variables on DPC results in a path coefficient of 0.10. This path is significant at the 0.10 level of significance but does not have the expected sign. Based on the model's results, the unexpected sign implies that individuals who are teamwork oriented are likely to have low degrees of participative congruence. It is important to point out that while no sign predictions were developed, the sign on the path is negative.

4.7.2 DPC and Program Commitment

The first path examines the relationship between DPC and program commitment. Results of the model indicate a path coefficient of -0.36, which is significant at the 0.01 level of significance. The significance of this path implies that when an individual perceives a high degree of participative congruence, he/she is likely to have higher program commitment.

4.7.3 DPC and Performance

The next path examines the association between DPC and performance. The model estimated a path coefficient of -0.02, which is not significant at any reasonable level of significance. This insignificant path implies that an individual's degree of participative congruence does not have an effect on his/her performance.

4.7.4 Program Commitment and Performance

The third endogenous path examines the relationship between program commitment and performance. At the 0.01 level of significance, the model estimates a

path coefficient of 0.33. This significant path coefficient implies that an individual with a high level of program commitment is likely to have a high level of performance.

4.7.5 Mediation of Program Commitment

The steps provided by Baron and Kenny (1986) examine the mediating effects of program commitment on the relationship between DPC and performance in the same manner as the research model. To support complete mediation, there must first be an association between DPC and performance. Examination of this relationship indicates that there is no association between DPC and performance; therefore, complete mediation cannot exist. However, the results of the respecified model indicate that DPC is associated with program commitment and that program commitment is associated with performance. These associations indicate that DPC affects program commitment, which in turn affects performance.

4.8 End Notes

- 3 Standardized estimates are variables that have been transformed so that the average is zero and the standard deviation is 1. The most common way to standardize a variable is to convert its raw scores to *z* scores (Kline 1998).
- 4 Unstandardized estimates are variables that are in their original metrics or scales rather than expressed as *z* scores (Kline 1998).
- 5 While all of the measures in this study used a seven-point Likert-type scale, the scale dimensions were not the same for all measures. Therefore, correlations were used to make the analysis easier to interpret.
- 6 Due to the method in which DPC is measured, a low measure of DPC is an indication of high congruence and a high measure of DPC is an indication of low congruence. Therefore, a negative path is an indication of a positive association and a positive path is an indication of a negative association.
- 7 Both Chong and Chong (2002) and Wentzel (2002) found that budgetary participation affected performance through budget goal commitment.

5. CONCLUSIONS

5.1 Research Conclusions

The purpose of this study was to examine the effect of the degree of participative congruence (DPC)⁸ on the linkage between program commitment and managerial performance in the budget-setting process. In addition, the effects of certain situational factors⁹ and individual factors¹⁰ on program commitment were investigated with the intent of providing a more comprehensive participative budgeting model. The effects of these conditioning constructs were measured based on participants' responses to questions and statements related to the individual constructs. The overall conclusions inferred by hypotheses-testing are presented in Section 5.1.1, while the results of an alternative model are presented in Section 5.1.2.

5.1.1 Hypothesis Conclusions

The first hypothesis investigated the association between rewards and program commitment. The results of this study did not provide evidence of a significant relationship between rewards and program commitment. While some prior studies indicated a positive association between rewards and commitment (Rusbult and Farrell 1983, Riedel et al. 1988, and Rhoades et al. 2001), other research has found no association (Oliver 1990 and Neubert and Cady 2001). The results of this study, with respect to the first hypothesis, indicate that the perception of rewards¹¹ does not affect an individual's program commitment. This finding does not support the proposition that management can increase employee commitment to a program such as the budgetary process by introducing rewards.

The second hypothesis investigated the association between leaders' behaviors and program commitment. The findings from this study indicate that there is a significant relationship between leaders' behaviors and program commitment. This finding indicates that when leaders have encouraging behaviors, their subordinates are more likely to have higher program commitment. Therefore, if management desires to increase employee commitment to the budgetary process, it would be beneficial to first obtain top management's support for the budgetary process. If the supervisors have good rapport with their subordinates, obtaining supervisory support should result in employees who are more likely to be committed to the budgetary process.

The third hypothesis was based on a relationship between co-workers' behaviors and program commitment. No significant relationship was observed. The lack of a relationship between co-workers' behaviors and program commitment implies that program commitment is not affected by co-workers' behaviors. This finding suggests that an individual does not consider the behaviors of co-workers to be an influential factor that affects his/her commitment to a given program or process. If such is the case, getting the support of co-workers is not an essential condition for management to attempt to achieve in order to increase employees' commitment to the budgetary process.

In addition to situational factors, there are individual factors that may also have an effect on an individual's commitment to the budgetary process. The fourth hypothesis tested the relationship between organizational commitment and budgetary process commitment. The results of the study indicated no association between organizational commitment and budgetary process commitment. This finding suggests that if management desires to involve only those employees with high organizational

commitment in the budgetary process, this decision will have no effect (positive or negative) on the process.

The fifth hypothesis focused on another individual factor, change efficacy, and its association with program commitment. The findings indicate that there is a significantly positive relationship between these two variables. This result suggests that organizations can generate higher commitment to the budgetary process by including individuals who demonstrate higher degrees of change efficacy. These individuals are more likely to be more committed to programs, such as the budgetary process, because their personalities allow them to be able to adapt well to change and to be more acceptable of change.

The sixth hypothesis examined the association between an individual's teamwork orientation and budgetary process commitment and a significantly positive relationship was observed. This result is an indication that individuals who are more team oriented are also more likely to be committed to the budgetary process. An important point inferred by this result is that if an individual is considered to be a team player, he/she will more likely act in a manner that is deemed to be advantageous to the team, which in this case is commitment to the budgetary process.

The remaining hypotheses focused on program commitment, the degree of participative congruence, and managerial performance. The seventh hypothesis investigated the relationship between budgetary process commitment and the degree of participative congruence. The study's results suggest that there is a significantly positive relationship between program commitment and the degree of participative congruence. This finding implies that when an individual is more committed to a program such as the

budgetary process, he/she is more likely to perceive a greater congruence between the need for participation and the degree of participation allowed.

The eighth hypothesis tested the association between program commitment and managerial performance. The results provided a significantly positive relationship. This finding suggests that individuals who are more committed to the budgetary process also tend to have higher self-evaluated performance in their respective duties. Such information may benefit management by signaling which types of individuals are likely to perform at higher levels. Specifically, by assigning employees that are more committed to a given program, management is likely to see increased levels of performance.

The ninth hypothesis examined the relationship between the degree of participative congruence and managerial performance, and no statistically significant association was observed. This finding suggests that, whether an individual perceives that there is congruence between the need for participation and the degree of participation allowed, this perception does not affect his/her self-rated performance.

The last hypothesis investigated whether the degree of participative congruence mediated the relationship between program commitment and managerial performance. The results obtained from this study do not support a mediating relationship. This lack of association suggests that the program commitment-managerial performance relationship is not improved when the effect of the degree of participative congruence is interposed.

Overall, the results of this study indicate that only three of the six antecedent variables (leader behavior, change efficacy, and teamwork orientation) have a significantly positive relationship with program commitment. While the theoretical

model lacks power in explaining the data as observed in the data-fit statistics, all of the significant paths have the correct sign as hypothesized. In addition, program commitment is found to have a significantly positive association with the degree of participative congruence and managerial performance. These results give management a basis for trying to develop a set of characteristics that will eventually be conducive to improved managerial performance in a budgeting setting.

5.1.2 Alternative Model Conclusions

An alternative model was tested because of the marginal overall fit of the research model and due to Clinton (1999) and Shields and Shields (1998) suggestions to investigate multiple antecedents of participation. The alternative model incorporates additional situational and individual factors that are believed to have an effect on the degree of participative congruence (Clinton 1999). In addition, other studies (Chong and Chong 2002 and Wentzel 2002) indicate that participation leads to commitment, which in turn affects performance. Based on this prior research, the alternative model depicts six antecedent variables (rewards, leader behavior, co-workers' behaviors, organizational commitment, change efficacy, and teamwork orientation) leading to the degree of participative congruence rather than program commitment. Also, the alternative model depicts the degree of participative congruence leading to program commitment and program commitment leading to performance.

Results of the alternative model indicate a better overall fit of the data; however, two statistically significant paths were incorrectly signed. Four of the six antecedent variables (rewards, co-workers' behaviors, change efficacy, and teamwork orientation) have significant associations with the degree of participative congruence. Variables

representing rewards and co-workers' behaviors both have a significantly positive association with DPC. This finding suggests that when rewards and/or recognition are present or co-workers have encouraging behaviors, employees/subordinates are more likely to perceive a higher congruence between the need for participation and the degree of participation allowed. While the relationships between change efficacy and teamwork orientation are significant, these relationships, hypothesized to be positive, were observed to be negative. This finding suggests that individuals who exhibit the ability to adapt to change and who are team oriented do not perceive a high degree of participative congruence and stands in contrast to theory.

The results of the alternative model also indicate a significantly positive relationship between the degree of participative congruence and program commitment. This finding suggests that when an individual perceives a high degree of participative congruence, he/she is likely to be more committed to the budgetary process. A significantly positive association was also observed between program commitment and managerial performance. This relationship implies that when an individual is more committed to the budgetary process, he/she is likely to have higher performance. Overall, these findings provide organizations with a means by which they can improve performance. By ensuring that there is congruence between individuals' perceptions of the need for participation and the degree of participation allowed, increased commitment to the budgetary process can be realized, and organizations can thus generate higher levels of performance from employees.

5.2 Expected Contributions and Future Research

Shields and Shields (1998) argue that there is a lack of investigation into antecedent variables in the participative budgeting literature. The majority of the literature examines the moderating and mediating effects of variables on the participation-performance linkage. To address this concern, the research model investigated program commitment as a possible antecedent to this linkage. In addition, an alternative model investigated rewards, leader behavior, co-worker behavior, organizational commitment, change efficacy, and teamwork orientation as possible antecedents to the participation-performance linkage. While this research did not provide support for all antecedents examined, it adds to the participative budgeting literature by supporting the notion that antecedent variables should be examined in the participation-performance linkage.

Although the research model did not provide overwhelming support for the hypotheses, the alternative model provided a much better perspective of the determinants of participation in the budgetary process. Statistically significant relationships between some of the antecedent variables and the degree of participative congruence provide support for Clinton's (1999) suggestions for the need to investigate factors that lead to or influence participation. The study's finding of significant relationships between the degree of participative congruence and program commitment and between program commitment and managerial performance support theory proposed by Chong and Chong (2002) and Wentzel (2002).

One purpose of this research was to develop a more comprehensive participative budgeting model. While neither the proposed model nor the alternative model provided

overwhelming evidence of a conclusive model, researchers may wish to continue research built upon these models to further improve our understanding of the budgetary process. Researchers may want to further investigate Clinton's (1999) arguments by examining other factors believed to be antecedents to participation. Future research may also investigate factors other than program commitment that are believed to affect the relationship between the degree of participative congruence and performance. Finally, continued research may further validate the degree of participative congruence as a measure of participation.

5.3 Limitations

All research is subject to limitations. While these limitations do not necessarily reflect on the quality of research, they may result from a paucity of theory, measurement error, and the difficulty of the research question addressed. The limitations potentially encountered in this research are discussed below.

5.3.1 Internal Validity

Internal validity subsumes statistical conclusion validity. Statistical conclusion validity is concerned with addressing whether the statistical tests being used are appropriate. A statistical test is deemed appropriate if it has sufficient power to determine if two variables covary and the magnitude with which they covary. Based on Kline (1998), sample sizes of 150-200 are appropriate sample sizes in structural equations modeling to provide sufficient power and this research resulted in a sample size of 197.

5.3.2 External Validity

External validity is comprised of two conceptual parts. The first part, construct validity, is concerned with whether variables are actually measuring and representing real-world concepts. To address this limitation, each construct measured was examined using confirmatory factor analysis. Based on this analysis, the results provide evidence that the concerns of construct validity have been examined.

External validity is also concerned with whether the findings are generalizable to observations outside of those in the study. The study included a random sample of 1,500 AICPA members; therefore, concerns arise whether the AICPA members' responses are similar to their real-world actions. When this assumption cannot be made, the research or the results of the research cannot be generalized to individuals that were not included in the study. Therefore, the results of this study should not be generalized to individuals not included in the study

5.4 End Notes

- 8 The degree of participative congruence is found by taking the absolute value of the difference between the perceived need for participation and the degree of participation allowed.
- 9 Situational factors are factors that an individual might face in the work environment. In this study, these included rewards, leader behavior, and co-workers' behaviors.
- 10 Individual factors are characteristics that an individual might possess. The individual factors examined in this study were organizational commitment, change efficacy, and teamwork orientation.
- 11 The concept of rewards in this study can be perceived to be monetary rewards or can simply be recognition by the organization or others.

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APPENDIX A: COVER LETTER



LOUISIANA STATE UNIVERSITY

E. J. Ourso College of Business Administration
Department of Accounting

Dear Professional Accountant:

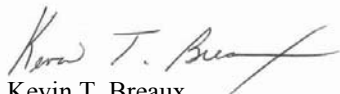
My name is Kevin Breaux and I am a doctoral candidate at Louisiana State University conducting a nationwide survey of accountants to gather data for my dissertation. The purpose of the research is to develop a better understanding of the factors that affect individual's participation in the budgetary process; therefore, I would like to draw upon your expertise through participation in this survey.

Your responses are very important to the accuracy of my study. I know that your time is valuable, but I would appreciate it if you would take a few minutes to complete the enclosed questionnaire. I have enclosed a pre-addressed postage-paid reply envelope to help save time.

Again, your completion of the questionnaire is critical to my study and our understanding of participation in the budgetary process. Please complete and return the questionnaire as soon as possible. Your anonymity is guaranteed. Your individual responses cannot be identified. If you would like to obtain the results of the study, please feel free to email me or send a business card in a separate envelope from your questionnaire.

Thank you in advance for your participation.

Sincerely,



Kevin T. Breaux
Doctoral Candidate

3115 CEBA • Baton Rouge, LA 70803-6304
(225) 578-6206 • Fax (225) 578-6201 • kbreau3@lsu.edu

APPENDIX B: CONSENT FORM

By completing and returning the enclosed questionnaire, you have agreed to participate in research regarding participative budgeting. This research project has been approved by the Louisiana State University Human Subjects Committee.

Before continuing on to the questionnaire, it is important for you to understand the following:

1. The procedure only involves completing and returning a questionnaire.
2. You will not face any significant discomforts or stresses. There is no risk to participating.
3. The results of your participation are confidential and will not be released in any individually identifiable form. Questionnaires contain no identifying information.
4. The investigator, Kevin Breaux, will answer any further question about the research if you wish (see contact information below).

Your participation in this research is completely voluntary, and you may choose not to participate by not returning a completed questionnaire. Your questionnaire will not contain any identifying information that will link your responses to you; therefore, once your questionnaire has been returned, it cannot be removed from the study at your request.

To preserve anonymity, you do not need to sign and return this consent form.

Kevin Breaux, Investigator
Doctoral Student
LSU Department of Accounting
3101 CEBA
Baton Rouge LA 70803
email: kbreau3@lsu.edu
phone: 985.448.4218

APPENDIX C: RESEARCH INSTRUMENT

Participative Budgeting Survey

A. The following statements are designed to obtain your perceptions about the attitudes and behaviors of your immediate supervisor as well as your perceptions about the attitudes and behaviors of your co-workers. The following statements can be answered using a seven-point Likert scale with the categories being 1=Strongly Disagree (SD), 2=Disagree (D), 3=Slightly Disagree (SLD), 4=Neutral (N), 5=Slightly Agree (SLA), 6=Agree (A), and 7=Strongly Agree (SA). Please circle the number that best represents your response.

My direct supervisor.....	SD	D	SLD	N	SLA	A	SA
Inspires others with his/her plans for the future	1	2	3	4	5	6	7
Is always seeking new opportunities for our department	1	2	3	4	5	6	7
Leads by doing rather than by simply telling	1	2	3	4	5	6	7
Gets the group to work together for the same goal.....	1	2	3	4	5	6	7
Encourages employees to be team players	1	2	3	4	5	6	7
Challenges us to think about old problems in new ways.....	1	2	3	4	5	6	7
Challenges us to consider outcome expectations in performing our work.....	1	2	3	4	5	6	7
Encourages us to get performance feedback from others	1	2	3	4	5	6	7
Considers my viewpoint in decisions	1	2	3	4	5	6	7
Deals with me in a truthful manner	1	2	3	4	5	6	7
My co-workers.....							
Provide each other with the help and services needed to complete job assignments.....	1	2	3	4	5	6	7
Emphasize teamwork rather than individual stars	1	2	3	4	5	6	7
Are interested in learning better ways to perform their duties	1	2	3	4	5	6	7
Are innovative in their approach to performing their assigned tasks	1	2	3	4	5	6	7
Go out of their way to fulfill outcome expectations.....	1	2	3	4	5	6	7
Willingly put in extra effort to address constituent complaints.....	1	2	3	4	5	6	7

B. The following statements refer to how you prefer to work while doing your job.

	SD	D	SLD	N	SLA	A	SA
I expect to be able to do things that need to be done when my work changes.....	1	2	3	4	5	6	7
If I had new job responsibilities which involved some easy and some difficult tasks, I would probably do very well on almost all of them	1	2	3	4	5	6	7
When change exposes me to new concepts and skill demands, I expect to be able to adapt well.....	1	2	3	4	5	6	7
Given the choice, I would rather do a job where I can work alone rather than do a job where I have to work with others in a work group	1	2	3	4	5	6	7
I like it when we can do things on our own rather than working with others all the time.....	1	2	3	4	5	6	7
I prefer to work with others in a work group rather than work alone.....	1	2	3	4	5	6	7

C. The following statements are designed to understand the amount of participation that you believe is allowed (and should be allowed) in your workplace. The scale used for these statements should be viewed as a continuum with 1=Not Often At All and 7=Very Often. Please circle the number that best represents your response.

	NOA						VO
Individuals at various organization levels work together in preparing the budget.							
a. How often does this take place?.....	1	2	3	4	5	6	7
b. How often should this take place?	1	2	3	4	5	6	7
Individuals at differing organization levels are consulted about factors they would like to have included in the budget being prepared.							
a. How often does this take place?.....	1	2	3	4	5	6	7
b. How often should this take place?	1	2	3	4	5	6	7
Individuals at various organization levels are asked to express their concerns and opinions regarding ways to improve the budget and/or the budgeting process.							
a. How often does this take place?.....	1	2	3	4	5	6	7
b. How often should this take place?	1	2	3	4	5	6	7
When individuals at various organization levels suggest ways to improve the budget and/or budgeting system, those suggestions are implemented.							
a. How often does this take place?.....	1	2	3	4	5	6	7
b. How often should this take place?	1	2	3	4	5	6	7
Superiors and subordinates work together in preparing the budget.							
a. How often does this take place?.....	1	2	3	4	5	6	7
b. How often should this take place?	1	2	3	4	5	6	7
Superiors and subordinates consult each other for advice on how to achieve the budget.							
a. How often does this take place?.....	1	2	3	4	5	6	7
b. How often should this take place?	1	2	3	4	5	6	7

D. The statements below are designed to understand your feelings about the budgetary process in your organization. The following statements can be answered using a seven-point Likert scale with the categories being 1=Strongly Disagree (SD), 2=Disagree (D), 3=Slightly Disagree (SLD), 4=Neutral (N), 5=Slightly Agree (SLA), 6=Agree (A), and 7=Strongly Agree (SA). Please circle the number that best represents your response.

	SD	D	SLD	N	SLA	A	SA
It's hard to take this budgetary process seriously	1	2	3	4	5	6	7
I am strongly committed to the budgetary process	1	2	3	4	5	6	7
I am willing to put forth a great deal of effort beyond what I normally do to support the budgetary process	1	2	3	4	5	6	7
It wouldn't take much to abandon the budgetary process.....	1	2	3	4	5	6	7
I am convinced we need the budgetary process in our workplace.....	1	2	3	4	5	6	7
The potential benefits of the budgetary process are not worth its costs in time and resources	1	2	3	4	5	6	7

E. In your current position, please evaluate your performance in comparison to your peers with respect to the different work-related areas. The following statements can be answered using a seven-point Likert scale with the categories being 1=Well Below Average (WBA), 2=Below Average (BA), 3=Slightly Below Average (SBA), 4=Average (A), 5=Slightly Above Average (SAA), 6=Above Average (AA), and 7=Well Above Average (WAA). Please circle the number that best represents your performance. If you do not have responsibility in an area, please do not circle anything.

With respect to I would rate my performance as	<u>WBA</u>	<u>BA</u>	<u>SBA</u>	<u>A</u>	<u>SAA</u>	<u>AA</u>	<u>WAA</u>
Exchanging information with people in the organization other than my subordinates in order to relate and adjust programs	1	2	3	4	5	6	7
Determining goals, policies, and courses of action such as work scheduling, budgeting, and programming.....	1	2	3	4	5	6	7
Collecting and preparing of information usually in the form of records, reports, and accounts (measuring output, record keeping, and job analysis).....	1	2	3	4	5	6	7
Assessment and appraisal of proposals or of reported/observed performance (e.g., employee appraisals, judging financial performance and product inspection)	1	2	3	4	5	6	7
Directing, leading, and developing my subordinates.....	1	2	3	4	5	6	7
Maintaining the work force of my responsibility area (e.g., selecting and promoting my subordinates)	1	2	3	4	5	6	7
Purchasing, selling, or contracting for products or services (e.g., contracting suppliers, collective bargaining)	1	2	3	4	5	6	7
Advancing the general interests of my organization through speeches, consultations, or contracts with individuals or groups outside the company.....	1	2	3	4	5	6	7
Meeting budgetary targets set for my area of responsibility.....	1	2	3	4	5	6	7

F. The statements below are aimed at obtaining information about the rewards/recognition given to you by your organization. The following statements can be answered using a seven-point Likert scale with the categories being 1=Strongly Disagree (SD), 2=Disagree (D), 3=Slightly Disagree (SLD), 4=Neutral (N), 5=Slightly Agree (SLA), 6=Agree (A), and 7=Strongly Agree (SA). Please circle the number that best represents your response.

	<u>SD</u>	<u>D</u>	<u>SLD</u>	<u>N</u>	<u>SLA</u>	<u>A</u>	<u>SA</u>
I am rewarded according to how well I satisfy constituents	1	2	3	4	5	6	7
Employees' good ideas often go unrecognized around here.....	1	2	3	4	5	6	7
Cooperation with other employees is usually rewarded by this organization	1	2	3	4	5	6	7

G. In this section, your attitude toward your organization, in general, is of interest. How do the following statements reflect your opinion of your organization?

	<u>SD</u>	<u>D</u>	<u>SLD</u>	<u>N</u>	<u>SLA</u>	<u>A</u>	<u>SA</u>
Many changes would have to occur in my present circumstances to cause me to leave this organization.....	1	2	3	4	5	6	7
I would accept almost any type of job assignment in order to keep working in this organization	1	2	3	4	5	6	7
The longer I stay with this organization, the harder it is to leave	1	2	3	4	5	6	7
I would give up a lot by leaving this organization.....	1	2	3	4	5	6	7
I talk up this organization to my friends as a good organization to work for.....	1	2	3	4	5	6	7
I find that my values are similar to the values of this organization	1	2	3	4	5	6	7
This is one of the best organizations for which to work	1	2	3	4	5	6	7
I am proud to tell others that I am part of this organization.....	1	2	3	4	5	6	7
This organization inspires me to do my best.....	1	2	3	4	5	6	7

H. The following questions relate to your background and experience. Please answer the following questions in the appropriate spaces.

What is your current age in years?.....	
What is your gender?	
How long, in years, have you been employed by your current organization?	
What is your current job title?	
How long have you held your current job title with your current organization?	
How many years of business experience have you had?	
What is the highest degree you have earned?	
What is the number of employees in your organization?.....	
What is the annual gross revenue of your organization?	
What is the annual net income of your organization?.....	
Does your organization engage in formal budgeting processes?.....	1 2 3
(1=Yes, 2=No, and 3=Not Sure)	
My job includes my input regarding budgetary activities	1 2 3 4 5 6 7
(1=Never and 7=Very Often)	

Thank you very much for your participation in this survey!

VITA

Kevin Timothy Breaux was born in Baton Rouge, Louisiana, in 1975. He grew up in the small South Louisiana town of Belle Rose, attended Assumption High School, and graduated in 1993. He attended Nicholls State University and received a Bachelor of Science degree in accounting in December of 1997. While attending Nicholls State University, Breaux worked part-time as an accountant in the private sector. Immediately upon receiving his bachelor's degree, Breaux returned to Nicholls State University to work on his Master of Business Administration degree. As a graduate assistant, he taught remedial mathematics courses at Nicholls State University. Upon receiving his MBA in May of 1999, Breaux then began the doctoral program at Louisiana State University in the Fall of 1999. While a graduate assistant at Louisiana State University, Breaux taught Principles of Accounting, coauthored one published descriptive paper, and authored a published survey of accounting instructor's manual. Breaux was hired by his alma mater, Nicholls State University, and began teaching in the Fall of 2003. He is currently a candidate for the degree of Doctor of Philosophy from the Louisiana State University Department of Accounting.