

Machiavellianism and Accounting Competence: Effects on Budgetary Attitudes

Dr. J. Ralph Byington, Accounting, Louisiana Tech University
Dr. Gene H. Johnson, Accounting, Louisiana Tech University

Abstract

Managers' attitudes toward the budget as an object and toward their role in the budgeting process are influenced by a number of factors. In this study, the ability of two personality traits, locus of control and machiavellianism, and accounting competence were of interest as explanatory variables. Analysis of the questionnaire responses supported two of the hypothesized relationships among variables. Machiavellianism is inversely related to attitudes toward the budget in that high machiavellianism tendencies are associated with negative attitudes toward the budget. In addition, accounting competence was significant in explaining variation in attitudes toward the individual's role in the budgeting process. Accounting competence was positively related to the attitudes construct. Locus of control was not found to be significantly related to attitudes towards the budget or a managers' role in the budgetary process.

Introduction

A great deal of research supports the general conclusions that budgets impact people (Argyris, 1952; Hofstede, 1968; Swieringa and Moncur, 1975; Bruns and Waterhouse, 1975; Merchant, 1981; Hopwood, 1972, 1974; Otley, 1978) and that people impact budgets (Schiff and Lewin, 1970; Onsi, 1973; Camman, 1976; Collins, 1978; Merchant, 1985; Young, 1985; Waller, 1988; Crow, Cooper, and Waller, 1988). A large part of the research addressing budgeting is based on the framework provided by Fishbein and Ajzen (1975) regarding the relationship between "attitudes" and "behaviors." Individuals' attitudes toward budgets (as an object) and toward budgeting (their "role" in a process) are primary determinants of budget-related behaviors, such as the inclusion of "slack" in the budget, withholding of private information, or other budgetary gamesmanship.

Research on managers' attitudes toward budgets or budgeting has focused on a variety of individually-oriented variables, such as personality

traits. For example, Brownell (1986) investigated the effect of locus of control on the relationship between participation in budgeting and organizational effectiveness (performance). Generally, participation was found to have a positive effect on the performance of internals and a negative effect on the performance of externals. The results of an experiment reported by Licata, Strawser, and Welker (1986) suggest that internal managers allow subordinates greater participation in budgeting than do external managers. Hopwood (1972, 1974), Otley (1978), and Brownell (1982, 1983) studied the relationships between leadership style and budgeting practices and reported mixed results. Others have studied the relationship between role stress and budgetary attitudes (see Collins (1978), Collins and Seiler (1981), Collins, Seiler, and Clancy (1984)).

Machiavellianism is of interest in this study as a personality trait that considers the manipulative behavior of individuals. The objective of the use

of this variable is to determine if machiavellianism characteristics influence a manager's attitude towards the budget or perhaps their role in the budgeting process. Accounting competence is also investigated to determine if individuals who perceived themselves as highly competent have a positive attitude towards the budget and their role in the budget process. Locus of control is used to investigate whether individuals who attribute control to outside factors view the budget as an object and their role in the budgeting process negatively.

The manuscript is organized as follows: First the constructs of interest and of the expected relationships among them are presented, next a summarization of the design and execution of the study is examined, and in conclusion a brief discussion of the results is presented.

Budgetary Attitudes

Two types of budgetary attitudes are of primary interest as dependent variables in this study; attitude towards the budget as an object and attitude towards the individuals' role in the budgetary process. To measure attitudes toward the budget, a four-item scale developed by Swieringa and Moncur (1975) and also used by Kenis (1979) was used. This scale measures subject's feelings about the usefulness of budgets in a management setting. Individuals' attitudes towards their role in the budgetary process were measured by using an adaptation of an attitude scale developed by Osgood, Suci, and Tannenbaum (1957), and employed by Bettner (1988) in an accounting environment. The scale is five-item, 1 to 7 Likert format scale of attitudes toward aspects of an individual's involvement in the budgeting process.

Locus of Control

Locus of control refers to individuals' attributions regarding the control over events and can be best described by defining the ends of the continuum: Internals attribute control to themselves, whereas externals attribute control to outside forces. Thus, individuals who are relatively more external are

more likely to have negative feelings toward the budget since they are more likely to perceive the budget as a control device. Similarly, externals should be less positive about their role in the budgeting process (Brownell (1981) found participation to have a positive effect on internals and a negative effect on externals). In positive terminology, internals are expected to have relatively more favorable attitudes toward both the budget and their role in the budgeting process.

A fifteen item locus of control instrument produced by Johnson and McGill (1988) was used in this study. This instrument is a much shorter version of the Rotter (1966) and Lefcourt (1966, 1972) 58-item, forced choice format instrument. Scoring procedures result in continuous measurements of the construct with the higher the score the more internal the individual.

Machiavellianism

Personal, social, and political skills applied by individuals in organizations are similar to characteristics found in the psychology literature termed as machiavellianism (see Christie and Geis (1970) for a review of the literature). High machiavellians are manipulative, aggressive, and exploitative (Calhoun, 1969; Hunt and Chunko, 1984). They engage in strategies characterized by deceitfulness, scheming tactics, and rigidity (Falbo, 1977; Christie and Gies, 1970; and Vleeming, 1979). Low machiavellians are ethical, candid, and sensitive to the needs of others (Christie and Gies, 1970).

The Mach IV scale used in this study (Christie and Geis, 1970) consists of 20 statements based on works of Machiavelli. Individuals low in machiavellianism (lower scores) are expected to have relatively more favorable attitudes toward both budgets and budgeting.

Accounting Competence

The level of accounting competence possessed by an individual may influence both attitudes towards the budget and attitudes toward the

individual's role in the budgeting process. Snowball (1980) presents that high levels of accounting competence provide a greater appreciation of the sensitivity of accounting information. Therefore, managers with higher levels of accounting competence should expect more realistic budget variances and have a better attitude towards both the budget and towards their role in the budgetary process.

An adaptation of Holly, Purl, Dawson, and Michael's (1973) self-concept scale was used in measuring accounting competence. Similar adaptations have been used to measure self-concept of mathematical, english, social science, and natural science abilities (Brookover, Erickson, and Joiner, 1967).

Expected Relationships Among Variables

The primary relationships of interest are the presumably directional links between each of the three individually-oriented explanatory variables and each of the two measures of attitudes. These relationships are summarized as hypotheses below (alternate form) and are depicted in model form as Figure 1.

- H1: Individuals who are relatively more internal (Locus of Control) have relatively more positive attitudes toward budgets.
- H2: Individuals who are relatively more internal (Locus of Control) have relatively more positive attitudes toward their role in the budgeting process.
- H3: Individuals with relatively low Machiavellianism tendencies have relatively more positive attitudes toward budgets.
- H4: Individuals with relatively low Machiavellianism tendencies have relatively more positive attitudes toward their role in the budgeting process.
- H5: Individuals who are relatively more Competent (with budgets and budgeting) have

relatively more positive attitudes toward budgets.

- H6: Individuals who are relatively more Competent (with budgets and budgeting) have relatively more positive attitudes toward their role in the budgeting process.

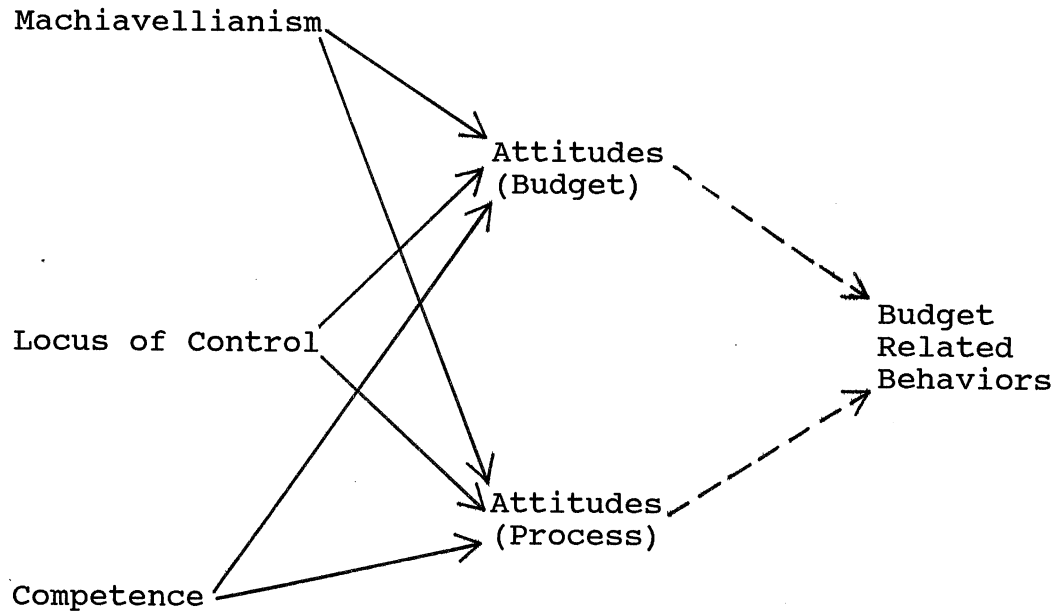
Data Collection and Analysis

A sample of seventy-five mid to upper level managers participated as research subjects by completing the questionnaire. The managers were attending a masters-level seminar at a university in a city in the southwest. All of the subjects were educated through at least an undergraduate degree in business, and all were currently employed. Each subject had continuing budgetary responsibilities, at least one subordinate, and an immediate superior.

The questionnaires were completed and returned anonymously, and required about 10 minutes to complete. All of the scales consisted of 7-point Likert-format items. Four items measured attitudes toward the budget as an object, five measured attitudes toward the individuals' role in the budgetary process, five measured accounting competence, 15 measured locus of control, and 20 measured machiavellianism. After reverse scoring and averaging, mean scores for each of the constructs were produced and analyzed. Descriptive statistics for each of the mean scores and a correlation matrix of the relationships among the scores are presented as Table 1. Scoring procedures resulted in positive scores for favorable, or "good" attitudes, "more" accounting competence, a stronger tendency toward machiavellian behavior, and more internal on the locus of control continuum.

To test the research hypotheses, the three individually-oriented explanatory variables were regressed on each of the two attitudes variables. Multiple regression using the stepwise selection criteria at a .05 level of significance and multiple regression with all three of independent variables included was performed independently for each of

Figure 1
Research Model



Note: Hypothesized relationships are represented by solid lines. Assumed relationships are represented by dashed lines.

Table 1
Mean Scores

Descriptive Statistics:

| | <u>Mean</u> | <u>S.D.</u> | <u>Min.</u> | <u>Max.</u> |
|---------------------|-------------|-------------|-------------|-------------|
| Locus of Control | 4.399 | .701 | 2.80 | 6.67 |
| Machiavellianism | 3.562 | .548 | 2.30 | 4.80 |
| Competence | 4.440 | 1.139 | 2.00 | 6.60 |
| Attitudes - Budget | 4.430 | 1.313 | 1.00 | 7.00 |
| Attitudes - Process | 5.003 | 1.073 | 2.20 | 7.00 |

Correlation Matrix:

| | <u>Locus</u> | <u>Mach.</u> | <u>Comp.</u> | <u>Budget</u> | <u>Role</u> |
|---------------------|--------------|--------------|--------------|---------------|-------------|
| Locus of Control | 1.0000 | | | | |
| Machiavellianism | -.2013* | 1.0000 | | | |
| Competence | .1120 | -.1071 | 1.0000 | | |
| Attitudes - Budget | .1140 | -.3737*** | .0904 | 1.0000 | |
| Attitudes - Process | .1888 | -.2130* | .3462*** | .5403*** | 1.000 |

* - significant at the .05 level
 ** - significant at the .01 level
 *** - significant at the .001 level

the two dependent variables. The analyses supported hypothesis H3 regarding the relationship between machiavellianism and the individuals' attitude toward the budget as an object and H6 regarding the relationship between accounting competence and attitude toward the individuals' role in the budgetary process. Table 2 summarizes the regressions.

Discussion

The correlation matrix contains coefficients that are consistent in direction with all of the hypotheses but only a few of the relationships are significant. Regression analysis supported two of the hypothesized relationships. Machiavellianism was shown to be useful in explaining variation in

Table 2
Regression Analysis

Dependent Variable: Attitude - Budget

Method: Stepwise

R. Square: .12062

Variables in the Equation (at .05):

| <u>Variable</u> | <u>Beta</u> | <u>T</u> | <u>Sig. T</u> |
|------------------|-------------|----------|---------------|
| Machiavellianism | -.347305 | -3.009 | .0037 |

Method: Enter

R. Square: .12681

Variables in the Equation (all):

| <u>Variable</u> | <u>Beta</u> | <u>T</u> | <u>Sig. T</u> |
|------------------|-------------|----------|---------------|
| Machiavellianism | -.333414 | -2.790 | .0069 |
| Competence | .063435 | .537 | .5930 |
| Locus of Control | .040921 | .341 | .7343 |

Dependent Variable: Attitude - Process

Method: Stepwise

R. Square: .13690

Variables in the Equation (at .05):

| <u>Variable</u> | <u>Beta</u> | <u>T</u> | <u>Sig. T</u> |
|-----------------|-------------|----------|---------------|
| Competence | .370000 | 3.236 | .0019 |

Method: Enter

R. Square: .18162

Variables in the Equation (all):

| <u>Variable</u> | <u>Beta</u> | <u>T</u> | <u>Sig. T</u> |
|------------------|-------------|----------|---------------|
| Competence | .340779 | 2.981 | .0041 |
| Machiavellianism | -.158046 | -1.366 | .1767 |
| Locus of Control | .115197 | .991 | .3254 |

attitudes toward the budget as an object, with low machiavellianism scores associated with more favorable attitudes toward the budget. Apparently, those with machiavellianistic tendencies have a negative attitude toward the budget because of the role the budget plays in the control process. The correlation matrix supports a similar relationship between machiavellianism and attitudes toward the individual's role in the budget process, but the regression analysis did not allow rejection of the null.

The hypothesized relationship between accounting competence and attitudes toward the individual's role in the budgeting process was also supported in the analysis. Knowledge about budgets and budgeting significantly improves an

individual's attitude toward the process but apparently has no effect on attitudes toward the budget as an object. Other variables seem to be much more useful in explaining variation in attitudes toward the budget.

Limitations/Extensions

In addition to the limitations of all questionnaire-based research, the sample used in the current study may limit the generalizability of the findings. The small "R-square" statistics produced by the regressions suggest the possibility of additional explanatory variables. Also, studies of the relationships among the attitudes constructs of interest and the budget-related behaviors are needed.

References

1. Argyris, C., *The Impact of Budgets on People* (The Controllershship Foundation, 1952).
2. Bettner, M. S., "The Effects of Perceived Accounting Competence, Machiavellianism, Past Budgeting Behavior, and Beliefs About the Effectiveness of Past Budgeting Behavior on Budgetary Attitude: An Empirical Analysis," (Ann Arbor: Dissertation Microfilms, 1989).
3. Brookover, W., E. Erickson, and L. Joiner, "Self-Concept of Ability and School Achievement: Relationship to Self-Concept to Achievement in High School," *U.S. Office of Education, Cooperative Research Project No. 2831*, (East Lansing: Educational Publication Services, Michigan State University, 1967).
4. Brownell, P., "Participation in Budgeting, Locus of Control and Organizational Effectiveness," *The Accounting Review*, Vol. LVI, No. 4 (October 1981), pp. 844-860.
5. _____, "A Field Study Examination of Budgetary Participation and Locus of Control," *The Accounting Review* (October 1982), pp. 766-777.
6. _____, "Leadership Style, Budgetary Participation and Managerial Behavior," *Accounting, Organizations, and Society*, (1983), pp. 307-321.
7. _____, "Participation in Budgeting, Locus of Control and Organizational Effectiveness," *The Accounting Review*, Vol LXI, No. 4 (October 1986) pp. 587-600.
8. Bruns, W. J., and J. H. Waterhouse, "Budgetary Control and Organizational Structure," *Journal of Accounting Research* (Autumn 1975), pp. 177-203.
9. Calhoun, R., "Niccolo Machiavelli and The Twentieth Century Administrator," *Academy of Management Journal*, Vol. 12, June 1969, pp. 205-212.
10. Cammann, C., "Effects of the Use of Control Systems," *Accounting, Organizations and Society* (1976), pp. 301-314.
11. Chow, C., J. Cooper, and W. Waller, "Participative Budgeting: Effects of a Truth-Inducing Pay Scheme and Information Asymmetry on Slack and Performance," *The Accounting Review* (January 1988), pp. 111-122.
12. Christie, R. and R. Geis, *Studies in Machiavellianism*, New York, Academic Press, 1970.
13. Collins, F., "The Interaction of Budget Characteristics and Personality Variables with Budgetary Response Attitudes," *The Accounting Review* (1978), pp. 324-335.
14. _____, P. Munter, and D. Finn, "The Budgeting Games People Play," *The Accounting Review*, Vol. LXII, No. 1, 1987, pp. 29-49.
15. _____, and R. Seiler, "Need Satisfaction and Budget-Related Stress as Predictors of Budget Attitudes," *Proceedings of the National Convention* (American Accounting Association, 1981).
16. _____, R. Seiler, and D. Clancy, "Budgetary Attitudes: The Effects of Role Senders, Stress and Performance Evaluation," *Accounting and Business Research*, Spring 1984, pp. 163-168.
17. Crowne, D. and S. Liverant, "Conformity Under Varying Conditions of Personal Commitment," *Journal of Abnormal and Social Psychology*, Vol. 66, No. 6 (June 1963), pp. 547-555.
18. Falbo, T., "Multidimensional Scaling of Power Strategies," *Journal of Personality and Social Psychology*, Vol 35, 1977, pp. 3-11.
19. Fishbein, M. and I. Ajzen, *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*, Reading, Mass.: Addison-Wesley, 1975.

20. Harvey, J., R. Barnes, D. Sperry, and B. Harris, "Perceived Choice as a Function of Internal-External Locus of Control," *Journal of Personality*, Vol. 42, No. 3 (September 1974), pp. 437-452.
21. Hofstede, G. H., *The Game of Budget Control* (Tavistock Publications, Ltd., 1968).
22. Holly, K., M. Purl, J. Dawson, and W. Michael, "The Relationship of an Experimental Form of the Mathematics Self-Concept Scale to Cognitive and Noncognitive Variables for a Sample of Seventh-Grade Pupils in a Middle-Class Southern California Community." *Educational and Psychological Measurement*, Vol. 33, 1973, pp. 505-508
23. Hopwood, A., "An Empirical Study of the Role of Accounting Data in Performance Evaluation," *Journal of Accounting Research*, (Supplement 1972), pp.156-182.
24. Hopwood, A., "Leadership Climate and the Use of Accounting Data in Performance Evaluation," *The Accounting Review*, Vol. XLIX, No. 3 (July 1974), pp. 485-495.
25. Hunt, S. and L. Chonko, "Marketing and Machiavellianism," *Journal of Marketing*, Vol. 48, 1984, pp. 30-42.
26. Johnson, G. H., and G. McGill, "Measuring Locus of Control," unpublished manuscript (1988).
27. Kahn, R., D. Wolfe, R. Quinn, J. Snoek, and R. Rosenthal, *Organizational Stress: Studies in Role Conflict and Ambiguity* (Wiley, 1964).
28. Kenis, I., "Effects of Budgetary Goal Characteristics on Managerial Attitudes and Performance," *The Accounting Review*, Vol. LIV, No. 4 (October 1979), pp. 707-721.
29. Lefcourt, H. "Internal Versus External Control of Reinforcement: A Review," *Psychological Bulletin* (April 1966), pp. 206-220.
30. _____, "Recent Developments in the Study of Locus of Control," in B. A. Maher, ed., *Progress in Experimental Personality Research*, Vol. 6 (New York: Academic Press, 1972).
31. Licata, M. P., R. H. Strawser, and R. B. Welker, "A Note on Participation in Budgeting and Locus of Control," *The Accounting Review*, Vol. LXI, No. 1 (January 1986), pp. 112-117.
32. Merchant, K. A., "The Design of the Corporate Budgeting System: Influences on Managerial Behavior and Performance," *The Accounting Review* (October 1981), pp. 813-829.
33. _____, "Budgeting and the Propensity to Create Budgetary Slack," *Accounting, Organizations and Society* (1985), pp. 560-568.
34. Onsi, M., "Factor Analysis of Behavioral Variables Affecting Budgeting Slack," *The Accounting Review* (July 1973), pp. 535-549.
35. Otley, D., "Budget Use and Managerial Performance," *Journal of Accounting Research*, Vol. 16, No. 1 (Spring 1978), pp. 122-149.
36. Osgood, C. G. Suci, and P. Tannenbaum, *The Measurement of Meaning* (University of Illinois, 1957).
37. Rizzo, J., R. House, and S. Lirtzman, "Role Conflict and Ambiguity in Complex Organizations," *Administrative Science Quarterly*, Vol. 15, No. 2 (June 1970), pp. 150-163.
38. Rotter, J., "Generalized Expectancies for Internal Versus External Control of reinforcement," *Psychological Monographs: General and Applied* (Whole No. 609, 1966), pp. 1-28.
39. Sapp, R. and R. Seiler, "Accounting for Performance: Stressful--But Satisfying," *Management Accounting*, Vol. LXII, No. 2 (August 1980), pp. 29-35.
40. Schiff, M., and A. Lewin, "The Impact of People on Budgets," *The Accounting Review* (April 1970), pp. 259-268.
41. Snowball, D., "Some Effects of Accounting Expertise and Information Load: An Empirical Study," *Accounting, Organizations and Society*, Vol. 5, No. 3 (1980), pp. 323-338.
42. Swiernga, R. and R. Moncur, *Some Effects of Participative Budgeting on Managerial Behavior*, New York: National Associations of Accountants, 1975.
43. Van Sell, M., A. Brief, and R. Schuler, "Role Conflict and Role Ambiguity: Integration of the Literature and Directions for Future Research," *Human Relations*, Vol. 34, No. 1 (January 1981), pp. 43-71.
44. Vleeming, R., "Machiavellianism: A Preliminary Review," *Psychological Reports*, Vol. 44, 1979, pp. 295-310.
45. Waller, W. S., "Slack in Participative Budgeting: The Joint Effect of a Truth-Inducing Pay Scheme and Risk Preferences," *Accounting, Organizations and Society* (1988), pp. 87-98.
46. Young, S. M., "Participative Budgeting: The Effects of Risk Aversion and Asymmetric Information on Budgetary Slack," *Journal of Accounting Research* (Autumn 1985), pp. 829-842.