

RESEARCH PAPERS



LARS G. HASSEL

# Budget Communication Moderate Incongruent Budget Emphasis between the Superior and Subordinate<sup>1</sup>

## ABSTRACT

*Subsequent research on the moderating impact of budgetary participation on superior budget emphasis to promote functional budget behaviour has either provided inconsistent (Brownell, 1982; Hirst, 1987 and Dunk, 1989; Hassel, 1993) or situation specific (Brownell and Hirst, 1986; Brownell and Dunk 1991) results.*

*This study follows the early argument by Otley (1978) that critical for promoting functional budget control is not so much the absolute degree of superior budget emphasis. Instead, incongruent budget emphasis between the superior and the subordinate is the critical factor in the budget process. Incongruent budget emphasis exists when the superior is perceived by the subordinate to place relatively more importance on the budget, than the subordinate himself.*

*The results from a questionnaire survey in a decentralised corporation support the hypothesis that budget communication, as a dimension of budgetary participation, moderates incongruent budget*

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*emphasis. The negative consequences of incongruent budget emphasis are present only when budget communication is low. High budget communication enhances performance even if the incongruence in budget emphasis increases. The paper demonstrates the needs to match budget communication with relative budget emphasis and not the absolute degree of superior budget emphasis as previous studies have argued.*

## INTRODUCTION

The effectiveness of superior evaluation style in using the budgets has been a topic of research interest since the studies of Hopwood (1972) and Otley (1978) produced what has been seen as contradictory results. These studies have spawned a series of studies, some of which are cited below, as researchers have attempted to determine combinations of factors under which budget controls are effective or not. Because of differences in research settings, as in Hopwood and Otley, and differences in procedures of variable measurement, it need, however, to be recognised that the studies are not fully comparable.

A follow on study by Brownell (1982) demonstrated that the dysfunctional outcomes of a high budget emphasis in superior evaluation style were moderated by subordinate budgetary participation. If the degree of budgetary participation was proportionate to the level of budget emphasis, then subordinate job performance would be enhanced. Consequently, high budget emphasis was dysfunctional only when not matched with high budgetary participation. Extensions made by Hirst (1987) and Hassel (1993) to non-manufacturing environments did, however, not report enhanced performance when increasing levels of budget emphasis were matched with increasing levels of budgetary participation. All the above mentioned studies were conducted within one organisation. Dunk (1989) extended the analysis to include several organisations. The results were, however, contradictory to Brownell (1982) and suggest that the effective match of the budgetary variables would produce low performance.

Some support has also been provided on that the effective combinations, as suggested by Brownell (1982), might be situation specific. Brownell and Dunk (1991) and Brownell and Hirst (1986) support the notion that the level of budget emphasis matched with the level of budgetary participation enhances performance or decrease job related tension only under conditions of low task uncertainty. The present state of studies seeking to combine the two budget variables effectively is that they have either provided inconclusive results, or reached the conclusion that the results are situation specific.

The theoretical development of this study is based on the early argument made by Otley (1978, p. 132). He suggested that dysfunctional outcomes are maybe not strictly dependent on the level of superior budget emphasis, but they are instead dependent on the extent to which a

manager is in agreement with his superior about the way his performance is evaluated. Otley concluded that as a manager increasingly disagrees with the appropriateness of evaluation criteria, then his job-related tension will increase. Critical for an effective functioning of budgetary control is therefore not so much the *absolute* level of superior budget emphasis as advocated in earlier studies. The issue is rather, if the *relative* level of superior budget emphasis is higher than what the subordinate himself places on the budget for performance evaluation. Incongruent budget emphasis exists only in this study when the superior emphasises the budget more than the subordinate.

This study will show that budget communication as a dimension of budgetary participation will not moderate high budget emphasis *per se* (absolute emphasis) to impact on performance. Instead, incongruent budget emphasis (relative emphasis) between the superior and subordinate will be moderated by budget communication to influence on functional budget behaviour. Although budget control effectiveness represents one of the most well-organised critical masses in management accounting research (Brownell and Dunk, 1991 p. 703), the focus of previous studies has been solely on the role of superior budget emphasis and not on difference in budget emphasis between the superior and his subordinate.

### **BUDGET COMMUNICATION MODERATE INCONGRUENT BUDGET EMPHASIS – HYPOTHESIS DEVELOPMENT**

Important for promoting functional budget behaviour is the extent to which the perceptions of the superior and subordinate regarding the degree of budget emphasis are congruent. Congruence exists when managers are in agreement regarding the importance they place on the budget for performance evaluation and the importance they perceive that their superiors place on the budget. Budgets and performance reports are then seen as, attainable, appropriate and fair. Managers understand how their performance is evaluated against the budgets. Budget communication and feedback has under congruence a limited role in promoting functional budget behaviour and managerial performance.

The situation is different when the superior emphasises the importance of the budget more than the subordinate, i.e. when budget emphasis is incongruent between the superior and subordinate. Goals are not perceived to be attainable, and goals will impact on performance behaviour only if the individual accepts them. If budget emphasis between the superior and his subordinates is not congruent, then budget communication and information exchange has a potential to moderate the negative outcomes of incongruent behaviour. Communication in the budget participation process can clarify the goals and make the goals more acceptable to the subordinate to improve performance.

Jiambalvo (1982) conducted a study<sup>2</sup> on congruence between the perceived and desired importance of evaluation criteria and its relationship to overall performance and satisfaction of CPA firm employees. The results indicate that congruence was generally not related to performance and job satisfaction. Jiambalvo (1982, p. 160) suggests that office specific variables could influence on the relationship. This limited evidence suggests that the negative main effects of incongruent evaluation style can be situation specific and not universal.

This study follows the tradition in budget evaluation studies by including budget communication as a moderator between high budget emphasis and performance. Brownell (1982) and subsequent studies (Hirst, 1987; Dunk, 1989; Hassel, 1993) have made the point that a proportionate match between the level of budget emphasis and budget communication, as a dimension of budgetary participation, produces highest performance. When the subordinate perceives that the budget is an important evaluation tool for the superior, then communication between the superior and subordinate is needed in the budget process. Information exchanges between the organisational levels are needed to help the otherwise negative consequences of high budget emphasis.

Communication can in a more general sense provide job instructions, a job rationale, guidelines for procedures and practices, feedback information, and an indoctrination of budget goals (Katz and Kahn, 1978). According to Alexander et al. (1989), communication between the superior and subordinate can affect performance in the following ways. First, communication can provide data about the job that is necessary for effective performance. Second, communication provides feedback of performance that allows the subordinate to evaluate the effectiveness of his behaviour. Third, communication provides reinforcement of desired subordinate behaviour. Finally, communication can develop and maintain a positive interpersonal relationship between the superior and the subordinate. In each of the four ways communication has the potential to influence on subordinate performance and job satisfaction (Alexander et al., 1989).

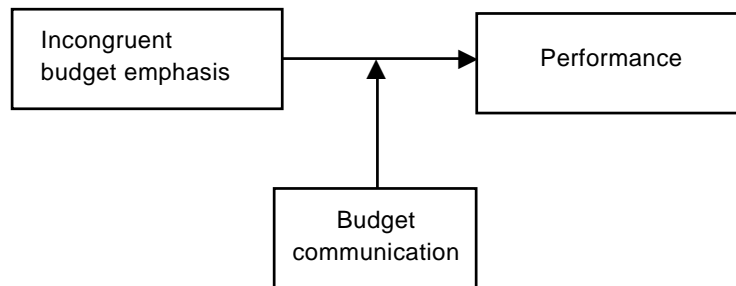
Brownell and Dunk (1991) have argued that communication in the budgetary participation process serves a critical information exchange role. Almost all previous studies have viewed budgetary participation as a uni-dimensional construct (e.g. Brownell, 1982; Brownell and Hirst, 1986; Hirst, 1987; Dunk, 1989; Brownell and Dunk, 1991; Hassel, 1993) even though Milani (1975) suggested the possibility of two dimensions and Brownell (1982) isolated two factors for dimensions. Hassel and Cunningham (1993) demonstrated budgetary participation to be at least bi-dimensional: 1) the extent to which information is exchanged between the superior and his subordinate in the budget process, and 2) the extent to which the subordinate can

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2 The study was not on budget emphasis but dealt with congruence in evaluation criteria.

influence on his budget. The cognitive benefits of participation on behaviour come from the communication dimension, while influence impacts on attitudes towards evaluation (Hassel and Cunningham, 1993). Subsequent analysis in this study will demonstrate that budgetary participation is at least bi-dimensional.

The *a priori* expectations are in this study that if a subordinate perceives that his superior places higher emphasis on the budget than the subordinate, then there is a need for communication in the budgetary participation process to induce functional budget behaviour. A proportionate match between incongruent budget emphasis and budget communication will produce highest performance. Jiambalvo (1982) argued that the negative consequences of incongruent evaluation were situation specific because of no main effects of incongruent behaviour on performance. In this study the negative consequences of incongruent budget emphasis on performance would be restricted to low budget communication situations. This means that low communication cannot help the negative consequences of incongruent budget emphasis. The research model is illustrated in Figure 1:



**FIGURE 1.** Interaction between incongruent budget emphasis and budget communication and their relationship to performance.

The following hypothesis is tested:

$H_0$ : Budget communication does not influence on the relationship between incongruent budget emphasis (between the superior and subordinate) and managerial performance.

## METHOD OF THE STUDY

The study was conducted as a questionnaire survey in a decentralised corporation that has grown through related diversification. The data was collected as a part of a larger survey (Has-

sel, 1992). The participants were divisional managers with budget responsibility. The participants were identified by the researcher and the corporate controller at the HQ. The criteria used to select the participants were as follows. (1) Each participant should have ultimate budget responsibility for the sub-unit. (2) Each unit should function as a profit-center and have manufacturing operations. (3) Each person must have held his position for at least two years to have command over the target-setting process for the actual period.

Eighty questionnaires were mailed with a cover letter from the Vice President indicating corporate approval of the study. The responses were returned directly to the researcher using corporate envelopes. Seventy questionnaires were returned of which sixty-seven responses were used in data analysis. The response rate was eighty-eight percent (88 %).

### **Measurement and Validation of Variables**

*Incongruent Budget Emphasis.* Two items of the Otley (1978) eight-item superior evaluation-style measure were used to measure the degree of budget emphasis the sub-unit general managers perceive that their superiors place on the budgets when evaluating subordinate performance. The two items were "the importance of meeting the budget" and "the importance of making profit". A five-point scale was used ranging from (1) not at all important to (5) very important. These two items correspond with the rigid style of accounting information used in Otley (1978). The items for the degree of superior budget emphasis were summed to give an overall measure. The two items are associated ( $r = 0.43$ ;  $p < 0.01$ ). Brownell (1985; 1987), Dunk (1989), Brownell and Dunk (1991) used the same measure with the exception that their second item "concern with costs" from Hopwood's [1972] study in cost-centers was replaced with the item from Otley [1978] to better suit a profit-center environment.

The same instrument was used to derive the importance the sub-unit managers themselves place on the budget, i.e. subordinate budget emphasis. The reliability check for the two items yielded  $r = 0.39$ ;  $p < 0.01$ .

Incongruent budget emphasis was in this study measured as the difference between superior and subordinate budget emphasis. A positive difference indicates that the superior places more importance on the budget than his subordinate, while if a negative difference is present, the budget is more important for the subordinate than his superior.

*Budget Communication and Influence.* The composite measure of budgetary participation was assessed using the instrument developed by Milani (1975). The instrument has been widely used in subsequent studies. The internal reliability check produced a Cronbach (1951) alpha that has to be considered low ( $\alpha = 0.62$ ).

When the Milani measure was factor analysed, two factors with eigenvalues greater than 1.0 were extracted. Also Brownell (1982) extracted two factors, but used the overall measure.



TABLE 1: Factor Loading of Budgetary Participation (Milani 1975 Measure)

FACTOR	TITLE AND ITEMS LOADING > 0.40	LOADING VARIANCE	PERCENTAGE OF
1	BUDGET INFLUENCE		37.3
	AMOUNT OF MANAGERS INFLUENCE ON THE FINAL BUDGET	0.87	
	THE PORTION OF BUDGET THE MANAGERS WERE INVOLVED IN SETTING	0.84	
	THE IMPORTANCE OF THE MANAGERS' CONTRIBUTION TO THE BUDGET	0.73	
2	BUDGET COMMUNICATION		22.7
	FREQUENCY OF SUPERVISOR-INITIATED BUDGET-RELATED DISCUSSIONS.	0.81	
	FREQUENCY OF MANAGER-INITIATED BUDGET-RELATED DISCUSSIONS	0.73	
	KIND OF REASONING PROVIDED TO MANAGERS WHEN THE BUDGET IS REVISED	0.55	

The rotated factor loading are presented in table 1. The decision to include an item in defining a factor was a factor loading of 0.40 and above. The factors were named 'budget influence' and 'budget communication' respectively, and they accounted for 60 % of total variance. The factor budget communication was used in data analysis because budget communication conforms with hypothesis development and the arguments made by Brownell and Dunk (1991).

*Managerial Performance.* Performance is a multidimensional concept for which no single measurement can be sufficient. In some studies, overall job performance was used as a variable (e.g. Brownell, 1982, 1985; Dunk, 1989). More recent studies, though have not supported overall job performance (Hirst and Lowy, 1990). Instead, budgetary performance found empirical support. Budgetary performance, however, incorporates only a small part of overall performance (Hirst, 1987; Briers and Hirst, 1989; Hirst and Lowy, 1990). Evidence suggests that managers' attentions are directed towards goals (Hirst and Lowy, 1990). This study uses an overall self-reported measure of managerial performance that incorporates both budget performance and goal oriented performance.

The specific measurement approach is adapted from Govindarajan (1984) and Gupta and Govindarajan (1984). Managers were first asked to evaluate the importance they attach to ten potential performance evaluation criteria on a five-point Likert scale. These criteria include objectively measurable items like return on capital employed and operating profit; they also include subjective criteria such as personnel development and product development. The respondents were then asked to indicate the extent to which they are satisfied with their unit's

performance on a five-point Likert scale for each of the ten criteria. The measurement used in the study is the average of the scores for managers' satisfaction with each of the criteria weighted by the perceived importance. The measure does not readily lend itself to an internal reliability test. A reasonably convergent validity was established, however, between business unit controllers' perceptions of overall sub-unit performance and the sub-unit general managers' responses ( $r = 0.39$ ,  $p < 0.01$ ).

## RESULTS OF THE STUDY

Table 2 provides descriptive statistics and Table 3 the correlation among the variables used in data analysis. On average the divisional managers place higher emphasis on the budgets than they perceive that their superiors place.

There is no simple correlation between incongruent budget emphasis and budget communication that would be statistically significant at a 10% level. Also, the simple association between incongruent budget emphasis and performance is low and statistically not significant. In this respect the results are similar to Jiambalvo (1982) who did not find an association between incongruent evaluation and performance or job satisfaction.

**TABLE 2: Descriptive Statistics**

VARIABLE	MEAN	SD	POSS. RANGE		OBS. MIN	RANGE MAX
			MIN	MAX		
INCONGRUENCE	-0.04	1.01	4	-4	2	-4
COMMUNICATION	10.97	2.11	3	15	3	15
INFLUENCE	12.88	2.30	3	15	6	15
PERFORMANCE	2.79	0.59	1	5	1	4

**TABLE 3: Correlation Matrix for the Variables**

VARIABLE	1	2	3
1. INCONGRUENCE	-		
2. COMMUNICATION	-0.06	-	
3. INFLUENCE	0.07	0.20*	-
4. PERFORMANCE	0.10	0.11	-0.23*

\*  $P < 0.10$  (TWO-TAILED TEST)

### Hypothesis test

The hypothesis was tested using multiple linear regression in equation 1 below (see e.g. Champoux and Peters, 1987; Stone and Hollenbeck, 1984; Arnold, 1982; Southwood, 1978). Hypothesis testing is concerned with the coefficient of interaction, term  $b_3$ , only. The main effects  $b_1$  and  $b_2$  do necessarily not have information content when higher order interactions are included in the equation (Arnold, 1982). Multi-collinearity is not an issue in this data set because there is no strong correlation ( $r = -0.06$ ) between incongruent budget emphasis and communication and the association is not significant as shown in Table 3.

Recall that a match between high incongruent budget emphasis (I) and high communication (B) is expected in  $H_1$  to produce the highest value on the dependent variable performance. This means that the coefficient of interaction  $b_3$  is expected to be positive.

$$(1) Y = b_0 + b_1B + b_2I + b_3BI + e$$

Where;

Y = managerial performance,

B = budget communication

I = incongruent budget emphasis between superior and subordinate.

BI = interaction term (BxI)

The results of data analysis indicate that the interaction between incongruent budget emphasis and budget communication<sup>3</sup> is both positive  $b_3 = 0.13$  and significant  $p = 0.008$  (Table 4). The null hypothesis can be rejected. When a hierarchical regression was used, the introduction of the interaction term to a linear additive model with the two independent variables increased  $R^2$  with 8 %. The  $R^2$  of the full model was only 10% which indicates the importance of the interaction term in the model.

There is also a negative main effect of incongruent budget emphasis on performance that is significant when we control for communication and the interaction between communication and incongruent budget emphasis. The main effects have, however, necessarily no information content in regression analysis when higher order interactions are included (Arnold, 1982; Southwood, 1978). The negative effect of incongruent budget emphasis on performance in the full regression model has therefore to be interpreted cautiously.

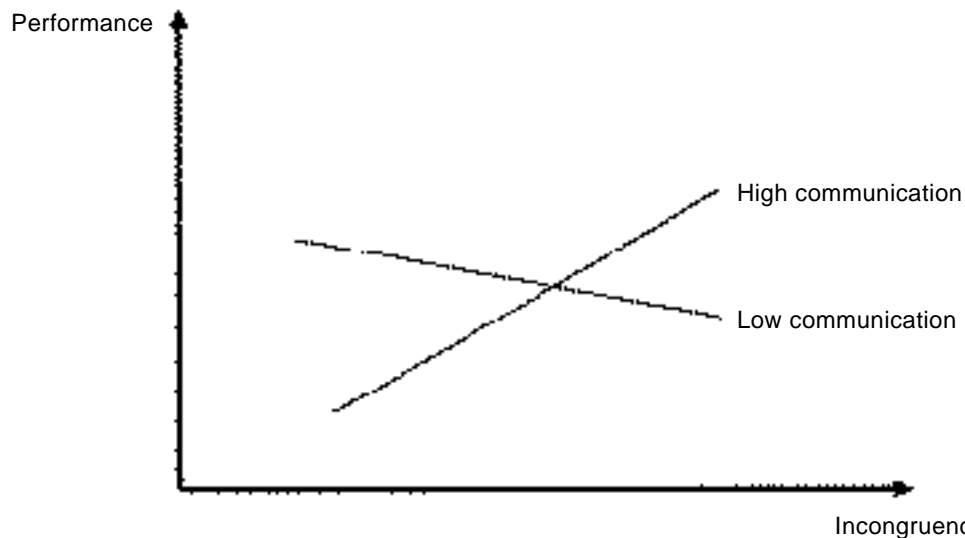
<sup>3</sup> The same regression was estimated with budget influence, the other dimension of budgetary participation, as the moderating variable. The interaction coefficient was negative and not significant. The benefits of participation are derived through communication and not influence in the budget process as also advocated by Brownell and Dunk (1991).

**TABLE 4: Results of Estimating the Impact of Incongruent Budget Emphasis and Budget Communication in a Two-Way Interaction Model on Performance**

VARIABLE	COEFFICIENT	VALUE	STD ERROR	T	P
INTERCEPT	$b_0$	2.53	0.37	6.86	0.0000
COMMUNICATION	$b_1$	0.03	0.03	0.78	0.2185
INCONGRUENCE	$b_2$	-1.27	0.55	-2.32	0.0117
INTERACTION	$b_3$	0.13	0.05	2.45	0.0085

$R^2 = 0.10$ ;  $F_{3,64} = 2.54$  (0.06)

Champoux and Peters (1987) argue that the ultimate test of interaction effects is to calculate slope coefficients for the independent variable for various levels of the moderator variable. In this study, the slopes for incongruent budget emphasis should be different under high and low budget communication. Slope coefficients for incongruent budget emphasis were estimated separately for sub-groups of low and high budget communication (dichotomised at the mean). The slopes were 0.22 for the high communication subset and  $-0.06$  for the low communication subset. The slopes are illustrated in Figure 2.



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**FIGURE 2: Performance as a function of incongruent budget emphasis under low and high budget communication.**

Figure 2 supports the positive coefficient of interaction. Performance is an increasing (decreasing) function of incongruent budget emphasis when budget communication is high (low). The conclusion is that the form of relationship between incongruent budget emphasis and performance is significantly different when communication is high than when it is low.

Consequently, the information exchange through budget communication is the mechanism in the budget process that promotes functional budget behaviour. Incongruent budget emphasis<sup>4</sup> is as such a critical aspect in the budget process, but the negative consequences seem to be situation specific as advocated by Jiambalvo (1982). The negative consequences of incongruent budget emphasis are only present when budget communication is low. High communication fosters functional budget behaviour even if the level of incongruent budget emphasis increases.

## CONCLUSIONS

This study has shown that one dimension of budgetary participation, budget communication, moderates incongruent budget emphasis between the superior and subordinate to improve managerial performance. A proportional match between budget communication and incongruent budget emphasis will produce highest performance. The relative importance of the budget, and not the absolute level of importance that the superiors place on the budget, which previous studies have argued, has been found to be the critical dimension in the budget process.

Also, the study has been able to show that incongruent budget emphasis alone is not associated with performance as an earlier study by Jiambalvo (1982) suggested. The cognitive costs of incongruent budget emphasis materialise only when the communication in the budget process is low.

The study, like most of previous studies, was conducted within one company. The model does necessarily not hold for all firms in all situations. Some of the measures can be considered simple and crude, but they were used to increase comparability to earlier performance evaluation style studies. Nevertheless, further research on factors promoting functional budget behaviour should consider the difference in budget emphasis between the superior and subordinate and not only the level of superior budget emphasis. Also, budget communication is more closely related to the cognitive aspects of work than the composite measure budgetary participation.

The practical implications are that differences in importance of the budget at different managerial levels can be overcome by increased budget communication. The organisational

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<sup>4</sup> No significant interaction was found between the level superior budget emphasis (absolute terms) and communication that would be associated with performance.

reality is that there will always be a degree of uncertainty on what constitutes an appropriate budget standard for an organisational unit and this uncertainty is often greater to the superior than the subordinate, who is better informed. The dysfunction of uncertainty can be overcome by budget communication. ■

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