Budgetary response attitudes in a university environment

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Hypothesizes that, for academics, while budgetary communication may be positively related to budgetary attitudinal response, this relationship is dependent on the level of influence allowed over the medium/long-term goal set. For university administrators, it is not expected that the interaction between the level of influence and budgetary communication will be significant. These differing outcomes are expected because of the conflicting objectives that exist between the two groups. Tests the hypotheses by surveying academic heads of department and administrators from New Zealand universities. The results support the theorized expectations. Outlines the implications for university management and in particular the potential impact for planning structures.

The authors wish to acknowledge the contribution of Mahmoud Ezzamel, Richard Fisher, Jenny Goodwin, participants at the Lincoln University seminar series, and staff members at Otago University.

There is increasing evidence that, over recent years, the public funding to many universities has declined and continues to do so in real terms (Altbach and Johnstone, 1993; Petry and Kenney, 1991). While this situation is an outcome of public policy, it has had the effect of increasing the level of competition both between and within universities for funds available.

Although previous research has focused on the process and politics of budget allocation within universities in a reducing funds environment (Ezzamel and Bourn, 1990; Hackman, 1985; Hills and Mahoney, 1978; Pfeffer and Moore, 1980), no previous study has examined the determinants of attitudinal responses that arise from the process adopted to allocate these funds. Such responses have been defined by Collins (1978, p. 324) as “the predisposition of people to support or withhold support of the budget and even to sabotage the budget”.

A budget is used within an organization to allocate financial resources so that objectives can be achieved. Consistent with this, Wildavsky (1974) has described a budget as a set of objectives with price tags attached. Given the external accountabilities now demanded of universities, the budget is therefore important since it provides the funding allocations to be used by constituents of the university to meet agreed objectives. These objectives are normally outlined in the strategic plan. It is this plan that is usually used to assess the achievements of the university over a defined period.

For strategic objectives to be achieved, not only does appropriate funding need to be allocated but ownership of the objectives and the associated budget by the various constituents also needs to occur. Within a university, there are two distinct groups which each play a separate but dominant role (Dahlof et al., 1991). First, there are the university administrators who, in many instances, act as intermediaries between funding bodies and departmental or faculty academics (Dahlof et al., 1991). As Pollitt (1990) has commented, these administrators are often recruited as allies for some of central government’s purposes. Subsequently, as funds are reduced, it is often this group which takes the primary responsibility for rationing resources and then ensuring that external financial accountabilities are met (Blackmore, 1993; Fogelberg, 1994). These financial accountabilities are often of a shorter term nature and culminate in the publication of an annual set of financial statements. The second group, namely faculty or departmental academics, does not embrace the same financial objectives as university administrators (Ezzamel and Bourn, 1990; Henkin and Persson, 1992). This community has objectives that focus on outputs relating to research and teaching (Gumport, 1993; Pollitt, 1990). While academics discount heavily the simple quality/cost relationship, they insist that, if such is to be imposed, they must have a significant influence over the longer term university goal set (Gumport, 1993; Henkin and Persson, 1992; Savenije, 1992). A goal set is the basket of goals that drives the university (Porter, 1980). This desire for influence arises from an historical struggle between academics and administrators for legitimacy and power (Gumport, 1993), whereby academics have sought “to control not only their work but also the decision making processes at the faculty level as well as at the university level” (p. 644). Given the primary agenda of this group, it is to be expected that, if lower budgets are to be supported or resistance minimized, the academic goal set of excellence in teaching and research will have to be accommodated within the proposed financial scenario.

In this study, it is hypothesized that, for academics, while the communication of budget related matters (budgetary communication) may be positively related to budgetary attitudinal response, this relationship is dependent on the level of influence allowed over the medium/long-term goal set. For university administrators, it is not expected that the interaction between the level of influence and budgetary communication will be significant. This is because of their general acceptance of the notion that financial and managerialistic outcomes should be achieved as a high priority.
The paper is organized as follows. In the next section on the theoretical basis for the study is provided. This is followed by sections outlining the hypotheses, measurement of research variables, details of the study, results and conclusion.

Overview of the literature

Budgetary communication and budgetary response attitude

Participation by employees in the budgetary process has received considerable attention in the academic literature (Brownell, 1982; Kenis, 1979; Milani, 1975). For budgetary participation to occur, a person must become actively involved in the setting of budget goals by exchanging information and influencing outcomes (Hassel, 1993).

Although a number of previous studies have treated participation as a unidimensional construct, there is evidence that it may be at least bidimensional (Brownell, 1982; Hassel and Cunningham, 1993; Milani, 1975). First, there is the extent that communication occurs within the budgetary process and, second, the extent that a participant feels that he or she influences the budget finally allocated. As Hassel and Cunningham (1993) have argued, while a manager may have considerable communication with more senior management over budget allocations, the degree of influence over the final allocation may be minimal.

Evidence suggests that, within universities, the opportunity for the heads of academic departments to influence budget allocations directly may be limited (Pfeffer and Moore, 1980; Pfeffer and Salancik, 1974). This is because in such institutions budget allocations have been repeatedly found to reflect an incrementalist approach that is dependent on workload carried, publications, research grants gained, and representation on both internal and external committees (Savenije, 1992). Further, as Ezzamel and Bourn (1990) have found, such an approach is also used in times of resource scarcity, at a time when administrators exercise more influence over outcomes than does the academic community.

It is therefore argued that, if budget allocations are to gain any support within an institution, communication within the budgetary process will be critical. This communication is needed if those responsible for budgeting outcomes are to have any knowledge of proposed budgetary practices and procedures, budget rationale, and intended budget goals (Katz and Kahn, 1978). As Brownell and Dunk (1991) have stated, budgetary communication provides an important information exchange role.

While previous research has found that relevant communication can improve initial attitudinal responses to budgetary allocations (Ivancevich and Matteson, 1990), Freedman et al. (1974) have argued that the likelihood of success is dependent on three factors: the general environment at the time, the message content, and trust in the communication provider by the message receiver. The majority of academics will relate easily to at least two of these factors. First, the general environment currently facing universities is one of reduced funding (Deutschman, 1990; Hardy, 1992; O'Reilly, 1994) and, given its wide media coverage, is a situation well understood by academics. Second, the message content that a reduction in external funding (general funding provided by the government) translates to a reduction in internal funds distributed within a university by way of budgetary allocations) is also understood. However, while there may be a degree of acceptance of both these factors, there is evidence of a general lack of trust in the communication provider (that is the funding agencies and university administrators (Dahllof et al., 1991; Ezzamel and Bourn, 1990). This was highlighted in Ezzamel and Bourn (1990), where those responsible for distributing information regarding major budget cuts were questioned both from a technical competence perspective and a neutrality perspective. Further they were blamed “for undermining the quality and ethos of the workplace, and for challenging the culture of academic freedom by promoting a financial or accounting ‘culture’ with a different mix of values” (p. 416). Accepting this limitation of mistrust, but given the general acceptance by academics of the other two factors, it is expected that budget communication is likely to be positively related to budget response attitudes for the academic community.

Such a relationship is also expected for university administrators but could be stronger than that derived from the academic community. This is because administrators are more likely to have trust in the message provider who is more likely to share a managerialist perspective and a neutral or accounting ‘culture’ with a different mix of values” (p. 416). Accepting this limitation of mistrust, but given the general acceptance by academics of the other two factors, it is expected that budget communication is likely to be positively related to budget response attitudes for the academic community.

Budgetary communication, influence over medium term goals, and budget response attitude

As previously noted, in an environment of reduced funding, the conflicting goal sets of university administrators and academics become highlighted. This was illustrated in
the case study described in Ezzamel and Bourn (1990). In that situation, when universities were adequately funded (1940s-1970s), “financial measures were commonly viewed as peripheral and subservient to academic matters” (p. 406). There was a general pursuit of academic excellence. In the late 1980s, major funding cuts occurred and these were generally accepted by university administrators. Administrators sought to meet the reality head-on and as a result “financial considerations were brought to the forefront” (p. 415). However, even in this environment, there were academics who continued to advocate academic and teaching excellence while maintaining the existing academic portfolio of offerings in the university. Such a potential scenario is also overviewed in Dahllof et al. (1991).

In a situation of reduced funding, it is an ideal that budget allocations will be supported by the academic community and the process not sabotaged. If budgets are disregarded, achievement of financial outcomes becomes more difficult for the university administration. Further, it is more likely that goals will not be achieved. While in the previous section it was shown that there should be a positive relationship between budget communication and budget response attitudes for both administrators and academics, the problem remains of the differing goal orientations between the two groups. Since budget allocations appear largely incremental, the possibility of increased funding being achievable through the influence or persuasion of the academic community appears unlikely. An alternative is for the academics to feel that they have been able to influence the future academic goal set of the university and thus ensure that the academic culture is preserved, as best as possible, within financial constraints. Such an influencing process is consistent with their historical struggle for power in the institution and what some have termed “their self-interested behaviour” (Gumport, 1993, p. 287). Further, if the influencing process is successful, it is more likely that agreed goals will be resourced adequately. If this occurs, it is expected that the resultant budget allocations will gain even stronger support. While such a model was suggested in Savenije (1992) as being a useful process in developing budgeting support from academics, there is no evidence of it being empirically tested before this current study.

 Likewise for university administrators, it is also expected that the degree of influence over medium/long term goals will be related to budgetary response attitudes. For this group, adequate funding must be provided if goals are to be achieved. The difference with this group, however, is that it has more empathy towards financial stewardship. Further, its basic professional goal set is not perceived to be under the same degree of threat (Pollitt, 1990). Hence, the necessity for administrators to have a high degree of influence over future goals is arguably not as critical. As noted earlier (Ezzamel and Bourn, 1990), administrators are more financially orientated and, hence, any influence they may have will focus on needs rather than the preservation of a culture that traditionally discounts any form of financial control. Given this situation, for administrators, it is not expected that influence over the medium term goal set will interact significantly in the budget communication (budgetary response attitude relationship).

### Hypotheses

Consistent with the earlier discussion, the following hypotheses are tested in this study:

**H1.** For academic heads of department, there is a positive relationship between budgetary communication and budget response attitude.

**H2.** For university administrators, there is a positive relationship between budgetary communication and budget response attitude.

**H3.** For academic heads of department, influence in the setting of medium/long term goals moderates the positive relationship between budgetary communication and budget response attitude.

**H4.** For university administrators, influence in the setting of medium/long term goals will not moderate the positive relationship between budgetary communication and budget response attitude.

### Measurement of research variables

**Budgetary communication**

The three items used to measure budgetary communication were adapted from the Milani (1975) instrument which has been used extensively in previous studies (Brownell, 1982; Dunk, 1989; Mia, 1989). The three items used are consistent with those used in the Hassel and Cunningham (1993) study. Factor analysis confirmed the unidimensionality of the measure used. The Cronbach reliability coefficient was 0.89.
Budgetary response attitude

Budgetary response attitude was measured using the Collins (1978) nine-item measure. As stated in the Collins (1978) study, "The items are divisible into two groups: those measuring supportive and those measuring resistant attitudes" (p. 328). For the present study, this grouping was again confirmed by factor analysis. However, while this grouping was confirmed, it was the composite nine item measure that was primarily used in this study. Such a usage is consistent with earlier studies also using the measure (Collins, 1978; Collins et al., 1987). The Cronbach reliability coefficient was 0.61.

Influence over medium term goals

This measure comprised three items which were adapted from the Milani (1975) budgetary participation instrument. While Kren (1992) used similar items to measure budgetary influence, in this project the items used were reworded to reflect the medium/long term goal setting process within a university. This rewording was undertaken prior to pilot testing and no further changes were necessary as a consequence. Factor analysis confirmed the presence of one factor. The Cronbach reliability coefficient was 0.81.

The research study

The data used in the study were drawn from the New Zealand tertiary education sector. In this sector, the public accountability of universities has steadily increased since 1989. Concurrent with this trend has been a significant decrease in real government funding levels that has not been matched by increased income from the introduction of student fees. Universities have, therefore, been forced increasingly to ration funds across activities and programmes. This has had the effect of drawing into sharp contrast the differing value sets that attach to each of the two groups under study.

In total, 147 heads of department and 80 administrators (all at a level immediately below that of university registrar, excluding finance registrars) from the seven universities were surveyed by questionnaire. All respondents had budgetary responsibilities and all were respectively described in official university publications as either members of the academic staff or senior members of registry or other similar administrative classifications. From heads of department, 102 (69 per cent response rate) responses were received. Since 11 questionnaires were only partially completed, the number of usable responses was 91 (62 per cent). From administrators, 45 (56 per cent response rate) responses were received. The biographicals relating to each of these groups is shown in Table I.

This study uses only a subset of the data derived from a wider survey. Relevant to this paper, data from three sections of the questionnaire were used, these sections being: level of influence over the setting of medium/long term work related goals, budgetary communication, and budgetary response attitude. The descriptive statistics and zero order correlations are shown in Tables II and III.

Results

To test both H1 and H2, correlation coefficients were calculated. As can be seen in Table III, the correlations for the relationship between budgetary communication and bud-
getary response attitude were both significant at < 0.05. This outcome is consistent with the theoretical expectations. Both hypotheses are therefore supported.

To test H3 and H4, the following first order interaction model was used:

\[ Y = b_0 + b_1 x_1 + b_2 x_2 + b_3 x_1 x_2 + e \]

where

- \( Y \) = budgetary response attitude;
- \( x_1 \) = budgetary communication;
- \( x_2 \) = influence over medium term goals;
- \( b_i \) = regression parameters, \( i = 0, 1, 2, 3; \)
- \( e \) = error term.

This model seeks to establish whether the interaction between budgetary communication and the influence over medium/long term goals, by each of the two groups, is significantly related to budgetary response attitude. To do this, it was necessary to confirm if the interaction (\( b_3 \)) is significantly different from zero and positive in terms of direction. The results of undertaking these tests are shown in Table IV.

As can be seen, for H3 (academic heads of department), the two-way interaction between budgetary communication and influence over the medium/long term goal set was significant at \( p = 0.0068 \). Not only is \( b_3 \) significant but it is also positive. The hypothesis is therefore supported. Overall, the model explains 41.6 per cent of the variance in budgetary response attitude. The coefficients of the main effects do not need interpretation since the data were not measured on ratio scales (Southwood, 1978).

When H4 (university administrators) was tested, the results differed from those obtained for H3. As shown in Table IV, the interaction was not significant (\( p = 0.1426 \)) but was positive in terms of direction. The hypothesis, that for university administrators influence in the setting of medium term goals will not moderate the positive relationship between budgetary communication and budget response attitude, is therefore supported.

Although the results supported the expectations, it is not apparent from the testing...
undertaken whether the outcomes, from testing both H3 and H4, are significantly different. To determine this, a Chow Test (used for testing the significant difference between two or more regressions (Gujarati, 1988)) was used. This test confirmed that the difference between the two regressions was significant ($F_{2,123} = 11.383, p = < 0.01$) thus confirming that, for the two groups, a positive budgetary response attitude will be attained by utilizing different behavioural processes.

Discussion and conclusion

This study was undertaken in a university setting where, in recent years, funding has been significantly reduced. While these reductions have impacted on both the major groups which exist in this environment (academics and administrators), these cuts in funding have been perceived by academics as a threat to the historical objectives of research and teaching. Although administrators have also expressed similar concerns, the reasons for these differ from those of the academic community. Given these differences in objectives, it was hypothesized in this paper that if positive budgetary attitudinal responses are to be created by each group, the behaviour process for this to be achieved is likely to differ between the two groups. The results supported this expectation.

"...Given the importance of the total academic budget in most universities, it is surprising that departmental responses to allocations have previously attracted little or no research attention.""

When academic heads of department were surveyed, it was found that a high budgetary response attitude is related to an interaction between a high level of budgetary communication and a high level of influence over the medium term goal set of the department. This relationship was expected. It appears that if academics perceive they have a high level of influence over the medium term goal set, and they have a high level of budgetary communication, positive budgetary response attitudes are more likely to occur.

The results, however, differ when the responses from university administrators are considered. For this group, the interaction between budgetary communication and influence over the medium term goal set is not significantly related to budgetary response attitude even though a significant relationship exists between budgetary communication and budgetary response attitude. This result was also expected. When the outcomes from testing the relationships for the two groups were compared, it was found that they were significantly different. This is not surprising given the differing orientation in objectives between the two groups. Further, it indicates that, for each group, if budgetary support is to be achieved, the behavioural process is likely to differ.

This study has important implications for the senior management of universities. First, for academics to support the level of funding allocated to them, they must be allowed to influence the medium term goal set and be included in discussions that surround the budget allocation process. If influence over the medium term goal set is limited, the results suggest that support for budget allocations will be significantly lower than could otherwise be expected. Budgets could also be sabotaged. Further, dysfunctional outcomes, such as those identified in the Ezzamel and Bourn (1990) study, could be created. In that research setting, when university administrators attempted to reduce spending, academics charged them with “under mining the quality and ethos of the workplace, and for challenging the culture of academic freedom by promoting a ‘financial’ or accounting culture with a different mix of values” (p.416). Second, the results confirm that academic heads of department do need to be involved in the various levels of the organizational planning hierarchy. As Mintzberg (1994) has noted, planning frameworks are, however, often separated within organizations. While senior managers dominate longer term planning processes, lower level managers are focused on budgetary or shorter term issues. For universities facing budget cuts, the results suggest that such planning divisions should not be allowed to occur since it is important that academics have a strong influence over university objectives. Third, the results relating to university administrators (immediately below university registrar, excluding finance registrars) bring into question the need for this group to be included in higher level planning processes. Obviously, the withdrawal of administrators from these processes would save costs. It would also simplify the consultative process surrounding this level of planning. It could be, however, that, by allowing administrators to influence the medium term goal setting process, other benefits are generated for the employer. These possibilities are not explored in this study and therefore could generate a fruitful agenda for future research.
The study is also important for researchers. Although previous studies have focused on the politics and processes surrounding the budget allocation procedures within universities, this paper addresses the issue of budget support at departmental level. Given the importance of the total academic budget in most universities, it is surprising that departmental responses to allocations have previously attracted little or no research attention. Second, it could be that a university setting is similar in context to other organizations in terms of major and powerful employee groupings that have markedly different goal sets. This is an opportunity for future research. It could be that university managements could learn from the practice of other such organizations if common ground can be established.

The study has several limitations. First, it is a cross-sectional study at one point in time and it could be that different results may occur if a longitudinal study was undertaken. It is possible that certain events specific to the research setting may have unknowingly influenced the results. Second, the data for the study were sourced only in New Zealand. It could be that differing results would arise if the research was replicated in another setting. Third, the limitations attaching to questionnaire research are well documented.

References


