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The Effect of Organisational Culture Perceptions on the Relationship between Budgetary Participation and Managerial Job-related Outcomes

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### Abstract

This study examines the impact of managers' perceptions of their organisational culture (OC) on the relationship between budgetary participation and managerial job-related outcomes, operationalised as managerial performance and job-related tension (JRT). We hypothesised that the relationship between budgetary participation and job-related outcomes would depend on managers' perceptions of innovation and attention to detail. Data from 114 managers supported predictions that increasing budgetary participation would lower JRT for managers perceiving a high emphasis on innovation within their OC, regardless of their perceptions of an emphasis on attention to detail. When managers perceived low innovation, however, their perception of level of attention to detail had a significant effect on the relationship between budgetary participation and JRT. More specifically, increasing budgetary participation was found to decrease JRT for managers who perceived low innovation and low attention to detail. For managers who perceived low innovation and high attention to detail, however, this effect was attenuated. Finally, the positive relationship between budgetary participation and managerial performance was not found to be affected significantly by managers' OC perceptions.

**Key words:** Budgetary participation, organisational culture, contingency model, job-related tension, managerial performance, interactions, regression analysis, innovation, attention to detail

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## **The Effect of Organisational Culture Perceptions on the Relationship between Budgetary Participation and Managerial Job-related Outcomes**

### **1. Introduction**

The concept of organisational culture (OC) has been widely adopted in both professional and academic literature (see Ashkanasy, Wilderom, and Peterson, 2000; Reichers and Schneider, 1990). OC is commonly related to the shared value system of an organisation (Deal and Kennedy, 1982), and provides the basis for managerial judgement about what is the right and wrong way of doing things. Writers such as Connor and Becker (1994) and Dose (1997) argue that managers' perceptions of the OC existing in their workplace are key determinants of their work attitudes, and thus provide an important framework for understanding managers' decisions and behaviour at work. In particular, the study of the relationship between management accounting systems and managers' OC perceptions has attracted continuing research interest (Goddard, 1997; O'Connor, 1995; Dent, 1991; Bourn and Ezzamel, 1986; Flamholtz, 1983). Goddard (1997) and O'Connor (1995) have shown, for example, that the link between managerial budgetary participation and managers' OC perceptions has significant implications for managerial job-related outcomes. In this paper, we aim to extend the literature on the relationship between managerial budgetary participation and job-related outcomes by testing empirically a model that includes the effect of two dimensions of managers' OC perceptions.

### **2. Background and Motivation**

Budgetary participation relates to the involvement of managers in the budgetary process and their influence over the setting of budgetary targets (Shields and Young, 1993). The argument that managers' participation in budget setting affects job-related

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outcomes such as performance is premised on two explanations. First, models based on psychological theories suggest that participation is related to performance through identification and ego-involvement with the budget goals (Murray, 1990). This, in turn, leads to enhanced motivation and commitment to the budget (Vroom, 1964; Brownell and McInnes, 1986). Second, from a cognitive perspective, participation is seen to improve the flow of information between superiors and subordinates, leading to higher quality decisions (Locke and Schweiger, 1979; Shields and Young, 1993). Similarly, participation may promote better performance through facilitation of learning and knowledge acquisition (Parker & Wall, 1998).

There is evidence, however, that budgetary participation is not always beneficial. Previous studies have found that a variety of factors, including perceived environmental uncertainty (Gul, 1991), job difficulty (Mia, 1989), organisational structure (Gul, Tsui, Fong, and Kwok, 1995), and budget emphasis in performance evaluation (Brownell, 1982) may moderate the relationship between budgetary participation and managerial job-related outcomes. For instance, Gul et al. (1995) found budgetary participation to be negatively related to managerial performance in less decentralised (i.e., more hierarchical) situations.

The role of OC perceptions, however, has attracted only limited research attention. The importance of these perceptions was underlined in a three-case analysis undertaken by Flamholtz (1983). Flamholtz concluded that “if a firm’s culture and its core control system are not synchronised, it is not likely that even a well integrated core control system will actually influence behaviour in its intended ways” (p. 168). More specifically, managers in one of Flamholtz’s (1983) cases described their OC as being highly rules-

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oriented and tradition-bound, and therefore felt that budgetary participation was only “pseudo”. Thus, when a zero-based budgetary system was introduced, these managers failed to make any significant budget cuts.

A more recent survey-based study by O’Connor (1995) utilised Hofstede’s (1980) measure of power distance, and found that this variable moderated the relationship between managerial budgetary participation and role ambiguity<sup>1</sup>. O’Connor’s results indicated that budgetary participation has a stronger negative effect on role ambiguity for managers perceiving low power distance than for those perceiving high power distance. In a later survey of managers in a large public sector organisation, Goddard (1997) reported a positive association between participative budgeting and managers’ perceptions of a more managerialist, efficiency-oriented culture.

In summary, prior research provides evidence that the relationship between budgetary participation and managers’ job-related outcomes is affected by perceptions of particular OC dimensions. The problem with these studies, however, is that they have treated different value dimensions of OC as independent entities, and therefore failed to deal with the complexity inherent in the multi-dimensional nature of OC. Marcoulides and Heck (1993) have drawn particular attention to this issue, and have noted that combinations of value or perceived OC dimensions may have interactive effects. Marcoulides and Heck have called for researchers to adopt more rigorously defined models that take into account

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<sup>1</sup> Power distance relates essentially to an acceptance of equality between superiors and subordinates in organisations. Although power distance is intended for use at the societal level, it has also been shown to operate usefully at the organisational level as an OC dimension (see Pratt & Beaulieu, 1992).

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the interactive contribution of the different value dimensions that determine the link between management accounting system and organisational outcomes.

The present study recognises this gap in the literature and presents an empirical examination of the moderating role of managers' OC perceptions on the relationship between budgetary participation and two managerial job-related outcomes: job-related tension and managerial performance. The profile of OC dimensions developed by O'Reilly et al. (1991) provides the basis for understanding managers' OC perceptions<sup>2</sup>. For this study, innovation and attention to detail are the two focal OC dimensions because they represent critical components of modern managerial strategies and practice, including continuous improvement, flexible budgeting, and total quality management (see O'Reilly, 1989; Sathe, 1985).

In particular, innovative OC has attracted research attention because it is an important factor in creating a firm's competitive advantage (Koberg & Chusmir, 1987). While organizations tend to cultivate differing levels of innovation based upon their business strategy, research findings suggest that organisational structure and processes need to be aligned with the level of innovative OC (Kimberley, 1981). Russell and Russell (1992)

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<sup>2</sup> O'Reilly and his associates identified seven value dimensions: attention to detail; innovation; outcome-orientation; respect for people; stability; team-orientation; and aggressiveness. These dimensions have been subsequently replicated by Chatman and Jehn (1994) and Windsor and Ashkanasy (1996). The present study focuses only on the first two dimensions for two reasons. First, while the interactions among three or more of the seven OC dimensions are theoretically possible, conducting such a study requires large data sets and is beyond the scope of the present sample. Second, innovation and attention to detail were chosen because prior studies indicate that variations in these two dimensions within an OC have implications for managers' needs for information exchange and systematic decision making systems (Russell and Russell, 1992; Chatman and Jehn, 1994). Given that budgetary participation may fulfil such needs, an examination of the interaction between the two OC dimensions and budgetary participation is justified. The impact of the remaining five OC dimensions on managers' needs for information exchange and systematic decision making systems is less clear.

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argue that, as organisations adopt a more innovative OC, employees prefer more organic structures and participative management processes. We thus expect that, as managers' perceptions of innovation increase, increasing budgetary participation by these managers will lead to more favourable job-related outcomes.

We also propose that managers' perception of attention to detail is an important moderating factor in determining the relationship between their participation in budgeting and job-related outcomes. The OC dimension of attention to detail relates to the level of importance placed by organisational members on precision and accuracy in completing tasks. In the manufacturing industry examined in our study, attention to detail may vary depending upon factors such as manufacturing strategy and the level of technology of the organisation (see Bates, Amundson, Schroeder, and Morris, 1995). Chatman and Jehn (1994) argue further that, as attention to detail decreases, decision-making processes become less reliant on analytical models and depend more on subjective judgement. Dependence on more subjective decision-making processes, however, tends to increase the risk of errors and misjudgement. As such, participative budgeting is expected to become more useful in a low attention to detail OC because it provides managers with an opportunity to review and to exchange job-relevant information in a more systematic manner, resulting in improved decision quality. We thus expect that, when managers' perceptions of both innovation and attention to detail are low, budgetary participation will lead to more favorable job-related outcomes. When managers' perceptions of innovation are high, on the other hand, we expect budgetary participation to lead to more favorable job-related outcomes, regardless of the level of attention to detail.

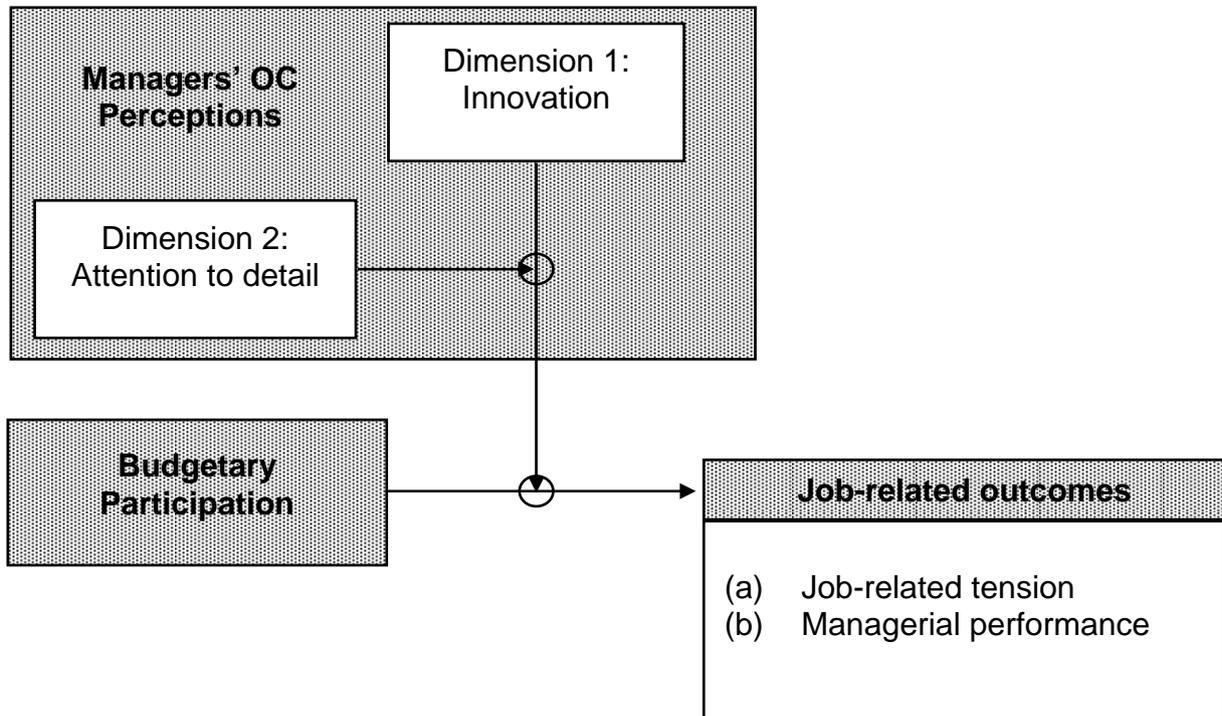
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In summary, we propose a three-way interaction between managers' perceptions of innovation, their perceptions of attention to detail, and their participation in budget setting affecting their job-related outcomes. The resulting model (Figure 1) includes managers' perceptions for innovation and attention to detail (O'Reilly et al., 1991) as moderators of the relationship between budgetary participation and managerial job-related outcomes (job-related tension, managerial performance). In the next section, we discuss in more detail the two focal managerial job-related outcomes for this study and develop our specific hypotheses.

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Figure 1: Conceptual Model



### 3. Hypothesis Development

#### 3.1 Job-related outcomes

In the present study, we focus on two job-related outcome variables: job related tension (JRT) and managerial performance.

Job-related tension. Hopwood (1972) has noted that JRT reflects those aspects of a job that give rise to individual frustration and anxiety. Such aspects include situations where individuals are subject to excessive demands, or where they are not appropriately equipped to handle particular work situations. The consequences of JRT are generally adverse for the individual, producing anxiety, depression, and physical illness (Jamal,

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1985), and leading ultimately to dysfunctional behaviour at work (Shields and Young, 1993).

Managerial performance. Mintzberg (1971) has noted that managerial performance encompasses a variety of tasks such as planning, investigating, and coordinating activities; and selecting, evaluating and supervising staff. Notwithstanding this, prior studies (e.g., Govindarajan, 1986; Mia, 1989; Dunk, 1993) have successfully assessed managerial performance using an omnibus index based on the instrument developed by Mahoney, Jerdee, and Carroll (1963).

The relationship between JRT and managerial performance. Dunk (1993) and Jamal (1985) report the relationship between managerial performance and JRT to be negative. We expected this to be the case in the present study, although there is also evidence that the relationship can be relatively weak, or even non-existent (Jackson and Schuler, 1985). Separate analyses were therefore undertaken in the present instance for each of the two dependent variables.

### **3.2 The relationship between budgetary participation and managerial job-related outcomes for managers perceiving high innovation**

The present study is based on the underlying proposition that a manager's OC perceptions serve as an important cognitive filter through which he or she comes to understand what constitutes desirable attitudes and acceptable norms of behaviour at work (Ashkanasy, et al., 2000). In turn, individual managers' perceptions of the different OC dimensions provide a basis for their judgement on the appropriateness of decision-making structures and processes when carrying out their tasks (Harris, 1994). We argue that, for managers perceiving an OC that is high in innovation, participation in budget setting is

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going to be seen to yield greater benefits in terms of information exchange, role clarity, and managerial motivation (Koberg and Chusmir, 1987), regardless of the perceived level of attention to detail. In the following paragraphs, we expand on this point, dealing first with the effect of innovation, and then with attention to detail.

Innovation. Consistent with O'Reilly et al. (1991), we define the OC dimension of innovation in terms of the following values: being innovative and willing to experiment with new ideas, being opportunistic, not constrained by many rules, and willing to take risks. Thus, managers who perceive their organisation's OC to be highly innovative are likely to pursue projects that are novel, untested and risky. Given that innovation often involves trial and error, with little certainty of outcomes and of the means for achieving outcomes (Russell and Russell, 1992), managers in a highly innovative OC are likely to face high uncertainty in their work-related roles as well. With increasing uncertainty, budgetary participation is expected to improve managerial performance as well as to reduce managerial JRT. This is because participation provides the opportunity to share job-relevant information that can improve managers' decisions and, ultimately, their performance (Gul, 1991; Magner, Welker, and Campbell, 1996). At the same time, managers' JRT is likely to be reduced because participation provides the opportunity to cope with the increasing ambiguities and stress (related to developing new and untested projects) by sharing relevant information (Gul, 1991). Further, participation can also provide opportunities for managers to gain access to resources that can be used to buffer task performance from the unanticipated effects of other factors. This tends to lower JRT, since managers are likely to feel less threatened with work demands that they are unsure of

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meeting, given the uncertainties inherent in new and creative projects (Brownell and Hirst, 1986).

Attention to detail. Again consistent with O'Reilly et al. (1991), we define the OC dimension of attention to detail in terms of values relating to being precise, analytical, careful, and detail-oriented. Our contention is that, for managers perceiving an innovative OC, differences in the managers' perceptions of the level of attention to detail do not affect the impact of budgetary participation on JRT and performance.

For instance, in the case of managers perceiving high innovation but low attention to detail, taking on risky and innovative projects will be seen to be important while their decisions are likely to be based on more subjective judgements and less precise assumptions. Unfortunately, such decision processes increase the risk of adopting inaccurate assumptions when setting budget targets in a more uncertain environment. Budgetary participation therefore would enhance decision making for these managers by improving the exchange of relevant information between them (see Gul, 1991; Magner et al, 1996). Further, managers perceiving high innovation and low attention to detail must also deal with the uncertainty and stress that result from a less stable environment and a more subjective decision-making system. Managerial role expectations are likely to be less clear in a culture where creative, non-standard ventures are encouraged (Russell and Russell, 1992). Participation in budgeting would thus help to communicate these role expectations, thereby lowering role ambiguity and JRT (Chenhall and Brownell, 1988).

Similarly, in the case of managers perceiving high innovation as well as high attention to detail, budgetary participation will continue to be beneficial. In this situation, managers

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not only face a highly uncertain work environment, but the added pressure of adopting more accurate estimates in decision-making. Thus, because of their high attention to detail, these managers are likely to make use of all possible sources of information in order to improve the accuracy of their decisions (see also Gul, 1991). Since information availability is improved through participation, participative budgeting will lead to more analytical and accurate decision-making. It follows therefore that managerial performance should be enhanced in this context. Further, participation in budget-setting provides the opportunity to buffer managers' estimates against unanticipated factors (Brownell and Hirst, 1986), and possibly to share the risks involved in making budgetary decisions in dynamic situations (Govindarajan, 1986). As such, managers' JRT ought to decrease as budgetary participation increases for managers who believe that they are operating in an OC that is high on both attention to detail and innovation.

In summary, when members' perceptions of innovation are high, regardless of the level of attention to detail, we expect increased budgetary participation to be associated with decreased JRT and improved managerial performance.

### **3.3 The relationship between budgetary participation and managerial job-related outcomes for managers perceiving low innovation**

In situations when managers' OC perceptions of innovation are low, budgetary participation may not be perceived to be as helpful or as necessary as when managers' perceptions of innovation are high. This is because, when low innovation is perceived, the values of conservatism and risk aversion are more dominant than creativity, and thus the environment and managerial tasks may be perceived to entail less uncertainty. In this respect, Judge, Fryxell, and Dooley (1997) found that "less innovative units behaved more

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like traditional bureaucratic departments” (p.74). The role of budgetary participation as a vehicle of information exchange becomes less important for managers perceiving low innovation. We argue, however, that budgetary participation will have value for managers perceiving low innovation only if attention to detail is low. We elaborate on this in the following paragraph.

In the case of managers perceiving low innovation but high attention to detail, managers are likely to contend that, while innovative ideas may be important, keeping within set rules, policies, and regulations should take priority (Kimberley, 1981). At the same time, planning and decision-making will be based on careful analyses and an emphasis on precision. As a result, standardisation of managerial duties and roles can be expected to be high. According to Brownell and Merchant (1990), when job standardisation is high, there is minimal improvement in the flow of information between managers. In fact, managers’ personal input or ideas can become easily discouraged and/or rejected if it is not within the set guidelines (Waterhouse and Tiessen, 1978). Thus, for managers perceiving low innovation but high attention to detail, encouraging participation in budget setting may be construed as pseudo-participation. Consequently, increasing budgetary participation for such managers could become more threatening and less motivating leading to increasing frustration and higher JRT.

Further, managers perceiving pseudo-participation may be prone to adopt inefficient usage of time in preparing paperwork. For example, as we noted earlier, Flamholtz (1983) found in one of his cases that managers in a large banking institution viewed their participation in a zero-based budgeting system to be only pseudo. Consequently, their

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reaction was not to make any real budget cuts as required by senior management. Instead, they carried on to report budget estimates based on the traditional guidelines. Such dysfunctional behaviour is clearly detrimental to managerial performance.

In summary, for managers perceiving low innovation but high attention to detail, we expected to find that budgetary participation would be associated with increased JRT and reduced managerial performance.

By contrast, in the case of managers perceiving both innovation and attention to detail as being low, increased participation in budget setting is going to be associated with reduced JRT and increased managerial performance. This is because managers who view their OC as being low in both innovation and attention to detail are prone to perceive a more conservative environment that is less detail-oriented. The primary threat is for such managers to become complacent and to be reactive (rather than proactive) to changes. Miles and Snow (1978), for example, identified organisations they termed “reactors”. Such organisations tend to be locked into an inefficient, complacent managerial style where managers lack planning and coordination structures. Thus, compared to an OC that is low in innovation but high in attention to detail, an OC that is low on both innovation and attention to detail is likely to entail a lack in proper managerial decision support systems. Budgetary participation therefore may provide both the opportunity and the incentive for managers to aim for higher performance levels.

Further, managers who perceive low innovation and attention to detail OC tend to have a greater tendency to base their decisions on their own personal judgements. With budgetary targets being more predictable (since innovative OC is seen to be low), the

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opportunity for greater subjective decision making promotes true, rather than pseudo-participation. Managers, in turn, have an opportunity to become more involved, confident, and committed towards their budgetary targets, since they are able to exercise their own discretion. Consequently, managers' JRT will decrease because managers are able to target and to plan performance schedules based on their own volition. Further support for such an argument may be derived from Gul et al. (1995), who found that budgetary participation in situations of high managerial autonomy was associated with better managerial performance.

In summary, for managers perceiving low innovation and low attention to detail, budgetary participation is expected to be associated with decreased JRT and increased managerial performance.

### **3.4. Hypotheses**

**H1: There is a significant three-way interaction between innovation, attention to detail, and budgetary participation affecting managers' JRT.**

H1(a): For managers perceiving high innovation, increasing levels of budgetary participation are associated with lower levels of JRT, regardless of their perceptions of attention to detail.

H1(b): For managers perceiving low innovation, increasing levels of budgetary participation are associated with lower levels of JRT when their perceptions of attention to detail are low, and higher levels of JRT when their perceptions of attention to detail are high.

**H2: There is a significant three-way interaction between innovation, attention to detail, and budgetary participation affecting managerial performance.**

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H2(a): For managers perceiving high innovation, increasing levels of budgetary participation are associated with higher levels of performance, regardless of their perceptions of attention to detail.

H2(b): For managers perceiving low innovation, increasing levels of budgetary participation are associated with higher levels of JRT when their perceptions of attention to detail are low, and lower levels of performance when their perceptions of attention to detail are high.

## **4. Method**

### **4.1 Procedure**

A random sample of 62 companies was selected for this study from the 623 food manufacturing organisations listed in the Kompass Australia (1995/1996) business directory, and employing more than one hundred people. Manufacturing companies were chosen for consistency with previous research into budgetary participation and job-related outcomes (e.g. Brownell and Hirst, 1986; Dunk, 1990, 1993; Mia, 1989). Food manufacturers were selected because this industry provides a variety of strategic and management approaches, while controlling for extraneous industry variables. Companies with less than a hundred employees were not expected to have clearly defined areas of responsibility to which managers are appointed (Dunk, 1993). The human resource manager of each company was initially contacted to identify those managers in each firm with a distinct area of responsibility. Subsequently, 263 managers were contacted and requested to take part in the research. No restriction was placed on the areas of responsibility from which managers could be selected. A questionnaire with a cover letter, together with a reply-paid self-addressed envelope, was mailed to each manager. A

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follow-up telephone call was made in order to check on receipt of the questionnaire, and to promote a higher response rate.

## 8.2 Sample

One hundred and twenty-four responses from 37 companies were returned.<sup>3</sup> Five, however, were excluded from the study because of incomplete responses, and four more were excluded because respondents were from an inappropriate level (e.g., managing director or line-supervisor). A further response was deleted because acquiescent response (all items responded to in the same direction). This left 114 useable responses. The respondents' ages ranged from 25 to 50 years. They had held their current positions for an average of 3.8 years (range: 1.7 – 9.7 years) and had been employed by their respective companies for an average of 12.8 years (range: 2.5 – 34.5 years). The average number of employees in their area of responsibility was 81 (range: 24 – 230 employees). Ninety-five percent of the respondents were male.

## 8.3. Instruments

Managers' OC perceptions. This instrument was developed by Windsor and Ashkanasy (1996), and based on the O'Reilly et al. (1991) OC questionnaire. It consists of an introduction paragraph and 26 response items. The introduction states: "Every organisation has its own culture which is a set of values that might be expected or implicitly required of members of that organisation. Most of the following statements listed below are values that have been found prevalent in different organisations."

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<sup>3</sup> A check on differences in key characteristics of the respondent and non-respondent companies, such as sales volume, number of employees, and firm age, did not reveal any significant differences between them.

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Respondents were asked to write a number in the box adjacent to each of the 26 OC values to indicate the extent to which they perceived that value to be important in their organisation. Response options varied from 1 (not at all) to 5 (to a very great extent). The 26 items cover the seven OC dimensions identified by O'Reilly et al. (1991). The present study focuses on two of these dimensions: innovation and attention to detail.<sup>4</sup>

Managers' perception of innovation was measured using the five items identified by O'Reilly et al. (1991). These value items are: 'being innovative', 'being quick to take advantage of opportunities', 'having a willingness to experiment', 'risk-taking', 'having no rules - not being constrained by many rules'. Cronbach alpha reliability for the scale in the present study was acceptable (0.71).

Managers' perception of attention to detail was measured based on the four items identified by O'Reilly et al. (1991). Items are: 'paying attention to detail', 'being precise', 'being analytical' and 'being careful'. Cronbach alpha reliability of the scale was good (0.78).

Budgetary Participation. The Milani (1975) six-item, seven-point Likert-type instrument was used to measure budgetary participation. As an example, one of the items required respondents to indicate extent of their involvement in setting the budget on a 7-point scale, where 1 represented "none at all" and 7 represented "all of the budget". This instrument has been used and tested extensively in many other studies, and has provided high internal reliability (Brownell and Hirst, 1986; Mia, 1988; Dunk, 1993). Cronbach alpha obtained in the present study was very good (0.83).

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<sup>4</sup> Principal Components factor analysis with Varimax rotation was used to check the dimensional structure of the scale. This analysis confirmed the factor structure reported by O'Reilly et al.

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Job-related tension. The 15-item scale developed by Kahn and his associates (1964) was used to assess managerial job-related tension. It measures four dimensions of job stress: role ambiguity, role conflict, role overload and resource inadequacy. Respondents were asked to use 7-point Likert-type scales to rate the frequency with which they are bothered by potentially stressful events, such as being unclear on the scope and responsibilities of the job, feeling one has insufficient authority or qualifications to carry out assignments, and feeling that one must do things against one's better judgement. Cronbach alpha for this scale was also very good (0.84).

Managerial Performance. A self-evaluation instrument developed by Mahoney et al. (1963) was used to measure managerial performance.<sup>5</sup> Respondents were asked to rate, on a 7-point scale, their own perceived performance on an overall rating, plus ratings on sub-dimensions of planning, investigating, coordinating, evaluating, supervising, staffing, negotiating, and representing (Mia, 1988; Gul et. al, 1995). Following the procedures adopted by Mahoney et al. (1963) and Brownell and Hirst (1986), reliability of the overall rating was checked by regression against the eight sub-dimensions. The regression explained 50% of the variance of the overall rating score, which is acceptable given that previous studies have reported an R-square of 0.47 to 0.79 (Dunk, 1990; Govindarajan, 1986). On this basis, scores on the overall rating scale were adopted as the measure of managerial performance in the present study.

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(1991) for the two dimensions included in the present study.

<sup>5</sup> While it has been argued that self-ratings of performance may entail leniency error and less variability than do superior ratings, Heneman's (1974) findings suggest that self-ratings of performance collected for research purposes, in fact, possess less leniency, restriction of range and halo error than the supposedly superior methods (See Heneman, 1974, for a full discussion).

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## 9. Analysis models

To test both the main interaction hypotheses (H1, H2), we used the following multiple regression equation:

$$Y_i = a_0 + a_1I_i + a_2D_i + a_3B_i + b_1B_iI_i + b_2B_iD_i + b_3I_iD_i + c_1 I_i B_iD_i + e \quad (1)$$

$Y_i$  = Dependent variable whereby  $i = 1$ : Job-related tension

$i = 2$ : Managerial performance

$B_i$  = Budgetary participation

$D_i$  = Managers' perceptions of Attention to Detail, and

$I_i$  = Managers' perceptions of Innovation.

A significant value for the coefficient  $c_1$  in both regressions was required to support the main hypotheses. Further, because interaction regression models were used in this study, the approach of centering the independent variables (by using deviation scores) was adopted to reduce the correlations between the product terms and the component parts of the independent variables. Deviation scores for all the independent variables in the regression models were calculated by subtracting raw scores from the overall mean score (see Jaccard, Turrisi, and Wan, 1990). Tolerance of greater than 0.10 was achieved for all the independent variables in the regression models used, indicating that multicollinearity was not present in the centred data.

To test sub-hypotheses (H1a and b; H2a and b), the following regression models were used. Separate tests were conducted for managers high and low on perceptions of innovation.

$$Y_i = a_0 + a_1D_i + a_2B_i + e \quad (2)$$

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$$Y_i = a_0 + a_1D_i + a_2B_i + b_1B_iD_i + e \quad (3)$$

$Y_i$  = Dependent variable whereby  $i = 1$ : Job-related tension

$i = 2$ : Managerial performance

$B_i$  = Budgetary participation

$D_i$  = Managers' perceptions of Attention to Detail

For the sub-sample of managers perceiving high innovation, the value of the coefficient  $b_1$  was expected to be non-significant, thus supporting sub-hypotheses H1(a) and H2(a). By contrast, Hypotheses H1(b) and H2(b) were supported if the coefficient  $b_1$  was significant for the sub-sample comprising managers perceiving low innovation.

## 9. Results

### 9.1 Descriptive statistics

Means, standard deviations, and inter-correlations for the five variables measured in the present study are given in Table 1. The correlations were all in the directions expected. In particular, there was a significant negative correlation between JRT and managerial performance although, as we anticipated, this was weak, with only 16% variance shared between the two variables.

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Table 1. Descriptive Statistics<sup>a</sup>

	Mean	s.d.	r			
			1	2	3	4
1. Innovation	3.40	0.63				
2. Attention to detail	3.66	0.69	.07			
3. Budgetary participation	5.38	1.07	.10	-.19*		
4. Job-related tension	2.48	0.51	-.28**	-.22*	-.23*	
5. Managerial performance	5.41	0.70	.28**	.12	.24**	-.40**

Notes:

<sup>a</sup>n = 114

\*p<0.05; \*\*p<.01

## 9.2 Interaction tests (H1 and H2)

As the first step, we examined results of Equation 1, which includes the three-way interaction between managers' perceptions of innovation, attention to detail, and budgetary participation. Statistical interpretation of the results followed the approach adopted by Lau, Low, and Eggleton (1995) and Jaccard et al. (1990). The analysis indicated that there was a significant ( $p < .05$ ) three-way interaction affecting JRT, but not managerial

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performance (see Table 2).<sup>6</sup> This provides support for H1 but not for H2. The JRT regression model explained 25% (adjusted) of the data variance, with the three-way interaction accounting for an additional 4% of variance above the two-way model.

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<sup>6</sup> As a check on possible demographic effects, the analysis was also run with age, tenure in organization, tenure in current position, and type of manager. None of these variables was significantly related to our dependent variables, and inclusion as control variables had no effect on our substantive findings.

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**Table 2: Results of Regressing Job-related Tension and Managerial Performance against Innovation, Attention to detail, and Budgetary Participation<sup>a</sup>**

	Variable	Coeff.	Job-related tension		Managerial performance	
			Value <sup>b</sup>	p	Value <sup>b</sup>	p
I	Innovation	a <sub>3</sub>	0.22	.01	-0.29	.01
D	Attention to Detail	a <sub>2</sub>	0.10	.14	-0.07	.45
B	Budgetary Participation	a <sub>1</sub>	0.17	.01	-0.21	.01
BI	2-way interaction	b <sub>3</sub>	0.08	.32	0.03	.80
BD	2-way interaction	b <sub>1</sub>	0.17	.01	-0.10	.20
ID	2-way interaction	b <sub>2</sub>	-0.22	.04	0.31	.04
BDI	3-way interaction	c <sub>1</sub>	0.26	.03	-0.30	.09
	Adj. R <sup>2</sup>		0.25		0.17	
	F-value (p<.0001)		4.34		3.09	

Notes:

<sup>a</sup>n = 114

<sup>b</sup>Coefficients based on deviation scores, so signs are reversed

### 9.3 Tests of Sub-hypotheses:

JRT. The three-way interaction in respect of JRT was significant (supporting H1).

Therefore, to determine if the effect of the interaction between budgetary participation and attention to detail on JRT differed between managers perceiving low innovation and those

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perceiving high innovation, the innovation perception scores were dichotomised at the mean. The regression results for Equations 2 and 3 are given in Table 3.

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Table 3: Results of Regressing JRT against Attention to Detail and Budgetary Participation in High and Low Innovation Sub-samples

Variable	Coeff.	High Innovation		Low Innovation		
		Sub-sample <sup>a</sup>		Sub-sample <sup>b</sup>		
		Value <sup>c</sup>	p	Value <sup>c</sup>	p	
<u>Additive model</u>						
D	Attention to Detail	a <sub>2</sub>	0.26	<.01	0.12	.26
B	Budgetary Participation	a <sub>1</sub>	0.16	<.01	0.09	.13
Adj. R <sup>2</sup>			0.15		0.02	
F-value (p<.01)			6.91		2.09	
<u>Interaction model</u>						
D	Attention to Detail	a <sub>2</sub>	0.25	<.01	0.01	.90
B	Budgetary Participation	a <sub>1</sub>	0.16	<.01	0.21	<.01
BD	2-way interaction	b <sub>1</sub>	0.04	.55	0.29	<.01
Adj. R <sup>2</sup>			0.15		0.20	
F-value (p<.01)			4.68		4.91	

*Notes*

<sup>a</sup>High innovation: n = 66

<sup>b</sup>Low innovation: n = 48

<sup>c</sup>Coefficients based on deviation scores, so signs are reversed

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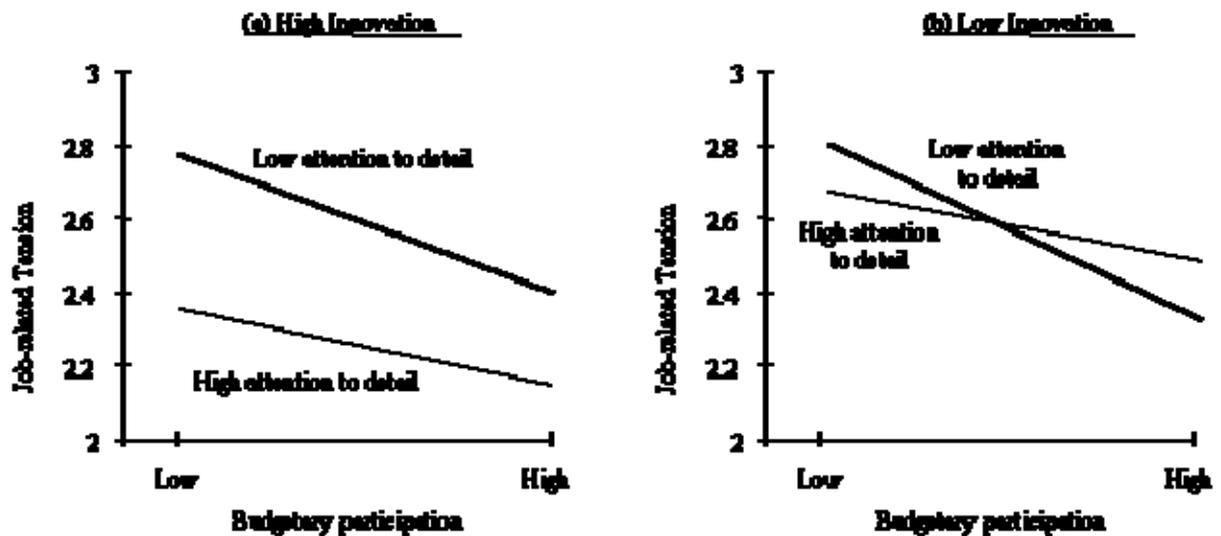
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As expected, the effect of the interaction between attention to detail and budgetary participation on JRT was not significant for managers perceiving high innovation (see Table 3). An examination of the main effects of budgetary participation based on the results of Equation 2 (the additive model) indicates the coefficient for budgetary participation was significant. Thus, for managers' with high perceptions of innovation, budgetary participation was negatively associated with JRT for both high and low levels of attention to detail, as predicted in hypothesis 1(a) (see Figure 2a).

For managers whose perceptions of innovation were low, the interaction between attention to detail and budgetary participation on JRT was significant (adj.  $R^2 = .20$ ,  $p < 0.01$ ). Figure 2b reveals that JRT was negatively related to budgetary participation for low attention to detail, but that this effect was attenuated for high attention to detail. This supports H1(b) in respect of perceptions of low attention to detail, but not in respect of high attention detail. Nonetheless, the result does indicate that, for high budgetary participation, JRT was relatively higher for managers high in attention to detail in compared low attention to detail.

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Figure 2. Interaction diagram for JRT



Managerial performance. Results indicated that there was a significant and positive relationship between budgetary participation and managerial performance (see Table 2). There were no significant interactions between budgetary participation and either of the two OC dimensions, however. In particular, the anticipated three-way interaction for managerial performance failed to reach significance at  $p < .05$ . Further analyses of the two-way interactions between attention to detail and budgetary participation, based on Equation 3, for each of the low and high innovative sub-samples also indicated no significant results relating to budgetary participation. Consequently, H2(a) and (b) are not supported.

## 10. Discussion

The results of the present study support the proposition that managers' OC perceptions affect the impact of budgetary participation on managerial job-related

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outcomes. More specifically, budgetary participation was shown to be associated with favourable managerial job-related outcomes for managers perceiving high innovation. It appears that, for managers perceiving high innovation, budgetary participation contributes to lower JRT and higher managerial performance, irrespective of their perceptions of attention to detail.

For managers whose OC perceptions are low in both innovation and attention to detail, budgetary participation plays an important role in the planning and coordination processes, as well as motivating managers who face a higher risk of becoming complacent and using sub-standard decisions tools. This then serves to reduce JRT because of greater role clarity. Managers therefore experience greater confidence in setting performance targets (Chenhall and Brownell, 1988).

In contrast, for managers perceiving a low innovation accompanied by high attention to detail, the effect of budgetary participation on JRT was attenuated. While not fully supportive of H1(b), this result indicates that high budgetary participation is associated with relatively high JRT for managers perceiving high attention to detail. For these managers, their work roles are likely to be driven by highly procedural processes with an emphasis on precision and care. Budgetary target setting can become stressful in this circumstance, since managers feel their participation is pseudo. Thus, there is little opportunity for them to become committed. Such findings support previous arguments by Waterhouse and Tiessen (1978) and Gul et al. (1995) that, in situations where there are set rules and a lack in decision-making autonomy, budgetary participation may not be useful.

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It appears from our results, however, that this interactional effect does not carry over to affect the positive association between budgetary participation and managerial performance. Instead, this result is consistent with the view that budgetary participation leads in general to higher performance outcomes (Murray, 1990). A corollary of this finding is that, while we found managerial performance to be negatively related to JRT (see Dunk, 1993; Jamal, 1983), the two constructs can be impacted differentially by organizational variables such as OC perceptions, and should therefore be considered separately in future studies of determinants of managerial job-related outcomes.

## **11. Conclusions and Limitations**

The results of this study indicate that managers' perceptions of OC have a significant moderating effect on the relationship between budgetary participation and managers' job-related outcomes. The implication of this finding for practice is that designers of organisational control systems need to consider the impact of managers' perceptions of their OC. In particular, changes to the emphasis placed on managerial participation in the budgetary process need to consider managers' perceptions of innovation and attention to detail. In this respect, there are some interesting parallels between these findings and those reported in the general job design literature (see Parker & Wall, 1996). For example, Wall et al. (1996) found that task uncertainty moderates the link between job control and performance.

These results should, however, be interpreted in light of six potential limitations. In the first instance, only two OC dimensions were studied. We argue that the two dimensions included in the present study are those most relevant to modern organisational

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control systems and practices (O'Reilly et al., 1991; Chatman and Jehn, 1994). OC is a multidimensional concept, however, so that the influence of the two value dimensions studied may be subject to an interaction with other value dimensions. The present study was limited to consideration of two OC dimensions because of sample size limitations, and the difficulty of interpreting high order interactions. It is also arguable that the particular operational definitions of OC employed in the present study may not be optimal.

Literature in the OC area provides different definitions and typologies of culture (e.g., see Handy, 1985; Deal and Kennedy, 1982; Quinn and McGrath, 1985). Future studies could attempt to identify an appropriate control design for culture-types defined under these alternative perspectives.

The second limitation concerns the use of individual-level data. We argue that this is justified in the current study because the focus is on individuals, whose job-related outcomes are affected by personal perceptions of culture (Rousseau, 1990; O'Connor, 1995). Nevertheless, there clearly is scope for future studies to examine the effect of the interaction between OC and budgetary participation and its effect on organisational-level outcomes (see Rousseau, 1985).

A third limitation is that the present study was based on data collected at a single point in time. Although OC is a relatively stable construct, environmental changes can cause perceptions of OC to change (Ashkanasy and Holmes, 1995; Reichers and Schneider, 1990). Ashkanasy and Holmes, for example, tracked perceived culture changes in public accounting firms during a period of merger activity, and found that perceptions changed not only in the merging forms, but also in the firm not involved in mergers. In this case,

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changing perceptions of OC can result in mismatch between control systems in use and the extant OC. A longitudinal study may aid in understanding how budgetary and other accounting control systems are implicated in the changeover and how this may affect managers' JRT and performance.

The fourth limitation concerns the nature of self-report questionnaire data. Self-report measures of performance can be affected by leniency bias (Thornton, 1968), although Heneman (1974) reported that self-report measures may be subject to less leniency and range restriction than other measures. Our results also may be subject to common method bias (Williams & Brown, 1990). Again, this issue may not be so important in this study because of the variety of different measurement scales we have used. Further, since we do not focus on simple relationships between variables, there is less likelihood of this problem emerging.

Fifthly, our results involve interpretation of high-order interactions that may be difficult to replicate successfully (Podsakoff & Dalton, 1987). We acknowledge this limitation, and suggest that further research using larger samples be undertaken to verify our findings.

The sixth and final limitation of our research is that we did not address fully the precise mechanisms proposed in the development of the various hypotheses. For example, further research can be undertaken to test the existence of pseudo-participation in situations when managers perceive low innovation and high attention to detail.

Notwithstanding these limitations, the present study has illustrated that organisational governance procedures need to match managers' OC perceptions if the benefits of these

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procedures are to be realised. As such, this study contributes a further nomothetic validation of the influence of managers' OC perceptions on the effectiveness of budgetary participation on managerial job-related outcomes.

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