

# The Factors Impacting Managerial Performance in Local Government Authorities within an Islamic Cultural Setting

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## Abstract

*This study examines the effects of accountability forces, budget participation and the use of performance measures on managerial performance in local government authorities (LGAs) in Malaysia. The findings reveal that accountability forces, both endogenous and exogenous, have a positive effect on the managerial performance of public servants in LGAs, although this effect is mediated by the extent to which they make use of performance measures.*

*This study extend prior research by addressing the way in which accountability and management accounting mechanisms can be inter-related to provide explanations of managerial performance. The results are interpreted in the context of Malaysian public sector management culture, a largely Islamic workforce and changing public demands. Practical implications arise from the findings for improving performance of LGAs in Malaysia through the behaviours of their public servants.*

## Keywords

**Endogenous Accountability  
Exogenous Accountability  
Budget Participation  
Use of Performance Measures  
Managerial Performance  
Local Government  
Islamic Cultural Setting**

## Introduction

The traditional role of local government authorities (LGAs) is to provide services to its local residents with the goal of raising the standard of living through better social and physical facilities and services (Onu, 1988). In Malaysia, LGAs play a significant role in planning, coordinating and controlling the development process at the local level (Othman, 2005). Performance expectations of management in LGAs were raised during the new public management (NPM) reform years in the early 1990s in Malaysia. Objectives set by federal government that applied to state and local governments, included “creating an efficient and effective public service ... with high discipline and integrity ... and being people-oriented and customer-focused” (Ahmad Sarji, 1993). Managerial performance of this nature requires, according to established management accounting research, management participation in budget setting (e.g. Brownell, 1982; Chenhall and Brownell, 1988; Lau, et.al, 1995) and use of sound performance measures (e.g. Lapsley and Wright, 2004; Widener, 2006). This study contends that an additional factor has emerged as a driver of managerial performance in the public sector. It is the forces for accountability felt by public servants.

Since NPM was introduced in Malaysia, the issue of how LGAs make use of public resources has been regularly raised in the Malaysian local press, including criticisms about conservative procedures, inefficient bureaucracy, mismanagement and corruption (Ling, 2003; Jong, 2003; McIntyre, 2003; Muthiah, 2003). Also, there have been allegations of high inefficiency in terms of the speed, cost and quality of service delivery (Chandrasekaran, 2003). These media reports have called into question both the LGA's transparency in performance reporting and certain individual public servants' personal integrity. The media has set the agenda for the public to expect higher accountability from LGAs.

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## Objectives and Motivation

The aim of this study is to provide empirical evidence of the effects on the performance of manager-level public servants in LGAs in Malaysia of their felt accountability, their participation in budget setting and their extent of use of performance measures. While there is a body of literature on alternative dimensions of the concept of accountability (summarised by Othman and Taylor, 2005), a specific objective of this study is to conceptualise and measure accountability at the level of the individual in terms of endogenous and exogenous forces that increase the individual's felt need to be accountable for his or her actions and results. A further specific objective is to model and test whether the use of performance measures by public servants has a mediating effect as well as a direct effect on their managerial performance.

The first motivation for this study is to extend previous literature by addressing ways in which accountability and management accounting mechanisms can be inter-related in providing explanations of managerial performance in LGAs. There is a gap in the behavioural accounting literature on the effects of accountability forces on the manager within the context of management control systems applied to the manager. In presenting this first motivation, this study is conscious of the fundamental concern raised by Hopwood (2007, p.1365) that "accounting research has become insufficiently innovative and increasingly detached from the practice of the craft". In terms of being sufficiently innovative, this study can be criticised for choosing to replicate the much researched variables of budget participation and management's reliance on particular types of performance measures. It is the combining of these two variables with the concept of accountability forces on managers, perceived as a key factor in a contingency framework of relevance to LGA managers, which gives this study an innovative slant. An added aspect to this innovative slant is the fact that the subjects surveyed in this study are Malay public servants following the Islamic (Muslim)

faith, who may perceive accountability, and be influenced by it differently, than found in prior studies in "protestant work-ethic" cultures.

The second motivation for this study is that its findings can have practical relevance in the current management setting in LGAs in Malaysia. In particular, LGAs continue to be exposed in the media for poor performance, despite the on-going push for technologies such as quality control circles, total quality management, ISO 9000 series quality assurance certification and the adoption of a client's charters across LGAs during the past 15 years. The anecdotal evidence is that the application of these control technologies has not provided a sufficient force to improve accountability standards and performance at the level of individual public servants. This study seeks to provide insights on accountability forces felt by individual managers and the effects of these on performance. It discusses how the findings concerning the effects of accountability forces, budget participation and the use of performance measures, need to be interpreted in terms of the fundamental religious and anthropologically-derived values deemed to be held by individual public servants in Malaysia. A further practical matter arising from the findings is the use of performance measures by public servants in evaluating and providing incentives for their performance. In the current Malaysian Ninth National Economic Planning (2005-2009), each LGA is required to develop and implement its own performance measurement system. In interpreting the findings and putting forward contentions about their practical consequences, this study seeks to avoid Hopwood's (2007) criticism of recent accounting research that "a generic, less contextualised version of accounting research flourishes" (p.1368).

## Background to Control Processes, Individual Values and Technologies in LGAs in Malaysia

Local governments in all countries operate from a legislative base determined by a higher legislature(s). In Malaysia, the Local Government Act (1976) regulates the

powers, duties, responsibilities and functions of LGAs. The role of LGAs, whether in a city, town or district jurisdiction, is to provide services and facilities for local residents and businesses, such as sanitary services, health services, urban planning, building permits, and local roads and parks maintenance. At present, there are 145 local governments, of which 97 are in the peninsula (West Malaysia), and 23 in Sabah (including Labuan) and 25 in Sarawak (together, East Malaysia). In total, there are 7 city halls and councils, 34 municipal town councils, and 104 district councils.

As a basis for perceiving the way control processes in LGAs in Malaysia have been shaped, Foucault's (1994) notion of 'governmentality' is invoked. Under this notion, the exercise of government is seen not as a set of institutions or sphere of action, but as the concrete devices and techniques by which the conduct of managers is shaped in terms of imposing power but giving them liberty as free individuals. It is this feature of 'political technologies' of government that has proliferated in the NPM reforms in most countries since the 1980's, informed by a neo-liberal rationality of government (Rose, 1999). This perspective of bureaucratic self-conduct has invoked two sets of analyses in public administration research, the *technologies of agency* (or activation) and *technologies of performance* (McKinlay and Starkey, 1998). As explained by Triantafillou (2002, p.190), the former is designed to "improve the self-steering capacities of organisations and individuals through contracting-out, delegation of budgetary responsibilities, techniques of transparency and accountability, and norms of responsiveness". The latter is "aimed at enhancing efficiency and quality by setting performance standards, establishing quasi-markets in service provision and privatising services" (p. 191).

Has bureaucratic self-conduct of managers in LGAs in Malaysia been shaped by the way technologies of agency and performance interact with religious and anthropologically-developed values? Pre-dating the prolific introduction of a series of

concrete political technologies in the Malaysian public sector, was the codification of sets of religious and cultural values for the public sector. In 1982 key politicians and government officials in Malaysia launched a nationwide campaign for a 'clean', 'efficient' and 'trustworthy' public administration, values which were based directly on the Quaran (Ibrahim, 1999). In 1992 the National Institute of Public Administration published 'The Twelve Pillars', fundamental values that should guide the conduct of Malaysian civil servants (INTAN, 1992). The content of this document was heavily disseminated throughout the public sector, including LGAs, as pamphlets, posters, calendars and numerous speeches and became part of examination questions for public servants' job promotions. The twelve fundamental values included, for example, perseverance, pleasure of working, obligation of duty and wisdom of economy. They were heavily influenced by the ethos of the Malays, as constitutional Muslims (Asma, 1996). Other values of authority, harmony and compromise are attributable to all ethnic groups (Malays, Chinese and Indian) in Malaysia, according to Asma (1996).

The pushing out of technologies associated with the 'new public management' reforms in Malaysia began from the early-1990s. During the 1990s numerous Development Administration Circulars have been issued by federal government to all levels of government containing detailed procedural specifications of a series of administrative devices. These devices have included the Modified Budget System, the Total Quality Management through the Micro Accounting System, and a New Performance Appraisal System. By the late-1990s, Clients' Charters were established and the ISO 9000 series of standards were implemented in LGAs. The ISO 9000 series of standards require the specification of organisational plans and processes, and the conduct and verification of activities that can enhance customer satisfaction by prevention of nonconformity at all procedural stages (Patterson, 1995). These devices were all designed to enhance the productivity, quality and responsiveness of public administration (Triantafillou, 2002).

In other countries, promotion of new models of administrative reforms under the NPM movement promised to provide heightened accountability for efficiency and effectiveness through managerial control (Sinclair, 1995). The shift in the notion of accountability during the 1980's and 1990's towards 'managerial accountability' has, more recently, shifted further to also embrace 'public accountability' which is based on the tenet of a citizen-centric public sector (Ramamoorti, et.al, 2006). The emphasis in LGAs in Malaysia on the reporting of efficiency and effectiveness of outputs and outcomes as well as the implementation of quality assurance procedures to enhance customer satisfaction at the operating level, signalled that accountability and performance by public servants at their departmental or unit level had become a central issue.

#### **Development of Hypotheses and a Conceptual Model Based on Western-Originated Literature**

Past studies on management accounting and public sector accounting have identified a number of psychological, organisational and environmental factors that are expected to influence managerial performance (Tsui, 2002; Cavaluzzo and Ittner, 2004; Widener, 2006). Such literature is "deeply embedded in the (Western) countries of its creation, its history, institutions and intellectual traditions" (Hopwood, 2007, p.1368). Drawing from management accounting mechanisms and accountability concepts in this prior Western-originated literature, hypotheses are generated in this section concerning determinants of managerial performance in LGAs. The section concludes with the presentation of a conceptual model that incorporates these hypotheses.

#### **Accountability**

Accountability has been defined from the viewpoint of the individual accountees (managers) being answerable for results in their area of responsibility based on their own values and motives (Siddiquee, 2005). Most past studies have focused on accountability at the organisation level rather than at the individual level (Royle,

et.al, 2005). Individual accountability is viewed as a subjective state of mind, rather than an objective state of affairs (Hall, 2005). But this state of mind is influenced by the individual's endogenous and exogenous conditions. Hence, individual's intention to render accountability can be shaped in two ways. First, endogenous to the individual is accountability that gives attention his or her own professional and personal values and ethics (Siddiquee, 2005). Second, exogenous to the individual is accountability that is associated with the formulation of relevant policies, procedures and incentives within organisations. For LGA managers, endogenous values and ethics are developed through personal learning and experiences, whereas exogenous forces are imposed through policies and procedures, or offered through incentives, by the organisation or its oversight bodies and regulators.

Endogenous accountability does not necessarily allow the direct observation of behaviour of individual managers, but it does imply that their behaviour or decisions be reviewed by some salient accountant or stakeholder (Hall, 2005). Endogenous accountability also signifies that at each level of the organisational hierarchy, LGA public servants will have a disposition about how willing they are to be answerable to those who supervise their work (Siddiquee, 2005). Their disposition will be affected by the force of arguments and actions of others. When managers operate in an environment that supports and demonstrates accountable behaviour such that they possess higher levels of endogenous accountability, this socio-psychological disposition is expected to pervade wider aspects of the manager's performance in the organisation. Hence, the endogenous accountability felt by managers is likely to positively impact on their self-rated managerial performance. This leads to the formulation of the following hypothesis:

***H1a: The stronger the endogenous accountability forces felt by LGA public servants, the higher is their managerial performance.***

Turning to exogenous accountability, LGA public servants held to account must know clearly to whom they are accountable, what is expected of them, how performance against these expectations will be measured, and what agreed capacity they have (McCrindell, 1995). This entails formalised policies and procedures as well as interactive information networks within the political and administrative hierarchies of government structures. When these exogenous elements of accountability are strong, LGA managers will have incentives to improve their own performance since greater answerability for their performance to those higher up the hierarchy (such as councillors and federal Ministry of Housing and Local Government officials) will apply. The following hypothesis is thus proposed:

**H1b:** *The stronger the exogenous accountability forces applicable to LGA public servants, the higher is their managerial performance.*

### **Budget Participation**

According to Drury (2002), acceptance of a budget would be enhanced if individuals participate in setting the budget. Budget participation plays an important role in the motivation of management to implement their organisation's objectives within financial constraints. Annual budgets of LGAs in Malaysia direct resource allocations in accordance with agreed policies and priorities of federal and state governments and provide a basis for financial control by the LGA. Participation in budget setting enables those in charge of budget units to provide input about estimates of recurrent expenditures and new initiatives for the forthcoming year. Shields and Shields (1998) state that these information exchanges should benefit the individual as well as the organisation. The flow of information can be either top-down or bottom-up. This exchange of information occurs over the 'budget cycle' (Magner, et. al., 1995; Nouri and Parker, 1998; Shields and Shields, 1998).

Budgetary participation has been identified as a key element in an organisation's management control system that can affect

managerial performance (Brownell, 1982; Lau, et. al., 1995; O'Connor, 1995). Subordinates will gain additional information from others within the organisation through the budgeting process (Chenhall and Brownell, 1988; Magner, et.al, 1996). Discussions carried out with superiors during the budgetary process can reduce ambiguity and information asymmetry. Inclusion in the budget setting process is found to be a positive incentive to perform under the allocated budget. For example, Chenhall and Brownell (1988) conclude that through budget participation, subordinates gain information that helps clarify their organisational roles, including their duties, responsibilities and expected performance. Hence, employees who are actively involved in the budgeting process are likely to perform better. Alternatively, low levels of budgetary participation can result in a lack of acceptance of the budget and dysfunctional management behaviour (Lukka, 1988). The following hypothesis is proposed:

**H2:** *The greater the budgetary participation by LGA public servants, the stronger is their managerial performance.*

### **Use of Performance Measures**

The use of performance measures can provide better incentives for managers to meet specified levels of performance. Lapsley and Wright (2004) examine the dissemination and adoption of management accounting practices in LGAs and find that the most successful accounting technique for LGAs is Key Performance Indicators (KPIs). They show that there is a widespread acceptance of the need to use KPIs throughout the work place in public sector entities. KPIs provide feedback to management and stakeholders regarding the meeting of expectations (monitoring); they also facilitate the decision-making process (Henri, 2006). In respect of this latter point, results from performance measures get considered in the planning process to help improve future performance (Mellor, 2001). Scott and Tiessen (1999) argue that performance measures can form an important part of the information required

to support decisions, and help staff to structure tasks as well as assess progress. Furthermore, these performance measures are intended to improve government efficiency and effectiveness through improve performance-based decision-making (Cavalluzzo and Ittner, 2004). These arguments lead to the following hypothesis:

**H3:** *The greater the use of performance measures by LGA public servants, the higher is their managerial performance.*

#### *The Use of Performance Measures as a Mediating Variable*

According to Budding (2004), the attitude of LGA managers towards accountability depends to a large extent on the use of accounting information. He contends that when managers aspire to high levels of accountability, they will be more open to achieving the organisation's goals. In order to achieve goals, they need measures of comparative performance (Pilcher, 2005). Cavalluzzo and Ittner (2004) find strong evidence that accountability is positively related to the use of performance measures. While a strongly felt need for accountability by public servants is expected to increase their use of performance measures, it was reasoned under section 4.3 that when public servants make greater use of performance measures this will directly positively impact on their managerial performance. Hence, the use of performance measures is seen to have a mediating effect between accountability and performance. The hypothesis about the mediating effect of use of performance measures is proposed as follows:

**H4:** *The stronger the endogenous and exogenous accountability forces felt by LGA public servants, the greater is their use of performance measures which, in turn, leads to higher managerial performance.*

In a similar way, this mediating effect of use of performance measures occurs between budget participation and performance. Based on evidence from Tsui (2001), it can be argued that budget

participation also influences the extent of performance measures used in organisations. For performance measures to be useful, the manager must understand the measures and how the measures relate to the task at hand (Scott and Tiessen, 1999). This understanding can be developed at an initial stage when the manager is actively involved in budget setting. Managers who are active in preparing budgets would understand how the budget targets are derived and be more willing to accept a management evaluation style that emphasises meeting the budget. This would lead to more acceptance of financial information in decision-making. Hence, a high level of budgetary participation in the organisation can enhance the use of performance measures. Managers who are inactive in the budgeting process are likely to use fewer performance measures. It can be expected that individuals with high involvement in budget participation would have high regard for the use of performance measures which, in turn, lead to high managerial performance. The following hypothesis is proposed:

**H5:** *The greater the budget participation by LGA public servants, the higher is their use of performance measures which, in turn, leads to higher managerial performance.*

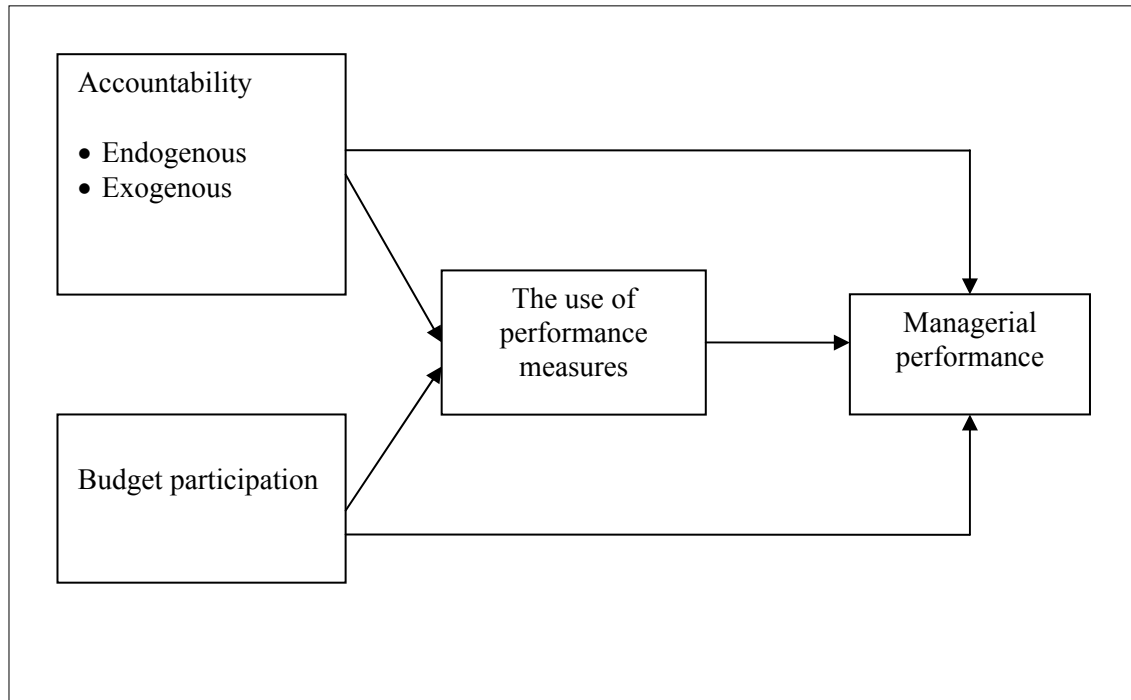
A conceptual model for this study, containing all hypothesised relationships is presented in Figure One. This figure depicts both the direct effects and indirect effects (through use of performance measures) of accountability and budget participation on managerial performance.

## **Methodology**

### **Respondents**

This study employs a mail survey research design to collect the data. In developing an accurate mailing list, each town or city local authority was contacted and the names of employees were obtained. The questionnaires were sent directly to division A and division B employees in the selected LGAs.

**Figure One: Conceptual Model Linking Accountability, Management Accounting Mechanisms and Managerial Performance**



These groups typically have supervision responsibilities and responsibility for budget implementation. Seven LGAs were selected: Ipoh, Shah Alam, Johor Tenggara, Ipoh, Tapah, Kajang and Kuantan. These LGAs were chosen according to geographical areas representing both city and town councils. Of the 300 questionnaires distributed, 81 useable responses were returned, giving a response rate of 27%. A test for non-response bias found that there were no statistically significant differences in the mean scores of the main variables between the early and late responses.

### Survey Instrument

The questionnaire comprised three parts. The first part measured endogenous and exogenous accountability, budgetary participation and use of performance measures. The second part measured managerial performance. The last part covered the respondent's profile. The questionnaire was originally developed in English and later translated to Bahasa

Melayu. The survey was designed to preserve the anonymity of respondents. Questionnaires were not pre-numbered for identification and respondents were not required to identify themselves or their organisations. A reminder letter was posted three weeks after the initial postage. A pilot test was conducted in advance on division A and division B employees in other government agencies. Feedback enabled changes to be made due to unfamiliar terminologies and ambiguities in the questionnaire.

### Measurement

*Endogenous accountability* is a variable that is measured using an adapted version of Budding's (2004) instrument developed originally to measure the extent to which managers feel aspirations or risk aversion that increase their sense of obligation to be accountable for their actions or results. Respondents are asked to rate the following four statements on a seven-point scale: (1) I have reason to feel inspired to improve the efficiency of operational management by

providing more insight into the results of my own department; (2) I came to see that the maximum available budget is an important constraint that I strive to keep within, rather than to seek ways of obtaining a budget over-run; (3) I am convinced that establishing agreements about responsibilities is a positive constraint on those things I can be held accountable for; (4) in case I am called into account for financial responsibilities, I manage to look for ways to make savings and/or to increase funds. The reliability test of this 4-item variable shows a Cronbach's alpha of 0.834.

*Exogenous accountability* is a variable that adapts Cavalluzzo and Ittner's (2004) measurement instrument. The instrument comprises two questions that measure the extent to which managers feel they are held accountable for results by external forces and incentives. Respondents are asked to rate the following two statements on a seven-point scale: (1) Managers at my level face policies and procedures aimed at making them accountable for the results of their activities, and (2) Employees in my department or section receive positive recognition for helping the department accomplish managerial and public accountability goals.

*Budgetary participation* is measured by using Milani's (1975) six-item measurement instrument. The items are well established scales of managers' perceptions of their level of influence and involvement in setting a budget. The reliability test for this 6-item scale shows a Cronbach's alpha of 0.865.

*The use of performance measures* is drawn from Cavalluzzo and Ittner's (2004) eight-item instrument. These items ask about the extent to which respondents use performance information for their activities when: (1) setting program priorities, (2) allocating resources, (3) adopting new program approaches or changing work processes, (4) coordinating program efforts with other internal and external organisational units, (5) refining program performance measures, (6) setting new or revising existing performance goals, (7)

setting individual job expectations for subordinates, and (8) rewarding subordinate government employees. The reliability test showed a Cronbach's alpha for these eight items of 0.948.

*Managerial performance* refers to the performance of managers within an organisation. Managerial performance is measured by a self-evaluation questionnaire adapted from Mahoney, et al. (1963). A seven-point Likert scale is used. There are eight sub-dimensions which included questions on planning, investigating, coordinating, evaluating, supervising, staffing, negotiating and representing. A ninth scale is included as an overall performance measure. A single score is calculated by averaging the eight sub-dimensions to give the dependent variable, managerial performance. Although this measure is a subjective self-rating measure, it is deemed to be sufficient to provide insights into extant "perceived" performance (e.g. Tsui, 2002). A Cronbach's alpha value of 0.893 showed satisfactory convergence of the items to form a reliable measure of the variable.

## Results

### Descriptive Analysis

Demographic data related to the respondents is detailed in Table One. The descriptive data shows almost all respondents are Malays, of which, 38 percent are female, and 62 percent are male. Eighty-seven percent hold an academic qualification. Given the population demographics of Malaysia, we can assume that over 95% of respondents were of the Muslim religion. Results also show that 52 are from city councils (Ipoh and Shah Alam) and the others are from town councils. Overall, the mean age of respondents is 35, and their mean experience is 12 years. The mean length of service in the organisation is nine years while the length of service in the department is seven years, suggesting that respondents attach to their current department with relatively low movement to other departments.



**Table One: Demographic Profile of Respondents**

Items	n	%
<b>Race</b>		
Malay	79	97.6
Chinese	1	1.2
Indian	1	1.2
<b>Gender</b>		
Female	31	38.3
Male	50	61.7
<b>Qualification</b>		
Master/ Degree	36	44.5
Diploma	35	43.2
Others	10	12.3
<b>Location</b>		
Ipoh	22	27.2
Shah Alam	30	37.0
Kajang	7	8.6
Kuantan	6	7.4
Tapah	5	6.2
Johor Tenggara	11	13.6
	<b>Mean</b>	<b>Std Dev.</b>
Age	34.8	7.2
Years of service in the organisation	9.1	6.4
Years of service in the department	7.3	5.3
Years of experience	11.7	7.2

Table Two presents the mean, standard deviation and bi-variate correlations of the modelled variables. Of note in this table is that self-rated managerial performance has a mean of 4.31, somewhat lower than might be expected. Either respondents have a relatively low regard of their own performance in carrying out certain functions, or there is not an apparent 'halo effect' that upwardly biases their responses. Respondents rated endogenous and exogenous accountability relatively high with means of 4.81 and 4.71, respectively. In contrast, the lowest mean is for budget participation suggesting that active involve in the budget setting process is limited.

Results of the correlation matrix in Table Two show that each of the hypothesised independent variables are significantly positively correlated with the dependent variable, managerial performance. However, bi-variate correlations among the main independent variables are also significantly correlated, suggesting the

possibility that multicollinearity may be a problem in any multiple regression analysis.

### Regression Analysis

Table Three provides results for three models using hierarchical regression analysis in order to test each of the hypotheses. This analysis includes in each regression model the two control variables of gender and length of experience. In modelling both direct and mediation effects on the dependent variable, managerial performance, this study follows the three-step hierarchical regression approach advocated by Baron and Kenny (1986).

Model 1 examines the direct effects of endogenous and exogenous accountability and budget participation on managerial performance. Hypotheses 1a and 1b posit that both endogenous and exogenous accountability are positively related to managerial performance.

**Table Two: Summary Statistics and Correlation Analysis for All Variables**

(n = 81)	Mean (7-point scale)	Std. Dev.	(1)	(2)	(3)	(4)	(5)
1. Managerial performance	4.31	0.94	1	--	--	--	--
2. Endogenous accountability	4.81	.96	0.493**	1	--	--	--
3. Exogenous accountability	4.71	1.16	0.452**	0.533**	1	--	--
4. Budget participation	4.14	1.05	0.420**	0.411**	0.394*	1	--
5. The use of performance measures	4.43	1.08	0.501**	0.487**	0.537**	0.402**	1
** significant at the 0.01 level							
* significant at the 0.05 level							

The unstandardised regression coefficient associated with endogenous accountability is significant ( $B = 0.284, p < 0.05$ ), but exogenous accountability ( $B = 0.180, p < 0.10$ ) is only weakly significant. Similarly, H2 posits that budget participation is positively related to managerial performance. The result indicates that budget participation has a weak significance ( $B = 0.185, p < 0.10$ ). The partial F-test shows that the power of the model improves significantly ( $\Delta R^2 = 32.5\%, p < 0.01$ ) when the three independent variables are added. All of the three variables contribute 28.8% (adjusted  $R^2$ ) to the variance in the model. The results support H1a, and weakly support H1b and H2. A conclusion can be drawn from model 1 in Table Three that the greater the forces for accountability by individual LGA public servants (especially endogenous to their values and beliefs) and the greater their participation in the budget setting process, the higher is the level of their managerial performance.

Model 2 regresses the same three independent variables, endogenous and exogenous accountability and budget participation, on the use of performance

measures (the hypothesised mediator). The results indicate that the unstandardised regression coefficients associated with endogenous accountability and exogenous accountability are significant at the  $p < 0.05$  and  $p < 0.01$  levels respectively ( $B = 0.262$ ;  $B = 0.298$ ). The inference is that LGA public servants who feel high accountability forces will tend to make greater use of performance measures in their planning, monitoring and decision-making processes at work. Furthermore, results reveal that a high level of budget participation by managers increases their use of performance measures ( $B = 0.190, p < 0.10$ ). The partial F-test shows that the power of the model improves significantly ( $\Delta R^2 = 37.0\%, p < 0.01$ ) when these three independent variables were added. The condition that the predictors should be significantly related to the mediator is met (Model 2).

Model 3 regresses the use of performance measures (mediator) and budget participation and accountability (predictors) on managerial performance. The result in Table Three shows that use of performance measures influences the model significantly ( $B = 0.232, p < 0.05$ ). The partial F-test

shows that the power of the regression model significantly improves ( $p < 0.05$ ,  $\Delta R^2 = 4.2\%$ ). The hypothesised positive effect of use of performance measures on managerial performance, H3, is accepted.

Model 3 also provides estimates of indirect effects of the three independent variables on managerial performance after controlling for the mediating variable, use of performance measures. As suggested by Frazier et al. (2004), the mediation effect takes place when the relationship between the mediator and the dependent variable is accounted for, resulting in a weaker relationship between each of the independent variables and the dependent variable. This is demonstrated in Model 3 of Table Three where the coefficients of all three independent variables are smaller than in Model 1.

Sobel's mediation test is applied to the results in Model 3 as a basis for drawing conclusions about full versus partial mediation by the mediator. Calculation for the Sobel test using an interactive calculation tool for mediation tests can be retrieved at [www.psych.ku.edu/preacher/sobel/sobel.htm](http://www.psych.ku.edu/preacher/sobel/sobel.htm). The results of this Sobel test are given in Table Four.

The results in Table Four support H4 and H5 that use of performance measures has a significant intervening effect on LGA public servants. This occurs because those who feel greater endogenous and exogenous accountability forces, and experience higher budgetary participation, will make greater use of performance measures in their workplace. In turn, an increased use of performance measures brings about higher self-rated manager performance in LGAs, across a range of managerial functions.

### **Interpretation of Findings in the Context of Malaysian Religious and Cultural Values**

Reforms to Malaysian LGAs (and the wider public sector) have been achieved since the 1990s through various technologies of

agency and performance. These have sought to recast the norms of bureaucratic self-conduct, aimed at creating an ethos of efficiency, effectiveness, total quality control and customer-service oriented conduct. The question is: have other virtues, fundamental to Malaysian religious and cultural values and articulated as the 'Twelve Pillars' to guide the conduct of Malaysian public servants been abandoned or integrated with these technologies? This question is addressed in the interpretation of the findings.

In Model 1 (Table Three) it is found that endogenous accountability forces and budget participation have a strongly positive direct relationship to managerial performance. But exogenous accountability forces are only weakly related to managerial performance. First, endogenous accountability has been measured in this study as felt aspirations of LGA managers to improve their efficiency, meet cost-saving demands and keep within bounded responsibilities. These types of aspirations appear to be compatible with Malaysian values of 'obligation of duty' and 'wisdom of economy', which could explain why managers with higher endogenous accountability believe they perform their managerial functions better.

Second, exogenous accountability has been measured as concrete external forces on the individual's conduct such as written codes of conduct and recognition through appraisal schemes. These imposed attempts to normalise certain modes of conduct appear to have created conflicts with some Islamic values such as 'acceptance of hierarchical and unequal relations' (particularly greater recognition for women than men), which could explain the finding of a weak relationship between exogenous accountability and managerial performance.

Third, budget participation refers to involvement in and influence on setting a budget. As shown in Table Two, the mean score given by respondents for budget participation is the lowest of the variables in this study, suggesting the presence of the value of 'acceptance of hierarchical and unequal relations'.

**Table Three: Hierarchical Regression Models for Testing Direct and Mediation Effects on Managerial Performance**

Testing Steps in the Mediation Model		<i>B</i>	<i>SE B</i>	$\Delta R^2$	<i>F Change</i>
<b>Model 1</b>					
Dependent:	Managerial performance				
Constant		1.239**	0.521		
Control:	Gender <sup>a</sup>	0.040	0.186		
	Experience	0.007	0.015	0.008	0.296
Independent:	Endogenous accountability	0.284**	0.114		
	Exogenous accountability	0.180*	0.095		
	Budget participation	0.185*	0.099	0.325	12.181***
$R^2 = 33.3\%$ ; $Adj. R^2 = 28.8\%$ ; $df = 75,5$					
<b>Model 2</b>					
Dependent:	The use of performance measures				
Constant		1.108*	0.563		
Control:	Gender	-0.004	0.201		
	Experience	-0.012	0.016	0.003	0.127
Independent:	Endogenous accountability	0.262**	0.123		
	Exogenous accountability	0.298***	0.103		
	Budget participation	0.190*	0.107	0.370	14.729***
$R^2 = 37.3\%$ ; $Adj. R^2 = 33.1\%$ ; $df = 75,5$					
<b>Model 3</b>					
Dependent:	Managerial performance				
Constant		0.982	0.521		
Control:	Gender	0.041	0.181		
	Experience	0.010	0.015		
Independent:	Endogenous accountability	0.223**	0.114		
	Exogenous accountability	0.111	0.098		
	Budget participation	0.141	0.098		
Mediator:	The use of performance measures	0.232**	0.104	0.042	4.958**
$R^2 = 37.5\%$ ; $Adj. R^2 = 32.47\%$ ; $df = 74,6$					
<sup>a</sup> 1 = male, 0 = female; * $p < 0.10$ ; ** $p < 0.05$ ; *** $p < 0.01$					

**Table Four: Results of Sobel's Mediation Test**

Direct Relationships	Sobel's z score	Mediation by Use of Performance Measures
Endogenous Accountability ---> Managerial Performance	$z = 1.540, p = 0.123$	Fully mediated
Exogenous Accountability ---> Managerial Performance	$z = 1.766, p = 0.077$	Partially mediated
Budget Participation ---> Managerial Performance	$z = 1.389, p = 0.164$	Fully mediated

However, the significantly positive affect of budget participation on managerial performance suggests that the Malaysian values of 'harmony and compromise' and 'a sense of interdependence' are compatible with this practice.

In Model 3 (Table Three) the results show that the LGA managers' extent of use of performance measures in undertaking their functions and making operating decisions has a full mediating effect on the relationship between endogenous accountability and managerial performance. This finding suggests that when endogenous accountability aspirations are strong for individuals (i.e. individuals have a sense of strong integration between their felt accountability and their Malaysian Islamic and cultural values), then they will be more ready to accept and use a range of efficiency, quality and customer-responsiveness performance measures. This greater personal use of performance measures will, in turn, give them a higher self-rating of their managerial performance. However, Table Four finds that the use of performance measures only partially mediates the relationship between exogenous accountability and managerial performance. There appears to be a sense of too much imposition of technologies of agency (e.g. techniques of transparency contained in exogenous accountability) and technologies of performance (e.g. setting of performance standards contained in use of performance measures) to enable the LGA

managers to give a higher rating on their managerial performance.

### Practical Implications

Despite the on-going push for technologies such as total quality management, ISO 9000 series certification and the adoption of a client's charters across LGAs during the past 15 years, the anecdotal evidence in the media is that the application of these control technologies has not provided a sufficient force to achieve a uniform improvement in managerial performance and customer-focus. The lesson is that the imposition of 'political technologies' that have a quest to subsume bureaucratic self-conduct under an ethos of economic rationalism coupled with customer-responsiveness, faces the danger of ignoring or abandoning fundamental Malaysian Islamic and cultural values, deeply held by LGA managers. These are virtues that appear to be crucial to guiding the conduct of LGA managers in their extent of acceptance of exogenous accountability forces, their nature of participation on budget setting and their adoption of sets of performance measures at their work.

As suggested by Triantafyllou (2002), religious and scientific bodies of knowledge and codes of conduct need to interact in a "strategic grid". The aim is to enable public servants to function in a way that does not render their service (performance) susceptible to planned intervention which can blur the line between corruption and

customer-service oriented conduct. The normalisation of certain modes of conduct, particularly responsiveness, efficiency and transparency, needs to be achieved through their strategic integration with fundamental Malaysian values, in order to bring about the effective governing of bureaucratic self-conduct in LGAs in Malaysia.

## Conclusions

There is a large body of literature on the effects of management accounting mechanisms on managerial performance, but this research has not been integrated with the phenomenon of requiring accountability from managers in the context of the public sector. In Malaysia, performance by manager-level public servants in LGAs has come under scrutiny by the local media. This study provides evidence on the effects of felt accountability forces, budget participation and the use of performance measures on managerial performance among managers of LGAs. The modelling of these variables, and the interpretation of the results in the context of Malaysian Islamic and cultural values, provides further dimensions to the understanding of the way management accounting integrates into the new public management environment.

The findings are subject to methodological limitations. First, the sample was from six LGAs, and their settings may be sufficiently unique to limit the representativeness of the findings. Second, the use of a self-reporting questionnaire to collect data for all variables is a limitation. The use of respondents' perceptions to measure the variables is subject to criticism of respondent bias, particularly a halo effect and acquiescence bias. Reliance on perceptions, however, is not a limitation *per se* because managers' views of reality and their decisions are deemed to be based on the perceptions they hold. Nevertheless, managerial performance was measured by respondents rating themselves, which reduces the independence of the performance outcomes ratings.

Directions for future research include the replication of this in other populations of

government agencies in Malaysia in order to seek to generalise the findings. The model could be expanded to include contingency variables such as environment uncertainties and organisational structure to provide more evidence regarding the influence of accountability pressures and other control systems devices within a broader contingency framework in the public sector. Finally, qualitative research that provides case study-based depth of analysis of behaviours in LGAs associated with themes of accountability, financial control and performance by managers could provide richer insights.

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