

The Impact of Budgetary Participation on Managerial Performance: Evidence from Jordanian University Executives

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Abstract

This research investigates the relationship between the budgetary participation and the managerial performance in a developing country context (Jordan). Managerial performance is measured using the modified nine items of (Mahoney et al., 1965). It uses the questionnaire method as the main method of research and also employs archival documents, observations, and reports in order to accomplish the study objective. Questionnaires were distributed to 131 university executives, of whom 77, in five private universities, replied. The findings suggest that the performance indicators of the respondents who participate in the budget are significantly better than the performance indicators of the respondents who do not participate in the budget. This study tests these differences using the Mann-Whitney test. Further analysis is carried out and the findings support previous results. The results of this current study have a value for decision makers of the higher education institution in addition to the university executives in a matter of increasing the awareness for the importance of budgetary participation.

Jel classification numbers: G31 and L25

Keywords: Participation, budgeting, managerial performance, and universities

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1 Introduction

Prior studies define the budget as a detailed plan for the acquisition and use of financial and other resources over a specified period, whereas budgeting is the act of preparing the budget (Garrison & Noreen, 2012; Drury, 2008). Therefore, the budget is a plan prepared in advance and derived from the organization's strategies. The budget should be used to serve the traditional purposes of evaluating performances and outcomes for particular organizational functions or members (Abernethy & Brownell, 1999). Rewards such as bonus payments and promotions for high performance, or penalties for underperforming, might be given to individuals or groups according to this evaluation. Antle & Demski (1988) specify what it means for the manager to control an evaluation statistic, such as cost or revenue, by asking whether his or her supply of inputs is able to affect the probability distribution of the output statistic.

Several studies examine the relationship between budget participation and managerial performance. These studies variously suggest positive effects (e.g., Brownell, 1981; Chenhall & Brownell, 1988; Lau & Lim, 2002; Moll et al., 2006; Parker & Kyj, 2006; and Mah'd, 2010), unclear or insignificant effects (Milani, 1975; Kenis, 1979), or negative effects (Stedry, 1960) resulting from the aforementioned linkage. Because of these inconsistencies in explaining the relationship between budget participation and performance, different contingency variables have been studied. Some of these variables include: the locus of control (Brownell, 1981, 1982), leadership style (Brownell, 1983), environmental uncertainty (Brownell & Hirts, 1986), managerial attitude and motivation (Mia, 1989), feedback (Chong & Chong, 2002), and procedural justice and reliance on accounting performance measures (Lau & Lim, 2002).

Expanding access and enrolment growth have compelled university managers to give greater scrutiny to the use of university resources and to be aware of the budget use (Covaleski & Dirsmith, 1988; Shattock, 2000; and Broadbent, 2007). In the face of numerous pressures, such as increases in student numbers and private structures, it is very important for these institutions to implement and develop management control systems such as budgeting. In almost all organisations, the budget is considered to be an important control system (Merchant & Van der Stede, 2007, Merchant et al., 2003; Drury, 2008). Universities must adopt strategic planning processes to survive in a competitive and commercial environment; nevertheless, there are problems with the implementation of strategic planning in universities (Shattock, 2000; Mah'd, 2010; and Buckland, 2009 not on the list). Moreover, improvement of responsiveness decision-making and control is one of the reasons for organisations delegate budget responsibilities (Moll, 2003; Merchant & Van der Stede, 2007). Universities all over the world have struggled with how best to structure budgetary systems in order to ensure that resources are consumed in the most effective and efficient manner (Thomas, 2000; Mah'd, 2010).both are not on the list

The subjects of the present research are universities which are private Jordanian universities (JPUs). whilst several studies have been carried out in regards to budget aspects in higher education institutions, little research has been conducted regarding budget impact on managerial performance in private universities in developing countries particularly in Jordan. Therefore, this study aims to investigate the relationship between budgetary participation and managerial performance at these universities. The starting point from which research questions were created is the gap in the budget and higher education literature concerning developing countries and the budget situation in PJUs.

In order to satisfy the aforementioned research objective the current study tries to answer the following research question.

- What is the relationship between budget participation and managerial performance in PJUs?

Management of the Higher Education (HE) sector has become an active field of research in the previous two decades (Edwards et al., 2000; Shattock, 2000; Thomas, 2000; Moll et al., 2006; McChlery et al., 2007; and Buckland, 2009). In the HE sector, the increasing number of students, along with the need to replace decreasing state funding in public universities, is forcing universities to review their financial plans. Thomas (2000) emphasises budgeting systems as one of the primary means of controlling activities in the face of these pressures (Mah'd, 2010). Shattock (2000) argues that universities in Europe, Australia, and across many other nations face a similar shrinkage in public investment in HE; this issue must be addressed along with key issues under the generic banner of strategic management.

2 Literature Review

The budget could be one of the most important tools for decision-making in organisations (Edwards et al., 2000; Covaleski et al., 2006). In HE, some subjects or schools are closed because they are not able to operate within budgetary limits (Moll, 2003). Some studies have emphasised that links between budget allocation and strategy have to be adequate (Horngren et al., 2009). Thus, when changes are made to either budget or strategy, assessment for the related system is necessary in order for those changes to have their intended effect (Moll, 2003).

In their research, Ho et al. (2006) find that 83% of previous studies originated in the U.S.A due to the large proportion of income in American universities which is based on private funding. Budgeting decisions are therefore very important to these universities (Ho et al., 2006).

According to several authors, the budget is a product of negotiation. Thus, budget setting through negotiation has been investigated (e.g. Hopwood, 1972; Kenis, 1979; Fisher et al., 2000; and Chong et al, 2006). Fisher et al. (2000) express that there has been little research in budget-based negotiation examining how the budget-setting process differs when budgets are set through negotiation rather than being set unilaterally.

Participative budgeting has been defined as a means of communicating and influencing managers in the budgetary process, and as the extent of subordinate influence over setting budgetary targets (Brownell, 1982; Lau & Lim, 2002; Covaleski et al., 2003; and Mah'd, 2010). Several studies define budget participation as allowing subordinates to exchange information with supervisors to influence their budget target (Lau & Lim, 2002), to seek information for task completion (Brownell & Hirst, 1986), and to ensure budget adequacy (Nouri & Parker, 1998). Drury (1998) thinks that implementing budget participation implies that the budget should originate at the lowest levels of management and that managers should submit their budget to their superiors. Shields & Shields (1998, p.49) define budget participation as a process in which the manager is involved with, and has influence on, the determination of his or her budget. Most budget literature studies the effects of budget participation on other variables (Shields & Shields, 1998; and Mah'd, 2010), although this does not apply to the budget literature

from developing countries. Moreover, these results are inconsistent in explaining linkage between participative budgeting and job performance. This research revises some of these works and to reconcile the different results.

Meanwhile, participative budgeting has been one of the most researched topics in management accounting for over 50 years (Argyris, 1952 not on the list; Stedry, 1960; Milani, 1975; Otley, 1978; Brownell, 1982; Shields & Shields, 1998; Parker & Kyj, 2006; Nouri & Kyj, 2008, and Mah'd, 2010), yet the results of these studies are inconsistent in explaining the relationship between budget participation and outcome variables, such as job performance. One major concern of the literature is the impact of participative budgetary on outcome variables, job performance (Nouri & Parker, 1998; Fisher et al., 2006; and Parker & Kyj 2006), job satisfaction (Brownell, 1981; Brownell & McInnes, 1986; and Chenhall & Brownell, 1988), and employee effort (Fisher et al., 2006). The relationship between participative budgeting and performance might be contingent upon the presence of other moderating factors (Nouri & Parker, 1998; Parker & Kyj, 2006; and Mah'd, 2010). Participative budgeting has generally been investigated by using the participative budget as an independent variable associated either directly with dependent variables, such as job performance or satisfaction, or associated indirectly, mediated by intervening variables, with dependent variables (Shields & Shields, 1998; Nouri & Parker, 1998; Fisher et al., 2006; Mah'd, 2010; and Parker & Kyj 2006).

Shields & Shields (1998) analyse 47 published studies by focusing on the effects of participative budgeting and not on budget antecedents. They find that performance is the dependent variable most frequently associated with reported significant results (30 studies). The other dependent variables are motivation (10), satisfaction (9), attitude (towards the budget, job, superior, or organisation) (6), job-related tension (3), slack (3), role ambiguity (1), and information (1). Nouri & Parker, (1998) examine the relationship between budget participation and job performance by means of two intervening variables. To do this, they distribute a survey questionnaire to the managers of a large American corporation; this questionnaire measure variables such as budget participation, information sharing, organisational commitment, role ambiguity, and job performance. The statement of, Budget leads to budget adequacy, directly and via organisational commitment leads to job performance is the basic theoretical model used in their paper. As Parker & Kyj (2006) state, no study has directly examined the relationship between participation and information sharing; thus, their study attempts to do this. Other variables are studied in their research (such as organisational commitment and role ambiguity) in order to explain the relationship between budget participation and job performance.

A direct relationship between participation and performance is also found by Brownell & McInnes (1986), whose results indicate that the two maintain a positive association. Budget participation can lead to greater understanding of the budget settings, greater trust budget targets, and lessening of subordinates' fears, apprehensions and suspicions of budget targets (Lau & Lim, 2002). Milani (1975) examines the impact of participative budgeting on employees' attitudes and performance, measuring budget participation by quantifying the influence that a budgetee is perceived to have on a budget (Charpentier, 1998). Milani (1975) finds that although strong support may exist for both the relationship between participation and attitude towards the job and the company, there is no significant direct relationship between participation and performance. Consequently, Milani's results indicate that performance is not directly affected by budget participation,

but that impact of budget participation on the attitude towards the job and the company may lead to higher performance. Another indirect relationship is found by Brownell (1981), who indicates that participative budgeting has a positive relationship with performance moderated by an individual's locus of control. The effect of participative budgeting on performance has also been studied by Brownell & McInnes (1986). They conclude that participation indirectly leads to higher performance.

Fisher et al. (2006) support the results of Stedry (1960) and find that a negative relationship between budget levels and efforts exists (low budgets with high effort and high budgets with low effort), which leads owners to assign lower budgets to employees. In other words, employees' preference for reciprocity may lead owners to intentionally build slack into budgets. Fisher et al.'s results are in conflict with and inverse to the results of Merchant & Manzoni (1989) and Van der Stede (2000). Shields et al. (2000) underscore that the effect of budget participation on individual performance is mediated by stress where the stress has a negative effect on performance. However, while Fisher et al. (2006) and Shields et al. (2000) support the negative relationship between budget participation and performance, the majority of previous studies claim a positive relationship. Kenis (1979) concludes that budgetary participation and budget goal clarity tend to have a positive effect on managers' job-related and budget-related attitudes. Chong & Chong (2002) use an intervening variables model to explain that budget participation has an effect on budget goal commitments, which in turn influence the acquisition of job relevant information.

Nouri & Kyj (2008) clarify that one of the most important limitations of budgetary participation studies is that the effect of individual and organisational variables on job performance has not been examined. The arguments in favour of budget participation are varied and vague over the last four decades (Hopwood, 1972; Shields & Shields, 1998; and Covaleski et al., 2003). The influence of budget participation is perhaps the most examined budget aspect in the research literature (Shields & Shields, 1998; Charpentier, 1998), although this is not true in the context of private universities in developing countries.

2.1 The Relationship between Budget Participation and Performance

The varieties and differences in explaining the effect of the budget on managerial performance are extensive. A number of budgeting studies have yielded results contrary to their prediction and inconsistent with each other (see Hopwood, 1972; Otley, 1978; Kenis, 1979; Shields & Shields, 1998; and Covaleski et al., 2003). Some of this previous research suggests that effective participation is positively associated with enhanced managerial performance (Nouri & Parker, 1998; and Moll et al., 2006). Greenberg & Folger (1983) suggest two reasons for the statement that participation can lead to improvements in performance. First, participation enables subordinates to ask superiors for what they want; second, participation may allow subordinates to make choices and then to generate commitment to and responsibility for their choices. In this section, the relationship between budget participation and performance will be examined.

The direct effect of budget participation on job performance has been examined early in the literature (e.g. Milani, 1975). Researchers have examined budget participation effects on job performance through intervening variables. They hypothesise budgetary participation and intervening variables, such as organisational commitment (Nouri &

Parker, 1998), role ambiguity (Chenhall & Brownell, 1988; Kenis, 1979), information Sharing (Parker & Kyj, 2006), motivation (Brownell & McInnes, 1986), budget adequacy (Nouri & Parker, 1998), job-relevant information (Kren 1992; Chong & Chong, 2002), and job satisfaction (Chenhall & Brownell, 1988) as independent variables. Most researchers have used job performance as a dependent variable (Brownell & McInnes, 1986; Kren, 1992; Shields & Shields, 1998; Chong & Chong, 2002; and Parker & Kyj, 2006). On the other hand, recent research has examined the possibility of reverse causality, from job performance to budget participation, or to the intervening variables (Nouri & Kyj, 2008).

Different types of operations for accounting systems with different sets of circumstances are suggested by the contingency theory approach rather than by a universal theory applicable to all circumstances (Smith, 2007; Hoque, 2004). Smith (2007) indicates that a new version of the contingency theory aims to explain how particular circumstances shape the form of a management accounting system. Previous studies therefore suggest that the contingency theory can be applied to budgeting by identifying the circumstances around the budgetary system and assessing how the systems vary depending on these factors (Smith, 2007).

According to Chenhall (2003), research based on the contingency theory has focused on a variety of aspects of the management control system. The dimensions of budgeting, such as participation, information sharing, the importance of meeting budgets (Bruns & Waterhouse, 1975; and Parker & Kyj, 2006), and budget slack (Dunk & Nouri, 1998; Van der Stede, 2000) are the main aspects of the management control system. While several contingency studies have examined the relationship between contextual variables and budget characteristics (Bruns & Waterhouse, 1975; and Ezzamel, 1990), others have researched the effect of budget participation on performance using a contingency framework analysing manufacturing or services sectors (see Brownell, 1982; Charpentier, 1998; Nouri & Parker, 1998; and Parker & Kyj, 2006). Previous studies suggest that the effectiveness of budget participation is dependent upon contingent factors (Smith, 2007). However, there are no studies which focus upon the budgetary participation effects on the HE sector in developing countries.

The contingency-based approach presumes that management control systems are developed, or adopted in order to aid in achieving the desired organisational goals and outcomes which have been discussed (Chenhall, 2003). Chenhall (2003) thinks that contingency-based research is established in organisational theory, which considers contextual variables only at the organisational level. He asserts that, within contemporary settings, organisational theory continues to provide a rich and coherent basis for examining new and traditional MCS, such as a budgeting system.

Much of the literature demonstrates that the budget is an important management accounting tool in terms of control, coordination, and decision-making (Drury, 2008; Horngren et al., 2009; and Weetman, 2006). Budget participation is reviewed and different opinions are clarified about the effect of budget participation on managerial performance. Most of the literature supports the idea that participative budgeting significantly and positively effects performance (e.g., Brownell, 1981, 1982; Chenhall & Brownell, 1988; Lau & Lim, 2002; Moll et al., 2006; and Parker & Kyj, 2006). This review also highlights a few studies that find a negative impact (Stedry, 1960; Fisher et al., 2006) or a vague impact (Milani, 1975; Kenis, 1979) between participative budgeting and performance. However, although this relationship has been widely examined in developed countries, this particular study intends to examine this

relationship in a developing country. While the tertiary education sector usually focuses on non-profit institutions, this study will concentrate on a business environment wherein HEIs are privately owned and for profit. For both of these reasons, the results of this study may differ from those of previous literature.

Managers in HEIs appear to be challenged in their roles within these complex institutions in terms of allocating resources to all academic or managerial departments. Not only are managers struggling to find funding resources, especially in a place where the government is not financially supportive, but they are also seeking an efficient way of reallocating financial resources, between university departments, as this is one of the vital and difficult issues of decision-making in HEIs (Covaleski & Dirsmith, 1988; Thys-Clement & Wilkin, 1998; Broadbent, 2007; and Mah'd, 2010).

While the models of Nouri & Parker (1998) and Parker & Kyj (2006) explain the relationship between budgetary participation and managerial performance using intervening variables, Nouri & Kyj (2008) examine the reverse relationship. Neither trend examines external factors, such as government, where these factors might affect budget use.

Attempts to price educational activities using costing information have faced widespread problems in identifying, measuring, utilizing, and applying this information in universities (Buckland, 2009). Buckland explains that it is difficult to produce reliable information in universities where overheads are relatively high and academic managers, who have no background in costing or pricing, are in charge of decision-making. Budget control is achieved through the matching of actual expenditure with plans. Thus, in the public HE sector, the budget should serve policy direction, communication, motivational control, monitoring of services resource allocation, and accountability (Moll, 2003).

A study of Sugioko, (2010) tests the role of mediating variables on the impact of budget participation on job performance in university executives, the results show that budget participation had a positive and significant impact on job performance of university executives. The results show that variables like trust, organizational commitment, budget adequacy and job satisfaction demonstrated a negative and significant mediating effect on the relationship between budget participation and job performance of university executives. This research indicated that the budget adequacy problem was the most critical mediating variable because it had a direct impact on the job satisfaction of university executives

To conclude, extensive literature exists on the budget processes, budget participation, and the HE context, and such literature provides a comprehensive background for this study. Although the majority of studies that have highlighted, examined, or described aspects of the budget, it might be difficult to find sufficient literature researching the participative budget in private universities particularly in developing countries.

3 Research Methodology

This research aims at investigating the relationship between the budget participation and managerial performance.

According to previous studies, contingency research has focused on a range of aspects of management control systems (see Chenhall, 2003). While numerous contingency

studies research the association between contextual variables and budget characteristics (Bruns & Waterhouse, 1975; Ezzamel, 1990; and Mah'd, 2010), others examine the effect of budget participation on performance using a contingency framework (see Hopwood, 1972; Brownell, 1982; and Parker & Kyj, 2006). This study researches both relationships within the contingency framework.

The budget aims to provide information to managers in order to facilitate decision making (see Drury, 2008). Otley (1980) outlines some requirements for the necessary development of a contingency theory of accounting, concluding that contingency theory must identify specific aspects of accounting system which are associated with certain defined circumstances and demonstrate an appropriate matching (Otley, 1980, p.413). Three requirements in this description are pointed out by Hartmann & Moers (1999): specific aspects, defined circumstances, and appropriate matching. In addition to providing a description of the budget system within PJUs, this section examines two specific aspects. The situation of PJUs is the research site wherein external and internal variables are tested. Therefore, in this study the contingency approach is utilised in order to understand the relationship between the level of participation and managerial performance.

3.1 Hypothesis Development

In this study, the literature review shows variation in results when examining the relationship between budget participation and managerial performance. Whilst some studies outline a significant positive relation, others find insignificant or negative associations. Previous research assumes that the organisation's management tends to choose participation only if it has economic value, such as improving organisational performance (Haldma & Laats, 2002; Covalieski et al., 2003). The study proposes that the budget participation level varies within private Jordanian universities. (Figure1) presents the relationship between budget participation and managerial performance. In this study, the proposed relationship between budget participation and managerial performance is examined using one main hypothesis.

This research employs a modified version of Milani's (1975) seven-item scale in order to measure budget participation. This format has been used extensively in the previous literature (Shields & Shields, 1998; Nouri & Parker, 1998; and Parker & Kyj, 2006). The instruments determine involvement in and influence of individuals on the budget process (Nouri & Parker, 1998). The response scale is a seven point Likert-type scale ranging from one (very unsatisfied) to seven (very satisfied). In the current study, a reliability check of the instruments produces a Cronbach alpha coefficient of 0.934.

To measure managerial performance Mahoney et al.'s (1965) nine dimensions is employed. These are coordinating, planning, evaluating, investigating, negotiating, representing, staffing, supervising, and overall performance. Previous studies have used these items to assess the self-performance of managers. There is variation in the methodology of prior studies and this study in terms of employing managerial performance as a variable; this research has used the modified version of Mahoney et al.'s instruments not to assess self-performance, but rather to evaluate the current budget influence on managerial performance. Moreover, these nine items have been modified for the use of this research by the deletion of "investigating and supervising" as well as addition of two other items. These two items are: controlling the expenses and making the correct decision.



Figure1: The impact of budget participation on managerial performance.

H1: There is a positive association between budget participation in private Jordanian universities and managerial performance.

3.2 Research Sample

The Jordanian private HE sector (and particularly the private university sector) has been chosen as ground for this research. Private universities are supervised and financed by non-governmental institutions or individuals. According to Ministry of Higher education there are 19 private universities in Jordan. The current research chose five different private universities. Selecting a single university where there is good access to budget information could enable in-depth data, but generalizability will not be addressed. Therefore, research benefits may be considered less significant. The selection of a single segment (HE), assuming a relatively small variance in population characteristics, was also considered in order to minimise the confusing effect of the unrelated variables, where internal validity might be under threat (Pollanen, 1996).

In order to distribute the questionnaire, two primary criteria were followed in this specific segment. In line with the Pollanen criterion, this survey is distributed to universities which have developed organisational structures with multiple levels of management in order to allow selection and targeting of the middle and lowest management with budgeting responsibilities. The study did not distribute the questionnaires to small or recently founded universities because the archival data and by observation in these universities, this research revealed that the universities' operational managers were new or inexperienced in terms of tackling the budget.

Data is collected for this research using multiple data collection methods in order to make it easy to establish a broad background and to build up data about financial department and budget usage, as well as about budget practices in the universities. The survey used in this study (the questionnaire survey) yielded 131 cost centre managers in Jordanian universities holding management responsibilities for their departments. The researcher prepared covering letter in order to consider the nature of the budget data and to reduce the non response rate. Of the 131 surveys distributed, 79 were returned, but two of these were incomplete and had irrelevant data. The effective response rate was thus 58.8 (77/131).

It is been noticed that two out of these five universities have a budget committee and a budget accountant, and that in these universities budgeting decisions are shared with the third level of management. Two other private universities centralise budget decisions in the hands of the financial manager, and these institutions have neither a budget committee nor a budget accountant. One private university devolves budget decisions to the second level of management, but it does not have a formal budget committee or a budget accountant. This section is examining the first two universities (participation group) and the third and fourth universities (centralised group). These two groups are analysed in order to explain the impact of budget participation, as well as to determine how the existence of a budget committee and budget accountant impact the head of department's performance.

3.3 The Research Settings

In order to fulfil the research requirements, it is important to investigate the impact of the three factors on managerial performance. The sample respondents have therefore been categorised into two fundamental groups according to the features of their universities. These two main groups are comprised of the four universities which fulfil the study requirements. Further analysis regarding the fifth university is provided at the end of this study.

This study uses the previous research (Weetman, 2006; Mah'd, 2010) and employs the experience from Jordanian private universities in order to determine the participation level; this includes the existence of budget committee, budget accountant and the managers involvement in the budget).

The current study splits the questionnaire responds into two main groups:

1. Questionnaires distributed to the first and second universities. The respondents (department heads) in these universities are involved in budgeting and are responsible for budget decisions. The budget committee in these universities discusses department budgets with the financial managers, helping them to make good decisions. Budget accountants in these universities provide information to the budget committee, building on the actual needs of the previous year, and help the department managers throughout the year in terms of their departments' budgets. For the analysis, this study refers to this group as the participation group.
2. Questionnaires distributed to the third and fourth universities in the second group. Budget decisions in these universities are centralised, and the financial manager makes the budget decisions on behalf of the departments. The respondents (department heads) in these universities are not encouraged to participate in the budget and have very little information about their departments' budgets. No assistance is provided by the financial department to help them in making good decisions using budgetary information. For the analysis, the study refers to this group as the centralised group.

The questionnaires were distributed to department heads in these universities, and their perceptions about the impact of the current university budget system on performance were reported. They were asked to verify the impact of the current budget system used in their university on the modified nine items of Mahoney et al. (1965). The response format was a seven point Likert scale, applied for these questions and ranging from one (extremely disagree) to seven (extremely agree). For the whole sample, a reliability test for the instruments produced a Cronbach alpha coefficient of 0.959.

The respondents were asked whether they agree or disagree that the current budget used in their universities helps to achieve the following:

1. Controlling expenditures
2. Making correct decisions
3. Coordinating your department's activities
4. Evaluating subordinates' activities
5. Negotiating
6. Planning for your area of responsibility
7. Representing the interests of your area
8. Supervising staff
9. Overall performance

3.4 Statistical Analysis

As has been previously indicated, this study proposes that managerial performance differs between respondents in universities which centralise budget decisions and respondents in universities which allow budget participation and employ both a budget committee and a budget accountant. Therefore, the two main groups have been producing two averages for the respondents' means. The study presumes that managerial performance indicators are dependent variables, and that the existence of budget participation, the budget committee, and the budget accountant are independent variables. The following are the tests used to examine if there is any difference between the results of the two groups.

3.4.1. Normality test

Normality tests have been conducted to test whether the distribution of the sample is normal using Kolmogorov-Smirnov and Shapiro Wilk. The results show that the study data is not normally distributed for all variables (see Appendix 1). Since this data is not normally distributed, non-parametric assumptions are applied (Field, 2009). As there are two independent samples, the Mann Whitney non-parametric test has been conducted.

3.4.2. Means tests

A description of the differences between the means of the two groups of respondents has been tested. The results displayed in Table 1 show that, for respondents in the participation environment, the means of the nine performance items are bigger than the means of the centralised universities. The average mean of the participation group is 5.23, while the average mean of the centralised group is 4.28. Moreover, all centralised group figures found to be less than all figures of the participation group.

Table 1: The means of the two groups

Group Statistics

Grouping	N	Mean	Std. Deviation	Std. Error Mean
I Centralised	27	4.6296	1.69043	0.32532
	42	5.3810	1.49719	0.23102
II Centralised	27	4.5556	1.52753	0.29397
	42	5.5714	1.17167	0.18079
III Centralised	27	4.0741	1.56711	0.30159
	42	5.4048	1.28897	0.19889
IV Centralised	27	4.0741	1.59147	0.30628
	42	4.9762	1.48961	0.22985
V Centralised	27	4.0741	1.66239	0.31993
	42	4.9524	1.37845	0.21270
VI Centralised	27	4.3333	1.66410	0.32026
	42	5.5714	1.12927	0.17425
VII Centralised	27	4.1852	1.44214	0.27754

Full participation	42	5.1667	1.37781	0.21260
VIII Centralised	27	4.2593	1.60750	0.30936
Full participation	42	4.9762	1.48961	0.22985
IX Centralised	27	4.3704	1.59683	0.30731
Full participation	42	5.0238	1.42261	0.21951

Nevertheless, the means of the two groups in all cases are above the average 3.5; a test of median also expresses that most of those above the median are located in the full participation group. The table below shows the differences which exist in the tendencies of the two groups, providing evidence that participation group respondents tend to be more agreed (than those participants in the centralised group) in a belief that the budget helps them in their managerial decisions. For those who are above the median, the ratio of respondents in the participation group to the respondents in the centralised group is 3.5:1. However, under the median the ratio is about 1:1.

Table 2: The median test

Frequencies

		Grouping	
		Centralised	Full participation
I > Median	> Median	8	23
	<= Median	19	19
II > Median	> Median	8	26
	<= Median	19	16
III > Median	> Median	6	25
	<= Median	21	17
IV > Median	> Median	4	20
	<= Median	23	22
V > Median	> Median	5	17
	<= Median	22	25
VI > Median	> Median	3	7
	<= Median	24	35
VII > Median	> Median	5	22
	<= Median	22	20
VIII > Median	> Median	5	19
	<= Median	22	23
IX > Median	> Median	7	20
	<= Median	20	22

3.4.3 The Mann-Whitney test

The Mann-Witney test is used to test the differences between means, when there are two different samples, by ranking the data (Field, 2009). The results which appear in Table 3 explain the average ranks of the centralised and full participation groups. It is noticeable that the average ranks of the participation group are found to be significantly greater than those appearing in the centralised group. This is applied to the nine items

of managerial performance in the current study. This indicates that manager's performance in the participation environment is greater than manager's performance of centralised environment.

Table 3: The Mann-Whitney results

Grouping	N	Mean Rank	Mean	Sum of Ranks
I Centralised	27	29.30	4.19	791.00
	42	38.67	5.52	1624.00
	69			
II Centralised	27	26.48	3.78	715.00
	42	40.48	5.78	1700.00
	69			
III Centralised	27	24.43	3.49	659.50
	42	41.80	5.97	1755.50
	69			
IV Centralised	27	27.54	3.93	743.50
	42	39.80	5.69	1671.50
	69			
V Centralised	27	28.00	4	756.00
	42	39.50	5.64	1659.00
	69			
VI Centralised	27	25.74	3.68	695.00
	42	40.95	5.85	1720.00
	69			
VII Centralised	27	26.98	3.85	728.50
	42	40.15	5.74	1686.50
	69			
VIII Centralised	27	29.07	4.15	785.00
	42	38.81	5.44	1630.00
	69			
IX Centralised	27	29.70	4.24	802.00
	42	38.40	5.49	1613.00
	69			

The study proposes that the participation group is more agreed that the budget helps in managerial performance. The results indicate that the number of those who agree that the budget helps them in achieving managerial performance indicators is greater among the participation group than among the centralised group ($p < 0.07$, Mann-Whitney test). Using one-tailed probability, the results in Table 4 indicate that there is a significant difference between the two groups for all items ($p < 0.05$). The value of the mean ranking indicates that the participation group has a significant higher level of agreement than the centralised group. This conclusion has been reached relying on the score rank for all managerial performance items in the two groups (see Table 4).

Table 4: The Mann-Whitney results using the p value indicator

	I	II	III	IV	V	VI	VII	VIII	IX
Mann-	413	337	281.5	365	378	317	350.5	407	424
Wilcoxon W	791	715	659.5	743.5	756	695	728.5	785	802
Z	-1.932	-2.921	-3.619	-2.537	-2.379	-3.173	-2.732	-2.005	-1.810
Asymp. Sig. (2-	.053	.003	.000	.011	.017	.002	.006	.045	.070
Exact Sig. (2- tailed)	.053	.003	.000	.011	.017	.001	.006	.045	.071
Exact Sig. (1- tailed)	.027	.002	.000	.005	.008	.001	.003	.023	.035
Point Probability	.000	.000	.000	.000	.000	.000	.000	.001	.001

a. Grouping Variable: Grouping

4 Further Analyses

The study analyses the impact of budget participation, the budget committee, and the budget accountant on managerial performance using differences in the responses of the two groups. Moreover, the study classifies the study sample of five selected universities into three categories; two of these have been investigated in the above analyses. In this section, the third category (which includes the fifth university) has been discussed, where budget participation is at the second level of management and there is no formal budget committee or budget accountant. Therefore, this analysis is based upon the five universities and investigates whether there is a significant difference amongst the three groups. First, a descriptive analysis has been conducted to test the difference in means amongst the three groups. Table 5 demonstrates that the means of the centralised group in all cases are less than the means of the other group, with an average mean of 4.28. The average mean of the second group (4.90) is less than the participation group mean (5.23). These results show that respondents who participate in the middle level are more likely to agree that the budget helps them in their performance than those who do not participate in the budget. On the other hand, the middle level group is less agreed than the participation group that the budget helps with performance.

Table 5: The means of the three groups

		N	Mean	Std.	Std.	Minimum	Maximum
I	1	27	4.6296	1.69043	.32532	1.00	7.00
	2	8	4.7500	1.98206	.70076	1.00	7.00
	3	42	5.3810	1.49719	.23102	1.00	7.00
	Total	77	5.0519	1.63752	.18661	1.00	7.00
II	1	27	4.5556	1.52753	.29397	1.00	7.00
	2	8	4.8750	1.88509	.66648	1.00	7.00
	3	42	5.5714	1.17167	.18079	2.00	7.00
	Total	77	5.1429	1.44836	.16506	1.00	7.00
III	1	27	4.0741	1.56711	.30159	1.00	7.00
	2	8	5.1250	1.95941	.69276	1.00	7.00
	3	42	5.4048	1.28897	.19889	1.00	7.00
	Total	77	4.9091	1.57432	.17941	1.00	7.00
IV	1	27	4.0741	1.59147	.30628	1.00	7.00
	2	8	4.5000	1.69031	.59761	1.00	6.00
	3	42	4.9762	1.48961	.22985	1.00	7.00
	Total	77	4.6104	1.58244	.18034	1.00	7.00
V	1	27	4.0741	1.66239	.31993	1.00	7.00
	2	8	4.8750	1.88509	.66648	1.00	7.00
	3	42	4.9524	1.37845	.21270	1.00	7.00
	Total	77	4.6364	1.57203	.17915	1.00	7.00
VI	1	27	4.3333	1.66410	.32026	1.00	7.00
	2	8	5.0000	1.85164	.65465	1.00	7.00
	3	42	5.5714	1.12927	.17425	2.00	7.00
	Total	77	5.0779	1.51107	.17220	1.00	7.00
VII	1	27	4.1852	1.44214	.27754	1.00	7.00
	2	8	4.8750	1.95941	.69276	1.00	7.00
	3	42	5.1667	1.37781	.21260	2.00	7.00
	Total	77	4.7922	1.51603	.17277	1.00	7.00
VIII	1	27	4.2593	1.60750	.30936	1.00	7.00
	2	8	5.1250	1.95941	.69276	1.00	7.00
	3	42	4.9762	1.48961	.22985	1.00	7.00
	Total	77	4.7403	1.60101	.18245	1.00	7.00
IX	1	27	4.3704	1.59683	.30731	1.00	7.00
	2	8	5.0000	2.07020	.73193	1.00	7.00
	3	42	5.0238	1.42261	.21951	1.00	7.00
	Total	77	4.7922	1.56724	.17860	1.00	7.00

According to the normality test (see Appendix 4), the collected data is not normally distributed. Therefore, an exploratory analysis regarding the median test has been conducted. Table 6 verifies how many respondents are higher or less than the median in the three groups.

Table 6: The median tests of the three groups

		Grouping		
		centralised	2nd level	full participation
I	> Median	8	3	23
	<= Median	19	5	19
II	> Median	9	3	26
	<= Median	18	5	16
III	> Median	8	2	25
	<= Median	19	6	17
IV	> Median	6	1	20
	<= Median	21	7	22
V	> Median	7	2	17
	<= Median	20	6	25
VI	> Median	3	1	7
	<= Median	24	7	35
VII	> Median	6	2	22
	<= Median	21	6	20
VIII	> Median	7	2	19
	<= Median	20	6	23
IX	> Median	9	1	20
	<= Median	18	7	22

A summary of Table 6 has been provided in Table 7, which expresses the total responses and the ratio.

Table 7: Summary of Table 6

Categories	Above the median	Under the median	The ratio: Under/Above
Participation Group	179	199	1.1
2 nd level group	17	55	3.23
Centralised group	63	180	2.86

Like the Mann-Whitney test, the Kruskal-Wallis test is a non-parametric test based on ranked data (Field, 2009). Analysis of Table 8 (below) demonstrates that the mean ranks of all groups are different for all items. The results show that the mean ranks of the centralised group in all items are less than the mean ranks of the other groups. Moreover, the mean ranks of the full participation group in eight out of nine items are

higher than those in the other groups. Unexpectedly, the mean rank of the question of whether the budget helps in supervising the staff is bigger in the second level group than it is in the participation group.

Table 8: Kruskal-Wallis Rank Test

Grouping		N	Mean Rank
I	Centralised	27	33.11
	2nd level	8	35.56
	Full participation	42	43.44
	Total	77	
II	Centralised	27	29.81
	2nd level	8	36.88
	Full participation	42	45.31
	Total	77	
III	Centralised	27	26.80
	2nd level	8	43.88
	Full participation	42	45.92
	Total	77	
IV	Centralised	27	30.69
	2nd level	8	38.31
	Full participation	42	44.48
	Total	77	
V	Centralised	27	30.80
	2nd level	8	43.35
	Full participation	42	43.37
	Total	77	
VI	Centralised	27	28.65
	2nd level	8	39.19
	Full participation	42	45.62
	Total	77	
VII	Centralised	27	29.76
	2nd level	8	42.00
	Full participation	42	44.37
	Total	77	
VIII	Centralised	27	31.65
	2nd level	8	46.19
	Full participation	42	42.36
	Total	77	
IX	Centralised	27	32.74
	2nd level	8	43.19
	Full participation	42	42.23
	Total	77	

Table 9 presents the significant value, which is less than 0.10 in seven items and insignificant in the first and last items. The conclusion which can be reached using the significant value is that the participation group tends to agree more than the other groups that the budget helps in seven out nine managerial performance indicators. The Monte Carlo estimate of significance is also the same as the asymptotic value, with no significant differences.

Table 9: The significant value

	I	II	III	IV	V	VI	VII	VIII	IX
Chi-Square	3.869	8.490	13.157	6.586	5.858	10.084	7.527	4.864	3.438
Df	2	2	2	2	2	2	2	2	2
Asymp. Sig.	.145	.014	.001	.037	.053	.006	.023	.088	.179
Monte Carlo Sig. Lower Bound	.182 ^a	.000 ^a	.000 ^a	.078 ^a	.065 ^a	.013 ^a	.013 ^a	.091 ^a	.169 ^a
Upper Bound	.096	.000	.000	.018	.010	.000	.000	.027	.085
	.268	.038	.038	.138	.120	.038	.038	.155	.253

4.1 Discussion

Covaleski et al. (2003) state that the budget plays an important role in influencing decisions because of its role in managerial performance. They analyse how equilibrium choices of budgeting practices enhance organisational performance and maximize the organisational objectives. Previous research maintains that budgets facilitate decisions by enhancing coordination across subunits, sharing information between subordinates and employees, and supplying information to owners (Milani, 1975; Covaleski et al., 2003; Mah'd, 2010; and Parker & Kyj, 2006).

Previous research asserts that if, through participation in the budget, subordinates provide private information to superiors, then organisational performance improves (Magner et al., 1996; Shields & Shields, 1998; Covaleski et al., 2003; Mah'd, 2010; and Parker & Kyj, 2006). Milani (1975) states that subordinates participate in the budget if they believe that they are involved in the budget process; this participation can improve performance by establishing trust and procedural justice. In this sense, information is provided by superiors to coordinate subordinates' effort (see also Kren, 1992; Covaleski et al., 2003). Therefore, this argument suggests that budget participation is valuable even when participants are not better informed than superiors. The current study supports this result and finds that differences amongst managers' performance are dependent upon budget participation.

5 Conclusion

The study employs questionnaires in order to investigate budget issues in private Jordanian universities. The current research concentrates on the impact of budget participation, the budget committee, and the budget accountant on department heads' managerial performance.

The results can develop several complementary lines of argument. They discuss whether differences exist in performance between those managers who work in universities which maintain a budget participation environment and those who work in universities which centralise budget decisions into the hands of the top management. The results suggest that the performance indicators of the respondents in the participation group are significantly better than the performance indicators of the

respondent in the centralised group. This study tests these differences using the Mann-Whitney test. Further analysis is carried out to test whether there is a difference in the results gathered from a university where budget participation occurs at the second level of management, but employs neither a budget committee nor a budget accountant. The findings support the other analyses in seven out of the nine items of managerial performance.

It is believed that, in future studies, different streams should be researched, including the relationship between contingency variables (environmental uncertainty, organisational size, and technology) and budget characteristics in PJUs. The important of the budget in shaping and identifying the relationship between department expenses and revenues is one of the suggested topics for research. Future studies should provide more evidence regarding the role of budget participation and internal budgetary control and its impact on managerial performance.

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Appendices

Appendix 1: Normality test 1

Tests of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
BP	.122	77	.007	.943	77	.002
I	.164	69	.000	.906	69	.000
II	.215	69	.000	.895	69	.000
III	.215	69	.000	.897	69	.000
IV	.158	69	.000	.923	69	.000
V	.194	69	.000	.918	69	.000
VI	.238	69	.000	.897	69	.000
VII	.187	69	.000	.928	69	.001
VIII	.145	69	.001	.937	69	.002
IX	.183	69	.000	.905	69	.000

a. Lilliefors Significance Correction

Appendix 2: Normality test 2

Tests of Normality

Grouping		Kolmogorov-Smirnova		
		Statistic	df	Sig.
I	Centralised	.170	27	.045
	Full participation	.208	42	.000
II	Centralised	.170	27	.044
	full participation	.262	42	.000
III	Centralised	.148	27	.131
	full participation	.273	42	.000
IV	Centralised	.185	27	.018
	Full participation	.230	42	.000
V	Centralised full participation	.186	27	.017
	Centralise full participation Centralised full participation	.228	42	.000
VI	Centralised	.172	27	.039
	full participation	.291	42	.000
VII		.218	27	.002
		.251	42	.000
VIII		.194	27	.011
		.206	42	.000
IX		.223	27	.001
		.230	42	.000

a. Lilliefors Significance Correction

Appendix 3: Normality test 3

Tests of Normality

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
I	.160	77	.000	.903	77	.000
II	.217	77	.000	.889	77	.000
III	.210	77	.000	.893	77	.000
IV	.168	77	.000	.916	77	.000
V	.189	77	.000	.913	77	.000
VI	.236	77	.000	.891	77	.000
VII	.177	77	.000	.927	77	.000
VIII	.148	77	.000	.931	77	.000
IX	.169	77	.000	.907	77	.000

a. Lilliefors Significance Correction