

## Decentralized Budget Impact on Managerial Performance: Evidence from Private Jordanian Universities

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### Abstract

*The study aims at explaining the impact of devolving the budget decision to the lowest level of management on managerial performance in higher education institutions. The study uses the questionnaire to achieve this objective. It distributes 131 to department heads in five private Jordanian universities. 77 valid questionnaires were used in this research. The study splits the sample into two main groups. Centralized group and decentralized group based on the existence of budget accountant and budget committee. Kruskal-Wallis has been employed to test the differences between the groups. It tests the differences between the centralized, moderated and decentralized groups. The results show that managerial performance in the decentralized group is different with the centralized one. The results show that decentralized group performs better than centralized.*

*Key Words: Budget, Managerial Performance, Private Universities and Jordan.*

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### Introduction

Before 1989, around half of all Jordanian students were studying abroad each year, which affected the economy. As a partial response, the Jordanian government established private universities in 1989 because which does not rely on government subsidies. The new system ended the flow of hard currency out of the country, created new jobs, and provided competition to the public sector. According to Issa (2000), Jordan leads the Middle Eastern countries in running for-profit universities: the seventeen private Jordanian universities (unlike private universities elsewhere<sup>1</sup>) run on a commercial basis. This gives rise to serious questions about the impact of profit incentive on private universities. It has been argued that such private universities do not protect the quality of education. However, figures taken from the MoHE report that the cost per student in private universities is higher than comparable costs in public universities, thus providing some evidence that these institutions spend more to maintain good educational quality and services. Burke and Al-Waked (1997) argue that no evidence exists to prove that public universities are providing a better education than private universities. Over the last two decades, PJUs have proved their ability not only to absorb the surplus of Jordanian students, but also to attract foreign students<sup>2</sup>. Presumably, organizations are concerned about their goals and influenced by external and internal factors. National culture (Hofstede, 1981) and external environment (Merchant,

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<sup>1</sup> Private universities in most parts of the world receive financial support: they are even considered to be charities and receive public funds or tax exemption. None of them pays fees to the government.

<sup>2</sup> The percentage of foreign students in private universities is higher than the percentage of foreign students in the public, amounting to half of the total student population in some private universities.

1981) are the major external factors that have been examined at the company level in management accounting literature. Organisational size (Bruns & Waterhouse, 1975; Merchant, 1981), technology (Dunk, 2007) centralisation, and environmental uncertainty (Ezzamel, 1990) are the main internal factors that have been examined in management accounting research. This is supported by Otley (1978). Haldma & Laats (2002) draw a theoretical framework of the contingency approach describing a process which influences management accounting practice and the effectiveness of performance measurement and evaluation.

Budgeting systems are an important thrust of management accounting research. The budgetary process has to be administered effectively, in terms of many factors, such as initial planning, final approval and subsequent monitoring of implementation (Drury, 2008). The process of budgetary system reform is described and examined by Diamond (2003). He states that a budget process reform is required to move from traditional, centralized, input-oriented systems to more modern devolved performance-based systems, focusing on the constraints of limited managerial capacity.

The effect of budgetary goal characteristics (dimensions of budgeting style) on job-related attitudes, budget-related attitudes and performance is investigated by Kenis (1979). He distributed a questionnaire to department managers and supervisors in 28 plants, on the basis that the managers had maintained responsibility for both the budget and performance evaluation management. 26 Likert-type questionnaire items, scored from one to five, were used to measure budgetary goal characteristics by employing factor analysis. Diamond (2003) finds that most previous views of budget management focus on resource allocation, input control, and primarily the level of centralization. On other hand, Schmidtlein (1999) questions the feasibility and desirability of governments and institutions implementing performance budgeting practices. He focuses on examination of the concept of performance budgeting and uses it in the context of other budget concepts. Schmidtlein describes types of performance budgeting and analyses assumptions underlying budgeting and earlier budget reform.

The use of strategic planning in a HE context has also been investigated extensively (e.g. Moll, 2003; Thys-Clement & Wilkin, 1998) with the aim of finding out whether universities have strategic plans, and if so, how they develop these plans and put them into practice. This is achieved by assessing the reactions of universities to these developments (Thys-Clement & Wilkin, 1998). Their methodological approach includes interviewing academics at the highest levels of five universities and sending questionnaires to senior officials of European universities. Thys-Clement & Wilkin (1998) conclude that universities are differentiated by their willingness or ability to embrace the professional bureaucracy models and internal systems of intervention, which are both centripetal and centrifugal. Conway *et al.* (1994) conduct a content analysis of 83 mission statements and investigate the extent to which new universities and HE colleges in the UK apply a market orientation to their strategic planning process. Their study finds that about half of the institutions imply a customer orientation in their strategic plan.

The key issues of debate in previous studies have been university management, centralisation, decentralisation (public and private), the role of government, and the autonomy of the university (Johnstone, 1998; Buckland, 2009; and Broadbent, 2007). Broadbent (2007) concludes that the nature of the university is complicated; consequently, university management is very complex. A huge diversification of HE exists all over the world in terms of finance and management (Johnstone, 1998; El-Sheikh, 2012). Significant growth in private HEIs has been seen all over the world: private enrolment has actually doubled in some Latin America countries, alongside the transfer of expenditure authority to university managers (Johnstone, 1998).

Angluin & Scapens (2000) think that the knowledge of how universities allocate resources is generally restricted to those who support the process, despite the high level of public expenditure. From reviewing the literature, Moll (2003) observes that a significant opportunity exists for better understanding of budget systems within the HE environment. This review significantly supports

Angluin & Scapens (2000) in showing that there is a large gap in an understanding of the budget process in universities. Moreover, further research is needed to explain both the budget system and the nature of employee participation in budgeting.

The current trend in HE literature suggests that universities have become more corporate and tend to adopt a market style of management. Recent literature on university management has described significant changes and has adopted corporate models for management (Moll, 2003). Universities might change their management accounting systems as a result of various internal and external factors. Moll (2003) points out that competition, political pressures, budget inequities, and reducing funding are some of the factors that could stimulate change in budget system. One example of this is the University of Wisconsin, which has responded to government budget cuts by changing its financial requests from traditional quantitative budget statements to qualitative statements that comprised three budget categories and sought to highlight the effect of non-funding for the university (Moll *et al.*, 2006). To explain the process of budget change in universities, three phases have to be identified: conception of the need to change, organisational transition, and institutionalisation (Moll, 2003).

Ezzamel (1994) investigates how university budget systems are used to oppose proposed organisational change and finds that universities need to address both the budget system and the nature of employee participation in the university budgeting system. Covaleski & Dirsmith (1988) examine how budget practices are modified during periods of organizational decline and how organizational factors are able to create and enforce institutional pressures. They also identify those participants involved in the change process. Moll (2003) describes the change in the budget process in one Australian university (Griffith University) in 1997, where a formula-based budget model based on line item budgeting has been developed, and where the responsibility of budgeting has been devolved to the heads of school instead of to the deans.

An important benefit of the budgeting process is the sharing of information between subordinates and their managers (Hopwood, 1972; Covaleski *et al.*, 2003; and Parker & Kyj, 2006). A common assumption in the accounting literature (especially in agency theory) is that subordinate holds private information regarding their tasks and that they know more about their operational areas than their superiors do (Merchant, 1981; Nouri & Parker, 1998, Shields & Shields, 1998; and Covaleski *et al.*, 2003). Shields & Young (1993) explain that budget participation is used to facilitate the communication of private information from subordinates to superiors. The vertical flow of information has also been addressed in the literature (Kren, 1992; Parker & Kyj, 2006). Superiors generally have private information (related to achieving strategic budget goals) which may facilitate subordinates' achievement of those goals (Gladney *et al.*, 2009). Budget participation may enable both subordinates and superiors to communicate their private information, thus leading to better decision-making and a more meaningful budget (Nouri & Parker, 1998; Shields & Shields 1998; Covaleski *et al.*, 2003; and Parker & Kyj, 2006).

Several studies suggest that, subordinates' attainment of additional information from superiors and other parties will increase their effectiveness (Chenhall & Brownell, 1988; Kren, 1992; and Parker & Kyj, 2006). Kren (1992) reports that budgetary participation can create an environment that encourages the acquisition and use of job-relevant information. In most organisations, a manager's superior is an effective information source, particularly when he or she has extensive company-specific experience (Kren, 1992). Covaleski *et al.* (2003) point out that employees' private information plays a vital and central role in the context of participative budgeting and capital budgeting.

Several internal and external variables are thought to influence the budgeting system in an organisation. Previous studies discuss and examine these variables. Indeed, the effect of organisational context on budget features has been extensively examined in the literature (Bruns & Waterhouse, 1975; Kenis, 1979; Merchant, 1981; Ezzamel 1990; and Nouri & Kyj, 2008). Merchant (1981) notes that managers

in larger, more diverse, decentralized companies, participate more highly in budget setting. Moreover, Ezzamel (1990) finds that middle and lower-level managers are more likely to participate in the budget in organisations characterized by a large size, a decentralized structure, and greater perceived environmental uncertainty. Similarly, Bruns & Waterhouse (1975) find that large organisations and decentralized organisations tend to allow greater participation in budgets. Budgetary participation has a positive effect on both job-related and budget-related attitudes of managers (Kenis, 1979).

The results of previous studies indicate that contextual variables have a significant impact on budget usage and characteristics (see Ezzamel, 1990; Kenis, 1979; Merchant, 1981, 1985; and Nouri & Kyj, 2008). Merchant (1985) finds that being part of a large and more diverse department has a significant impact on how department managers use their budgets, even though the managers are using the same corporate budgeting system. Other studies (e.g. Milani, 1975; Kenis, 1979; Merchant, 1981; Ezzamel, 1990; Shields & Shields, 1998; Parker & Kyj, 2006; and Nouri & Kyj, 2008) find contextual factors to be important budget characteristics that facilitate the budget process and encourage participative budgeting. Ezzamel (1990) finds that perceived environmental uncertainty has a strong impact on budget participation, budget evaluation, required explanation of the variances, and information sharing.

Management accounting studies which use a contingency-based approach, suggest that organisational structure affects the manner in which budgetary information is best used (Otley, 1980; Hopwood, 1972). Otley's study indicates that organisational structure has important effect upon the way in which an accounting system functions.

The impact of external pressure on university management and governance has been addressed in a considerable amount of literature (see Covaleski & Dirsmith, 1988; Johnstone, 1998; and Moll, 2003); this pressure includes pressure from governments or competition with other HEIs and community institutions. In most of the world, governments assume a responsibility for overseeing the provision of HE, to protect quality, or for other reasons of market failure (Johnstone, 1998). Thus an increase of government intervention in university management and governance has a major impact on university strategy.

Covaleski & Dirsmith (1988) explain the process of how a university rejected a traditional budgeting format when this format became inconsistent with the universities goals and interest. Moll (2003) states that Australian universities resisted external pressures, particularly from the federal government, for a managerial approach. Moreover, Moll clarifies that some Australian universities have restructured their governing bodies in order to accommodate government policies and changing community pressures to make decisions effectively, as well as to display a higher level of managerial competency. In Jordan, the MoHE is in charge of supervising private and public universities in terms of their specialisations, curricula, and admission policies. The MoHE also approves universities' development and budgeting plans.

### **The Relationship between Decentralized Budget and Performance**

Several studies examine the relationship between decentralized budget and managerial performance. These studies variously suggest positive effects (Chenhall & Brownell, 1988; Lau & Lim, 2002; Moll, 2003; and Parker & Kyj, 2006), unclear or insignificant effects (Milani, 1975; Kenis, 1979), or negative effects (Stedry, 1960) resulting from the aforementioned linkage. Some of this previous research suggests that effective decentralization is positively associated with enhanced managerial performance (Nouri & Parker, 1998; Moll, 2003). Greenberg & Folger (1983) suggest two reasons for the statement that decentralization can lead to improvements in performance. First, decentralization enables subordinates to ask superiors for what they want; second, decentralization may allow subordinates to make choices and then to generate commitment to and responsibility for their choices.

The direct effect of decentralization in the budget 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 hypothesized decentralized budget 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).

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). Because of these inconsistencies in explaining the relationship between decentralized budget and performance, different contingency variables have been studied.

## Methods

The questionnaire respondents in this study include 77 department heads in five private universities. It has 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 centralize 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 (decentralized group), the third and fourth universities (centralized group) and the moderated group. These three groups are analyzed 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.

The results, gathered from universities' documents, clarify that several differences appear in the questionnaire sample of the five universities. One of these universities had already utilized a budget system in its accounts before doing so became mandatory for private universities. This university distributed the budget forms to both academic and administrative departments in the university. These forms are similar to the forms required by the MoHE, but they operate monthly rather than annually. Moreover, there is a budget committee which discusses the departments' budgets, approves the overall budget, and helps in preparing the final accounts.

The university employs a budget accountant who is responsible for controlling departments' budgets, preparing budget reports for the financial manager and the president, and helping the budget committee by providing accurate and updated information about the university budget. The second university manages the budget at the third level of management, wherein the top management encourages department heads to participate in the budget and to share budget information with the second level of management.

There is a budget committee in this university, and the university president is its committee head. The university budget accountant is responsible for controlling budget issues through the budget system, and he or she provides budget information for the decision-makers. According to the university's financial manager, the top management aims to enhance the budget accounts, which can facilitate decision-making by distinguishing the ability of each department to generate net profit.

The third and fourth universities have adopted a centralized budget system. The department heads in these universities are not directly involved in budgeting. The financial manager discusses department expenditure according to its revenues and essential expenses.

There are no formal budget accounts associated with each department to assist with decision-making, and there is no direct relationship between the department managers' requirements and their budgets. There is no budget committee or budget account in these universities; instead, the financial manager is responsible for their tasks.

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

## Statistical Analysis

As has been previously indicated, this study proposes that managerial performance differs between respondents in universities which centralize budget decisions and respondents in universities which allow budget participation and employ both a budget committee and a budget accountant. Therefore, the three main groups have been producing three different 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 three groups.

### The Kruskal Wallis test

This research classifies the study sample of five selected universities into three categories. Centralized, decentralized and the intermediate group have been discussed. Intermediate group can be described 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.

The study adopted a non-parametric test (Kruskal-Wallis) which is based on ranked data (Field, 2009).

The analysis in the table (2) indicates that the mean rank of the centralized group in all items is less than the mean rank of the other groups. Moreover, the full participation group records a mean rank in eight out of nine items 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 1 verifies how many respondents are higher or less than the median in the three groups.

Table 1: The median tests of the three groups

**Frequencies**

		Grouping		
		centralized	2nd level	full participation
I	> Median	7	3	24
	<= Median	16	6	21
II	> Median	7	5	25
	<= Median	20	6	17
III	> Median	9	3	23
	<= Median	20	5	19
IV	> Median	4	2	21
	<= Median	22	8	20
V	> Median	8	2	16
	<= Median	21	7	23
VI	> Median	4	1	6
	<= Median	26	8	32
VII	> Median	8	2	20
	<= Median	20	6	21
VIII	> Median	8	2	18
	<= Median	21	7	21
IX	> Median	11	2	21
	<= Median	15	9	21

Source: Developed by the author

Table 2: Kruskal-Wallis Rank Test Ranks

Grouping	N	Mean Rank
I		
Centralized	27	31
2nd level	8	34
Full participation	42	44
Total	77	
II		
Centralized	27	30
2nd level	8	38
Full participation	42	44
Total	77	
III		
Centralized	27	24
2nd level	8	43
Full participation	42	46
Total	77	
IV		
Centralized	27	32
2nd level	8	39
Full participation	42	45
Total	77	
V		
Centralized	27	31
2nd level	8	43
Full participation	42	44
Total	77	
VI		
Centralized	27	28
2nd level	8	41
Full participation	42	46
Total	77	
VII		
Centralized	27	29
2nd level	8	42
Full participation	42	45
Total	77	
VIII		
Centralized	27	32
2nd level	8	46
Full participation	42	45
Total	77	
IX		
Centralized	27	34
2nd level	8	44
Full participation	42	42
Total	77	

Source: Developed by the author

Table (3) presents the significance value of the differences between the groups. It is less than 0.10 in seven items but insignificant in the first and last items. Based on the significant value, the participation group tends to agree more than the other groups that the budget helps in seven out nine managerial performance indicators. With no significant differences, Monte Carlo estimate of significance shows the same as the asymptotic value.

Table 3: The significant value

		Test Statistics <sup>b,c</sup>								
		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.		.135	.018	.000	.039	.049	.04	.021	.081	.19
Monte Carlo Sig.	Confidence	.152 <sup>a</sup>	.000 <sup>a</sup>	.000 <sup>a</sup>	.087 <sup>a</sup>	.055 <sup>a</sup>	.016 <sup>a</sup>	.013 <sup>a</sup>	.091 <sup>a</sup>	.188 <sup>a</sup>
	95% Lower Bound	.096	.000	.000	.011	.008	.000	.000	.019	.085
	Upper Bound	.268	.038	.038	.138	.120	.038	.038	.155	.253

Source: Developed by the author

## Discussion

Prior studies preserve that budgets facilitate decisions by enhancing coordination across subunits, sharing information between subordinates and employees, and supplying information to owners (Milani, 1975; Parker & Kyj, 2006; and Mah'd et al., 2013). Literature states that the budget plays an important role in influencing decisions because of its role in managerial performance (Covaleski *et al.*, 2003; Drury, 2012). Covaleski *et al.* (2003) analyzes how equilibrium choices of budgeting practices enhance organizational performance and maximize the organizational objectives.

Subordinates participate in the budget if they believe that they are involved in the budget process (Milani, 1975). Milani (1975) believes that participation can improve performance by establishing trust and procedural justice. Previous literature states that organizational performance improves if through participation in the budget, subordinates provide private information to superiors (Shields & Shields, 1998; Covaleski *et al.*, 2003; Mah'd *et al.*, 2013; and Parker & Kyj, 2006). 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. This study supports literature results and finds that differences amongst managers' performance are dependent upon budget participation in the operation and delegating decision to the third level of management.

## Conclusion

This study develop the model of Mah'd et al. (2013) and discusses whether differences exist in performance between those managers who work in universities which decentralize the budget decision to the lowest level of management and those who centralize the budget decision on the hand of the top management. The results suggest that the performance indicators of the respondents in the decentralized group are significantly better than the performance indicators of the respondent in the centralized group.

This study tests these differences using Kruskal Wallis 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 results of (Mah'd *et al.*, 2013).

This study explains that PJUs differs in devolving the budget decision to the lowest level of management. This research sheds light on the importance of budget participation for managerial performance where a clear distinction has been made between universities which employ decentralize budget and those which use centralized one.

Different streams should be researched in future studies including the relationship between contingency variables (environmental uncertainty, organizational 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. It is believed that Future research should provide more evidence regarding the role of budget participation and adopting decentralized budget.

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### References

- Broadbent, J. (2007). "If You Can't Measure It, How Can You Manage It? Management and Governance in Higher Educational Institutions." *Public Money and Management* 27(3): 193-198.
- Brownell, P. and M. McInnes (1986). "Budgetary Participation, Motivation, and Managerial Performance." *The Accounting Review* 61(4): 587-612.
- Chenhall, R. and P. Brownell (1988). "The Effect of Participative Budgeting on Job Satisfaction and Performance: Role Ambiguity as an Intervening Variable" *Accounting, Organisations and Society* 13(3): 225-233.
- Chong, V. and K. Chong (2002). "Budget Goal Commitment and Informational Effects of Budget Participation on Performance: A Structural Equation Modelling Approach." *Behavioural Research in Accounting* 14: 65-86.
- Covaleski, M. and M. Dirsmith (1988). "An Institutional Perspective on the Rise, Social Transformation, and Fall of a University Budget Category." *Administrative Science Quarterly* 33(4): 562-587.
- Covaleski, M., Evans, H. John, J. Luft and M. Shields (2003). "Budgeting Research: Three Theoretical Perspectives and Criteria for Selective Integration." *Journal of Management Accounting Research* 15: 3-49.
- Drury, C. (2012). *Management and Cost Accounting*. London, Thomson Learning, Business Press.
- Dunk, A. and H. Nouri (1998). "Antecedents of Budgetary Slack: A Literature Review and Synthesis." *Journal of Accounting Literature* 17: 72-96.
- Edwards, P., M. Ezzamel, M. McLean and K. Robson (2000). "Budgeting and Strategy in Schools: The Elusive Link." *Financial Accountability and Management* 16(4): 309-334.
- Ezzamel, M. (1990). "The Impact of Environmental Uncertainty, Managerial Autonomy and Size on Budget Characteristics." *Management Accounting Research* 1(3): 181-197.
- Field, A. (2009). *Discovering Statistics Using SPSS*. London, SAGE.
- Fisher, J., J. Frederickson and S. A. Peffer (2000). "Budgeting: An Experimental Investigation of the Effects of Negotiation." *The Accounting Review* 75(1): 93-114.
- Fisher, J., J. Frederickson, and S. A. Peffer (2006). "Budget Negotiations in Multi-Period Settings." *Accounting, Organisations and Society* 31(6): 511-529.
- Garrison, R. H. and E. W. Noreen (2012). *Managerial Accounting*. New York, McGraw-Hill/Irwin.

- Haldma, T. and K. Lääts (2002). "Contingencies Influencing the Management Accounting Practices of Estonian Manufacturing Companies." *Management Accounting Research* 13(4): 379-400.
- Hartmann, F. and F. Moers (1999). "Testing Contingency Hypotheses in Budgetary Research: An Evaluation of the Use of Moderated Regression Analysis." *Accounting, Organisations and Society* 24(4): 291-315.
- Hindi, L. (2008). Hashemite Kingdom of Jordan Leads MENA in Education Reform. *Jordan Times*. Amman, Jordan, World Bank.
- Ho, W., H. Higson and P. Dey (2006). "Multiple Criteria Decision Making Techniques in Higher Education." *International Journal of Educational Management* 20(5): 319 - 337.
- Hopwood, A. (1972). "An Empirical Study of the Role of Accounting Data in Performance Evaluation." *Journal of Accounting Research* 10: 156-182.
- Hopwood, A. (1974). "Leadership Climate and the Use of Accounting Data in Performance Evaluation." *The Accounting Review* 49(3): 485-493.
- The Impact of Budgetary Participation on Managerial Performance Organisational Performance" *International Business Review* 13(4): 485-502.
- Horngren, C., Foster, S. Datar, M. Rajan, and C. Ittner (2009). *Cost Accounting: A Managerial Emphasis: International Version*. New York, Pearson Higher Education.
- Kenis, I. (1979). "Effects of Budgetary Goal Characteristics on Managerial Attitudes and Performance." *The Accounting Review* 54(4): 707-721.
- Kren, L. (1992). "Budgetary Participation and Managerial Performance: The Impact of Information and Environmental Volatility." *The Accounting Review* 67(3): 511-526.
- Lau, C. and E. Lim (2002). "The Effects of Procedural Justice and Evaluative Styles on the Relationship between Budgetary Participation and Performance." *Advances in Accounting* 19: 139-160.
- Lillis, D. (2006). "The Systematic Evaluation of a Strategic Management Program in an Irish Institute of Technology." *Tertiary Education and Management* 12(3): 241-256.
- Luft, J. and M. D. Shields (2003). "Mapping Management Accounting: Graphics and Guidelines for Theory-Consistent Empirical Research." *Accounting, Organisations and Society* 28(2-3): 169-249.
- Magner, N., M. Rahman, and R. Welker (1996). "The Interactive Effect of Outcome Favourability and Procedural Justice in Work Resource Allocation on Work Performance." *Journal of Applied Social Psychology* 26(9): 825-842.
- Mahoney, T., T. Jerdee and S. Carroll (1965). "The Jobs of Management." *Industrial Relations* 4: 97-110.
- Mah'd, O., Alkhadash, H., Ramadan, A. and Idrees M (2013) "The Impact of Budgetary Participation on Managerial Performance: Evidence from Jordanian University Executives", *Journal of Applied Finance & Banking*, vol. 3, no. 3, pp. 133-156 ISSN: 1792-6580 Scienpress Ltd.
- McChlery, S., J. McKendrick and T. Rolfe (2007). "Activity-Based Management Systems in Higher Education." *Public Money and Management* 2(5): 315-322.
- Merchant, K. and J. Manzoni (1989). "The Achievability of Budget Targets in Profit Centres: A Field Study." *The Accounting Review* 64(3): 539-558.
- Merchant, K., W. Van der Stede and L. Zheng (2003). "Disciplinary Constraints on the Advancement of Knowledge: the Case of Organisational Incentive Systems." *Accounting, Organisations and Society* 28(2-3): 251-286.
- Merchant, K. and W. Van der Stede (2007). *Management Control System: Performance Measurement, Evaluation and Incentives*. Essex, Pearson Education Limited.
- Mia, L. (1989). "The Impact of Participation in Budgeting and Job Difficulty on Managerial Performance and Work Motivation: A Research Note." *Accounting, Organisations and Society* 14(4): 347-357.
- Milani, K. (1975). "The Relationship of Participation in Budget-Setting to Industrial Supervisor Performance and Attitudes-A Field Study." *The Accounting Review* 50(2): 274-288.

- Moll, J. (2003). Organisational Change and Accounting Control Systems at an Australian University; A Longitudinal Case Study. Unpublished PhD Thesis, School of Accounting and Finance. Griffith, Griffith University.
- Moll, J., J. Burns and M. Major (2006). Institutional Theory. In Z. Hoque (ed.), *Methodological Issues in Accounting Research: Theories, Methods and Issues*: pp (183-207). London, Spiramus.
- Nouri, H. and L. Kyj (2008). "The Effect of Performance Feedback on Prior Budgetary Participative Research Using Survey Methodology: An Empirical Study." *Critical Perspectives on Accounting* 19(8): 1431-1453.
- Nouri, H. and R. Parker (1998). "The Relationship between Budget Participation and Job Performance: The Roles of Budget Adequacy and Organisational Commitment." *Accounting, Organisations and Society* 23(5-6): 467-483.
- Otley, D. (1978). "Budget Use and Managerial Performance." *Journal of Accounting Research* 16(1): 122-149.
- Otley, D. (1980). "The Contingency Theory of Management Accounting: Achievement and Prognosis." *Accounting, Organisations and Society* 5(4): 413-428.
- Parker, R. and L. Kyj (2006). "Vertical Information Sharing in the Budgeting Process." *Accounting, Organisations and Society* 31(1): 27-45.
- Shields, J. and M. Shields (1998). "Antecedents of Participative Budgeting." *Accounting, Organisations and Society* 23(1): 49-76.
- Shields, M., F. Deng, and Y. Kata. (2000). "The Design and Effects of Control Systems: Tests of Direct- and Indirect-Effects Models." *Accounting, Organisations and Society* 25: 185-202.
- Stedry, A. C. (1960). *Budget Control and Cost Behaviour*. New Jersey, Englewood Cliffs, Prentice-Hall.
- Thys-Clement, F. and L. Wilkin (1998). "Strategic Management and Universities: Outcomes of a European Survey." *Higher Education Management* 10(1): 13-28.