

PERCEPTIONS OF GOVERNMENT EMPLOYEES ABOUT THE INTRODUCTION OF ACCRUAL-BASED ACCOUNTING INTO THE JORDANIAN PUBLIC SECTOR

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ABSTRACT

The purpose of this study is to examine the implementation of accrual-based accounting into the Jordanian public sector. The focus of interest is to test a number of hypotheses about the perceptions of government employees toward the implementation of accrual-based accounting in the Jordanian public sector. The views of accountants and finance officers working in the health and education departments, which have been attempting to employ accrual-based accounting since the introduction of Program and Performance Budgeting (PPB) in 1996, are compared with those of accountants and finance officers working at departments which do not, for the purpose of determining whether there are any significant differences in the perceptions of the two groups regarding the feasibility of adopting accrual-based accounting into the Jordanian public sector. A survey questionnaire was distributed to a representative sample of 611 government accountants and finance officers who work within different Jordanian public sector departments. The findings have revealed a support in principle for the introduction of accrual-based accounting. However, technical difficulties (i.e. assets valuation) were associated with its implementation, which may have prevented the government from achieving the intended outcomes of the reform. Different opinions have emerged between the users and non-users sample groups as to the implementation of accrual-based accounting into the Jordanian public sector. Regardless of the preference amongst the majority of respondents from both groups for using accrual-based accounting, the debate seems to continue over the implementation of accrual accounting into public sector.

Key words: Jordanian public sector, Accrual-based accounting, Health and Education.

1. Introduction and Background

This paper is an exploratory study of the Jordanian government transition from cash- to accrual-based accounting within the public sector. It examines the particularities of this transition and the advantages and disadvantages associated with it. The investigation undertaken in this paper seeks to contribute to the debate on how accounting innovations may promote financial accountability and enhance the decision making process in public sector entities [12].

Researchers have often studied changes and reforms in governmental accounting systems in developed countries. However, their findings may have been implicitly over-generalised. To the best of the researcher's knowledge, there have not been any studies about the views of accounting officers in Jordan or the Middle East, which is put forth the rationale for undergoing this research.

The main objective of the previous central government accounting system was to control cash spending in accordance with parliamentary limits customarily set by the budget. The Jordanian government observes the accounting concept known as the Net Debt Concept of which the key financial reporting objective is to report the net debt (or net liabilities) that must be met out of future revenues [20:section 2]. Under this concept, only the assets (known as financial assets) which can provide cash for debt repayment or for future operations are recorded to offset the liabilities the government must eventually pay.

Nevertheless, non-financial assets (e.g. physical assets, prepaid expenses and deferred charges), which cannot generate or be converted into cash, are not capitalised or set up on the balance sheet but are fully charged to the deficit when acquired [15, p. 54]. Consequently, the government does not differentiate between current operating expenditure and capital expenditure in determining annual programme costs or the annual deficit. There is an up-front charge to programme spending in the year that a capital asset is acquired but no charge in subsequent years when the asset is consumed or used to produce economic or service benefits.

Furthermore, current accounting policies do not distinguish between

capital and operating leases. Costs related to both types are accounted for as rental payments are made, but neither assets nor liabilities are recognised in the books [20].

Jordanian governmental accounting is entirely cash-based and since Jordan has started to apply Performance and Programme Budgeting (PPB) in 1995, it has become imperative that it makes an expedient transition to accrual-based accounting, which is able to present a comprehensive picture of the government financial position through the revelation of the cost of the all government activities [5].

There has been a general progression towards improved accountability over the provision of government programmes. A key component of this process is the presentation of the costs incurred in the provision of government products and services so that costs can be related to outputs, which is especially important where the government charges for these products and services.

Like many governments around the world, the Jordanian government attempts to provide its citizens with the best services, which may sometimes be offset by the limited resources available. It has announced plans to extend private sector accrual-based accounting to the public sector. At the end of 1996, the Jordanian government initiated accrual-based accounting in the Health and Education ministries as a pilot experiment to be spread to other public sector departments if successful.

2. Previous Research

Accounting practices in the public sector of many western capitalist countries have undergone radical changes in the last twenty years as part of a process labelled by Olson et al [15, p. 10] as the 'New Public Financial Management'. The process has typically included the separation of the planning, purchasing and provision of public services and the adoption of accrual-based accounting methods to replace or supplement traditional cash-based accounting. New Zealand [18] and Australia [6] are leading nations in these reforms. International accounting standards have been developed as highly supportive of these changes in financial reporting processes [8, p.24] In the UK, the introduction of Resource Accounting and

Budgeting has been well implemented [13]. Relatively little research has been published on the adoption of these types of reforms outside North America, Europe and Australia.

In the United States of America, Patton [19] used a survey questionnaire to examine municipal officers' views toward the introduction of depreciation accounting as an expense in municipal fund accounting reports. Forty-nine percent of his respondents were opposed to the introduction of depreciation accounting. Without mentioning the portion of finance officers who were favoured depreciation accounting or the reasons behind those who opposed it, he concluded that these officers did not generally perceive depreciation accounting as superior to cash flow accounting within current municipal financial reporting practices.

Cheng [2] used a survey questionnaire to identify accountant's perceptions toward the introduction of depreciation accounting in small municipalities in North Carolina. His respondents opposed depreciation accounting and preferred to continue using cash flow accounting, probably because of their poor qualifications and their little experience with the system.

Engstrom [4] reported that 60.5% of his respondents supported the inclusion of depreciation charges as part of budgeted total departmental cost, while 46% supported the inclusion of depreciation charges in the existing and new department programmes to provide the full cost of these programmes. He also found that 14.7% favoured the disclosure of depreciation accounting.

In a survey of British finance officers working in Health Authorities (henceforth, HAs), Lapsley [10] found evidence that accountants opposed both cash flow accounting and depreciation accounting but favoured the status quo income and expenditure accounting in the National Health Services (henceforth, NHS). He attributed their opposition to practical problems that exist in the identification of assets, the estimation of the cost and useful life of assets.

Furthermore, Lapsley [12] examined finance officers' perceptions about the implementation of depreciation accounting into their units. He found

that local authorities (henceforth, LAs) officers favoured cash-based accounting for capital expenditure, the status quo in most LAs. On the other hand, he found that HAs officers favoured depreciation accounting rather than the status quo modified accrual accounting regardless of the difficulties associated with the implementation of depreciation accounting (i.e. the difficulty to identify the assets held, determine their useful lives and obtain the necessary manpower).

Jones and Puglisi [9] examined the underlying key rationale for the issuance of Australian Accounting Standard (AAS 29) and found that accrual-based financial reports are relevant to the economic decision-making of Australian government departments (henceforth, GDs) and their external users. The majority of their respondents were found to oppose the issuance of AAS 29. However, they reported that the GDs which employ full or modified accrual-based accounting rated the potential relevance of accrual accounting information to internal decision making more highly than GDs which employ cash-based accounting.

Hijazi [7] used a survey questionnaire to examine the feasibility of implementing accrual-based accounting in Jordanian public sector units. His findings suggested that the implementation of accrual-based accounting may face many difficulties including those relating to the (1) resistance to change amongst government employees, (2) identification of the huge assets held by government ministries and departments, and (3) revaluing those assets that do not have market prices to rely on. He suggested that the government try to cautiously pilot the new system prior to spreading it out to the whole public sector.

3. Research Hypotheses

It has been suggested that accountants and finance officers working in public sector departments that already employ accrual-based accounting will be less opposed to its implementation [9; 12]. Similarly, Jones and Puglisi [9] suggested that senior representatives of GDs, which already employ accrual-based accounting, rated its relevance for providing information for internal decision making more highly than GDs which employ cash-based accounting. This raises the likelihood that accountants and finance officers

working in departments that already have an accrual-based accounting system (i.e. Health and Education) would prefer to continue using it. Therefore, the first two hypotheses are:

H1: Accountants and finance officers working in ministries and departments other than those of Health and Education are less likely to prefer accrual-based accounting in their departments.

H2: There are differences between the perceptions of accountants and finance officers working in units that already employ accrual-based accounting and those who are not regarding the reasons for choosing accrual-based accounting.

Lapsely [12] reported that the most dominant factor in determining the preference of finance officers was the ease of implementing depreciation accounting due to the difficulties envisaged (identification of assets held, the determination of the cost and useful life of assets). Pallot [17] further suggested that problems face identifying and measuring public sector assets at market value, particularly infrastructure and heritage assets. This leads to the following two hypotheses:

H3: There are differences between the perceptions of accountants and finance officers working in units that already employ accrual-based accounting and those who are not regarding the feasibility of implementing accrual-based accounting.

H4: Accountants and finance officers working within government entities which already employ accrual-based accounting perceive fewer difficulties with the new system than those who are working in government entities which employ cash-based accounting.

One of the motives for the Jordanian government's initiative to introduce accrual-based accounting into its ministries and departments might therefore have been to enhance accountability and the relevance of information produced in regards to programming, appraisal of performance and comparing outputs among departments. This leads to the fifth hypothesis:

H5: Accountants and finance officers working within governments'

entities which already employ accrual-based accounting are more likely to perceive the usefulness of the new system in providing relevant financial information to decision-makers than those who are working in government entities which employ cash-based accounting.

4. Research Methodology, Sample, and Instrumentation

This research relies mainly upon hypothesis testing by logical empiricism, a positivist approach. Survey methodology is adopted for the purpose of assessing accountants' and finance officers' opinions about the introduction of accrual-based accounting quantitatively. Chan et al. [1, p. 11] claims that

"a greater amount of research attention has been paid to the contextual variables than to behaviour variables. Innovations are made by people. As such, their attitudes and behaviour do matter".

The population of the study consisted of all government employees of 52 centralised Jordanian ministries and public departments whose budgets are included in the General Budget Law and which implement the fiscal general By-Law No. (3) of 1994 [20]. A convenience sample of 24 was chosen from the 52 centralised ministries and departments, because they were more accessible to the researchers through their work at the time the survey was conducted.

A summary of respondents' characteristics is presented in Table 1 below, which presents both the total population and the two subgroups of the sample (respondents working within units already employ accrual-based accounting and those from the departments do not).

TABLE (1) DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

	Health & Education (n=87)		Other Departments (n=524)		Total (n=611)	
	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)
Job title:						
Director /Deputy Director	2	(2)	20	(4)	22	(3.6)
Chairperson	19	(22)	200	(39)	219	(36)
Auditor	24	(28)	135	(26)	159	(26)
Accountant	42	(48)	169	(32)	211	(35)
Experience:						
Less than 5 years	8	(9)	74	(14)	82	(13)
5-Less than 10 years	39	(45)	165	(32)	204	(33)
10-Less than 15 years	24	(28)	153	(29)	177	(29)
15- Less than 20 years	8	(9)	75	(14)	83	(14)
More than 20 years	8	(9)	57	(11)	65	(11)
Age:						
Less than 25 years	4	(4)	51	(10)	55	(9)
25-Less than 40 years	64	(74)	316	(60)	380	(62)
40 and more	19	(22)	157	(30)	176	(29)
Education:						
Post graduate	13	(15)	83	(16)	96	(16)
Under graduate	28	(32)	178	(34)	206	(34)
Two year college	30	(35)	186	(35)	216	(35)
High school	16	(18)	77	(15)	93	(15)
Background:						
Business studies	49	(56)	295	(56)	344	(56)
Law	5	(6)	26	(5)	31	(5)
Social Sciences	21	(24)	146	(28)	167	(27)
Other	12	(14)	57	(11)	69	(12)

The researchers have resorted to the drop-and-collect method. They contacted the directors of the accounting units in the ministries and departments in the sample to obtain permission to implement the field study. Upon visiting each unit, They would ask to meet the director and ask for help in distributing the questionnaire after introducing himself, the research and its objectives. The researchers or one of four volunteer researchers¹ was to drop the survey at the office of each director who would personally distribute the survey to the accounting and finance officers at his unit. A drop box was placed outside each director's office for the employees to drop the filled questionnaire, which may have helped ensure the respondents' privacy and avoid any possible bias.

The questionnaire was developed and modified to suit the Jordanian situation with the assistance of personnel from different public agencies and academic institutions. Three Jordanian professors reviewed the questionnaire prior to piloting it on a sample from the ministries of Education and Labour. According to some of the observations obtained from the academic staff and piloted sample, some modifications were made to the questionnaire. The final version of the questionnaire² consisted of three parts seeking both factual and attitudinal data of the possibility of introducing accrual-based accounting to the Jordanian public sector and an assessment of the employees' perceptions of this process of change. It provides data about:

- 1- the demographical characteristics of the respondents including level of formal education, degree, major, length of work experience, and age.
- 2- the respondents' preferences concerning the basis of accounting for recording government transactions and the reasons for their choice. This part was based (with minor modifications based on the jury's suggestions) on Lapsley's [11] survey questionnaire on capital asset accounting in UK non-trading organisations.
- 3- the respondents' opinions regarding the implementation of accrual-based accounting in the Jordanian public sector and the difficulties facing this implementation. This part was based on a set of questions from [11] and Government Department Accrual

Accounting Questionnaire (GDAAQ) [9].

- 4- the respondents' opinions as to whether or not it is possible to accurately evaluate governmental fixed assets. This part was designed based on Lapsely [12] taking all fixed assets as a whole instead of dividing them into categories such as land and buildings.
- 5- the respondents' perceptions regarding the usefulness of accrual-based accounting in providing adequate financial information for decision-making. This part was based on GDAAQ [9].

The questionnaire in this study included two question format: (1) two-answer questions such as 'feasible' or 'not feasible' and (2) follow-up questions in which the respondents were instructed to show the extent of their agreement or disagreement on a five-point Likert scale ranging from 5 for 'strongly agree' to 1 for 'strongly disagree'.

The questionnaire went through a careful process to assure validity prior to distribution. The attitude statements were identified and constructed with care to ensure that they were correctly interpreted by subjects since the interpretation of the results would depend on the correct interpretation of the statements. To minimise ambiguity, most attitudinal statements in the questionnaire were adapted from previous research where they have been vigorously tested.

The predictive validity was checked through calculating the correlation coefficient between the feasibility of implementing accrual and the summated scale of the difficulties of implementation. The resulting coefficient was 0.71 with a significant level at 0.01 confirming the predictive validity correspondence between the two variables.

Internal consistency is assessed through Cronbach alpha which is based on the average correlation of items within a test if the items are standardized [3, p. 33]. The Cronbach alpha values for Preference of Cash Basis was found to be 0.723, for Preference of Accrual Basis was found to be 0.706, and for Implementation Problems 0.811. All the values exceed the minimum requirements, thereby demonstrating that all scales are internally consistent and have acceptable reliability values in their original form.

5. Data Collection

A total of 650 copies of the survey questionnaires were distributed. At the time of distribution, the questionnaires were numbered and a record of these numbers was kept to enable the researchers to count the number of questionnaires filled by each unit for comparative purposes. The data collection process lasted for four weeks starting at the beginning of April 2003. Out of the 650 distributed questionnaires, 620 were returned. However, nine of these were disregarded because they were either incomplete or unclear making the usable responses 611 (94%).

In this study, 60% of the completed responses were received within the first two weeks, 25% in the third week and 15 % in the last week. A T-Test was used to compare the means of the first 50 responses received in the first week with the last 50 responses received in the final week. The data suggest that there are no significant differences between the two groups of respondents.

The respondents' answers to the question regarding the problems involved in implementing accrual-based accounting did not significantly differ between the two groups. For example, differences in the mean response to the question on 'the problem of valuation of the fixed assets held by government unit had a t value of 0.69 (df = 49; p = 0.534). As to the usefulness of accrual-based accounting, 'the adoption of accrual accounting would foster the ability to compare outputs among departments' did not significantly differ between the two groups (t = 0.610; df = 49; p = 0.475). Since the results indicated that there is no significant difference between the responses of the early respondents and the late respondents (proxies for non-respondents), it is inferred that non-response bias is not a problem with the sample selected in this part of the research.

The statistical data analysis techniques used in this study are frequency analysis, reliability analysis and analysis of variance (ANOVA).

6. Findings

The respondents were asked to indicate whether they would prefer to use cash- or accrual-based accounting. They were provided with definitions

of the two bases. The results are presented in Table 2.

Table (2) Preference As To Using The Cash- Or Accrual- Accounting Basis

Department	Health & Education (n=87)		Other Departments (n=524)		Total Sample (n=611)	
	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)
Cash-based Accounting	15	(17)	180	(34.4)	195	(32)
Accrual Accounting	72	(83)	344	(65.6)	416	(68)
Total	87	(100)	524	(100)	611	(100)

Table 2 shows the respondents' choice of preference between the two bases of accounting. Thirty-two percent of the respondents showed preference to use cash-based accounting as opposed to a much larger 68% who showed a preference for the use of accrual-based accounting. A Chi-square test measuring the respondents' preferences was also performed (see Table 9).

A comparison between the respondents from health and education departments (who already employ accrual-based accounting) and those from the other departments (who do not) reveals a number of interesting points. An 83% majority from the sample units that employ accrual-based accounting indicated a preference for accrual-based accounting (the experimental status quo in health and education ministries) to cash-based accounting. This may suggest that respondents in health and education have a stronger preference for accrual-based accounting because of their familiarity with the system. Accrual-based accounting has been running for some time in their departments, and they have gained more experience with it than accountants in the departments in which the system is not yet in effect.

To obtain more feedback from the respondents about the reasons for their choice of preference between the two accounting bases, these respondents were asked to indicate the extent of their support for a number of statements. This part of the questionnaire include questions to be rated on a five point Likert scale whereby the respondents were expected to give their opinions in terms of strongly agreeing (SA), agreeing (A), being

undecided (U), disagreeing (D) and strongly disagreeing (SD), as shown in table 3 below.

TABLE (3) REASONS FOR CHOOSING CASH-BASED ACCOUNTING SYSTEM

Reason	Health & Education (n=15)					Other Departments (n=180)					Total (n=195)				
	SA	A	U	D	SD	SA	A	U	D	SD	SA	A	U	D	SD
1. Easy to use. (%) Of Respondents Mean Standard Deviation	3 (20)	2 (13)	0 (0)	5 (40)	4 (27)	17 (10)	40 (22)	9 (5)	62 (34)	52 (29)	20 (10)	42 (21)	9 (5)	68 (35)	56 (29)
	2.6 1.55					2.49 1.36					2.50 1.37				
2. It provides a good control system over government spending. (%) Of Respondents Mean Standard Deviation	2 (13)	6 (40)	1 (7)	5 (33)	1 (7)	50 (28)	73 (40)	17 (10)	35 (19)	5 (3)	52 (27)	79 (40)	18 (9)	40 (21)	6 (3)
	3.2 1.26					3.7 1.15					3.67 1.16				
3. Preparing the general budget is easier using cash-based accounting. (%) Of Respondents Mean Standard Deviation	1 (7)	6 (40)	1 (7)	5 (33)	2 (13)	26 (14)	57 (32)	12 (7)	51 (28)	34 (18)	27 (14)	63 (32)	13 (7)	56 (29)	36 (18)
	2.9 1.28					2.9 1.4					2.94 1.38				
4. Receipts and payments are finalised using this system. (%) Of Respondents Mean Standard Deviation	5 (33)	5 (33)	0 (0)	3 (20)	2 (14)	51 (29)	81 (45)	9 (5)	31 (17)	8 (4)	56 (29)	86 (44)	9 (5)	34 (17)	10 (5)
	3.5 1.50					3.75 1.17					3.74 1.20				
5. I have a long experience using this system. (%) Of Respondents Mean Standard Deviation	3 (20)	3 (20)	1 (7)	6 (40)	2 (13)	25 (14)	54 (30)	12 (7)	43 (24)	46 (25)	28 (14)	57 (29)	13 (7)	49 (25)	48 (25)
	2.9 1.43					2.82 1.44					2.84 1.44				

The findings revealed that the respondents who prefer to continue using cash-based accounting (15 in Health and Education and 180 in other departments out of the 611) in recording government transactions have justified their choice. The items "receipts and payments are finalised using this system" and "it provides a good control system over government spending" were rated the highest with means value of 3.74 and 3.67 respectively. This further indicates that the ability of cash-based accounting to control government transactions and the finalising of revenues and expenditures were the major reasons for the respondents' preference. On the other hand, the respondents were found to lack a strong opinion regarding the other three related reasons "it is easy to use" (2.50), "preparing the

general budget is easier using cash-based accounting" (2.94), and "I have a long experience using this system" (2.84).

Table 3 also shows that accountants and finance officers in health and education departments who favoured cash-based accounting identified the following reasons for their choice of preference: "receipts and payments are finalised using this system" and "it provides a good control system over government spending" were moderately rated with mean values of 3.5 and 3.2 respectively (standard deviations 1.50 and 1.26). On the other hand, the respondents were found to lack a strong opinion regarding the other three related reasons: "it is easy to use" (means 2.6 with standard deviations of 1.55), "I have a long experience using this system" (means 2.9 with standard deviations of 1.43) and "preparing the General Budget is easier using cash-based accounting" (mean 2.9 with standard deviations of 1.28).

The accountants and finance officers working in other departments had a more conclusive position on the first two reasons with mean values of 3.75 and 3.7 (with standard deviations of 1.17 and 1.5 respectively). In addition, they were also found to lack a strong opinion regarding the other three reasons with mean scores 2.4, 2.9 and 2.8 respectively. This may be understood in terms of the respondents' belief that the ability of cash-based accounting to control government transactions and its ability to finalise government receipts and payments are, to some extent, the major reasons for their choice to use cash-based accounting.

On the other hand, respondents who prefer using accrual-based accounting in both groups (72 in Health and Education and 344 in other departments out of the 611) indicated the major reasons for their choice as shown in Table 4 below.

TABLE (4) REASONS FOR CHOOSING ACCRUAL-BASED ACCOUNTING SYSTEM

Reason	Health & Education (n=72)					Other Departments (n=344)					Total (n=416)				
	SA	A	U	D	SD	SA	A	U	D	SD	SA	A	U	D	SD
1. It provides enough financial information to present accurate financial position of the government. (%) Of Respondents Mean Standard Deviation	18 (25)	36 (50)	2 (3)	1 (15)	5 (7)	109 (32)	142 (41)	15 (4)	32 (9)	46 (14)	127 (31)	178 (43)	17 (4)	43 (10)	51 (12)
2. It provides enough financial information to prepare the General Budget. (%) Of Respondents Mean Standard Deviation	14 (20)	37 (51)	4 (6)	6 (8)	11 (15)	24 (7)	88 (26)	25 (7)	109 (32)	98 (28)	38 (9)	125 (30)	29 (7)	115 (28)	109 (26)
3. It provides enough financial data for future planning. (%) Of Respondents Mean Standard Deviation	16 (22)	32 (44)	5 (7)	15 (21)	4 (6)	31 (9)	87 (25)	21 (6)	112 (33)	93 (27)	47 (11)	119 (29)	26 (6)	127 (31)	97 (23)
4. It provides enough financial information to facilitate the control process. (%) Of Respondents Mean Standard Deviation	21 (29)	30 (42)	7 (9)	10 (14)	4 (6)	84 (24)	112 (33)	18 (5)	81 (24)	49 (14)	105 (25)	142 (34)	25 (6)	91 (22)	53 (13)
5. It facilitates the follow up of the cost of long-term projects. (%) Of Respondents Mean Standard Deviation	18 (25)	31 (43)	7 (9)	14 (20)	2 (3)	92 (27)	129 (37)	25 (7)	72 (2)	26 (8)	110 (26)	160 (38)	32 (8)	86 (21)	28 (7)

Respondents from the total sample rated item "It provides enough financial information to present accurate financial position of the government" the highest with a mean of 3.7 and over 74% the respondents strongly agreeing and agreeing that this was the reason for their choice of preference of accrual-based accounting. Respondents also ranked highly the following two reasons "It facilitates the follow up to the cost of long-term projects" and "It provides enough financial information to facilitate the control process" with means of 3.6 and 3.4 respectively.

With regards to the users and non-users groups, there is a considerable support for accrual-based accounting in both groups. However, accountants in health and education departments were found to have a stronger opinion

as to the reasons for preferring accrual-based accounting. They were a little more positive in their views that accrual-based accounting 'provides enough financial information to facilitate the control process' (with a mean value of 3.8), and 'provides enough financial information to present accurate financial position of the government' (with a mean value of 3.7). They were relatively undecided as to whether accrual-based accounting will 'facilitates the follow up to the cost of long term projects' and 'provides enough financial information to prepare the General Budget'. The means were 2.7 and 3.5, respectively.

With regard to the perceptions of accountants working in departments other than health and education, these accountants held the same view as the respondents in health and education with regard to the first reason 'it provides enough financial information to present accurate financial position of the government' (with a mean value of 3.7). However, they were found to lack a strong opinion regarding the other three reasons for preferring accrual-based accounting with mean values of 2.5, 2.6 and 3.3 respectively.

A Kruskal Wallis as a non-parametric test was performed to test if there were any differences between the views of the respondents according to their work categories regarding their choice of preference amongst the two accounting bases. No significant differences were found ($P = 0.496$).

Given the above, the majority of respondents preferred using accrual-based accounting for recording governments' transactions claiming that it provides enough financial information to present the accurate financial position as well as to facilitate the financial control process.

The respondents were asked for their opinions regarding the feasibility of implementing accrual-based accounting in recording government revenues and expenditures. The results are shown in Table 5 below.

TABLE (5) RESPONSES REGARDING THE FEASIBILITY OF IMPLEMENTING ACCRUAL-BASED ACCOUNTING

Department	Health & Education (n=87)		Other Departments (n=524)		Total Sample (n=611)	
	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)
Options						
Cash-based Accounting	40	(46)	153	(29.2)	193	(31.6)
Accrual Accounting	47	(54)	371	(70.8)	418	(68.4)
Total	87	(100)	524	(100)	611	(100)

Table 5 reveals that 31.6% (193 out of 611) of the respondents believed it is feasible to implement accrual-based accounting. On the other hand, 68.4% (418 out of 611) of the respondents indicated that it is not feasible to implement accrual-based accounting in recording government revenues and expenditures. However, it is interesting to note that while a little over 70% of the respondents in other departments expressed little support to the feasibility of implementing accrual-based accounting, only 54% of respondents from health and education departments held the same view. This may suggest that respondents working within departments which already employ accrual-based accounting have gained some experience in using the system and, thus, would not show a wholesale rejection of the feasibility of implementing it. A Kruskal Wallis as a non-parametric test was performed to test if there were any differences between the views of the respondents according to their work categories regarding the feasibility of implementing accrual based accounting. No significant differences were found ($P = 0.153$).

Mellett [14, p.159] states that 'accruals accounting involve two main areas of change relative to cash-based accounts'. One is 'operating a system of depreciation accounting'. This means that the accounts include the depreciated value of the stock of capital assets and a charge for their use during their useful lives. The valuation of such capital assets causes a problem as to which valuation basis (i.e., historical or current replacement cost) to be used. In order to examine their perceptions of whether assets can be accurately valued for the purpose of implementing accrual-based

accounting, the respondents were asked to indicate whether or not it is possible to accurately value fixed assets held by government units. The results are shown in Table 6 below. 49% (298 out of 611) of the respondents indicated that it is possible to accurately value government fixed assets while 51% (313 out of 611) maintained that it is not possible to do so.

It is worth noting that 60% of the respondents in health and education believed it is possible to value government fixed assets while only 47% in the other departments believed so. Again, this may be taken to suggest that respondents working in health and education departments perceived fewer difficulties in the valuation process, as 60% hold the view that it is possible to value fixed assets held by governments units.

Table 6 below summarizes the respondents' views as to the possibility of accurate valuation of government fixed assets.

TABLE (6) RESPONSES TO THE POSSIBILITY OF ACCURATE VALUATION OF THE GOVERNMENTS' FIXED ASSETS

Department	Health & Education (n=87)		Other Departments (n=524)		Total Sample (n=611)	
	<i>n</i>	(%)	<i>n</i>	(%)	<i>n</i>	(%)
Cash-based Accounting	52	(60)	256	(47)	289	(46)
Accrual Accounting	35	(40)	278	(53)	313	(51)
Total	87	(100)	524	(100)	611	(100)

Table 5 above shows that the majority of the respondents (70.8%), especially the ones who work in departments other than health and education, hold the view that it is not feasible to implement accrual-based accounting, because of the difficulties which are bound to face its implementation. The focus here is to examine the perceptions of the respondents about the problems which hamper the implementation of accrual-based accounting to the Jordanian governmental accounting system and to examine if government employees are aware of these potential difficulties.

The respondents who believed it is not feasible (418 out of the 611) to implement accrual-based accounting were further instructed to indicate the extent of agreement to which they would anticipate problems in the various aspects of implementation of accrual-based accounting. The results are shown in Table 7 below.

TABLE (7) TECHNICAL IMPLEMENTATION PROBLEMS

Difficulty	Health & Education (n=47)					Other Departments (n=371)					Total Sample (n=418)				
	SA	A	U	D	SD	SA	A	U	D	SD	SA	A	U	D	SD
1. It is difficult to measure and determine revenue and expense accurately. (%) Of Respondents Mean Standard Deviation	11 (23)	24 (51)	5 (11)	7 (15)	0 (0)	94 (25)	180 (49)	27 (7)	51 (14)	19 (5)	105 (25)	204 (49)	32 (8)	58 (14)	19 (4)
			3.8 0.96					3.7 1.13					3.8 1.11		
2. It is difficult to value fixed assets held by government units with the absence of market prices. (%) Of Respondents Mean Standard Deviation	19 (40)	17 (36)	6 (13)	5 (11)	0 (0)	165 (44)	144 (39)	18 (5)	36 (10)	8 (2)	184 (44)	161 (38)	24 (6)	41 (10)	8 (2)
			4.06 0.98					4.1 1.02					4.1 1.02		
3. There is not clear valuation policy for fixed assets. (%) Of Respondents Mean Standard Deviation	6 (13)	18 (38)	1 (2)	8 (17)	14 (30)	52 (14)	132 (36)	28 (7)	95 (26)	64 (17)	58 (14)	150 (36)	29 (7)	103 (24)	78 (19)
			2.87 1.51					3.03 1.36					3.02 1.38		
4. It is difficult to identify all fixed assets owned by government units. (%) Of Respondents Mean Standard Deviation	14 (30)	25 (53)	4 (8.5)	4 (8.5)	0 (0)	148 (40)	172 (46)	20 (6)	23 (6)	8 (2)	162 (39)	197 (47)	24 (6)	27 (6)	8 (2)
			4.04 1.40					4.15 0.93					4.14 0.93		
5. Additional resources, manpower and funding needed for assets evaluation are lacking. (%) Of Respondents Mean Standard Deviation	10 (21)	17 (36)	1 (2)	13 (28)	6 (13)	98 (26)	138 (37)	14 (4)	66 (18)	55 (15)	108 (26)	155 (37)	15 (4)	79 (19)	61 (14)
			3.25 1.40					3.4 1.42					3.41 1.42		

A part from some respondents' agreement to the possibility to valuing government fixed assets, the respondents from the total sample ranked the items "it is difficult to identify all fixed assets owned by all government units" and "it is difficult to value the fixed assets held by government units with the absence of market prices" as the major problems that face the implementation of accrual-based accounting. The means were 4.14 and 4.10 respectively with a little over 83% of the respondents strongly agreeing and agreeing that these

were the problems facing the implementation of accrual-based accounting into the Jordanian public sector units. The respondents also ranked the item "it is difficulty to measure and determine revenue and expense accurately" as the third serious problem facing the implementation of accrual-based accounting with a mean of 3.8. On the other hand, Table 7 also reveals that the respondents did not have strong opinions regarding the two related items: "additional resources, manpower and funding for assets evaluation process are lacking" (3.41), and "there is not clear valuation policy for fixed assets" (3.02) as potential problems of the implementation of accrual-based accounting within the Jordanian public sector.

In addition, respondents in both groups generally agreed that there would be a number of difficulties associated with the implementation of accrual-based accounting. 'The difficulty to value fixed assets held by government units with the absence of market prices' (4.06, 4.1) and 'difficulty to identify all fixed assets owned by government units' (4.04, 4.15) were rated as the major problems facing the implementation of accrual-based accounting. Thus, accountants and finance officers were aware of the valuation difficulties of fixed assets where market prices do not exist and different valuation bases are used to identify the value of these assets to be able to calculate their depreciation charges.

It is interesting to note that even the respondents who work in health and education departments (where accrual-based accounting is already employed) gave high ratings to these difficulties as problems that face the implementation of accrual-based accounting. This may suggest that despite the fact that the system has been running in their departments for some time, they are still faced with such difficulties. As indicated above, the respondents seemed aware of the problems facing the implementation of accrual-based accounting, especially 'asset valuation'. While the respondents in both groups agreed that there is a difficulty in measuring and determining revenues and expenses accurately (3.8, 3.7), the statements regarding the absence of a clear valuation policy and the lack of additional resources and manpower problems were rated less favourably (2.9, 3.2 and 3.03, 3.4 respectively). In short, it can be concluded that regardless of government employees' preference to use accrual-based accounting in the

Jordanian public sector, the survey results show that the implementation of accrual-based accounting in the Jordanian public sector have faced with a number of problems, the most serious of which is the valuation of government assets.

Accountants and finance officers' perceptions on the usefulness of accrual-based accounting for the decision-making process are reported in Table 8 below.

TABLE (8) THE RESPONDENTS PERCEPTIONS' REGARDING THE USEFULNESS OF ACCRUAL FINANCIAL INFORMATION FOR DECISION-MAKING PURPOSES.

Item	Health & Education (n=87)					Other Departments (n=524)					Total Sample (n=611)				
	SA	A	U	D	SD	SA	A	U	D	SD	SA	A	U	D	SD
1. Financial statements produced from accrual-based accounting disclose enough information for analysis. (%) Of Respondents Mean Standard Deviation	51 (10)	97 (38)	98 (19)	133 (25)	45 (8)	23 (4)	112 (22)	85 (16)	206 (39)	98 (19)	76 (12)	240 (39)	103 (17)	143 (24)	49 (8)
2. Accrual - based accounting is capable of serving the basic financial needs for programming and appraisal of performance. (%) Of Respondents Mean Standard Deviation	25 (27)	39 (46)	2 (2)	20 (24)	1 (1)	68 (13)	202 (38)	88 (17)	121 (23)	45 (9)	94 (15)	241 (39)	90 (15)	140 (23)	46 (8)
3. Accrual-based accounting effectively discloses the economic and financial results. (%) Of Respondents Mean Standard Deviation	27 (31)	42 (48)	4 (5)	13 (15)	1 (1)	35 (6)	139 (27)	39 (7)	139 (27)	172 (33)	62 (10)	181 (30)	43 (7)	152 (25)	173 (28)
4. The adoption of accrual-based accounting effectively discloses the economic and financial results for the measurement of revenues and costs, which helps in the decision making process. (%) Of Respondents Mean Standard Deviation	7 (8)	37 (42)	19 (22)	24 (28)	0 (0)	57 (11)	208 (40)	127 (24)	120 (23)	12 (2)	64 (10)	245 (40)	146 (24)	144 (24)	12 (2)
5. The adoption of accrual accounting would foster the ability to compare outputs among departments. (%) Of Respondents Mean Standard Deviation	29 (34)	42 (48)	1 (1)	13 (15)	2 (2)	88 (17)	155 (30)	37 (7)	138 (26)	106 (20)	117 (19)	197 (32)	38 (6)	151 (25)	108 (18)

Table 8 reveals that the respondents from the total sample seem to agree that 'the adoption of accrual-based accounting effectively discloses the economic and financial results for the measurement of revenues and costs, which helps in the decision making process'; 'accrual-based accounting is capable of serving the basic financial needs for programming and appraisal of performance' and Financial statements produced from accrual-based accounting disclose enough information for analysis. The means were 3.32, 3.30 and 3.25 respectively. However, they did not have a strong opinion regarding whether accrual-based accounting effectively discloses the economic and financial results and that the adoption of accrual-based accounting would foster the ability to compare outputs among departments' with mean scores of 2.68 and 3.10 respectively.

On the other hand, Table 8 shows that more than 76% of the respondents from the user group (Health and Education) either strongly agree or agree with the statements that 'the adoption of accrual accounting would foster the ability to compare outputs among departments', 'accrual-based accounting effectively discloses the economic and financial results' and 'Financial statements produced from accrual-based accounting disclose enough information for analysis.' with mean scores of 3.95, 3.90, 3.86 respectively.

The respondents from the user group have been found to believe that accrual-based accounting effectively discloses the economic and financial results for measuring programme performance (3.77). On the other hand, respondents were somewhat undecided with regards to whether the adoption of accrual-based accounting effectively discloses the economic and financial results for the measurement of revenues and costs, which helps in the decision making process. This may imply that finance officers who work in health and education departments believe that accrual-based accounting still suffers from the difficulty of identifying the cash flow position of the government because it is difficult to identify revenues and expenditure accurately.

Table 8 also shows that the respondents from other departments (non-users group) did not rank the statements as high as the respondents

from health and education departments. They appeared to undecided as to whether accrual-based accounting effectively discloses the economic and financial results for measuring programme performance (3.24). They were also unsure that accrual-based accounting effectively discloses the economic and financial results (2.50) and that financial statements produced from accrual-based accounting disclose enough information for analysis (3.14). Further, respondents in this group are not sure as to whether the adoption of accrual-based accounting effectively discloses the economic and financial results for the measurement of revenues and costs, which helps in the decision making process. and the ability to compare outputs among departments. The mean scores were 3.3 and 2.96 respectively.

This suggests that accountants and finance officers in other departments do not have the same degree of certainty as the finance officers in health and education departments as to whether or not the financial information produced by accrual accounting system would be potentially useful in decision-making. However, the overall impression of respondents' ratings in departments other than health and education is that accrual-based accounting has only fairly modest relevance to decision making. This might be due to the lack of experience in using the system and the fact that it has not yet been running in their departments compared with the health and education group where the system has been running for some time.

7. Discussion

The respondents were asked to indicate their preference between cash- and accrual-based accounting. Then, a comparison between the views of accountants and finance officers who work in health and education ministries and departments which already use accrual-based accounting (Users) and those in departments which do not (Non-users) regarding their preference between the two alternative bases was made.

Hypothesis (1) predicts that non-users will less prefer to use accrual-based accounting in their departments than the users group. To test this, a Chi-square test was used to compare the frequency of respondent's preference to use accrual-based accounting in the two sample groups. The descriptive statistics and Chi-square results are shown in Table 9.

Table (9) Chi-square Results Of Respondents' Preference Amongst The Two Basis Of Accounting

(MEASURED ON SCALE 1 = CASH; 2 = ACCRUAL)

Bases of Accounting	Group	Users (n=87)	Non-Users (n=524)
Cash		15	180
		(17.2%)	(34.4%)
Accrual		72	344
Total		(82.8%)	(64.6%)
Chi-square value		10.052	
Contingency Coefficient		0.127	
Asymp. Sig. (two-sided)		0.001	
df		1	

The descriptive results revealed that both groups preferred to use accrual-based accounting. However, the users group preference for accrual-based accounting exceeded the non-users group's preference by 17.2% (e.g. 82.8% as compared to 65.6%). Table 11 reveals that there are significant differences ($p = 0.002$) between the two groups, which may suggest that the non-users group prefer to use accrual-based accounting less in their departments. Accordingly, these findings support hypothesis (1) at the $p < 0.05$ level of significance.

This result may be attributed to the fact that accountants in health and education ministries (Users group) have gained familiarity and experience with accrual-based accounting since they have been using the system for some time. These findings are consistent with [10] survey which revealed that 26 per cent of the NHS finance officers who responded favoured the introduction of depreciation accounting and [12] who concluded that accountants and finance officers in Local Authorities have little support for depreciation accounting and favour to continue to use cash-based accounting (the status quo in LAs), while accountants and finance officers in Health Authorities (HAs), where modified accrual-based accounting is operating, were in support of depreciation accounting.

To examine if there are any differences in the reasons for preferring accrual-based accounting between the users and non-users, both groups were asked to indicate the extent of their support to five reasons. It was anticipated that there would not be any differences between the users and non-users regarding the reasons for preferring accrual-based accounting. T-test and ANOVA measure for two unrelated means were used to compare the respondents' rating and the difference between the means of the two groups regarding reasons for preferring accrual-based accounting.

The results, which are shown in Table 10, reveal that Reason 2, Reason 3 and Reason 4 are highly significant (F-stat = 34.305, 33.750, 6.459 and p-Value = 0.000, 0.000, 0.011) respectively, suggesting clear differences of opinions between users and non-users regarding the most important reasons for their choice of preference. While the majority of users held the view that accrual-based accounting provides enough financial information to prepare the General Budget; enough financial data for future planning and enough financial data to facilitate the control process, the non users group were less optimistic as to whether accrual-based accounting will provide the above mentioned financial information.

**TABLE (10) RESULTS OF RESPONDENTS' PERCEPTIONS
REGARDING THE REASONS FOR PREFERRING
ACCRUAL-BASED ACCOUNTING**

(Measured on scale 1= Strongly Disagree to 5 = Strongly Agree)

Reason	Group	Users (n=72)	Non-users (n=344)	F-Statistic	P-Value
Reason 1 Accrual-based accounting provides enough financial information to present accurate financial position.		Mean = 3.7 sd = 1.20	Mean = 3.68 sd = 1.36	.017	0.897
Reason 2 Accrual-based accounting provides enough financial information to prepare the General Budget.		Mean=3.51 sd= 1.32	Mean=2.5 sd= 1.32	34.305	0.000
Reason 3 Accrual-based accounting provides enough financial data for future planning.		Mean=3.56 sd= 1.20	Mean=2.57 sd= 1.35	33.750	0.000
Reason 4 Accrual-based accounting provides enough financial data to facilitate the control process.		Mean=3.75 sd= 1.18	Mean=3.29 sd= 1.42	6.459	0.011
Reason 5 Accrual-based accounting facilitates the follow up of the cost of long-term projects.		Mean=3.68 sd= 1.13	Mean=3.55 sd= 1.29	.641	0.424

There is a clear distinction between the perspectives of the two groups regarding most of their respective reasons for preferring to use accrual-based accounting in their departments. On the whole, however, these findings are supportive of hypothesis (2). However, they are consistent with those of Jones and Puglisi [9] where users in Australian government departments that already prepare accrual-based financial reports tend to rate accrual-based accounting more highly across certain decision-making contexts.

The respondents were asked to indicate whether or not it is feasible to implement accrual-based accounting in their departments. As shown in Table 11 below, the results indicated that 46% of the respondents in the users group believe it feasible to implement accrual-based accounting in their departments while only 29% of the non-users group do so. Further, a little over 70% of the respondents in the non-users group believe it not feasible to implement accrual-based accounting while only 54% of the respondents in the users group do so. One plausible explanation for these findings could be that the users group have gained familiarity and experience with accrual-based accounting since it has been running in their departments for some time and, thus, they were not as opposed to it as the non-users group.

TABLE (11) RESULTS OF RESPONDENTS' PERCEPTIONS REGARDING THE FEASIBILITY OF IMPLEMENTING ACCRUAL-BASED ACCOUNTING

Bases of Accounting	Group	Users (n=87)	Non-Users (n=524)
Yes		40 (46 %)	153 (29.2%)
No		47 (54%)	371 (70.8%)
Chi-square value		9.720	
Contingency Coefficient		0.125	
Asymp. Sig. (two-sided)		0.002	
Df		1	

A Chi-square test was used to compare the frequency of the respondents' perceptions about the feasibility of implementing accrual-based accounting in the users and non-users sample groups. The results in Table 11 reveal that there are significant differences (p -value = 0.002) between the two groups, which suggest that the non-users group perceive the feasibility of implementing accrual-based accounting less than the users group. Accordingly, hypothesis 3 is supported.

These findings are consistent with [12] who concluded that users and non-users have different perceptions about the feasibility of implementing accrual-based accounting. The majority of Lapsley's respondents in HAS supported depreciation accounting and considered the ease of implementation of 'little/no' importance in their preference of depreciation accounting.

The respondents were asked to indicate the extent of agreement to which they would anticipate problems in the various aspects of implementation of accrual-based accounting. The aim here is to examine the perceptions of users and non-users of the difficulties in applying accrual-based accounting to the Jordanian governmental accounting system. T-test measure for two unrelated means were used to compare the respondents' rating and the difference between the means of the users and non-users groups regarding the difficulties anticipated in implementing accrual-based accounting. The results are shown in Table 12.

TABLE (12) RESULTS OF RESPONDENTS' PERCEPTIONS REGARDING PROBLEMS OF IMPLEMENTING ACCRUAL-BASED ACCOUNTING

(Measured on scale 1= Strongly Disagree to 5 = Strongly Agree)

Difficulty	Group	Users (n=47)	Non-users (n=371)	F-Statistic	P-Value
Difficulty 1 Difficulty to measure and determine revenue and expense accurately.		Mean=3.8 sd= 0.96	Mean=3.7 sd= 1.13	1.67	0.197
Difficulty 2 Difficulty to value fixed assets held by government units with the absence of market prices.		Mean=4.06 sd= 0.98	Mean=4.1 sd= 1.02	0.221	0.638
Difficulty 3 The absence of a clear valuation policy for fixed assets.		Mean=2.87 sd= 1.51	Mean=3.04 sd= 1.37	0.185	0.667
Difficulty 4 Difficulty to identify all fixed assets owned by government units.		Mean=4.04 sd= 1.40	Mean=4.15 sd= 0.93	0.841	0.359
Difficulty 5 Lack of additional resources, manpower and funding needed for assets evaluation.		Mean=3.25 sd= 1.40	Mean=3.4 sd= 1.42	0.083	0.774

The respondents in both groups ranked highly the following items "difficulty to value fixed assets held by government units with the absence of market prices" and "difficulty to identify all fixed assets owned by government units" as the major problems that face the implementation of accrual-based accounting. The mean scores for the users group were 4.06 (sd = 0.98) and 4.04 (sd = 1.40) respectively, while the mean scores for the same difficulties for the non-users group were 4.1 (sd = 1.03) and 4.15 (sd = 0.93) respectively, with a little over 83% of the respondents strongly agreeing and agreeing that these were the problems facing the implementation of accrual-based accounting into Jordanian public sector units. The respondents in both groups also ranked the item "difficulty to measure and determine revenue and expense accurately" as the third serious problem facing the implementation of accrual-based accounting with a mean of 3.8 (sd = 0.96) for the users group and 3.75 (sd = 1.13) for non-users group.

On the other hand, the respondents did not have strong opinions regarding the "lack of additional resources, manpower and funding for assets evaluation" and "absence of a clear valuation policy" as potential problems hampering the implementation of accrual-based accounting within the Jordanian public sector. The mean scores were 3.25 (sd = 1.40) and 2.87 (sd = 1.51) for the users group and 3.43 (sd = 1.42) and 3.04 (sd = 1.37) for the non-users group. The results in Table 12 above indicated that there are no significant differences between the users and non-users groups regarding the perceived difficulties in implementing accrual-based accounting system.

Accordingly, hypothesis 4 is not supported. Furthermore, a significant majority of the respondents in both groups agreed with the questionnaire items that there would be a number of difficulties confronting the implementation of accrual-based accounting, which is consistent with the literature [see, for example, 12; 9].

In order to examine hypothesis 5, the respondents were asked to indicate the extent of their agreement with a number of statements. The findings are presented in Table 13.

TABLE 13 THE RESPONDENTS' PERCEPTIONS REGARDING THE USEFULNESS OF THE FINANCIAL INFORMATION PROVIDED BY ACCRUAL-BASED ACCOUNTING FOR DECISION MAKING

Difficulty	Group	Users (n=87)	Non-users (n=524)	F-Statistic	P-Value
Benefit 1 Financial statements produced from accrual accounting system disclose enough data for monitoring financial position.		Mean=3.86 sd= 1.10	Mean= 3.14 sd= 1.16	28.937	0.000
Benefit 2 Accrual accounting system effectively discloses the economic and financial results for measuring programme performance.		Mean=3.80 sd= 1.13	Mean=3.24 sd= 1.19	16.821	0.000
Benefit 3 Accrual accounting system is capable of serving the basic financial information needs to achieve cost recovery.		Mean=3.93 sd= 1.03	Mean=2.48 sd= 1.36	91.106	0.000
Benefit 4 The adoption of accrual accounting effectively discloses the economic and financial results for the measurement of cash flow position.		Mean=3.31 sd= 0.97	Mean=3.34 sd= 1.02	0.063	0.802
Benefit 5 The adoption of accrual accounting would foster the ability to compare outputs among departments.		Mean=3.95 sd= 1.08	Mean=2.96 sd= 1.43	38.147	0.000

The results indicate that respondents from the users group rated two of the statements close to '4' (or 'agree') on the Likert scale whereas all other statements were rated under this value. The respondents of the users group perceived that accrual-based accounting 'would foster the ability to compare outputs among departments' and 'is capable of serving the basic financial information needs to achieve cost recovery'. The mean scores were 3.95 (sd = 1.08) and 3.93 (sd = 1.03) respectively. They also had positive opinions that accrual accounting system provides adequate financial data for monitoring financial position and measuring programme performance. Further, they were not sure that accrual-based accounting discloses financial information to measure cash flow position.

On the other hand, respondents from the non-users group had fairly modest views regarding all of the above statements. T-test measure for two unrelated means were used to compare the respondents' ratings and the difference between the means of the users and non-users groups regarding the usefulness of the financial information provided by accrual-based accounting for decision making purposes. Table 13 provides evidence

which supports hypothesis (5). The results reveal that benefits 1, 2, 3, and 5 are highly significant (F-stat = 28.94, 16.82, 91.10 and 38.15) respectively at ($p < 0.05$) indicating that the users group tended to rate the usefulness of accrual-based accounting more highly than those in the non-users group. Therefore, these results suggest the existence of an experience effect. In other words, the users group who already have some experience in using accrual-based accounting appear more convinced about the usefulness of accrual-based financial information for decision-making purposes. These findings are consistent with those of Jones and Puglisi [9] who concluded that 'Government Departments (GDs) which already employ full or modified accrual-based accounting consistently rated the relevance of accrual-based accounting information to internal decision making more highly than GDs who predominantly employ cash-based accounting.

8. Summary and Conclusions

The descriptive results revealed that there are differences in the perceptions of users and non-users groups regarding the difficulties of implementing accrual-based accounting and the usefulness of the financial information provided by accrual-based accounting for decision making purposes.

This research found that accountants and finance officers working in departments that already employ accrual-based accounting are more positive to the introduction of accrual-based accounting than those who are working in entities which employ cash-based accounting, which is consistent with prior studies [12; 9].

The findings further suggest that accountants and finance officers working in government departments which already employ accrual-based accounting prefer to use this system more than those who work in departments which still employ cash-based accounting. The results show that there are significant differences between the groups suggesting that the non-users prefer to use accrual based accounting less in their departments. This significant difference between the two groups is most likely due to the 'experience effect' [9] in that the users of accrual-based accounting have gained some experience with the system which has been in operation in their

departments for some time.

Furthermore, significant differences were found between the two groups regarding reasons for preferring accrual-based accounting. The findings suggest that the users group consistently perceived accrual-based accounting to provide adequate financial information to prepare the General Budget, adequate financial data for future planning and adequate financial data to facilitate the control process (much more highly than the non-users group). This result is consistent with Jones and Puglisi [9] who found that Australian government departments that already prepare accrual-based financial reports tend to rate accrual-based accounting more highly across certain decision making contexts. Further, this result is also consistent with Lapsley [12] who reported that respondents in Health Authorities, where modified accrual-based accounting is used, show considerably more support for the relevance of depreciation accounting for decision-making purposes.

The findings have also revealed that there are significant differences between the two groups regarding the feasibility to implement accrual-based accounting in their respective departments. This result suggests that respondents in the users group became more familiar with accrual-based accounting and placed more emphasis on the feasibility to implement it than their counterparts in the other departments. However, the results revealed that both groups perceived that technical difficulties (e.g. difficulty in the valuation of fixed assets) would face the implementation of accrual-based accounting in the Jordanian public sector.

Finally, the results show a promising future for the implementation of accrual-based accounting. Lapsley [12, p. 293] notes that

"In the NTOs the pressure for change are becoming greater and distinctive shifts in attitudes are evident in different segments of the public sector which may increase, rather than reduce, the present diversity of accounting practices in this sector of the economy".

The findings suggest that respondents from the users group rated the ability of accrual-based accounting to facilitate the output comparison among departments, to serve the basic financial information needs to achieve cost recovery and to provide enough financial data for monitoring financial position and measuring programme performance more highly than the non-users group.

In conclusion, different opinions have emerged between the users and non-users sample groups as to the implementation of accrual-based accounting into the Jordanian public sector. Regardless of the preference amongst the majority of respondents from both groups for using accrual-based accounting, the debate will continue over the implementation of accrual accounting in the public sector.

This research does have some limitations. The empirical evidence is based on a survey questionnaire and, therefore, may not capture the richness of the respondents' views which might be obtained from using an alternative research method. However, the present researchers would argue that the research method used is appropriate for getting answers for the research questions posed within. These researchers, thus, calls for further research to extend the focus on how accounting innovations in public sector have impacted the decision-making process within the context of Jordan as well as other Middle Eastern countries.

References

- [1] Chan, J., R. Jones and K. Luder. "Modelling Governmental Accounting Innovations: An Assessment and Future Research Directions" *Research in Governmental and Non-Profit Accounting*. Vol. 9, (1996), pp. 1-19.
- [2] Cheng, P. C. "Accounting for Small Municipalities in North Carolina: An Empirical Study" *Governmental Accountants Journal*. (Spring), (1977), pp. 72-77.
- [3] Coake, S. J. and Steed, L. G. *SPSS Analysis without Anguish Version 10.0 for Windows*. New York: John Wiley and Sons, 2001.
- [4] Engstrom, J. E. "Information Needs of Budget Participants - A Survey" *Governmental Accountants Journal*. (Spring), (1979), pp. 56-62.
- [5] General Budget Department. *The Programme and Performance Budgeting Project*. Amman: Jordan: GBD, 1999.

- [6] Guthrie, J. "Application of Accrual Accounting in the Australian Public Sector - Rhetoric or Reality" *British journal of political science*, 14, (1), (1998), pp. 1-19.
- [7] Hijazi, M. The possibility of Introducing Accrual-Based Accounting into the Jordanian Governmental Accounting and Budgeting System. Unpublished MBA Dissertation, Jordan University, Jordan, 1988.
- [8] International Federation of Accountants. Preface to Statements of International Public Sector Accounting Standards. New York: IFAC Public Sector Committee, 2000.
- [9] Jones, S. and N. Puglisi. "The Relevance of AAS 29 to the Australian Public Sector: A Case for Doubt?" *ABACUS*, 33 (1), (1997), pp. 1-18.
- [10] Lapsley, I. "A case for Depreciation Accounting in UK Health Authorities" *Accounting and Business Research*. (winter), (1978), pp. 21-29.
- [11] ---- . "Managing Capital Assets in the National Health Service: A Critique" *Financial Accountability and Management*. 2, (1986a), pp. 227-32.
- [12] ---- "Capital Assets Accounting in UK Non-Trading Organisations" *Financial Accountability & Management*. 2 (4), (1986b), pp. 273-94.
- [13] Likierman. A. "Changes to Managerial Decision-taking in U.K. Central Government" *Management Accounting Research*. 11(2), (2000), pp. 253-261.
- [14] Mellett H. "The Role of Resource Accounting in the UK Government's Quest for Better Accounting" *Accounting and Business Research*. 27(2), (1997), pp. 157-168.
- [15] Mubaideen, O. M. *Governmental Accounting System and its Management* (1 ed.). Amman: Dar Wa'el, 1999.
- [16] Olson, O., J. Guthrie and C. Humphrey. *Global Warning: Debating International Developments in New Public Financial Management*. Oslo: Cappelen Akademisk Forlag as, 1998.
- [17] Pallot, J. "The Nature of Public Assets: A response to Mautz" *Accounting Horizons*. 4(2), (1990), pp. 79-85.
- [18] Pallot, J. "A Decade in Review: New Zealand's Experience with Resource Accounting and Budgeting" *Financial Accountability and Management*. 17(4), (2001), pp. 383-400.
- [19] Patton, J. M. "Standardisation and Utility of Municipal Accounting and Reporting Practices: A Survey" *Governmental Finance*. (May), (1976), pp.15-20.
- [20] The Hashemite Kingdom of Jordan. *Jordan's Governmental Financial System Amendment # 22*. Amman: Ministry of Finance, 1994.

1 Under a full supervision from the researchers four students from Yarmouk University have only helped in distributing and collecting the questionnaire.

2 Translated version of the final questionnaire can be requested from the authors.