



# The association between accounting standards, legal framework and the quality of financial reporting by a government ministry in Uganda

Quality of  
financial  
reporting

65

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## Abstract

**Purpose** – The purpose of this study is to examine the association between accounting standards, legal framework and the quality of financial reporting by the Ministry of Water and Environment in Uganda.

**Design/methodology/approach** – The study used a self-administered questionnaire to survey 120 staff and stakeholders of the Ministry of the Water and Environment. Correlation analysis was employed to determine the association between accounting standards, legal framework and the quality of financial reporting.

**Findings** – Results indicate that accounting standards and legal framework are all positively and significantly associated with the quality of financial reporting, providing evidence of the effect of accounting standards and legal framework on the quality of financial reporting in Uganda

**Research limitations/implications** – Scarce literature using African data means that it is not possible to compare the findings to previous research.

**Practical implications** – The finding of an association between accounting standards, the legal framework and quality of financial reporting implies that the government of Uganda needs to adopt a more robust approach in enforcing compliance to improve the quality of financial reports produced by the Ministry of Water and Environment.

**Originality/value** – This study contributes to the dearth of evidence on government accounting literature in Africa by investigating for the first time, the association between accounting standards, legal framework and the quality of financial reporting by a government department.

**Keywords** Association, Accounting Standards, Legal framework, Quality of financial reporting, Ministry of Water and Environment, Uganda, Financial reporting

**Paper type** Research paper



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## Introduction

In this paper we extend the predominantly private sector studies on the relationship between accounting standards, legal framework and the quality of financial reporting to the public sector in Uganda. Specifically, we investigate whether there is a significant association between perceived compliance with government accounting standards[1], legal framework and the quality of financial reporting by the Ministry of Water and Environment. To date, there has been a myriad of studies that have investigated the relationship between enforcement, use or compliance with accounting standards, legal framework and the quality of financial reporting (e.g. Kothari, 2000; Hope, 2003; Ball *et al.*, 2000, 2003). The theoretical reasoning behind these studies is that since International Accounting Standards (IASs)[2] limit alternatives available to managers, this should increase accounting quality because doing so provides investors with useful information to aid their decision making (Barth *et al.*, 2008). Others have also suggested a link on the basis that the extent to which accounting standards and legal framework are enforced and violations prosecuted should lead to more compliance which then leads to the provision of better quality financial information (e.g. Sunder, 1997; Kothari, 2000). Similarly, Hope (2003) argued that enforcement of accounting rules is expected to be associated with the quality of financial reporting because strong enforcement reduces instances of financial reporting-related fraud which in turn increases the reliability of the financial reports (e.g. Ball, 2001).

Empirical evidence on the link between accounting standards, legal framework and quality of financial reporting is, however, mixed. For example, Barth *et al.*'s (2008) findings suggest that firms using IASs generally evidenced less earnings management, more timely loss recognition, and more value relevance of accounting amounts than do matched sample firms applying non-US domestic accounting standards. Furthermore, Ashbaugh and Pincus (2001) showed that there was a decrease in the absolute value of analysts' forecast errors after firms adopted IASs suggesting an improvement in information quality as a result of companies adopting IASs. As far as legal framework is concerned, Inchausti (1997) found that legislation appeared to produce a strong increase in disclosure in Spain even before being compulsory, suggesting that the legal framework can make a difference to the information made available. On the contrary, Jeanjean and Stolowy (2008) found that the pervasiveness of earnings management did not decline after the introduction of International Financial Reporting Standards (IFRS) in the UK and Australia and in fact increased in France suggesting that the adoption of IFRSs does not lead to improved information quality.

The objective of this study is to investigate the association between perceived compliance with accounting standards, legal framework and the quality of financial reporting by the Ugandan Ministry of Water and Environment. We define quality of financial reporting as the extent to which accounts prepared by the Ministry of Water and Environment are perceived as relevant, reliable, understandable, accurate and comparable. The perceived compliance with accounting standards, legal framework and quality of financial reporting are all measured by perceptions of 120 staff and stakeholders of the Ministry of Water and Environment. Correlation analysis is employed to test the association between the perceived compliance with government accounting rules, legal framework and quality of financial reporting.

## Motivation and contribution of the study

Our study is motivated by two main reasons and makes important contributions to existing accounting literature. First, whilst there are a number of studies that have

investigated the link between accounting standards, legal framework and information quality in the private sector (e.g. Inchausti, 1997; Hope, 2003; Christensen *et al.*, 2008; Barth *et al.*, 2008), studies focusing on the public sector in general are limited and in the case of the government in particular, are non-existent. Existing government accounting-related literature has clearly neglected this important area, preferring to deal with issues of democracy, accountability and community engagement (see Dereli, 2011), reforms (see Sharma and Lawrence, 2009) and whether commercial in confidence arrangements within the public sector allows for the deliberate manipulation of accounting figures (see Jacobs, 2009). Our results therefore make an important contribution by extending predominantly private sector-based research to a public sector body. Investigation of the possible association between government accounting standards, legal framework and quality of financial reporting is especially important in a developing country such as Uganda. This is because the quality of government accounting information has attracted considerable attention at an international level as it is regarded as a weapon against fraud and waste in government. Moreover, donor nations consider improved quality of financial reporting a key component of enhanced public accountability (Allen, 2009; Kulshreshtha, 1998; Uddin *et al.*, 2011).

Second, the research is also motivated by the need to recommend policy for the improvement of financial reporting by Ugandan Government Ministries in general, and specifically by the Ministry of Water and Environment. This is especially given that the Auditor General (AG)'s Reports (2005-2010) have over the past five years lamented the quality of financial reporting by Government Ministries. Our research focuses on the Ministry of Water and Environment because of the role it plays in the welfare of the citizens of Uganda. For example, through its water and sanitation sector, the ministry has been recognised as a key area under the 2004 Poverty Eradication Action Plan (PEAP), Uganda's main strategy paper to fight poverty (Ministry of Finance, Planning and Economic Development, The Republic of Uganda, 2004/2005-2007/2008). As a result it is important that the Ministry of Water and Environment is seen to demonstrate public accountability given its pivotal role in eradication of poverty. Uncovering the association between perceived compliance with government accounting standards, legal framework and quality of financial reporting by the Ministry of Water and Environment will therefore inform policy as to what changes need to be made by the Ministry to improve the quality of its financial reporting and enhance accountability to its stakeholders.

The rest of the paper proceeds as follows: the next section discusses government accounting and financial reporting in Uganda. This is followed by literature review and hypotheses development and the research methodology. The penultimate section is the results and discussion. The final section is the summary and conclusion.

### **Government accounting and financial reporting in Uganda**

There are two major sources of government accounting and financial reporting by the Ugandan Government ministries. The first is the legal framework (e.g. The Constitution of the Republic of Uganda, 1995; Public Finance and Accountability Act (PFAA) of Uganda, 2003; Local Government Act of Uganda, 1997; Public Finance and Accountability Act, 2003; Treasury Accounting, 2003) which lays down the nature of accounting by the government. The Treasury Accounting (2003), for example, require government ministries, agencies and government departments to maintain their books of accounts on modified cash basis of accounting where a combination of cash basis and accrual basis of accounting is adopted for the recording of government

transactions (Nkundabanyanga, 2007). Further, under the Treasury Accounting (2003) the Accountant General is required to prepare and submit within four months after the end of a financial year, to the AG and Minister responsible for finance the following financial statements: a balance sheet showing the consolidated assets and liabilities of all public funds and other entities wholly funded through the consolidated fund; a consolidated statement of the source and application of funds (statement of cash flows) for all public funds and other entities wholly funded through the consolidated fund showing the revenues, expenditures and financing for the year; a balance sheet showing the assets and liabilities of the consolidated fund; a summary statement of revenue and expenditure, being a summary of all the statements submitted by accounting officers; and a statement of the amounts outstanding at the end of the year in respect of the public debt.

The other source of accounting and financial reporting by the Ugandan Government are the International Public Sector Accounting Standards (IPSAS). These are financial measurement and reporting rules recommended for adoption by governments around the world and are promulgated by the Public Sector Committee (PSC) of the International Federation of Accountants (IFAC). These standards are based on IFRS issued by the International Accounting Standards Board (IASB). As at 30 June 2011 there are 31 IPSAS covering a wide range of issues similar to IFRSs. For example, IPSAS 1 covers the presentation of financial statements and suggests that a complete set of financial statements includes the following components: statement of financial position; statement of financial performance; statement of changes in net assets/equity; cash flow statement; and accounting policies and notes to the financial statements. IPSAS 2 on cash flow statements requires the information classification similar to that required under IFRS 7 statement of cash flows, i.e. operating activities, investing and financing activities.

Despite the existence of both the legal framework and accounting standards bases for accounting and financial reporting, concerns have been expressed with the quality of accounting in government ministries (e.g. AG's Reports, 2005-2010). The AG's Report (2005), for example, reported poor recordkeeping and bookkeeping, including failure to prepare bank reconciliation statements, failure to maintain cheque registers and failure to prepare timely financial statements. Thus government ministries appear not to be complying with the legal framework and accounting standards. Indeed, many government departments' accounts for the financial years ending June 2006 and 2007 were qualified because the AG was unable to satisfy himself as to the correctness of the opening balances and also because he was not provided with the necessary documentation relating to the funds and sub-guarantee outstanding advances amounting to shs.6,459,125,603 and shs.5,091,671,997, respectively (AG's Report, 2007).

The AG's Report (2008) noted that the AG was unable to confirm in some instances that funds were utilised for the intended purposes as documentary evidence was unavailable. A further concern relating to the quality of accounting by government ministries highlighted by the AG's Report (2008) was that a number of ministries still made commitments outside the Integrated Financial Management System (IFMS) through the use of manual orders which allowed commitments to be entered into even when funds were not available. This was despite the fact that the IFMS required all commitments to be made based on availability of funds. The result was that in a majority of cases commitments were not disclosed in the financial statements hence understated the payables. These problems resulted in 36 per cent of the audited accounts (32 accounts out of 90) being issued with a qualified audit report.

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The AG's Report (2009) revealed that treasury records were not regularly updated and as a result, a substantial amount of grants were shown as undisbursed at the time of the expiry of their disbursement dates. The AG's Report (2010) also noted problems with budget figures of some government ministries submitted to parliament which were materially misstated. As a result of these problems 57 per cent of the accounts audited (58 out of 101) for financial year to 30 June 2010 audited were qualified. It is, therefore, not surprising that the AG's Report (2010) had the following to say about the financial accounting systems in respect of the Ministry of Water and Environment:

In the present process of financial statements preparation, it was noted that there was no proper monitoring system for adequate oversight, reconciliation and reporting the financial operations. Operating staff commented that they do not make bank reconciliations till at year end. Departments do not get program financial performance progress reports. Even Accounts Department's own operating progress reports were not availed for inspection. In operational areas of financial statements preparation, we observed that monitoring controls were significantly lacking. Program managers/other stakeholders may lose confidence in the reliability of information generated by the process (p. 165).

The preceding discussion and the statement by AG's Report (2010) clearly indicate that there are problems that may be affecting the quality of financial reports produced by government ministries in Uganda in general, but in particular the Ministry of Water and Environment relating to non-compliance with accounting standards and the legal framework. This is consistent with the finding by the ROSC (2005) which found that there was significant non-compliance with accounting standards and the legal framework by Ugandan institutions. ROSC (2005) recommended the improvement in the statutory framework, strengthening enforcement mechanisms, upgrading professional education and training and enhancing capacity of regulatory and professional bodies.

### **Literature review and hypotheses development**

A number of previous research has examined the relationship between the enforcement, use or compliance with accounting standards, legal framework and the quality of financial reporting (e.g. Hope, 2003; Burgstahler *et al.*, 2004; Ewert and Wagenhofer, 2005; Barth *et al.*, 2008). The main reason for the suggestion of a link between accounting standards, legal framework and quality of financial reporting is that more enforcement and prosecution of companies that do not comply should lead to more compliance which then leads to the provision of better quality financial information (e.g. Sunder, 1997; Kothari, 2000). Hope (2003) used a sample of firms from 22 countries to investigate whether enforcement of accounting standards is associated with higher forecast accuracy by financial analysts. He found evidence consistent with the hypothesis that enforcement encourages managers to follow prescribed accounting rules, which, in turn, reduces analysts' uncertainty about future earnings.

Inchausti (1997) investigated the influence of the legal framework on the quality of financial reporting in Spain. His sample consisted of 49 companies over a three-year period from 1989 to 1991. The results of the panel data analysis indicated a strong influence of the legal framework in the disclosure of information even before being compulsory. Inchausti (1997) cited an example of the information required by the General Accounting Plan which was generally provided by sample companies one year before being compulsory. Barth *et al.* (2008) also examined the relationship between accounting standards and accounting quality using a sample of firms from

21 countries. The results provided evidence that firms applying IASs showed less earnings management, more timely loss recognition and more value relevance of accounting amounts than do matched sample firms applying non-US domestic accounting standards. Ewert and Wagenhofer (2005) developed a rational expectations model that showed that accounting standards that limit opportunistic discretion result in accounting earnings that are more reflective of a firm's underlying economics, and therefore, of higher quality. Ashbaugh and Pincus (2001) investigated whether analysts forecast accuracy changes after firms adopt IAS using a sample of 80 non-US firms. Their results indicated a decrease in the absolute value of analysts forecast errors after firms adopted IASs suggesting a link between the use of IASs and the quality of financial reporting. Finally, Christensen *et al.* (2008) also examined whether the adoption of IFRS led to accounting quality improvements. Consistent with prior literature, they find that voluntary adoption of IFRS was associated with decreased earnings management and more timely loss recognition. In contrast, they find no evidence of such accounting quality improvements for firms that are forced to adopt IFRS.

Contrary to the results showing a significant relationship between accounting standards, legal framework and quality of financial reporting, Larrinaga *et al.*'s (2002) results indicated that approximately 80 per cent of the companies examined did not disclose any environmental information at all despite it being a requirement. They found that companies that included some environmental information disclosed a mean of 1.8 items, for a total of seven possible items. Though there was a significant increase in the number of companies disclosing between 1997 and 1999, in the last year they were only 23 per cent. This evidence seems to suggest no direct link between a legal requirement and the information reported. Another study which suggests no relationship between adoption of accounting standards and quality of financial reporting is by Jeanjean and Stolowy (2008). They analysed the effect of the mandatory introduction of IFRS standards on earnings management focusing on Australia, France and the UK. They found that the pervasiveness of earnings management did not decline after the introduction of IFRS, and in fact it increased in France.

It is evident from the preceding literature review that the results of the association between accounting standards, legal framework and the quality of financial reporting are mixed. The review also shows that the relationship between accounting standards, legal framework and quality of financial reporting is limited to the private sector. Given the importance of the quality of financial reporting it is important that such studies are extended to the public sectors. As a result of the discussion above the following two hypotheses will be tested:

- H1. There is a significant positive association between government accounting standards and quality of financial reporting by the Ministry of Water and Environment.
- H2. There is a significant positive association between the legal framework and quality of financial reporting by the Ministry of Water and Environment.

## **Research methodology**

### *Sample*

The study population comprised of 180 staff of Ministry of Water and Environment and other stakeholders including the Accountant General, Commissioners of

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Inspectorate, Financial Management Systems Managers, Principal Accountant, the Undersecretary, Principal Assistant Secretary and other vote holders. We employed purposive sampling because of the need for key respondents in the Ministry who were presumed to be with reliable and relevant information, while random sampling was used to choose other stakeholders. A total sample of 120 staff of Ministry of Water and Environment and other stakeholders was generated in line with Krejcie and Morgan (1970) table guide for sample selection[3].

### *The questionnaire*

In developing the questionnaire we used a five-point Likert scale which allowed the respondent to register the degree of agreement with each statement. This ranged from 1 (strongly disagree) to 5 (strongly agree). Consistent with the suggestion by Sekaran (2000) in developing a questionnaire, item analysis was performed to see whether the items in the instrument belong there and a pre-test was carried out to check validity and reliability to minimise the vagueness of the results generated. Reliability (internal consistency and stability) of the instruments was tested using Cronbach's  $\alpha$  coefficient (Cronbach, 1951). We tested inter-item consistency reliability to ensure that there was the consistency of respondent's answers to all items. The findings of the reliability test showed that all the variables were above the accepted  $\alpha$  coefficient of 0.5. Accounting standards had an  $\alpha$  coefficient of 0.937; legal framework had an  $\alpha$  coefficient of 0.857, while quality of financial reporting had an  $\alpha$  coefficient of 0.927. Anastasi (1982) and Nunnally (1978) state that reliability coefficients of 0.70 or more signify high validity of instruments.

The questionnaire used for this study was self-administered to the 120 staff and stakeholders of the Ministry of Water and Environment. The questionnaire consists of four sections (see Appendix 1). The first section (Section A) contains four questions about the respondents' background relating to gender, education, whether they are employed by the Ministry of Water and Environment, and also whether they have any accounting qualification. Sections II, III and IV of the questionnaire consist of 20, 20 and 37 questions, respectively. Principal component analyses (PCAs) were performed to identify patterns in data and to reduce data to a manageable level (Field, 2006). By reducing our data set from a group of interrelated variables to a smaller set of factors, explanatory factor analysis achieved parsimony by explaining the maximum amount of common variance in a correlation matrix using the smallest number of explanatory constructs (Field, 2009).

The results of the rotated component matrix for accounting standards, legal framework and quality of financial reporting using SPSS Version 17 with Varimax rotation and Kaiser normalisation are presented in Tables I-III, respectively. All component loadings  $< 0.40$  are suppressed. The cut-off for the factors identified by was an eigenvalue of 1. The PCA for accounting standards produced four factors relating to budgeting, receipts, expenditures and recording (see Table I). The results of the PCA suggest that "budgeting" is the most important element of the accounting standards. The four questions classified under budgeting account for 50 per cent of the variance.

The next important element of the accounting standards is the "receipts" which explain a further 17.84 per cent of the variance. This is followed by three questions which are classified under "expenditure" and explain a further 13.4 per cent of the variance. Finally, the three questions under "recording" capture a further 5.4 per cent of the variance. So in total the 13 questions from the original 20 relating to budgeting, receipts, expenditure and recording explain a total of 86.8 per cent of the variance.

Government accounting system	Budgeting	Receipts	Expenditures	Recording
The accounts staff of the Ministry have always adhered to rules and regulations of government financial guidelines	0.966			
Financial indicators are always included in the budget of the Ministry for better measurement of performance	0.934			
The Ministry has always proved effective in their budget control system	0.888			
Approved budget estimates for revenue and expenditure has been adhered to by all accounts staff of the Ministry	0.527			
Revenue cash book of the Ministry are adequately posted		0.837		
All local revenue collected by the Ministry is always banked intact		0.871		
All receipts from central government are duly acknowledged by the Ministry		0.557		
All payments records of the Ministry portrays that all expenditures are verified and justified before any payment is made			0.887	
All expenditures of the Ministry are approved and authorized by the Accounting officer			0.871	
Procedures for certifying and transferring payment requests are always strictly followed by all staff of the Ministry			0.706	
The Ministry has effectively followed the specific principles, bases, conventions and rules of the government of Uganda in preparing and presenting financial statements				0.732
The Ministry has always demonstrated legality, probity, accuracy and completeness of its transactions during the past years				0.686
The financial reports of the Ministry has always demonstrated financial accountability and stewardship by the people in charge				0.524
Rotated component	<i>10.033</i>	<i>3.570</i>	<i>2.683</i>	<i>1.079</i>
matrix for government	<i>50.164</i>	<i>17.849</i>	<i>13.413</i>	<i>5.393</i>
accounting rules	<i>50.164</i>	<i>68.013</i>	<i>81.425</i>	<i>86.819</i>

The most important element of the legal framework is captured by the four questions relating to Treasury Accounting Instructions (TAI) which accounts for 33.4 per cent of the variance. This is followed by the four questions relating to PFAA which accounts for a further 15 per cent of the variance. The third most important element of the legal framework is the Public Procurement and Disposal of Public Assets Act (PPDPA) accounting for a further 12.8 per cent. Lastly, the Budget Act accounts for another 12.1 per cent of the variance.

Finally, Table III shows that a total of 87.5 per cent variation in the quality of financial reporting is captured by 18 questions out of the 27 questions included in the questionnaire. The 18 questions have been categorised under five factors namely comparability, accuracy, reliable, relevance and understandability.

Legal framework	TAI	PFAA	PPDA	BA
The Ministry operates a commitment control system for its income and expenditures	0.612			
Commitments control returns portrays a true extract of a vote book register	0.641			
Penalties and procedures for recovery of losses are in place in the Ministry	0.888			
All the staff of the Ministry have received training in Treasury Management instructions	0.762			
The Audit of the Ministry is always carried out in accordance with the International Standard on Audit (ISAs)		0.429		
The management of all resources in this Ministry are guided by Public Finance and Accountability Act		0.708		
All funds of the Ministry have spent in line with Public Financial Accountability Act guideline		0.640		
All fund balances and over expenditures of the Ministry are duly reported to the treasury		0.831		
All procurement of the Ministry is always guided by PPDA Act			0.962	
There has always been extensive advertisement/ tendering for procurement of goods and services for the Ministry			0.552	
All goods and services for the Ministry have always been procured from Reliable and competent suppliers			0.928	
All the expenditures of the Ministry are always within the set budget ceiling				0.896
The Budget of the Ministry is always managed in accordance with the Budget Act of 2001				0.930
The Budget of the Ministry is always approved by parliament				0.785
Eigen value	15.715	7.051	6.006	5.718
Variance (%)	33.437	15.002	12.778	12.165
Cumulative (%)	33.437	48.439	61.217	73.382

Quality of financial reporting

**73**

**Table II.**

**Notes:** TAI, Treasury Accounting Instructions; PFAA, Public Finance and Accountability Act; PPDA, Public Procurement and Disposal of Public Assets; BA, Budget Act

Rotated component matrix for legal framework

The results show that “comparability” is the most important element of the quality of financial reporting accounting for 40 per cent on its own. Next in importance is “accuracy”, which accounts for 15.75 per cent of the variation. “Reliability” is also an important element of the quality of financial reporting accounting for 14.11 per cent of the variation in quality of financial reporting. The other important elements of financial reporting revealed by our PCA are “relevance” and “understandability” which accounts for 9.82 and 7.75 per cent, respectively.

## Results and discussion

### *Respondents’ background*

The analysis of the responses to Section I of the questionnaire indicated that out of the 120 respondents, 82 were male and 38 female (see Appendix 1). Although we gave our respondents five choices to indicate their level of education ranging from ordinary “O” level to postgraduate, in our analysis we were mostly interested in whether the

Quality of financial reporting	Comparability	Accuracy	Reliable	Relevance	Understandability
The financial report of the Ministry is clearly presented for proper comparability	0.874				
All past financial statements of the Ministry have been maintained in a standard format	0.816				
There has been no variation in the financial reporting period of the Ministry	0.752				
The Ministry has been using the same currency in its financial reporting	0.623				
The financial report presented by the Ministry is always free from error			0.762		
There is complete posting of all transactions in the books of accounts of this Ministry			0.864		
All the operating accounts of the Ministry are duly reconciled			0.858		
All accounts staff of the Ministry have defined and documented schedule of duties			0.887		
The Ministry has always maintained proper books of accounts				0.715	
I can count on the Ministry's financial report				0.763	
The financial statements of the Ministry are always presented in accordance with approved procedures				0.575	
The financial report of the Ministry has been used for decision making				0.800	
The chart of accounts used by the Ministry facilitate easy financial reporting				0.836	
The financial report of the Ministry has been used for decision making				0.800	
The financial report of the Ministry is always precisely presented					0.708
All the financial accountability of the Ministry has always been organized and clearly presented					0.869
All financial statements of the Ministry always have explanatory notes					0.809
The financial statements of the Ministry has always been easily interpreted					0.840
Rotated component matrix for quality of financial reporting	<i>10.835</i>	<i>4.252</i>	<i>3.810</i>	<i>2.653</i>	<i>2.093</i>
Eigen value	<i>40.130</i>	<i>15.750</i>	<i>14.111</i>	<i>9.825</i>	<i>7.750</i>
Variance (%)	<i>40.130</i>	<i>55.880</i>	<i>69.990</i>	<i>79.815</i>	<i>87.565</i>
Cumulative (%)					

**Table III.**  
Rotated component matrix  
for quality of financial  
reporting

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respondents were graduates (an undergraduate degree and above) or non-graduates (diploma and below). The results suggest that 91 out of the 120 of the respondents (75.8 per cent) were graduates and 24.2 per cent non-graduates. Question 3 in Section I sought to find out how many of the respondents worked in the Ministry of Water and Environment. The findings indicate that 63 (or 52.5 per cent) were employed by the Ministry and 57 (or 47.5 per cent) were not. The final question in Section I was about whether the respondents hold any accounting professional qualification. Our analysis indicated that 37 (or 30.8 per cent) out of the 120 respondents hold an accounting professional qualification. In summary, the biographical details suggest that the respondents were mainly male by gender, have at least a first degree and do not hold an accounting professional qualification. However, the respondents are roughly equally split between those who work for the Ministry of Water and Environment and outsiders.

### *Correlation analysis results*

The correlation analysis results of the association between perceived compliance with government accounting standards, legal framework and the quality of financial reporting are presented in Table IV, Panels A to F. The results in Panel A show a positive correlation of 0.815 between perceived compliance with accounting standards and quality of financial reporting. The association is significant at 1 per cent level. As a result our *H1* which states that there is a significant positive association between government accounting standards and quality of financial reporting by the Ministry of Water and Environment is supported. The results in Panel A also show that the perceived compliance with legal framework is also significantly correlated with quality of financial reporting at the 1 per cent level with a correlation coefficient of 0.628. The correlation is positive as predicted. This result also means that our *H2* which states that there is a significant association between perceived compliance with the legal framework and quality of financial reporting is supported.

The findings are consistent with the notion that an increase in compliance with both government accounting standards and legal framework will increase the quality of financial reporting. However, based on the correlation coefficients it is evident that government accounting standards are more associated with the quality of financial reporting as indicated by a higher correlation coefficient. The results in Table IV, Panel A also show that all four factors identified by the PCA under the government accounting standards (budget, receipts, expenditure and recording) and legal framework (TAI, PPDA, PFAA and PAA) are also positively associated with the quality of financial reporting. The findings of a positive association between perceived compliance with government accounting standards and legal framework and quality of financial reporting are in line with findings in the private sector which suggest that compliance with accounting standards in preparing financial statements is associated with the quality of financial reporting (e.g. Inchausti, 1997; Street and Bryant, 2000; Ashbaugh and Pincus, 2001; Barth *et al.*, 2008).

In Table IV, Panels B to F we used the various factors identified by the PCA namely relevance (Panel B), accuracy (Panel C), reliability (Panel D), comparability (Panel E) and understandability (Panel F) as proxies for quality of financial reporting. The results in Panel B show that relevance as a proxy for quality of information is positively associated with both government accounting standards and legal framework with correlations coefficients of 0.780 and 0.685, respectively. Similarly government standards (budget, receipts, expenditure and recording) and legal framework (TAI, PPDA, PFAA and PAA) identified by the PCA are also positively

	Quality of financial reporting (O)	Significance level
Panel A: overall quality of financial reporting		
<i>Government accounting rules</i>	0.815**	0.000
Budget	0.772**	0.000
Receipt	0.835**	0.000
Expenditure	0.614**	0.000
Record	0.697**	0.000
<i>Legal framework</i>		
TAI	0.628**	0.000
PPDA	0.435**	0.000
PFAA	0.562**	0.000
PAA	0.430**	0.000
PAA	0.618**	0.000
Panel B: relevance as a measure of quality of financial reporting		
<i>Government accounting rules</i>	0.780**	0.000
Budget	0.907**	0.000
Receipt	0.636**	0.000
Expenditure	0.553**	0.000
Record	0.658**	0.000
<i>Legal framework</i>		
TAI	0.685**	0.000
TAI	0.596**	0.000
PPDA	0.450**	0.000
PFAA	0.390**	0.000
PAA	0.749**	0.000
Panel C: accuracy as a measure of quality of financial reporting		
<i>Government accounting rules</i>	0.324**	0.000
Budget	0.148	0.107
Receipt	0.575**	0.000
Expenditure	0.271**	0.003
Record	0.218**	0.017
<i>Legal framework</i>		
TAI	0.110	0.233
TAI	-0.091	0.322
PPDA	0.164	0.074
PFAA	0.324**	0.000
PAA	0.032	0.728
Panel D: reliability as a measure of quality of financial reporting		
<i>Government accounting rules</i>	0.324**	0.000
Budget	0.148	0.107
Receipt	0.575**	0.000
Expenditure	0.271**	0.003
Record	0.218**	0.017
<i>Legal framework</i>		
TAI	0.628**	0.000
TAI	-0.091	0.322
PPDA	0.164	0.074
PFAA	0.324**	0.000
PAA	0.032	0.728
Panel E: comparability as a measure of quality of financial reporting		
<i>Government accounting rules</i>	0.835**	0.000
Budget	0.756**	0.000
Receipt	0.782**	0.000
Expenditure	0.645**	0.000
Record	0.791**	0.000

**Table IV.**  
The association between accounting standards, legal framework and the quality of financial reporting by a government ministry in Uganda

(continued)

			Quality of financial reporting
<i>Legal framework</i>	0.708**	0.000	
TAI	0.583**	0.000	
PPDA	0.273**	0.003	
PFAA	0.642**	0.000	
PAA	0.751**	0.000	
Panel F: understandability as a measure of quality of financial reporting			
<i>Government accounting rules</i>	0.580**	0.000	
Budget	0.646**	0.000	
Receipt	0.595**	0.000	
Expenditure	0.326**	0.000	
Record	0.503**	0.000	
<i>Legal framework</i>	0.422**	0.000	
TAI	0.308**	0.001	
PPDA	0.307**	0.001	
PFAA	0.382**	0.000	
PAA	0.367**	0.000	

77

**Notes:** \*\*,\*\*Correlations significant at 0.05 and 0.01 levels (two-tailed), respectively

Table IV.

associated with the quality of financial reporting. Panel C results which uses accuracy as a proxy for the quality of financial reporting similarly show that perceived compliance with government accounting standards is significantly associated with quality of financial reporting. However, the legal framework is not. The rest of the results show that under government accounting standards only receipt, expenditure and record are associated with the quality of financial reporting. Under the legal framework only PFAA is significantly associated with quality of financial reporting.

Under Panel D which uses reliability as a measure of quality of financial reporting the results show that both government accounting standards and legal framework are significantly associated with all quality of financial reporting. However, what is interesting is that the association between legal framework and quality of financial reporting is higher than that between government accounting standards and quality of financial reporting. This is interesting because this is the only instance where the coefficient of legal framework is higher than that of government accounting standards. This may suggest that the respondents perceive that compliance with the legal framework is more likely to ensure the quality of financial reporting than compliance with government accounting standards. Panel E results show that when quality of financial reporting is measured by comparability both government accounting standards and legal framework are also significantly associated with the quality of financial reporting. Finally, in Table IV, Panel F, the quality of financial reporting is measured by understandability and the results are consistent with those reported when quality of financial reporting is measured in terms of relevance, accuracy, comparability and accuracy. Thus overall the results suggest a positive association between perceived compliance with government accounting standards and legal framework and the quality of financial reporting. The results also hold to a large extent when the various factors identified by the PCA are used to measure either government accounting standards, legal framework or quality of financial reporting.

#### *Summary and conclusion*

The objective of this paper was to investigate the association between perceived compliance with government accounting standards, legal framework and the quality of

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financial reporting by the Ministry of Water and Environment in Uganda. We surveyed 120 staff and stakeholders of the Ministry of Water and Environment. We asked them to indicate on a five-point Likert scale the extent of their agreement with a number of questions relating to the perceived compliance by the Ministry of Water and Environment with government accounting standards, legal framework and also the quality of financial reporting. We then applied PCA to reduce the number of questions and identify the important elements that capture the government accounting standards, legal framework and quality of financial reporting. We put forward and tested two hypotheses relating to the association between perceived compliance with government accounting standards, legal framework and quality of financial reporting. The results obtained through correlation analysis confirmed both hypotheses which suggest a positive association between perceived compliance with government accounting standards, legal framework and the quality of financial reporting. These results are consistent with the reasoning that quality of information should be enhanced by the extent to which accounting standards and legal framework are enforced and violations prosecuted (e.g. Sunder, 1997; Kothari, 2000; Hope, 2003).

The results of our study are important because they provide evidence of the relationship between government accounting standards, legal framework and quality of financial reporting in respect of the government. Our findings have implications for the quality of financial reporting by Ugandan Government Ministries in general, and specifically by the Ministry of Water and Environment. Given that the AG's Reports (2005-2010) lamented the quality of financial reporting by Government Ministries, we recommend that the Ugandan Government takes urgent action to ensure that the ministries comply with both government accounting rules and the legal framework. In the light of our findings, we believe that the increase in compliance with both government accounting standards and legal framework will both improve the quality of financial reporting and also reduce the number of accounts being qualified by the AG. The improvement in the quality of financial reports produced by the Ministry of Water and Environment is important as it has been recognised as a key area under the 2004 PEAP. By improving its quality of financial reporting the Ministry will demonstrate public accountability to its stakeholders whose support is vital for the Ministry in achieving its objectives.

There are a number of limitations with our paper. First, the scarce literature on the relationship between compliance with government accounting standards, legal framework and quality of financial reporting around the world in general and specifically on Africa may have affected our conceptualisation of the paper. Second, although we self-administered the questionnaire, we did not undertake follow-up interview which would have informed us of the reasons why the respondents held certain views. Third, our study was limited only to the Ministry of Water and Environment and it is possible that our results are only applicable to this ministry. Finally, our survey was carried out in one particular year rather than over a number of years. It is possible that the views held by individuals may change over time. Despite these limitations we believe that our study makes important contribution in informing government policy as to how it may improve the quality of financial reporting. Future research may wish to extend the research to other ministries to see if the results are similar. It will also be important for future studies to carry out such studies over a number of years.

#### Notes

1. Government accounting standards are for the purpose of this research defined internal accounting rules that govern book-keeping and also IPSAS.

2. Although reference is made specifically to IASs, the same is true in respect of IFRSs. The IASs were issued by the IASC from 1973 to 2001, while the IFRSs were issued by the IASB from 2001 onwards. The IASB is basically the successor for IASC.
3. This sample does not differ materially from one that would be generated using Yamane's (1973) sample selection approach. According to Yamane (1973), sample size is derived using the formula,  $n = N/1 + N(e)^2$ , where  $n$  = is the required sample size;  $N$  = is the total population, and  $e$  = is the tolerable error which in our case is 5 per cent. Based on this approach, the sample would be 124. We preferred Krejcie and Morgan's (1970) table guide for sample selection because it fairly yields a representative sample.

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