Intellectual capital and sustainability reporting practices in Uganda

Juma Bananuka
Department of Accounting, Makerere University Business School, Kampala, Uganda
Venancio Tauringana
Department of Accounting, University of Southampton, Southampton, UK, and
Zainabu Tumwebaze
Department of Accounting, Makerere University Business School, Kampala, Uganda

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Abstract

Purpose – The objective of the study is to investigate the association between intellectual capital (IC) and sustainability reporting practices in Uganda. The study further examines how individual IC elements (human, structural and relational capital) affect sustainability reporting practices.

Design/methodology/approach – This study employs a questionnaire to collect data. Data are analyzed using multiple regression analysis.

Findings – Results indicate that IC is significantly associated with sustainability reporting practices. The study also found that human capital and relational capital elements have a positive effect on sustainability reporting practices while structural capital element does not have a significant effect.

Originality/value – This study is one of the few studies that examine sustainability reporting by financial services firms in a country where the capital markets are still in their infancy and the major source of external financing are the banks. Its major contribution lies in its focus on how the key IC components explain variations in sustainability reporting practices among financial service firms in Uganda.

Keywords Intellectual capital, Sustainability reporting practices, Financial services firms, Uganda

Paper type Research paper

1. Introduction

Sustainability reporting practices is on the increase in the developing countries (Tilt *et al.*, 2021). This is because business entities that disclose their detailed sustainability information improve their reputation/image (Tilt *et al.*, 2021), motivate their employees and managers (Orazalin and Mahmood, 2018) and improves profitability (Yang *et al.*, 2021). Despite the increasing importance of sustainability reporting world-wide, there is currently no study that has linked IC and its elements to sustainability reporting. Yet, the United Nations Sustainable Development Goal 12.6 "encourages companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle" (United Nations, 2015, p. 22). Further, the European Union issued the 2014/95/U directive on non-financial information disclosures, and this means that firms in the European Union disclose non-financial information such as environmental and social performances. The resource-based view suggests that firms with resources that are rare, valuable, inimitable and non-substitutable have a competitive advantage than those without (Barney, 1991; Kaawaase *et al.*, 2020). Such resources are traceable in the human resources, systems resources and relationship resources. In a situation where the firm's total intangible and knowledge related resources useful for value creation are low, it is likely that, sustainability reporting practices will also be low. For example,

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firms with low levels of intellectual capital (IC) will continue to prepare simple reports such as financial reports because of lack of resources needed to prepare sustainability reports.

Several studies document the determinants of sustainability reporting but these are limited to company characteristics such as firm size, standalone reporting, reporting language, auditor type, firm age, firm nationality, industry type, leverage, profitability, firm growth, media visibility, ownership structure, corporate governance and GRI usage, managers' attitude, managers' subjective norm, managers' behavioral intention and managers' religion (see Orazalin and Mahmood, 2018; Manetti and Bellucci, 2016; Bhatia and Tuli, 2018; Dienes *et al.*, 2016; Shamil *et al.*, 2014; Thoradeniya *et al.*, 2015; Dissanayake *et al.*, 2019). In terms of the link between IC and sustainability reporting, only Tauringana (2021) has linked employee training, employee expertise and employee attitude towards sustainability reporting to sustainability reporting adoption among manufacturing firms in Uganda. The weakness with Tauringana (2021) is that employee training, expertise and attitude are just components of human capital. Yet according to Bontis *et al.* (2000), IC can be divided into human, structural and relational capital. Human capital entails aspects such as having employees who are self-driven, have a high level of expertise, are highly motivated to work, can withstand pressure from work, can come up with good ideas, are highly qualified and generally, have the ideal competence (Bontis *et al.*, 2000; Kianto *et al.*, 2017; Bananuka, 2020; Kaawaase *et al.*, 2020). Structural capital entails having systems and databases in place that are a source of knowledge such as manuals and knowledge databases (Bontis *et al.*, 2000, 2018; Bananuka *et al.*, 2019a, b; Bananuka, 2020; Kaawaase *et al.*, 2020). Relational capital aspects include relationships with clients and other stakeholders (Yusoff *et al.*, 2019) that enable exchange of information.

There are also studies that have documented significant associations between IC and financial reporting (e.g. Tumwebaze *et al.*, 2021; Bananuka *et al.*, 2019a, b). Other studies have documented significant associations between IC and firm performance in terms of financial performance (e.g. Soewarno and Tjahjadi, 2020), both financial and non-financial performance (e.g. Kaawaase *et al.*, 2020) and innovation and market performance (e.g. Hussinki *et al.*, 2017). Other studies have documented that there is no significant association between IC and innovation (e.g. Obeidat *et al.*, 2017). In terms of individual IC elements, Khalique *et al.* (2018) documented that human, structural and relational capitals are significantly associated with firm performance in terms of financial, customer, internal business perspective and learning and growth. Further, Wang *et al.* (2021) found human capital, structural capital and relational capital to be significantly associated with innovation speed and quality. No study exists to document the relationship between the various IC components and sustainability reporting except for Yusoff *et al.* (2019) who found that relational capital and structural capital have a positive relationship with business sustainability while human capital does not.

IC is important in the improvement of sustainability reporting practices because if the employees of a firm have the required knowledge, skills and are motivated to work, it is likely that they will fully and wholly heartedly participate in the preparation of all sorts of reports. Further, if companies have got systems and databases in place that support the preparation of sustainability reports, it is more likely that such reports will be in place. Also, the relationship between firm employees and other stakeholders such as industry market leaders and the regulators of accountancy will enable smooth information sharing regarding sustainability reporting. We therefore argue that, IC is at the forefront of improved sustainability reporting practices. Whereas IC has been proved to foster financial reporting, the case may be different with sustainability reporting. This is because financial reporting has been in place for quite some time and as such there are more human resources knowledgeable in the subject. With the emergence of sustainability reporting, some scholars have argued that the concept is not well-defined (e.g. Moneva *et al.*, 2006; Journeault *et al.*, 2021). Such scholars argue that the term sustainability can mean different things to different people in different contexts. This therefore means that, a firm's level of IC determines the extent of sustainability reporting practices. Firms

with a higher level of IC are able to prepare sustainability reports based on the global reporting initiative (GRI) sustainability reporting standards which have been globally accepted as the ideal framework for sustainability reporting.

The purpose of this study is to investigate the association between IC and sustainability reporting practices in Uganda. This study also investigates whether the individual elements (human, structural and relational capital) of IC affect sustainability reporting practices. This study purpose is achieved through a questionnaire survey of 62 financial services firms in Uganda. Results suggest that IC is positively and significantly associated with sustainability reporting practices. Also, human and relational capitals have a positive effect on sustainability reporting in Uganda unlike structural capital. This study was undertaken in Uganda because, *first,* it is one of the African countries where sustainability reporting research has not been undertaken in greater volumes (see Tilt *et al.*, 2021). *Second,* Uganda's population growth rate is at 3% per annum which means that in each year, Uganda's population increases by one million people (Uganda Bureau of Statistics, 2020). Uganda's population in 2014 was 36.9 million people and by 2020, the population was projected at 41.6 million people while the population density by 2020 was 173 persons (Uganda Bureau of Statistics, 2020). This means that there is growing pressure on the use of natural resources to meet the needs of the growing population. *Third*, Uganda being one of the least developing economies means that her focus is still on attraction of foreign investors to boost her gross domestic product and as such less emphasis is more likely to be put on the effects of entity operations on the environment. For example, Uganda is one of those countries that failed to implement the minimum wage and as such, it is likely that Ugandans do not earn what they deserve but rather what employers can give them. Lastly, the regulator of the accountancy profession, the Institute of Certified Public Accountants of Uganda (ICPAU) has undertaken several efforts to promote sustainability reporting through organizing the Financial Reporting (FiRe) awards, organizing seminars and including sustainability reporting topics in its syllabi.

This study focuses on financial services firms which include the banking institutions and the insurance companies. The financial services sector has registered progress in the uptake of sustainability and this can be evidenced in the FiRe awards that are organized by the (ICPAU). According to the Institute of Certified Public Accountants of Uganda (2021), with an exception of 2013, 2015 and 2020, the rest of the years (since 2011–2020), financial services firms were the FiRe award winners of the best sustainability report. The 2016 FiRe awards were excluded since the results were not found on the ICPAU website as at 28 May 2021. Further, the selection of the financial services firms is motivated by the role they pray in financing other companies especially in Uganda given the small stock market. Uganda's stock market (Uganda Securities Exchange) only has 17 companies. This means that the major source of external financing for companies is banks.

This study contributes to the existing literature in the following two ways. First, we contribute to the resource-based view theory by confirming that firms with high amount of resources such as IC have better sustainability reporting practices. Specifically, the results contribute by documenting evidence that human capital and relational capital elements of IC are the resources that can better explain the variances in sustainability reporting practices. The implication of the results is that to improve sustainability reporting practices, emphasis should be on developing the human resources in terms of knowledge acquisition in the field of sustainability reporting. Also, companies need to create an atmosphere that enables interactions between employees and other stakeholders such as the ICPAU and other organizations that are already preparing quality sustainability reports to enable information sharing.

Second, this study results extend existing studies on determinants of sustainability reporting practices (e.g. Tauringana, 2021; Tilt *et al.*, 2020) in developing countries especially Africa where empirical research on the topic is minimal. This study extends and builds on existing studies on sustainability reporting (e.g. Orazalin and Mahmood, 2018; Manetti and Bellucci, 2016; Bhatia and Tuli, 2018; Dienes *et al.*, 2016; Shamil *et al.*, 2014; Thoradeniya *et al.*, 2015; Dissanayake *et al.*, 2019)

whose focus largely on firm specific characteristics and governance attributes. This study adds to existing literature on sustainability reporting by documenting for the first time, the association between IC and its components with sustainability reporting practices.

The finding that IC and its components are significantly associated with sustainability reporting practices in Uganda imply that those charged with governance have to maintain a high level of IC. This can be possible through attraction of professional accountants who are knowledgeable and skilled in sustainability reporting practices and other modern reporting paradigms. Maintaining a high level of IC also requires that existing employees are trained frequently at least annually to remind or update them on revisions being made in the GRI sustainability reporting standards and other emerging issues regarding sustainability reporting. It is also important for financial services firms to have sustainability committees whose role could rotate around the promotion of sustainability accounting and reporting within the respective entity. On the national policy stance, regulators could require their firms to prepare sustainability reports and one such a way is to amend existing laws to incorporate modern reporting practices.

The reminder of the paper is structured as follows. The succeeding section discusses the literature review. Under the literature review section, the theory is discussed and thereafter empirical review. The literature review is then followed by materials and methods. The second to last section is results, and lastly is summary and conclusion.

2. Literature review

2.1 Theoretical foundation

The resource-based view theory suggests that firms with internal resources and capabilities that are rare, valuable, inimitable and non-substitutable have a competitive advantage than those without (Barney, 1991; Kaawaase *et al.*, 2020). In the case of this study, firms with internal resources are expected to have improvements in sustainability reporting practices than those firms without. Internal resources may not be limited to only human resources but also to social capital, physical assets, structural capital and other management systems such as management control systems. Barney (1991) explains that firm resources include all assets, capabilities, organizational processes, firm attributes, information and knowledge controlled by a firm that enable the firm to conceive and implement strategies that improve its efficiency and effectiveness in terms of resources utilization.

According to Barney (1991), other than the physical capital such as structural capital (know-how, assets, location and proximity to raw materials), human capital (knowledge, experience and relationships) and organizational capital (structure, systems and relations) are key in promoting organizational change. In terms of this study, relational capital (interactions among employees and with other stakeholders) is important as it enables knowledge sharing. Human resources for example must have the knowledge or the ability to acquire knowledge and apply it in all situations if such knowledge will lead to the achievement of better sustainability reporting practices. The organizational capital related resources such as structures and systems are critical for sustainability reporting. For example, there should be a clear organizational structure/chart that is easy to understand. Such organizational charts enable employees to understand the reporting lines and the sources of various information to be included in a sustainability report.

The sustainability report requires various information sources such as information from clients which can be obtained from the public relations office, marketing information which can be obtained from the marketing department, financial information which can be obtained from the accounts and or finance officer, production or environment related information which can be obtained from the production department. There is also need by an organization to have systems in place and databases where knowledge has been coded into formal

documents. For example, employees need to access the guidelines for sustainability reporting or the GRI sustainability reporting standards. The entity needs to have policies on disclosures which are clear. The interaction environment created by those charged with governance enables knowledge sharing among people within and outside the organization. With the availability of all such resources in an organization, sustainability reporting practices are likely to be improved in such an organization.

2.2 Hypothesis development

2.2.1 Intellectual capital. IC is the sum of all the intangible and knowledge related resources an organization uses to create value (Kianto *et al.*, 2017). de Villiers and Sharma (2017) noted that IC is an essential element for preparation of sustainability reports. IC is considered a management accounting issue that enables forecasting qualitative and quantitative information (de Villiers and Sharna, 2017). In this case, IC as a management issue would enable the firm to prepare annual reports indicating the social, environmental and economic performances. Massaro *et al.* (2018) provide evidence of the interconnection between IC and sustainability and suggest that it is hard to separate the two. Massaro *et al.* (2018) contend that relational capital is needed if companies are to create shared dialog within their entire value chain in order to reduce on the negative environmental impact of organizational activities.

There are studies that have indirectly linked IC to sustainability reporting/integrated reporting adoption/practices (e.g. Tauringana, 2021; Bananuka *et al.*, 2019a, b; Gunarathne and Senaratne, 2017). These studies focus on few elements of human capital and do not capture other elements of IC. For example, Tauringana (2021) found that lack of expertise, lack of training and the negative attitudes towards sustainability reporting are significantly associated with the likelihood of adoption of sustainability reporting in Uganda. Earlier, Gunarathne and Senaratne (2017) documented that the availability of professional accountants spearheads the adoption of new accounting techniques and reporting practices such as sustainability and integrated reporting. Also, Bananuka *et al.* (2019a, b) document that lack of resources such as human resources explains the slow adoption of integrated reporting among listed firms in Uganda. This study argues that the human capital which is measured in terms of employee skills and abilities, employee trainings and motivation for new reporting practices improves sustainability reporting practices. Structural capital which is measured in terms of knowledge contained in documents and databases including systems such as human resources policies enable the organization to improve their disclosures. Relational capital is helpful in sharing and acquiring knowledge among employees and from external stakeholders such as regulators, universities and professional accountancy bodies. Such knowledge shared is helpful for improving sustainability reporting practices.

Elsewhere in the reporting literature, we find that IC is significantly associated with Internet financial reporting (see Bananuka, 2020) and adoption of international financial reporting standards (see Bananuka *et al.*, 2019a, b). Bananuka (2020) found that IC and Internet financial reporting are significantly associated. Further, Bananuka *et al.* (2019a, b) found IC to be significantly associated with the adoption of international financial reporting standards using evidence from Uganda's microfinance institutions. Therefore, the following hypothesis is stated.

H1. Intellectual capital and has a positive effect on sustainability reporting practices

2.2.2 Human capital. Human capital is the knowledge which is accumulated in the individuals working in the company for example employees' knowledge, skills, attitudes and experience gained as a result of being employed by an organization (Cabrita and Bontis, 2008). For this case, human capital refers to knowledge related to disclosure practices which is accumulated in an individual within an organization. If individuals in an organization such as those in the

accounting or finance department acquire knowledge on preparation of more advanced reports other than the traditional financial reports, it is likely that such an organization with knowledgeable individuals will have better sustainability reporting practices. Studies that link human capital to sustainability reporting only focus on the level of expertise and the training provided to employees (Tauringana, 2021). Studies such as those of Bananuka *et al.* (2019a, b) document that human capital is an important resource for adoption of integrated reporting among Uganda's listed firms. Tumwebaze *et al.* (2021) found that human capital contributes significantly to adoption of IFRS among Uganda's Microfinance institutions (MFI). Bananuka (2020) correlation analysis results indicate that human capital is significantly associated with Internet financial reporting in Uganda.

In other literature, human capital is associated with firm performance though with contradicting results in some cases. For example, Kaawaase *et al.* (2020) indicate that human capital is significantly associated with both financial and non-financial performance of small and medium audit practices. Further, Agostini *et al.* (2017) document that a higher strength of human capital improves innovation performance. Khalique *et al.* (2018) found that human capital is significantly associated with firm performance in terms of financial, customer, internal business perspective and learning and growth. However, Dost *et al.* (2016) found that human capital does not exert a significant impact on innovation generation. Also, Kianto *et al.* (2017) found that human capital does not directly influence innovation performance. Yaseen *et al.* (2016) also found that human capital does not have a direct significant impact on competitive advantage. Despite the mixed empirical results, the following hypothesis is stated based on the resource-based view theory prediction.

H2. Human capital has a positive effect on sustainability reporting practices

2.2.3 Structural capital. Structural capital is the explicit knowledge which is susceptible to being codified into documents and databases for example information systems, cultural traits and management systems (Cabrita and Bontis, 2008; Buenechea-Elberdin *et al.*, 2018). This study defines structural capital as knowledge that is coded in manuals and databases for improved disclosure practices such as sustainability reporting practices. The link between structural capital and sustainability reporting practices is not clearly documented in the existing literature. However, Yusoff *et al.* (2019) found that green structural capital contributes significantly to business sustainability. On the side of other reporting literature, structural capital has been linked to financial reporting. For example, Bananuka (2020) found that structural capital is significantly correlated to Internet financial reporting using evidence from Uganda. Tumwebaze *et al.* (2021) found that structural capital contribute significantly to adoption of IFRS among Uganda's MFI. Further, Bananuka *et al.* (2019a, b) found structural capital to be significantly correlated with adoption of financial reporting standards among Uganda's MFI. From existing literature, it is observed that structural capital is significantly associated with financial reporting practices and performance. It is not clear whether indeed structural capital can matter for sustainability reporting practices. However, this argument here is that firms with internal processes and systems such as clear policies and identifiable sources of information are more likely to have improved sustainability reporting practices than those without. Therefore, the following hypothesis is put forward.

H3. Structural capital has a positive effect on sustainability reporting practices

2.2.4 Relational capital. Relational capital comprises the organizational relationship with various stakeholders (Clarke *et al.*, 2011; Bontis *et al.*, 2000). Scholars like Inkinen *et al.* (2017) and Kianto *et al.* (2014), split relational capital into internal relational capital and external relation capital. In that case, internal relational capital refer to the firms interactions with stakeholders with in the organization while external relational capital is the abilities that the firm relates well with the external stakeholders (Kianto *et al.*, 2014; Inkinen *et al.*, 2017). For

this study, relational capital refers to knowledge embedded in information sharing between the entity employees and other stakeholders. Relational capital encourages the transfer of knowledge from one employee to another or from one organization to another. Knowledge related to sustainability reporting translates into better sustainability reporting practices.

Studies that link relational capital to sustainability reporting practices are uncommon. However, Yusoff *et al.* (2019) found that relational capital is significantly associated with business sustainability. For example, Khalique *et al.* (2018) found that relational capital is significantly associated with firm performance as conceptualized in terms of financial, customer, internal business perspective and learning and growth. Kianto *et al.* (2017) found that relational capital does directly influences innovation performance. Further, Wang *et al.* (2021) found relational capital to be significantly associated with innovation speed and quality. Further, Dost *et al.* (2016) found that relational capital exerts a significant impact on innovation generation. From the foregoing discussion, the hypothesis below is stated.

H4. Relational capital has a positive effect on sustainability reporting

3. Materials and methods

3.1 Design, population and sample

This study's research design was correlational since it aimed at establishing relationships. Data were collected at a particular point in time i.e. data were collected from June 2018 to May 2019 using a questionnaire. The questionnaire was used since it is ideal for capturing perceptions over a large scale in the shortest possible time (Sekaran, 2003). Data were collected from 62 financial services firms. These firms include 24 commercial banks, 29 insurance firms, 4 micro deposit taking institutions and 5 credit institutions. The financial services firms considered in this study form the main stream of the financial services firms in Uganda. The unit of inquiry was the Chief Finance Officer (CFO) and accountants in charge of corporate social responsibility reporting, sustainability reporting or integrated reporting whose responses were aggregated to a level of a financial service firm. The choice of the CFO and accountant was because they have sufficient knowledge on the operations of the firm and preparation of company reports.

In terms of respondent characteristics, 58% of respondents were male, while 42% were female respondents. Majority of the respondents (81%) were mature above 30 years of age. Regarding length of service, majority of the respondents had served the institution for a period between 5 and 10 years (37%), less than 5 years is 33%, 10–15 years is 14% while 16% had served for over 15 years. In terms of professional qualification, 50% were qualified with a CPA (Certified Public Accountant), 39% with ACCA (Association of Chartered Certified Accountant), while 11% with other professional qualifications. Results further indicate that majority of the respondents are degree holders, where 60% indicated to possess a bachelor's degree; 29% possess a master's degree; 4% are PhD holders, while only 1% are diploma holders (see Table 1). This means that the respondents had the required knowledge to understand the questions asked in the questionnaire.

3.2 Validity and reliability of the research instrument

To test for validity of the measurement scales, the questionnaire was designed based on measurement scales from earlier scholars such as Bontis *et al.* (2000), Cabrita and Bontis (2008), Bontis *et al.* (2018) and Kaawaase *et al.* (2020). The questionnaire was given to 10 experts who include 4 academicians, 3 practitioners and 3 policy makers to check the relevance of the questions asked. Content validity index was computed and found to be 0.9. The questionnaire items affected were revised accordingly before proceeding for data

Background information		Frequency	Percentage
Gender	Male	41	58
	Female	29	42
	Total	70	100
Age of the respondent	Less than 30 years	13	19
	30 years and above	57	81
	Total	70	100
Length of service	Less than 5 years	23	33
	5–10 years	26	37
	10–15 years	10	14
	15 years and above	11	16
	Total	70	100
Professional qualification	CPA	35	50
	ACCA	27	39
	Others	8	11
	Total	70	100
Education	Diploma	01	01
	Bachelor's degree	42	60
	Master's degree	20	29
	PhD	03	04
	Others	04	06
	Total	70	100

Source(s): Primary data

Table 1. Demographic characteristics

collection. Further, reliability (internal consistency and stability) of the instruments was tested using Cronbach's alpha coefficient (Cronbach, 1951). The Cronbach alpha coefficients for IC was 0.991. This means that the scales used in this study were reliable since their coefficients were all above 0.75. In addition, factor analysis was performed for IC for purposes of reliability as only those questionnaire items with factor loadings above 0.5 were retailed and for convergent validity as questionnaire items would group themselves into various components which were identified as human, relational and structural capital. According to Field (2009), data can only be subjected to factor analysis if either the communalities are as high as an average of 0.5 or if the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.5 and above. The KMO for IC is 0.796 (see Table 2). This means that all the conditions for factor analysis as recommended by Field (2009) were met.

3.3 Measurement of variables

This study has two main study variables, IC and sustainability reporting practices. Information on IC was obtained from respondents through a questionnaire designed on a 6-point Likert scale while information on sustainability reporting practices was obtained using a disclosure index.

3.3.1 Sustainability reporting practices. The GRI standards 2016 were followed, and the conceptualization of sustainability reporting focused on the environmental, social and economic indicators (topic specific standards). The study used a disclosure index developed from the GRI standards (see Appendix). As Bananuka (2020) noted that information provision culture in Uganda is still lacking, it was not possible to obtain the annual reports of all the financial services firms especially the insurance firms. As such, a disclosure index/checklist in form of a questionnaire was provided to the CFOs to be completed. The checklist had two columns, YES and NO. There was a total of 91 disclosure items on the checklist. These were only topic specific standards. The topic specific standards include GRI 200 series which are concerned with economic performance and these are 6 standards that have 20

Statement	Component Human capital	Structural capital	Relational capital
We have self-driven employees	0.813		
Our employees have a high level of expertise	0.812		
Our employees can withstand pressure from work	0.793		
This financial institution's employees are knowledgeable about their work	0.788		
Our employees are highly motivated in their work	0.787		
Our employees are highly skilled at their jobs	0.773		
Our employees always come up with new ideas	0.772		
Our employees are bright	0.744		
Our employees are satisfied with our working conditions	0.743		
This financial institution usually employs staff who are highly qualified	0.735		
We always upgrade employees' skills	0.712		
Our financial institution has developed team working contexts	0.708		
We strive to bring up our employees to others' level	0.705		
Our employees are the best in the industry	0.688		
Our employees have the ideal competence	0.685		
Our employees are good at problem handling	0.682		
Our employees cooperate in teams	0.679		
Our employees provide technical skills to our customers	0.656		
Most of our employees are more creative	0.653		
Our employees learn from their colleagues	0.644		
We get the most out of our employees	0.607		
There are available materials that guide us on the preparation of sustainability reports	0.602		
Our financial institution has efficient and relevant information systems to support business operations	0.571		
We have a succession training program designed for our employees	0.571		
Our employees can do without thinking	0.559		
Our employees always think actions through	0.549		
Employees in this financial institution always search for knowledge	0.543		
Things that we have learned have improved the performance of the organization		0.823	
Our systems enable us to display our services to our customers		0.806	
Our information system networks are always up to date		0.789	
We have a well-defined organizational structure		0.778	
We have a mechanism for keeping our promises and agreements with our stakeholders		0.765	
In this financial institution, we have learned how to use technologies to improve our reporting		0.758	
The way our financial institution operates is characterized by an atmosphere of trust		0.739	
This financial institution has clear values that guide its employees		0.696	
Information from sector associations is considered in our strategic decisions		0.684	
This financial institution updates us on the new developments in the areas of corporate reporting		0.528	

(*continued*)

Table 2.
Rotated component matrix for intellectual capital

Statement	Component Human capital	Structural capital	Relational capital
In this financial institution, we have started new and up to date reporting practices		0.518	
Our customers help us to enroll or get new customers		0.517	
We maintain regular contact with the sector associations			0.787
Our employees frequently collaborate to solve problems			0.739
Internal cooperation in our financial institution runs smoothly			0.724
In this financial institution, we have started to share knowledge with financial institutions that are ahead of us in reporting practices			0.717
Our financial institution can be described as a learning organization			0.703
In this financial institution, we help one another when it comes to social activities			0.685
In this financial institution, we share knowledge regarding new innovations			0.655
We have good network systems with our customers			0.636
We usually get new ideas on compliance through our customers			0.600
Our employees assist one another in job related activities			0.579
This financial institution has many clear openings to its customers			0.577
Our employees once in a while have an outing together as a group			0.509
Eigen values	40.125	5.705	4.168
Percentage variance	25.210	21.464	19.989
Cumulative percentage	25.210	46.674	66.663

Note(s): Kaiser – Meyer – Olkin Measure of Sampling Adequacy = 0.796; Approx. Chi square = 4242.133; df = 1081; Sig = 0.000; Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization

Source(s): Primary data

Table 2.

disclosure requirements/items, GRI 300 series which are concerned with environmental performance and are 8 standards with 27 disclosure items while the other topic specific standards are the GRI 400 series which are concerned with social performance and these are 19 standards with 44 disclosure items. The respondents were encouraged to use their annual/sustainability/integrated report to complete the checklist. In circumstances where the respondents provided their entity's annual report, the authors of this work validated such results where they found that there were no significant differences. If an item from the GRI standards is disclosed in an annual or sustainability or integrated report, a weight of 1 was given (in this case, a YES) and if not, weight of 0 was given (in this case a NO). After scoring, a percentage level of disclosure on any the performance indicator was computed, where a number of items disclosed were divided by the total number of required disclosures. After obtaining the percentage level of disclosures on a given indicator, the percentage was put on a Likert scale of 1–6 to match the scale of the predictor variable (intellectual capital). In this case 0–16.7% = 1; 16.8 per cent-33.4% = 2; 33.5 percent-50.1% = 3; 50.2 per cent-66.8% = 4; 66.9 per cent-83.5 = 5 and 83.4 per cent-100% = 6. This method has previously been used by accounting scholars such as Nkundabanyanga *et al.* (2021).

3.3.2 Intellectual capital. This variable was conceptualized and operationalized in terms of human capital, structural capital and relational capital. The operationalization of this

variable follows the works of previous studies such as Bontis *et al.* (2000), Cabrita and Bontis (2008), Bontis *et al.* (2018) and Kaawaase *et al.* (2020). Inkinen *et al.* (2017) recently conceptualized IC as human, structural and relational capital, the authors went ahead to include renewal capital, trust capital, entrepreneurial capital and split relational capital into internal and external relational capital. However, this study's conceptualization of IC was limited to the traditional three components of IC (human, structural and relational).

3.3.3 Control variables. This study also controlled for firm age, auditor type and profitability since according to Bartov *et al.* (2000), failure to control for confounding factors may falsely lead to rejection of study hypotheses when in fact they would have been accepted. The measurement of variables is presented in Table 3.

3.4 Common methods variance

In terms of common methods variance, we ensured that data collection is done in two phases. The first phase focused on the independent variable and the second phase focused on the dependent variable. We ensured that the questionnaire does not contain any grammatical errors or double barreled questions. Our respondents were informed in advance that they should not indicate their names on the questionnaire and that the information they provide will be treated for academic purposes only.

3.5 Model

This study used the hierarchical regression model in explaining the relationship between IC and sustainability reporting practices. According to Field (2009), the hierarchical regression

Variable	Acronym	Variable description
Dependent variable		
Sustainability reporting practices	*SRP*	Measured based on the GRI standards 2016 on environmental, social and economic indicators
Predictor variable		
Intellectual capital	*IC*	Measured by average score of questions on a 6-point Likert scale on human capital, structure capital and relational capital
Human capital	*HC*	Measured by average score of questions on a 6-point Likert scale
Structural capital	*SC*	Measured by average score of questions on a 6-point Likert scale
Relational capital	*RC*	Measured by average score of questions on a 6-point Likert scale
Control variables		
Firm age	*AGE*	A dummy variable coded as 0 if the firm has been in operation for at least 5 years, 1 if the firm has been in operation for above 5 years but not more than 10 years, 2 if the firm has been in operation for more than 10 years but not more than 15 years and, 3 if the firm has been in operation for more than 15 years
Auditor type	*AUD*	A dummy variable coded as 0 if the firm is audited by the Big 4 audit firms [such as PwC, Ernst & Young, KPMG, Delloite & Touche], 1 if the firm is audited by the Small & Medium Audit Practices [such as Sejjaaka Kaawaase & Company Certified Public Accountants] and 2 if the firm is always audited by both the Big 4 audit firms and the Small and Medium Audit Practices
Profitability	*PRO*	A dummy variable coded as 0 if the firm made a profit for the previous two years and, 1 if the firm made a loss in the previous two years
	β_0	Constant
	εj	Error term

Table 3. Operational definitions of the study variables included in the multiple regression analysis

model is powerful in explaining which among the independent variables is powerful in explaining the dependent variable. Specifically,

$$\textit{Model 1}: SRP = \beta_0 + \beta_1 AGE + \beta_2 AUD + \beta_3 PRO + \varepsilon_j$$

$$\textit{Model 2}: SRP = \beta_0 + \beta_1 AGE + \beta_2 AUD + \beta_3 PRO + \beta_4 IC + \varepsilon_j$$

$$\textit{Model 3}: SRP = \beta_0 + \beta_1 AGE + \beta_2 AUD + \beta_3 PRO + \beta_4 HC + \beta_5 SC + \beta_6 RC + \varepsilon_j$$

Where: *SRP* is sustainability reporting practices; *AGE* is firm age; *AUD* is auditor type; *PRO* is profitability; *IC* is intellectual capital; *HC* is human capital; *SC* is structural capital; *RC* is relational capital; β_0 is a constant and ε_j is the error term.

4. Results

4.1 Descriptive statistics

Descriptive statistics for the study variables are presented in Table 4. The means and standard deviations for sustainability reporting practices and IC were 3.78 and 1.34 and 4.95, 4.74 and 0.959, respectively. For human capital, the mean and standard deviation are 4.65 and 1.07, respectively, while for structural capital, the mean and standard deviations are 5.16 and 0.94, respectively. The mean and standard deviation for relational capital is 5.18 and 0.81, respectively. According to Field (2009) the calculated means represent the data, while standard deviations show how well the means represent the data. For this study, the calculated means represent the data well. We also present the skewness and kurtosis values whose values lie between −3 and 3 which indicate that the data are normal.

4.2 Correlation analysis

Correlation analysis was run to test for discriminant validity and to obtain preliminary results on the association among the study variables (see Table 5). Results indicate there are no high correlations among the main study variables. Correlation analysis results are presented in Table 5. From Table 5, there is a positive significant relationship between IC and sustainability reporting practices ($r = 0.510^{**}, p < 0.01$). This means that a positive change in the level of IC will lead to a positive change in the level of sustainability reporting practices. Further, human capital is positively and significantly associated with sustainability reporting practices ($r = 0.537^{**}, p < 0.01$). This means that a unit change in human capital translates into a 53.7% change in sustainability reporting practices. Also, structural capital is significantly associated with sustainability reporting practices ($r = 0.375^{**}, p < 0.01$). This result means that a unit change in structural capital translates into a 37.5% improvement in sustainability reporting practices. Finally, relational capital is significantly associated with sustainability reporting practices ($r = 0.492^{**}, p < 0.01$). This means that a unit change in relational capital leads to a 49.2% in improvement of sustainability reporting practices. For control variables, none of them is significant associated with sustainability reporting practices. This means that our model is not affected by confounding factors.

4.3 Hierarchical regressions

To confirm our hypotheses, the multiple regression analysis whose results are presented in Table 6 was run. We are aware that correlation analysis results only provide preliminary evidence on the association between predictor and outcome variables. In Model 1, we entered control variables. These are firm age, auditor type and profitability. We find that none of the control variables is significant. Like in the correlation analysis, our results in model I mean that our model is not affected by the confounding factors. In model 2, we enter IC which we find to be significantly associated with sustainability reporting practices. At this point, the model predicts

Statement	*n* Statistic	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic	Skewness Statistic	Skewness Std. Error	Kurtosis Statistic	Kurtosis Std. Error
Sustainability reporting practices	62	1.07	5.94	4.18	1.10	−0.61	0.30	−0.27	0.60
Environmental indicators	62	1.00	5.83	3.43	1.62	−0.13	0.30	−1.34	0.60
Social indicators	62	1.00	6.00	3.79	1.58	−0.53	0.30	−1.24	0.60
Economic indicators	62	1.00	6.00	5.32	0.85	−2.62	0.30	2.12	0.60
Intellectual capital	62	1.90	5.91	4.99	0.86	−2.01	0.30	1.46	0.60
Human capital	62	1.65	5.71	4.65	1.07	−1.57	0.30	1.76	0.60
Structural capital	62	1.54	6.00	5.16	0.94	−0.67	0.30	1.51	0.60
Relational capital	62	1.00	6.00	5.18	0.81	−0.63	0.30	1.13	0.60
Firm age	62	0.00	3.00	2.00	1.15	−0.68	0.30	−0.80	0.60
Auditor type	62	0.00	2.00	0.34	0.57	1.49	0.30	1.32	0.60
Profitability	62	0.00	1.00	0.92	0.27	−2.16	0.30	3.23	0.60

Source(s): Primary data

Table 4.
Descriptive statistics

Table 5.
Correlations between intellectual capital and sustainability reporting practices

Variable	1	2	3	4	5	6	7	8	9	10	11
Sustainability reporting practices (1)	1										
Environmental indicators (2)	0.924**	1									
Social indicators (3)	0.959**	0.825**	1								
Economic indicators (4)	0.852**	0.645**	0.792**	1							
Intellectual capital (5)	0.510**	0.400**	0.542**	0.465**	1						
Human capital (6)	0.537**	0.397**	0.594**	0.492**	0.930**	1					
Structural capital (7)	0.375**	0.317*	0.373**	0.346**	0.927**	0.786**	1				
Relational capital (8)	0.492**	0.393**	0.521**	0.443**	0.907**	0.758**	0.781**	1			
Firm age (9)	–0.015	–0.104	0.005	0.102	0.014	0.079	–0.061	0.011	1		
Auditor type (10)	0.201	0.231	0.203	0.082	0.067	0.121	0.060	–0.010	–0.251*	1	
Profitability (11)	0.097	0.020	0.153	0.101	0.019	–0.002	–0.106	0.179	0.156	0.177	1

Note(s): **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed)
Source(s): Primary data

Item	Model 1	Model 2	Model 3	Tolerance	VIF
Constant	3.814	0.613	0.750	na	na
Independent variables					
Intellectual capital		0.498**		0.994	1.006
Human capital			0.472**	0.970	1.031
Structural capital			0.311	0.982	1.019
Relational capital			0.400**	0.965	1.036
Control variables					
Firm age	0.025	0.008	−0.030	na	na
Auditor type	0.197	0.159	0.164	na	na
Profitability	0.058	0.058	−0.028	na	na
Model summary					
Model *F*	0.908	5.853	5.081		
R square	0.045	0.260	0.357		
Adjusted *R* square	0.005	0.247	0.286		
F change	0.908	19.804	8.884		
Durbin Watson		2.000	1.978		

Note(s): **Significant at the 0.01 level
Source(s): Primary data

Table 6.
Hierarchical regression analysis results

24.7% (Adjusted $R^2 = 0.247$). This means that H1 is supported. In Model 3, we enter only the specific dimensions of IC. We find that both human and relational capital are significant while structural capital is not. At this point, the model predicts 28.6% (Adjusted $R^2 = 0.286$). So, H2 and H4 are supported unlike H3 which is not supported at this level of analysis.

We also test for multicolinearity at two levels. First, we check whether there are high correlations among the main study variables and find that they fall within an acceptable range that is to say, do not exceed 0.8 (Field, 2009). Second, we run the Durbin Watson test which we find that it is 2.000 for model 2 and 1.978 for model 3. Field recommends a Durbin Watson value of 2 to be the best, but since ours in this study is closer to 2, it is highly likely that there are no serial correlations. Finally, we run other multicolinearity diagnostics such as the variance inflation factor (VIF) and the tolerance values. We also find that the VIF is below 10, while the tolerance values are above 0.2 which according to Field (2009) is acceptable.

5. Discussion

The present study results indicate that IC is significantly associated with sustainability reporting practices. Results further indicate that human capital and relational capital significantly contribute to positive variances in sustainability reporting practices. This study results are consistent with the works of Bananuka (2020) who found that IC is significantly associated with Internet financial reporting. The study results are also in consistent with the finding of Bananuka *et al.* (2019a, b) who found that IC is significantly associated with the adoption of international financial reporting standards. The study results are also in line with the resource-based view theory which suggests that organizations with resources that are not imitable, substitutable and are rare have a competitive advantage than those organizations without. For the specific IC elements, especially the significant relationship between human capital and sustainability reporting practices, the study findings are in line with Tauringana (2021) who found that lack of training, lack of expertise among employees and negative attitude hinder the adoption of sustainability reporting.

Not all the elements of IC are relevant for sustainability reporting practices among financial services firms in Uganda. Human capital is important for improvement of

sustainability reporting practices among financial services firms. This is because, the human capital possess the knowledge and skills that are necessary for improvement in sustainability reporting practices. Given that some of the human capital elements such as expertise, trainings and the motivation by employees in terms of sustainability reporting have been found to be significantly associated with sustainability reporting practices (see Tauringana, 2021) whereby the lack of them stifles its adoption, it is important that employees acquire the necessary expertise through learning and continuous trainings from organizations such as ICPAU and industry leaders in terms of sustainability reporting like Stanbic Bank. Firms whose employees are more qualified and have obtained higher degree qualifications will have better sustainability reporting practices than those without. The finding that human capital does matter for sustainability reporting practices is consistent with the findings for Tumwebaze *et al.* (2021) who found that human capital contributes significantly to the adoption of IFRS. Further, these study findings on human capital and sustainability reporting practices are in line with the findings of Kaawaase *et al.* (2020) whose correlation analysis results indicated that human capital is significantly associated with both financial and non-financial performance. However, the finding that human capital matters for sustainability reporting practices contradicts findings for Yusoff *et al.* (2019) who found that human capital is not significantly associated with business sustainability. This study further contradicts results by Kianto *et al.* (2017) who found that human capital does not significantly improve innovation performance directly.

The relationship between relational capital and sustainability reporting practices exist. Therefore, the knowledge embedded in the relationships aimed at information sharing is important. This means that, interactions among employees or between employees of an entity with stakeholders like academicians and the regulators such as ICPAU pray an important role in the promotion of sustainability reporting practices. This study finding that relational capital and sustainability reporting practices are significantly associated are consistent with previous scholars' findings. For example, Yusoff *et al.* (2019) found that relational capital is significantly associated with business sustainability. Also, Tumwebaze *et al.* (2021) found that relational capital significantly contributes to the adoption of IFRS.

The finding that structural capital is not significantly associated with sustainability reporting practices contradicts a number of previous studies. For example, Yusoff *et al.* (2019) found that structural capital influences business sustainability. Also, Tumwebaze *et al.* (2021) found that structural capital contributes significantly to the adoption of IFRS. This result means that, having knowledge stored on various databases and codified in the documents is not sufficient for improved sustainability reporting practices. This explains why even when there are GRI standards published online, this information seems not to be utilized by some companies. It may be surprising to state that some companies may have all the necessary information regarding the preparation of sustainability reports but such information is never utilized, instead, the simple traditional financial reports continue to be prepared.

Given that Uganda is one of those African countries where the concept of sustainability reporting has been under researched and is one of those least developed countries trying to catch up with the rest of the world, it is important that the financial services firms in such a country focus more on developing its IC capacity to be able to thrive in the competitive world. By having a high level of IC means that the financial service firms not only are able to handle the modern reporting practices but also able to meet any changes in the business sector.

6. Summary and conclusion

This study aimed to establish the effect of IC on sustainability reporting practices in Uganda. The study further aimed at establishing whether the various IC elements as identified in literature independently matter for sustainability reporting practices. The study purpose was

achieved through a questionnaire survey of 62 financial services firms in Uganda where CFOs and accountants were the unit of inquiry. Results suggest that IC is significantly associated with sustainability reporting practices. Also, results indicate that human capital and relational capital matter for sustainability reporting practices.

This study contributes and extends the existing literature on sustainability reporting practices among financial services firms in emerging economies by documenting that IC and its components explain significant variances in sustainability reporting practices. Such a finding is first of its nature given that previous studies have largely focused on firm specific characteristics such as firm size, firm age among others and board governance attributes such as audit committees or board composition as the only possible determinants of sustainability reporting. This study extends Tauringana (2021) study by examining the role of IC and its components on sustainability reporting practices. This study finding mean that, it is not only the firm characteristics variables and board governance attributes that can explain sustainability reporting but rather, there are other variables behind the progress of sustainability reporting practices.

This study finding that IC and sustainability reporting practices are significantly associated confirm the resource-based view theory. Resources of an organization such as the human capital and relational capital are critical for ensuring sustainability issues are taken care of in the financial services sector. Such resources are more important if they are not easily substitutable or imitable and unique. This is possible if such firms can motivate them. One way to motivate employees is through sustainability reporting as they are able to see the benefits they derive from firms that employ them. For example GRI 400 series requires firms to report on benefits provided to employees by their companies and the amount of trainings and other staff welfare issues.

In terms of managerial/practical implications, our study findings show that IC and its components are significantly associated with sustainability reporting practices. Therefore, those charged with governance such as boards of financial services firms are advised to maintain a high level of IC through attracting qualified and professional human resources, building rapport among employees and continuously training employees to ensure they are up to date. It is important to promote cooperation between the entity employees with other organizations as this will further stimulate the acquisition of more knowledge and skills necessary for improved sustainability reporting practices. Further, given the progress of sustainability reporting in Uganda where financial services firms are increasingly getting engaged as can be evidenced in the award winners of FiRe awards organized by ICPAU, it is important that they focus further on the development of their IC. If financial services firms believe in the merits of engaging in sustainability issues and treasures in sustainability reporting, then such firms need to incorporate sustainability issues into their operations by allocating financial and human resources to that docket. It may be a worthwhile endeavor for financial services firms to establish a department and or a sustainability committee whose focus is on improvement in sustainability accounting and reporting practices of respective firms.

In terms of policy implications at the national level, regulatory bodies such as Bank of Uganda and Insurance Regulatory Authority could encourage financial services firms to act in a socially and environmentally responsible manner through amending the existing laws such as financial institutions Act of 2003 and the Insurance Act of 2017. The existing laws could be amended to accommodate the current reporting practices such as sustainability reporting. The government of Uganda could also move to mandate all other sectors to prepare annually, a sustainability report. Uganda is one of those countries that are members of the United Nations and therefore obliged to meet the sustainable development goals by 2030. One such a way is to require all entities in the country to disclose on their sustainability performance as required by SDG 12.6. Society may demand for accountability of all company activities and this will force

firms to prepare sustainability reports as a form of accountability. If such is done, then the negative effects of entity operations on society will be minimized.

Like any other study, our study has got limitations which we discuss alongside areas for further research. First, this study used a smaller sample of financial services firms in Uganda. It is possible that results obtained from such a small sample may be generalized to Uganda and in other countries whose environments are similar to that for Uganda. Future studies may involve other sectors with larger samples so that our results can be validated. Second, the study also focuses on financial services firms on the argument that they provide funding to other forms of businesses. This means that this study results may not be applicable to other sectors such as the manufacturing sector. Future studies may consider manufacturing firms using the same predictor variables or with more predictor variables especially in the context of developing countries.

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Appendix

Environmental sustainability disclosures
The amount of materials used
The amount of recycled input materials used
The amount of energy consumed within the organization from renewable sources such as solar, wind, geothermal and hydropower energy among others
The amount of energy consumed within the organization from non-renewable sources such as coal, oil, natural gas and nuclear energy among others
The amount of energy consumed outside the organization from renewable sources
The amount of energy consumed outside the organization from non-renewable sources
The amount of the reduction in energy consumption
The amount of the reductions in energy requirements of production processes
The amount of water withdrawn from all sources
The amount of water recycled
The amount of (in carbon dioxide equivalent) direct greenhouse gas emissions
The amount of (in carbon dioxide equivalent) energy indirect greenhouse gas emissions
The amount of (in carbon dioxide equivalent) other indirect greenhouse gas emissions
The amount of reduction of greenhouse gas emissions
The amount of emissions of ozone-depleting substances
The amount of water discharge by quality and destination
The greenhouse gas emissions intensity
The water sources significantly affected by withdrawal of water
The operational sites owned in protected areas
The operational sites adjacent to areas of high biodiversity value
Significant impacts of our activities on biodiversity
Habitats protected
Habitats restored
The number of water bodies affected by the used water discharges
The number of cases of non-compliance with environmental laws
The number of new suppliers that were screened using environmental criteria set by NEMA
The negative environmental impacts in the supply chain and actions taken
Social sustainability disclosures
The number of new employee hires
The number of employee turnover
The amount of benefits provided to full-time employees that are not provided to temporary or part-time employees
Matters of parental leave of our staff
The minimum number of weeks' notice provided to employees prior to the implementation of significant operational changes
The number of workers representation in formal joint management–worker health and safety committees
The types of injury that occurred to the employees during the year
The rate at which employees are injured during our production processes
Any occupational diseases that affect employees
The lost days of employees due to injuries sustained at work
The number of employees who were absent during the year
The employees who were injured during the production process
The number of workers with high incidence or high risk of diseases related to their occupation
The health and safety topics covered in formal agreements with trade unions
The number of workers representation in formal joint management–worker health and safety committees
The average hours of training per year per employee
The programs for upgrading employee skills
The percentage of employees receiving regular career development reviews
The number of females and males on the board
The number of females and males on the management team
The number of males and females in the organization
The ratio of basic salary of women to men

(*continued*)

Table A1.
GRI standards based disclosure index

Environmental sustainability disclosures
The number of incidents of discrimination
The corrective actions taken in the event of any discrimination
The operations in which the right to freedom of association may be at risk
The operations in which the collective bargaining may be at risk
The operations at significant risk for incidents of child labor
The operations at significant risk for incidents of forced or compulsory labor
The security personnel trained in human rights policies
The incidents of violations of rights of indigenous peoples
The operations that have been subject to human rights reviews or impact assessments
The employee training on human rights policies undertaken by this firm
Significant investment agreements that include human rights clauses or that underwent human rights screening
The operations with local community engagements
The operations with local community development programs
The operations with significant impacts on local communities
New suppliers that were screened based on our sensitivity on societal issues
The negative social impacts in the supply chain
Any political contributions to various political parties or politicians
Incidents of non-compliance concerning the health and safety guidelines
Incidents of non-compliance with marketing communications guidelines
The complaints concerning breaches of customer privacy
The complaints concerning losses of customer data
Any non-compliance with laws and regulations in the social area
Economic sustainability disclosures
The profit (loss) made
The revenues made
The operating costs of the firm
The dividends paid
Payments to government (taxes and penalties)
The financial implications due to climate change
The retirement plans for our employees
The financial assistance received from government
Ratios of standard entry level wage by gender
The proportion of senior management hired from the local community
The infrastructure investments supported
The significant indirect economic impacts
The proportion of total expenditures on local suppliers
The operations assessed for risks related to corruption
Communications about anti-corruption policies and procedures
Training about anti-corruption policies and procedures
The confirmed incidents of corruption and actions taken
Legal actions for anti-competitive behavior the firm was involved in
Legal actions for anti-trust practices the firm was involved in
Legal actions for monopoly practices the firm was involved in

Table A1.

Corresponding author
Juma Bananuka can be contacted at: jbananuka@mubs.ac.ug