Intellectual capital, isomorphic forces and internet financial reporting

Evidence from Uganda's financial services firms

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Abstract

Purpose – The purpose of this paper is to report on the results of study carried out to examine the contribution of intellectual capital (IC) and isomorphic forces (IF) to internet financial reporting (IFR) among financial services firms in an emerging economy like Uganda.

Design/methodology/approach – This study is cross sectional and correlational. Data were collected through a questionnaire survey of 40 financial services firms. Data were analyzed through correlation coefficients and linear regression using Statistical Package for Social Sciences.

Findings – Results suggest that both IC and IF are significant predictors of IFR among financial services firms in Uganda. However, IF significantly contribute to IFR when IC is not present.

Originality/value – This study provides an initial empirical evidence on the contribution of IC and IF to IFR using evidence from Uganda's financial service firms.

Keywords Uganda, Intellectual capital, Internet financial reporting, Financial services firms, Isomorphic forces

Paper type Research paper

1. Introduction

Internet financial reporting (IFR) is continuously gaining momentum across the globe, with firms publishing their annual reports on their websites. The continuous usage of the internet in financial reporting has attracted academicians in examining the status of internet usage in financial reporting (see Mokhtar, 2017; Dolinšek *et al.*, 2014; Aly *et al.*, 2010). IFR is preferred as compared to the manual (traditional) financial reporting because of its effectiveness in communication over a large group of people, especially investors and other stakeholders at a slightly lower cost and in a timely manner (Dolinšek *et al.*, 2014). Accordingly, IFR is associated with motives such as reducing the cost of disseminating information, providing timely information, enhancing the extent and type of information disclosed, supporting paper-based disclosure practices and improving access to potential investors (Mokhtar, 2017; Financial Accounting Standards Board, 2000). The usage of the internet world over has increased with improvement of internet infrastructure, for example, in 2015, the number of internet users was about 3.4bn, representing 46.40 percent of the world population, and the growth rate of internet users from 2000 to 2015 was 832.50 percent (Mokhtar, 2017; Internet World Stats, 2015). In Africa, internet usage is 35.2 percent of the total population and for Uganda, the number of internet users is about 13m, representing 31.3 percent of Uganda's population (Internet World Stats, 2017). The internet usage in Uganda increased significantly from 9.6 percent in 2010 to 31.1 percent in 2016 (Internet World Stats, 2017). This rapid growth of internet adoption has attracted the attention of practitioners, regulatory bodies and policy makers to embrace the internet usage. Unfortunately in Uganda, there are certain financial institutions that have not bothered to upload their financial performance information on their

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websites, for example, on 12 December 2017, ten commercial banks did not have their annual financial statements for the year ended 31 December 2016 on their websites, and only 2 commercial banks had their quarterly financial statements for the period ended 30 June 2017 published on their websites. Given such a situation, questions continue to abound about which exact mechanism can be employed to ensure that financial statements and other financial information are uploaded on the websites of respective entities in this era of increasing internet usage by various stakeholders.

The literature suggests various determinants of IFR, but calls for further research are also common (see Dolinšek *et al.*, 2014; Dolinšek and Lutar-Skerbinjek, 2018; Momany *et al.*, 2014). Determinants of internet reporting such as firm-specific characteristics (Aly *et al.*, 2010; Dolinšek *et al.*, 2014; Mokhtar, 2017), board independence (Abdelsalam and El-Masry, 2008), corporate governance efficiency (Botti *et al.*, 2014) and audit committee effectiveness (Bin-Ghanem and Ariff, 2016) may possibly not explain enough since, no perception-based study has been carried out to establish the determinants of IFR using a questionnaire survey. In this study, an attempt to respond to calls made by Dolinšek *et al.* (2014) and Dolinšek and Lutar-Skerbinjek (2018) is made through seeking opinions of managers on the determinants of IFR by examining the contribution of intellectual capital (IC) and isomorphic forces (IF) to IFR, since no existing study has attempted to do so. Nkundabanyanga (2016) defined IC as an aggregate expression of intangible assets possessed by an organization. This implies that IC means assets possessed by the firm that are intangible and not quantified, and are thus excluded from firm's financial statements due to the challenge of attaching value to them. Isomorphism is the notion that corporations in similar positions in a field encounter similar circumstances, and so they often construct similar responses to each other on these fronts (Amoako *et al.*, 2017 p. 190). Isomorphism can be understood as a process of socialization in terms of which aspects of everyday life are codified, formalised and institutionalised, ensuring their general acceptance and rendering alternate practices unimaginable (Louw and Maroun, 2017; Meyer and Rowan, 1977). For this study, isomorphism is the constraining process, forcing management and those charged with governance to behave like others facing the same set of environmental conditions.

Studies on the relationship between IC and IFR are minimal in the African context. Existing few studies have linked IC to financial reporting, for example, Graaf (2013) carried out a study on coloring the numbers – on the role of IC in financial reporting and found that IC is highly dependent on financial indicators and can therefore not be treated as the opposite of financial capital. Also, Darabi *et al.* (2012) examined the impact of IC on financial reporting quality and noted a significant association between IC and financial reporting quality. However, most studies have linked IC to firm performance (Tiwari and Vidyarthi, 2018; Nkundabanyanga, 2016; Kamukama *et al.*, 2010; Dženopoljac *et al.*, 2016; Kalkan *et al.*, 2014). IC can be categorized into human, structural and relational capital (Bontis *et al.*, 2000; Nkundabanyanga, 2016; Kamukama *et al.*, 2010). IF have been linked to voluntary disclosures by scholars such as Nyahas *et al.* (2017) who found that IF are positively associated with voluntary disclosures of listed firms in Nigeria. DiMaggio and Powell (1983) categorized IF as follows: coercive, mimetic and normative. Therefore, the desire to understand the contribution of IC and IF to IFR formed the motivation of this study. This study's aim is achieved through a questionnaire survey of 58 Chief Finance Officers (CFOs) and Chief Internal Auditors (CIAs) from 40 financial services firms. Results suggest that IC is a significant predictor of IFR, whereas IF are only a significant predictor of IFR when IC is absent.

This study is important to both the academicians, practitioners, regulators and the society as a whole. The study provides an initial empirical evidence on the contribution of IC and IF to IFR, and thus a call by Dolinšek *et al.* (2014) and Dolinšek and Lutar-Skerbinjek (2018) is partly responded to. Practitioners may then consider developing their IC and respond appropriately to IF. Regulators may have to require financial services firms to

upload their financial statements and general financial information on their websites, whereas the community may demand more disclosures by their interested firms on the internet to reduce information asymmetry.

The rest of the paper is organized as follows. The next section is literature review and hypothesis development, followed by the methodology section and results and discussion section. The last section is summary and conclusion.

2. Literature review

IFR refers to the use of the websites of firms to disseminate information about the financial performance of the corporations (Purba *et al.*, 2013, p. 282). IFR has also been defined as the distribution of corporate financial and performance information using internet technologies such as the World Wide Web (Debreceny *et al.*, 2002; Ashbaugh *et al.*, 1999; Financial Accounting Standards Board, 2000). In this study, IFR has been defined as the distribution of corporate financial performance information and position through the entity's website to a wide range of users for timely decision making. A number of studies suggest determinants of IFR. Studies indicate that firm size and IFR are significantly correlated (Dolinšek and Lutar-Skerbinjek, 2018; Mokhtar, 2017; Ahmed *et al.*, 2017; Mohamed and Basuony, 2015; Dyczkowska, 2014; Dolinšek *et al.*, 2014; Siala *et al.*, 2014; Pozniak, 2013; Dâmaso and Lourenço, 2011; Uyar, 2011; Aly *et al.*, 2010; Trabelsi *et al.*, 2008; Abdelsalam and El-Masry, 2008; Al-shammari, 2007; Bollen *et al.*, 2006; Mendes-da-Silva and Christensen, 2004; Xiao *et al.*, 2004; Oyelere *et al.*, 2003; Rodrigues and Menezes, 2003; Debreceny *et al.*, 2002; Ettredge *et al.*, 2002; Craven and Marston, 1999; Ashbaugh *et al.*, 1999). Pozniak *et al.* (2011) found that firm size and listed status are positively related to the level of corporate social responsibility communication through the web.

However, other scholars documented no significant correlation between the firm size and IFR (see Marston, 2003). Agyei-Mensah (2012) undertook a study on the association between firm-specific characteristics and levels of disclosure of financial information of rural banks in the Ashanti region of Ghana, and found that debt–equity ratio, liquidity, firm size and auditor size are not significantly correlated with levels of voluntary disclosures, whereas profitability is significantly correlated. Profitability and IFR have been found to be significantly related (see Bananuka, Kaawaase, Musimenta and Namusobya, 2018; Ahmed *et al.*, 2017; Homayoun and Rahman, 2010; Aly *et al.*, 2010; Al-Moghaiwli, 2009; Pervan, 2006). Some scholars documented no significant positive association between profitability and IFR (Dolinšek and Lutar-Skerbinjek, 2018; Mohamed and Basuony, 2015; Dâmaso and Lourenço, 2011; Marston, 2003; Al-Shammari, 2007), whereas some documented a negative association (Trabelsi *et al.*, 2008; Xiao *et al.*, 2004). A few scholars revealed that corporate governance attributes/effeciency is significantly correlated with IFR (Bananuka, Kaawaase, Musimenta and Namusobya, 2018; Bin-Ghanem and Ariff, 2016; Botti *et al.*, 2014; Ho and Wong, 2001). Pozniak (2010) found that the performance of a firm is a core determinant of internet financial communication of small- and medium-sized firms quoted on non-regulated markets in Belgium. While conducting a study on determinants of voluntary IFR by local government authorities, Laswad *et al.* (2005) found that leverage, municipal wealth, press visibility, and type of council are associated with IFR practices of local authorities in New Zealand.

In their study, Debreceny and Rahman (2005) found that the frequency and regularity of online disclosure is positively associated with agency costs, earnings, and analyst following, and is inversely related to the length of the product cycle of a firm. Bollen *et al.* (2006) found that company size, level of internationalization, proportion of shares available to individual investors and disclosure environment are significantly related to the extent of investor relation activities on the internet. Ezat and El-Masry (2008) documented that firms

in the service sector that are large and have a high rate of liquidity, a high proportion of independent directors, a large number of board of directors and a high free float disclose more timely information on their websites than those who have a low rate of liquidity, a low proportion of independent directors and a smaller number of board of directors.

Mokhtar (2017) carried out a meta analytic study on the determinants of internet financial reporting, and his findings were that there is a significant positive association between firm size, profitability, leverage, auditor type and IFR. Mokhtar (2017) further found that investor protection, masculinity and economic development moderate the association between profitability, leverage and IFR. Also, Dolinšek *et al.* (2014) found that company size, ownership concentration, legal form and sector of operation have a significant relationship with IFR in Slovenia. As can be seen from the literature above, there are minimal studies that have established a direct link of IC and IFR as well as IF and IFR.

Theoretical foundation

IFR has of late attracted the attention of scholars, with most invoking the agency theory, technology acceptance model (TAM), diffusion of innovation (DOI) theory and signaling theory. In this study, the stakeholder theory is used because of its superiority over the previously used theories in explaining the study phenomenon. The agency theory as developed by Jensen and Meckling (1976) only considers the principal and the agent, that is, only two stakeholders are considered, whereas the stakeholder theory considers a broader spectrum of stakeholders. The TAM, which was developed by Davis *et al.* (1989), predicts how users will adopt a new information technology (IT) and users will focus on two things, that is, the perceived usefulness of IT and the perceived ease of IT. Although TAM seems to be more relevant for IFR, the power of the various stakeholders will determine whether the new technology should be adopted or used in reporting or not. It can thus be argued that those charged with governance and management will find ways and means of disseminating information to various stakeholders for as long as the stakeholders are strong enough to put pressure on those charged with governance and management.

The DOI theory suggests that for an innovation to take shape, there is a need for change agents who will spearhead the adoption of such an innovation (Rogers, 1983). The DOI theory suggests heads of institutions and individuals as change agents. As such, heads of institutions and individuals are some of the stakeholders of firms, and thus the DOI theory is related to the stakeholder theory. Management and board of directors who are the internal stakeholders will make decisions that aim at ensuring that the new accounting system is adopted and used as long as it can be beneficial to the entity. Management and board of directors may respond to pressures, especially if there is pressure from clients, regulators or industry peers. Further, for an innovation to take shape further, there is a need for qualified and capable human resources, adequate systems and a structured relationship between the firm and its clients/customers. An innovation is, thus, welcomed in an organization if it provides easier and better ways of doing things. The signaling theory, as developed by Spence (1974), explaining the behavior of labor markets, posits that if a company is not disclosing information to the various stakeholders, then there is something bad it is hiding. So, in terms of accounting policy choice, the signaling theory predicts that high-quality companies will choose accounting policies that allow their superior quality to be revealed, whereas low-quality companies will choose accounting methods that attempt to hide their poor quality. Low-quality companies might want to maintain a lower profile and restrict access to accounting information to the more determined users. The very use of the internet might itself be a signal of high quality. The signaling theory goes back to reporting to the various stakeholders.

The stakeholder theory is thus appropriate for this study, given the shortcomings of the theories employed in previous studies. From a stakeholder perspective, an organization should attempt to meet multiple goals of a wide range of stakeholders rather than merely those of shareholders. Freeman (2010) argued that business organizations should be more concerned about the interests of other stakeholders while taking strategic decisions. The stakeholder theory often relates to the term "accountability," which is defined by Mulgan (1997) as the responsibility of one party to another in a relationship in which one party entrusts another with the performance of certain duties. From an accounting perspective, accountability refers to the responsibility of an organization to disclose information regarding its performance, financial position, financing and investing, and compliance to accounting standards in order to assist users to make appropriate decisions (Australian Accounting Research Foundation, 1990). Hence, it can be argued that IFR could reduce information asymmetry between the organization and its stakeholders in a timely manner, and, as a consequence, improve the relationships between them.

Having considered the theoretical frame work, it is thus a worthwhile endeavor to explore the empirical literature and develop hypotheses for this study.

Intellectual capital and internet financial reporting

IC has been widely studied but mostly linked to performance and not IFR. In a situation wherein modern technology continues to flourish, financial institutions are left with no option but rather to invest in IC in order to perform better (Ting and Lean, 2009). Ting and Lean (2009) further acknowledged that the physical capital is crucial for operations of financial institutions in Malaysia but IC improves the quality of services extended to clients of such financial institutions. Studies on IC have been common in industries such as banking and finance, pharmaceuticals, and IT (Vishnu and Gupta, 2014). In addition, several research studies have been carried out within the hospitality sector. The main reason why these sectors have been investigated is their logical and natural bend toward the use of knowledge. Surprisingly, no single study has linked IC and IFR in such sectors. Bontis *et al.* (2000) viewed IC in terms of human capital, structural capital and customer capital. Rezaei and Mousavi (2015) defined human capital as the availability of the skills, talents and know-how of employees that are required to perform the everyday tasks needed for the firm's strategy. Clarke *et al.* (2011) and Bontis (2001) indicated that relational capital includes relationships of an entity with third parties such as customers and suppliers. Siddiqui and Asadi's (2014) view is that relational capital is an organizational relation with internal and external associates of the firm including customers, employees, suppliers, strategic alliance partners, stakeholders and industry associates. Chu *et al.* (2006) viewed structural capital as a general system and procedures for solving problems and innovation in terms of organizational and technological capital. Bontis *et al.* (2000) defined structural capital to include all the non-human store houses of knowledge in organizations, which include the data bases, organizational charts, process manuals, strategies, routines and anything whose value to the company is higher than its material value.

Studies on the relationship between IC and IFR are scarce. IC has been linked to financial reporting (Graaf, 2013; Darabi *et al.*, 2012), innovation generation and adoption (Dost *et al.*, 2016) and firm performance (Tiwari and Vidyarthi, 2018; Nkundabanyanga, 2016; Kamukama *et al.*, 2010; Dženopoljac *et al.*, 2016 and Kalkan *et al.*, 2014). Graaf (2013) carried out a study on coloring the numbers – on the role of IC in financial reporting and found that IC is highly dependent on financial indicators and can therefore not be treated as the opposite of financial capital. Also, Darabi *et al.* (2012) examined the impact of IC on financial reporting quality and noted a significant association between IC and financial reporting quality. In the context of IFR, IC may be critical in explaining the variances in IFR among financial services in a developing country like Uganda. Dost *et al.* (2016) found that there is a

positive impact of IC elements of human, relational and organizational capital on innovation generation and adoption. In his study, Nkundabanyanga (2016) found that IC significantly contributes to firm performance. Kamukama *et al.* (2010) also reported a positive association between IC and firm performance. Further, Tiwari and Vidyarthi (2018) documented a positive association between IC and performance of banks. Given that previous studies have found positive associations of IC with financial reporting, innovation generation and adoption as well as firm performance, it is likely that IC will predict IFR among financial services firms. The following can thus be hypothesized:

H1. There is a significant positive relationship between IC and IFR.

Isomorphic forces and internet financial reporting

DiMaggio and Powell (1983) categorized IF as follows: coercive, mimetic and normative. Coercive isomorphism refers to companies being forced into a course of action. DiMaggio and Powell (1991, p. 67) asserted that coercive isomorphism results from both the formal and informal pressures exerted by other organizations on which an organization may be dependent, as well as cultural expectations in which the organizations operate. Coercive isomorphism results from political influence and problems of legitimacy (Amoako *et al.*, 2017). Mimetic isomorphism is a response in which corporations imitate other firms that are viewed as more legitimate and successful (DiMaggio and Powell, 1983). In such situations, companies follow early adopters from the same sector if they are uncertain about new technology, often resulting in diffusion as a "fashion" (Xiao *et al.*, 2004).

Firms, especially commercial banks and insurance firms, in Uganda are adopting IFR, possibly because other firms in the financial services sector are uploading their financial statements and other general financial information on their websites. Normative isomorphism refers to the professionalization of norms, that is, the collective struggle of members of an occupation to define their conditions and methods of work (DiMaggio and Powell, 1983). DiMaggio and Powell (1983) explained that there are two features of professionalization: through formal education (e.g. in universities), which advocates the DOI, and through the establishment and expansion of professional networks across, which new models might diffuse rapidly (Victoria *et al.*, 2009), for example, in Uganda, the Institute of Certified Public Accountants of Uganda (ICPAU) introduced Financial Reporting Awards recently and firms that disclosed more information using various means regarding financial and non-financial aspects of the entity were awarded.

There are hardly any studies linking IF to IFR. In accounting literature, IF have been linked to voluntary disclosures (Nyahas *et al.*, 2017), adoption of international financial reporting standards (Aboagye-Otchere and Agbeibor, 2012; Nurunnabi, 2017; Louw and Maroun, 2017), auditing environmental matters (Chiang, 2010), sustainability reporting (Amoako *et al.*, 2017) and tax compliance (Musimenta *et al.*, 2017). The use of the internet in financial reporting can be explained by the various pressures from regulators and shareholders who are always demanding for detailed information about what is taking place in an organization (Mokhtar, 2017). Aboagye-Otchere and Agbeibor (2012) noted that significant isomorphic pressures such as legal requirements are brought to bear on them to adopt the IFRS for SMEs. Nurunnabi (2017) suggested that isomorphism, especially coercive isomorphism, should be more proactive to ensure a successful implementation of IFRS. Further, Louw and Maroun (2017) argued that isomorphic pressures are an important means for demonstrating how corporate reporting requirements can be enforced and are, therefore, more than just symbolic. Chiang (2010) conducted a study on insights into current practices in auditing environmental matters and found that IF are significant in planning an audit, and this has to do with deciding on whether to audit environmental matters. Chiang (2010) pointed out that if management is interested in the audit of environmental matters,

auditors will have no option but to do so (normative isomorphism). Relatedly, Amoako *et al.* (2017) signposted that institutional isomorphism is connected with sustainability reporting.

Nyahas *et al.* (2017) found that IF are positively associated with voluntary disclosures of listed firms in Nigeria. Other scholars like Musimenta *et al.* (2017) have linked IF with tax compliance and found a significant relationship between IF and tax compliance of small and medium enterprises in Uganda. Kribat *et al.* (2013) noted that pressures from other organizations and pressure from regulators positively impact voluntary disclosure. This implies that firms will be forced to disclose voluntarily non-mandatory information, because other firms in the same industry are doing so or sometimes it could be that regulators have demanded for such information. As IF have been at the center of adoption of new accounting practices, it is highly probable that they can play the same role when it comes to IFR. Therefore, the following can be hypothesized:

H2. There is a significant positive relationship between IF and IFR.

Control variables

The works of Bartov *et al.* (2000) suggested that failure to control for confounding variables could lead to falsely rejecting the hypothesis when in fact it should be accepted. For this reason, the researcher controls for the firm size using number of branches, auditor type and capital structure. As explained earlier under literature review of this paper, there are mixed results regarding the association between the firm size and IFR. Boubaker *et al.* (2012) documented that large audit firms demand more disclosures than small and medium audit practices (SMPs). In their study of audit quality differences among audit firms in a developing economy, Kaawaase *et al.* (2016) found that although there are no significant differences between the Big 4 audit firms and Small and Medium Audit Practices firms (SMPs), the Big 4 audit firms ensure that clients (auditees) are compliant with accounting standards, laws and other regulatory requirements than SMPs. Previous scholars have found a positive and significant association between auditor type and IFR (see Mokhtar, 2017; Ahmed *et al.*, 2017; Bonsón and Escobar, 2006; Kelton and Yang, 2008); however, other scholars have found no association (Samaha and Abdallah, 2012). Nalukenge *et al.* (2017) documented no association between auditor type and internal controls over financial reporting. Therefore, we expect firms audited by Big 4 audit firms to disclose financial information on the internet than those firms audited by SMPs. There are minimal studies that have linked capital structure with IFR. Studies have documented a positive significant association between capital structure and firm performance (Al-Kayed *et al.*, 2014; Shyu, 2013). Using the data obtained from the Taiwan Economic Journal regarding listed manufacturing firms, capital structure was found to have a significant positive effect on performance in group-affiliated firms. Al-Kayed *et al.* (2014) found that Islamic banks that use more equity than debt perform better than those that rely on majorly debt financing. In this study, it is expected that capital structure will be associated with IFR.

3. Methodology

Research setting

This study was done in Uganda, a landlocked country in East Africa that borders with Kenya in the east, South Sudan in the north, Democratic republic of Congo in the west, Rwanda in the south west and Tanzania in the south. Uganda gained independence from Britain on 9 October, 1962. In the past decades, Uganda has had civil wars like the National Resistance Army Bush War and later the Lord's Resistance Army and the Allied Democratic Forces. These wars have wide-ranging effects on internet connectivity, given that internet providers may not be able to work efficiently. In 1998, Uganda liberalized the telecommunications sector and since then, there has been a notable growth, with four major mobile telecom operators and more than 30 internet service providers. The internet use

stands at 20 percent of the population, whereas teledensity is 52 cellphones per 100 inhabitants (CIPESA, 2014). Uganda is one of those countries in Africa that have a low internet connectivity (Belson, 2016). Because of the low internet connectivity, it may take longer for a firm to upload its financial statements on its website as compared to those countries where internet connectivity is very fast. According to CIPESA (2014), Information Communication Technology uptake is hampered by the poor spread of infrastructure, low literacy levels and high cost of access. The high cost of accessing internet in Uganda is partly because it is landlocked; Uganda has to build or pay for backhauling costs through Kenya and Tanzania in order to access fiber cables at the Indian Ocean coast (CIPESA, 2014). However, with all such challenges, some firms, like Stanbic Bank, have struggled to upload their financial statements and other online general financial information, whereas others have not uploaded anything and this may be explained by their IC and possibly IF, given that Stanbic bank is a member of the Standard bank group of South Africa, with a large audience (large number of stakeholders). Financial services firms are those firms charged with provisioning of financial services, for example, according to the Financial Institutions Act (2004) of the Republic of Uganda, banks may provide services like acceptance of call, demand, savings and time deposits withdrawable by cheque or otherwise; provision of overdrafts and short-to-medium-term loans; provision of foreign exchange facilities; acceptance and discounting of bills of exchange; provision of financial and investment advice; participation in inter-bank clearing systems; provision of guarantees, bonds or other forms of collateral, and acceptance and placing of third party drafts and promissory notes connected with operations in which they take part. The insurance sector is an infrastructural pillar of the financial services sector and the economy as a whole. Insurance firms provide medical insurance, life assurance and general insurance services. The financial services firms under study are regulated by Bank of Uganda and the Insurance Regulatory Authority. The commercial banks are governed under the Financial Institutions Act (2004, 2016) as amended, whereas the insurance firms are governed under the Insurance Act of 2017. Both Acts do not require any firms to publish their financial statements on the website. This implies that IFR in Uganda is voluntary.

Design, population and sample

This study's research design is cross sectional and correlational. The study population was 53 financial services firms (Bank of Uganda, 2017; Insurance Regulatory Authority, 2017) in which 24 firms were commercial banks, whereas 29 firms were insurance firms. Financial services firms were selected for this study, given that the ICPAU lists them as publicly interested entities. Financial services firms have a large audience who is interested in knowing what is happening around their operations. Further, a number of surprise corporate collapses have been evidenced in Uganda, especially in commercial banks, for example, Crane Bank, Global Trust Bank, National Bank of Commerce, Greenland Bank among others. According to Bananuka, Kaawaase, Musimenta and Namusobya (2018), a number of reasons explain the collapse of banks, but their collapse comes as a surprise due to information asymmetry. The insiders are possibly aware of what is happening but the outsiders are not aware of any wrong happening in the bank. Given the small population under study, the entire population was studied. Of the 53 financial services firms, completed questionnaires were received from 40 firms, indicating a response rate of 75 percent. The response rate was high for a survey of this type, considering that previous studies involving such surveys were known to generate lesser percentage response rates. The higher percentage response rate was possible because respondents were given three months to complete the questionnaire and a number of call backs were made. The unit of analysis of this study was a firm and the unit of inquiry was the CIAs and the CFOs. For the unit of inquiry, the male respondents were 38 (or about 65 percent) and the female

respondents were 20 (or about 35 percent). About 62 percent had completed university education (bachelor's degree) and 38 percent had master's degree; 43 percent were members of the ICPAU, 48 percent were members of Association of Chartered Certified Accountants (ACCA) and 5 percent were members of other professional bodies; 58 percent of the respondents had a work experience in the same firm for a period of more than 5 years, and this meant that they had the necessary experience for this study.

The questionnaire

A five-point Likert scale questionnaire, ranging from strongly disagree to neutral to strongly agree, designed to measure the opinion of a respondent was utilized. Questionnaires may contain close-ended questions and open-ended questions. According to Sudman and Bradburn (1982), open-ended questionnaires encourage respondents to give their opinion fully and with as much nuance as they are capable. However, this approach was not applicable. This study utilized a questionnaire with close-ended questions, since it aimed at calculating the mean ratings of the extent of agreement with the statements given. The questionnaire was divided into two parts: Part A was about the general information regarding respondents and firm-specific characteristics: Part B was about the main study variables. The main study variables were IC, IF and IFR.

Measurement of variables

The dependent variable for this study is IFR. IFR is a function of online general financial information and financial statements presentation (Dolinšek, and Lutar-Skerbinjek, 2018; Ahmed *et al.*, 2017; Bin-Ghanem and Ariff, 2016; Dolinšek *et al.*, 2014; Uyar, 2011; Bozcuk *et al.*, 2011: Aly *et al.*, 2010). Earlier scholars such as Dolinšek and Lutar-Skerbinjek (2018) have regarded IFR as voluntary and used a disclosure index that tap into matters of uploading financial statements on the entity's website and also displaying general financial information on the entity's website. Previous scholars have used disclosure indices to assess IFR but they have called for a perception-based study in which financial information users' opinions are sought. In this study, the disclosure indices of scholars such as Dolinšek and Lutar-Skerbinjek (2018), Ahmed *et al.* (2017), Bin-Ghanem and Ariff (2016), Dolinšek *et al.* (2014), Uyar (2011), Bozcuk *et al.* (2011) and Aly *et al.* (2010) are turned into statements wherein respondents indicate their degree of agreement or disagreement with such statements (strongly disagree 1, Neutral 3 and strongly agree 5). A perception-based study is helpful in equipping those firms that are not mindful or not aware of IFR to understand what it is all about. Therefore, the perception-based approach plays an important role in disseminating information to management and those charged with governance in those firms that are slow at adoption of IFR. Statements such as "this firm's dividend pay ratio for the previous years is uploaded on the entity's website," "this entity's website has the financial calendar of the current year"', "video documentaries capturing the entity's performance is uploaded on the entity's website" were used to measure online general financial information. For financial statements presentation, statements such as "our entity uploads a statement of financial position on its website for the past accounting period," our entity uploads a statement of profit or loss on its website for the previous accounting period', "this entity's financial statements are in a downloadable format" were used as measures.

IC was operationalized in terms of human capital, structural capital and relational/customer capital. The operationalization of IC was in line with earlier scholars (see Bontis *et al.*, 2000; Kamukama *et al.*, 2010; Kamukama *et al.*, 2011; Kamukama, 2013; Kalkan *et al.*, 2014; Nkundabanyanga, 2016). Human capital scale included items tapping into the knowledge stock of an organization as represented by its employees, availability of the skills, talents and know-how required to perform the everyday tasks that were needed for the firm's strategy. The scale for relational capital included items that measured

relationships of an entity with third parties such as customers and suppliers. Measurement scales of structural capital, as advanced by Bontis *et al.* (2000), which tap into all the "non-human store houses" of knowledge in organizations such as data bases, organizational charts, process manuals, strategies, routines and anything whose value to the company was higher than its material value, were used. Statements such as "this firm usually employs staff who are highly qualified," "this firm's employees are knowledgeable about their work," "our employees can withstand pressure from work" were used to measure human capital. Statements such as "our systems make it easy to access relevant information," "this firm promotes a culture of teamwork," "our information systems are stable" were used to measure structural capital, whereas relational capital was operationalized using measures such as "this firm has many clear openings to its customers via the internet," "our firm displays her services near to our customers via the internet" and "we usually get new business ideas from our online customers." IF was studied in terms of mimetic, coercive and normative isomorphism/forces (Louw and Maroun, 2017; Nurunnabi, 2017; Nyahas *et al.*, 2017; Musimenta *et al.*, 2017; Aboagye-Otchere and Agbeibor, 2012; DiMaggio and Powell, 1983; Meyer and Rowan, 1977). For coercive forces, statements such as "we upload our financial information because our regulator or clients requires us to do so," "we upload our financial statements on the internet because we may be penalized for not disclosing enough" were used as measures of coercive forces. Client-related pressures were also recognized as part of the coercive forces, the other being regulatory pressures. Mimetic forces were measured through statements such as "we follow industry leaders when dealing with new developments," "our practice of financial reporting is shaped by peers in the industry," and "we upload our financial information on our website because other players in the industry are doing so." Normative isomorphism was measured through statements such as "our staff are encouraged to adhere to professional code of ethics of their respective professions" and "our industrial association emphasizes adherence to professionalism" (Table I).

The model

The study utilized a hierarchical regression model in investigating the contribution of IC and IF to IFR among financial services firms in Uganda. Specifically, the model below was tested:

$$\text{IFR} = \beta_0 + \beta_1 \text{AUD} + \beta_2 \text{CAP} + \beta_3 \text{SIZE} + \varepsilon_j, \tag{1}$$

$$\text{IFR} = \beta_0 + \beta_1 \text{AUD} + \beta_2 \text{CAP} + \beta_3 \text{SIZE} + \beta_4 \text{IC} + \varepsilon_j, \tag{2}$$

$$\text{IFR} = \beta_0 + \beta_1 \text{AUD} + \beta_2 \text{CAP} + \beta_3 \text{SIZE} + \beta_4 \text{IF} + \varepsilon_j, \tag{3}$$

$$\text{IFR} = \beta_0 + \beta_1 \text{AUD} + \beta_2 \text{CAP} + \beta_3 \text{SIZE} + \beta_4 \text{IC} + \beta_5 \text{IF} + \varepsilon_j, \tag{4}$$

where IFR is Internet financial reporting, AUD is auditor type, CAP is capital structure, SIZE is firm size, IC is intellectual capital, IF is isomorphic forces, β_0 is a constant and ε_j is the error term.

Validity and reliability of the research instrument

Content validity index and Cronbach's α were used to test the validity and reliability of the scales as measures of the study notions. The overall content validity index for this study was 0.91, whereas Cronbach's reliability index for IC, IF and IFR was 0.934, 0.854 and 0.965, respectively. Cronbach (1951) explained that if the Cronbach's α coefficient of the study

Table I. Operating definitions of the study variables

Global variable variable	Acronym	Dimensions	Measurement	Definition	Sample item scale
Intellectual capital	IC	Human capital	Respondents' mean rank of the four items of information included in the questionnaire on a five-point Likert scale	Intellectual Capital is the aggregate expression of intangible assets possessed by an organization (Nkundabanyanga, 2016)	This firm's employees are knowledgeable about their work
		Structural capital	Respondents' mean rank of the six items of information included in the questionnaire on a five-point Likert scale		Our systems make it easy to access relevant information
		Relational capital	Respondents' mean rank of the seven items of information included in the questionnaire on a five-point Likert scale		We have good network systems with our customers via the internet
Isomorphic forces	IF	Mimetic forces	Respondents' mean rank of the six items of information included in the questionnaire on a five-point Likert scale	Isomorphism is the constraining process, forcing management and those charged with governance to behave like others facing the same set of environmental conditions	Our practice of financial reporting is shaped by peers in the industry
		Coercive forces	Respondents' mean rank of the five items of information included in the questionnaire on a five-point Likert scale		We upload our financial statements on our website because we may be penalised for not disclosing enough
		Normative forces	Respondents' mean rank of the three items of information included in the questionnaire on a five-point Likert scale		Our industrial association emphasizes adherence to professionalism
Internet financial reporting	IFR	Financial statements presentation	Respondents' mean rank of the 16 items of information included in the questionnaire on a five-point Likert scale	Internet financial reporting is the distribution of corporate financial performance information and position through the entity's website to a wide range of users for timely decision making	Our entity uploads a statement of profit or loss on its website for the previous accounting period
		Online general financial information	Respondents' mean rank of the ten items of information included in the questionnaire on a five-point Likert scale		Video documentaries capturing the entity's performance are uploaded on the entity's website
Auditor type	AUD		Dichotomous variables: 1 if the firm is audited by small and medium audit practices (SMPs); "0" otherwise		
Capital structure	CAP		1 if the firm uses both equity and loans, 2 if the firm's source of finance is only loans, and"0" otherwise		
Firm size	SIZE		Dichotomous variables: 1 if the firm has more than 20 branches; "0" otherwise		
β_0			Constant		
εj			Error term		

variables is 0.7 and above, the research instrument is reliable. Nunnally *et al.* (1967) recommended an acceptable α of 0.5–0.6, whereas Nunnally (1978) increased the level of acceptance and considered that α should exceed the minimum of 0.7 for internal consistency. However, Nunnally and Bernstein (1994) suggested a rule of thumb level higher than 0.7 with as low as 0.6 being an α accepted for a new scale. All in all, the reliability test results affirm that all the components of the instrument had an acceptable Cronbach's α greater than 0.7, which indicates that the instrument was reliable. To establish convergent validity, the principal components for each variable were extracted by running principal component analysis using Varimax rotation method, and factor loadings below 0.5 coefficients were suppressed to avoid extracting factors with weak loadings. Prior to performing the principal component analysis for scales, an assessment of the suitability of the data for factor analysis based on sample size adequacy, the Kaise–Meyer–Olkin (KMO) and Bartlett tests was done. The results show the KMO values for IC, IF and IFR as 0.767, 0.703 and 0.824, respectively (see Tables II–IV). According to Field (2009), the KMO statistic varies between 0 and 1. Field (2009) further explained that a value of 0 indicates that the sum of partial correlations is large, relative to the sum of correlations, indicating dispersion in the pattern of correlations (hence, factor analysis is likely to be inappropriate). However, a value close to 1 indicates that patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors (Field, 2009). KMO values of 0.5 and above are acceptable.

Item	Component		
	Mimetic forces	Coercive forces	Normative forces
Our practice of financial reporting is shaped by peers in the industry	0.851		
We copy industrial peers in coping up with environmental uncertainties in our organizational practices	0.848		
We upload our financial information on our website because other players in the industry are doing so	0.834		
We upload financial information on our website since other players are doing so	0.802		
We follow industry leaders while dealing with new developments	0.781		
We benchmark our competitors while preparing for uncertainties	0.739		
We upload our financial statements on our website because we may be penalized for not disclosing enough		0.870	
We upload our financial information because our regulator and clients require us to do so		0.843	
Our website is monitored by our regulator and clients to be sure that financial information has been uploaded		0.832	
Our regulator and clients require us to disclose any information that is vital to third parties on our website		0.742	
Our license to operate may be invoked by the regulator and client if we do not disclose enough using all the available means		0.612	
Our industrial association emphasizes adherence to professionalism			0.941
Our staff members are encouraged to adhere to professional code of ethics of their respective professions			0.934
Our organization considers professional qualifications in its recruitment policy			0.782
Eigenvalues	4.86	2.78	2.20
Percentage of variance	29.49	22.88	18.02
Cumulative percentage	29.49	52.37	70.39

Table II.
Factor structure for isomorphic forces

Notes: Extraction method, principal component analysis; rotation method, Varimax with Kaiser normalization. KMO = 0.703; Approx. $\chi^2 = 590.17$; Bartlett's test of Sphericity: df = 91; Sig. = 0.000
Source: Primary source

Item	Component Relational capital	Structured capital	Human capital
We have good network systems with our customers via the internet	0.871		
Our systems ensure that our customers are always in touch with this firm via online chatting on the entity's website	0.803		
Our firm displays its services nearer to our customers on the internet	0.802		
This firm has many clear openings to its customers via the internet	0.779		
At times, customers participate in deciding the matters that affect them via the firm's website	0.778		
Our networks with our customers have made this firm what it is	0.726		
We usually get new business ideas from our online customers	0.699		
Our systems make it easy to access relevant information		0.835	
Our information systems are stable		0.755	
Customers help this firm to improve or update its services		0.692	
Our customers help us to enroll or get new customers		0.666	
This firm promotes a culture of teamwork		0.659	
Employees in this firm are result oriented		0.645	
This firm's employees are knowledgeable about their work			0.893
This firm usually employs staff members who are highly qualified			0.845
Our employees can withstand pressure from work			0.765
We have self-driven employees			0.730
Eigenvalues	7.934	3.548	2.124
Percentage of variance	23.907	21.034	19.847
Cumulative percentage	23.907	44.941	64.788

Notes: Extraction method, principal component analysis; rotation method, Varimax with Kaiser normalization. KMO = 0.767; Approx. $\chi^2 = 978.551$; Bartlett's test of Sphericity: df = 210; Sig. = 0.000
Source: Primary source

Table III.
Factor structure for intellectual capital

Kaiser (1974) recommended accepting values greater than 0.5 as barely acceptable (values below this should lead the researcher to either collect more data or rethink which variables to include). Furthermore, values between 0.5 and 0.7 are mediocre, values between 0.7 and 0.8 are good, values between 0.8 and 0.9 are great and values above 0.9 are superb (Hutcheson and Sofroniou, 1999). The KMOs for the study variables are all above 0.5, which is acceptable. Bartlett's test of Sphericity in all scales reached statistical significance ($p < 0.05$) (significant value was 0.00 for each scale). The major reason for carrying out factor analysis is to reduce the data into a manageable size (Field, 2009).

Data analysis and respondent bias

Before data analysis, data were checked for completeness, and simple frequency runs were performed to screen the data so as to identify missing values. The identified missing values were a result of omissions made by respondents and constituted 0.05 percent of the data, and thus considered trivial (Little and Rubin, 2002). Thereafter, factor analysis was run basically to summarize the data and to find out the amount of variance in the study constructs explained by the scale items. Given that this study's unit of inquiry was CFOs and CIAs, it is possible that since CFOs are the ones responsible for preparation of financial statements and subsequently uploading them on the entity's website, their level of agreement or disagreement with the statements given could have been exaggerated. To control such bias, responses were also received from CIAs and data were finally aggregated. Data analaysis was thus done at the firm level and this limits the effects of respondent's bias. After data aggregation, descriptive statistics and correlation analysis were undertaken. A hierarchical regression analysis was run to confirm the study hypotheses and provide evidence of the contribution of IC and IF to IFR.

Item	Component: Financial statements presentation	Component: Online general financial information
Our entity uploads a statement of profit or loss on its website for the previous accounting period	0.928	
Our entity uploads a statement of financial position on its website for the past accounting period	0.882	
Our entity uploads a statement of profit or loss on its website for the current accounting period	0.881	
This entity's financial statements are easily visible on the website	0.874	
Our entity uploads a statement of financial position on its website for the current accounting period	0.867	
Our entity uploads a statement of cash flows for the year ended for the previous accounting period on its website	0.866	
Our entity uploads a statement of changes of equity for the previous accounting period on its website	0.849	
This entity's financial statements are in a downloadable format	0.847	
Our entity uploads a statement of cash flows for the year ended for the current accounting period on its website	0.824	
This entity's financial statements are in a PDF format	0.804	
Our entity uploads a statement of changes of equity for the current accounting period on its website	0.786	
Our entity uploads its accounting policies on its website	0.778	
This entity's website has a tab for investor relations	0.723	
This entity's annual reports are uploaded on the entity's website	0.698	
This entity's financial highlights are uploaded on the entity's website	0.612	
The chairman's statement for the current year is uploaded on this entity's website	0.515	
Last year's financial calendar is uploaded on the entity's website		0.858
Interactive share price charts can be found on this entity's website		0.848
The name of investor relations or the public relations officer is on the entity's website		0.833
The email address of the entity's investor relations officer or public relations officer is displayed on this entity's website		0.811
This entity's website has the financial calendar of the current year		0.802
This firm's dividend pay ratio for the previous years is uploaded on the entity's website		0.760
Video documentaries capturing the entity's performance are uploaded on the entity's website		0.711
This entity has an option on its website for email subscription alerts		0.659
This entity's financial statements are in an alternative currency		0.601
This entity's share prices are uploaded on its website		0.586
Eigenvalues	13.77	3.97
Percentage of variance	42.24	26.04
Cumulative percentage	42.24	68.28

Table IV.
Factor structure for internet financial reporting

Notes: Extraction method, principal component analysis; rotation method, Varimax with Kaiser normalization. KMO = 0.824; approx. $\chi^2 = 1885.32$; Bartlett's test of Sphericity: df = 325; Sig. = 0.000
Source: Primary data

4. Results

Descriptive statistics

A summary of descriptive statistics for IC, IF and IFR is shown in Table V. Mean values are computed from data coded from strongly disagree (1) to neutral (3) to strongly agree (5). The means and standard deviations are reported, since the means exemplify a summary of the

Variable	*n* Statistic	Min. Statistic	Max. Statistic	Mean Statistic	SD Statistic	Skewness Statistic	SE	Kurtosis Statistic	SE
Internet financial reporting	40	1.38	5.00	3.08	1.02	−0.06	0.37	−1.26	0.73
Intellectual capital	40	2.29	5.00	3.97	0.54	−0.55	0.37	1.26	0.73
Isomorphic forces	40	1.79	5.00	3.68	0.64	−0.42	0.37	0.85	0.73
Auditor type	40	0.00	1.00	0.16	0.36	1.90	0.37	1.79	0.73
Capital structure	40	0.00	1.00	0.36	0.48	0.59	0.37	−1.70	0.73
Firm size	40	0.00	2.00	0.88	0.88	0.25	0.37	−1.70	0.73

Source: Primary data

Table V.
Descriptive statistics

data and standard deviations show how well the means represent the data (Nkundabanyanga *et al.*, 2014; Field, 2009). The mean values for IC, IF and IFR are 3.97, 3.68 and 3.08, respectively, whereas standard deviations were 0.54, 0.64 and 1.02, respectively. As standard deviations relative to mean values are small, the calculated means highly represent the observed data (Nkundabanyanga *et al.*, 2015; Field, 2009; Saunders *et al.*, 2007). However, for IFR, the standard deviation is slightly larger, and this indicates inconsistency. The reason for a lower mean for internet reporting is simply that some firms do not completely upload their financial statements and other general financial information on their website. The minimum score of 1.38 for IFR is a clear indicator of firms not embracing IFR. The minimum score for IC is 2.29, whereas for IF, it is 1.79, and this is better as compared to IFR.

Correlation analysis results

Table VI shows correlation analysis results. The correlation analysis results reveal that IC has a significant positive relationship with IFR ($r = 0.534^{**}$, $p < 0.01$). This finding implies that a positive change in IC will lead to a positive change in IFR. In terms of IC constructs, both of them are positively associated with IFR. Further, correlation analysis results reveal that IF is positively and significantly associated with IFR ($r = 0.417^{**}$, $p < 0.01$). For IF dimensions of mimetic forces, coercive forces and normative forces, only mimetic and coercive forces are positively and significantly associated with IFR. Normative isomorphism is not significantly associated with IFR. Therefore, preliminarily, *H1* and *H2* are supported. In terms of control variables, there is a weak positive relationship between auditor type, firm size and IFR. Capital structure is positively associated with IFR ($r = 0.345^{*}$, $p < 0.01$).

Regression analysis results

After obtaining preliminary results from the bivariate correlations between the independent and the dependent variable, a regression analysis was run to further substantiate the study hypotheses. Regression results, as presented in Table VII, indicate that both IC and IF explain 33.7 percent of the variance in IFR (Adjusted $R^2 = 0.337$). However, IF are a significant predictor of IFR in the absence of IC. A hierarchical regression analysis tool was used to establish the contribution of independent variable to IFR. In a hierarchical regression, predictors are selected on the basis of the past work and one decides in which order the predictors should be entered into the model, but most preferably based on their level of importance in predicting the outcome variable (Field, 2009). The hierarchical regression analysis is powerful in testing which independent variable contributes more to the variances in the dependent variable and also indicates the incremental power of an additional independent variable to the already existing variable(s) in explaining the dependent variable (Sekaran, 2003; Field, 2009). The hierarchical regression analysis has been used to confirm hypotheses by previous accounting scholars such as Musimenta *et al.* (2017),

Table VI.
Zero-order correlations

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Internet financial reporting (1)	*1*													
Financial statements presentation (2)	0.947**	1												
Online general financial information (3)	0.814**	0.584**	1											
Intellectual capital (4)	*0.534***	*0.553***	*0.348**	*1*										
Human capital (5)	0.554**	0.580**	0.350*	0.606**	1									
Structural capital (6)	0.348*	0.359*	0.229	0.803**	0.538**	1								
Relational capital (7)	0.406**	0.419**	0.268	0.847**	0.215	0.433**	1							
Isomorphic forces (8)	*0.417***	*0.437***	*0.262*	*0.609***	*0.226*	*0.505***	*0.566***	*1*						
Coercive forces (9)	0.438**	0.454**	0.285	0.257	0.191	0.242	0.181	0.717**	1					
Mimetic forces (10)	0.318*	0.324*	0.220	0.622**	0.142	0.417**	0.678**	0.829**	0.288	1				
Normative forces (11)	−0.056	−0.023	−0.101	0.308	0.139	0.442**	0.157	0.385*	0.042	0.167	1			
Auditor type (12)	0.082	0.185	−0.127	0.356*	0.126	0.292	0.336*	0.370*	0.160	0.410**	0.098	1		
Capital structure (13)	0.345*	0.263	0.397*	0.181	0.229	−0.075	0.243	−0.052	−0.107	0.016	−0.024	−0.052	1	
Firm size (14)	0.137	0.195	−0.007	−0.104	0.066	−0.079	−0.145	−0.114	−0.096	−0.187	0.213	0.025	0.140	1

Notes: *Correlation is significant at 0.05 level (two-tailed); **correlation is significant at 0.01 level (two-tailed)
Source: Primary data

Item	Model 1	Model 2	Model 3	Model 4	VIF	Tolerance
Constant	2.692	1.335	1.109	1.756		
Intellectual capital		0.549**		0.399**	1.230	0.813
Isomorphic forces			0.481**	0.261	1.179	0.848
Control variables						
Auditor type	0.098	−0.106	−0.081	−0.148		
Capital structure	0.338	0.217	0.346	0.254		
Firm size	0.087	0.166	0.146	0.176		
Model F	1.902	5.413**	4.372**	4.960**		
R^2	0.137	0.382	0.333	0.422		
Adjusted R^2	0.065	0.312	0.257	0.337		
F change	1.902	13.901**	10.307**	2.328**		
R^2 change	0.137	0.245	0.196	0.040		

Note: **Significant at the 0.01 level
Source: Primary data

Table VII.
Hierarchical regression analysis

Bananuka, Nkundabanyanga, Nalukenge and Kaawaase (2018), Kabuye *et al.* (2017). Control variables were therefore entered first (in Model 1) in order to eliminate the noise they may have in the final model. Model 1 in Table VII is the starting model with only control variables, and results indicate that control variables do not explain any significant variance in IFR. This also means that the research models are not sensitive to confounding factors and the models are highly credible. The standardized β values were used in this study and not the unstandardized β, because the latter takes on real values with no common measurement and yet this study had control variables that were measured differently from the study variables. In Model 2, IC was entered and found significant (standardized $\beta = 0.549$). In Model 3, IF were entered and found significant (standardized $\beta = 0.481$). However in Model 4, both IC and IF were entered, and only IC was found significant. IC with or without IF predicts IFR. In the absence of IF, IC predicts 31.2 percent of IFR, whereas in the absence of IC, IF predict 25.7 percent of the variance in IFR. Therefore, IC has a higher predictive potential of IFR than IF.

5. Discussion

Based on the current results, the exact mechanism through which IC and IF contribute to IFR is now known. It can thus be noted as follows:

(1) Both IC and IF contribute to positive variances in IFR of financial services firms, but the contribution made by IF will not be significant in the presence of IC. IC, with or without IF, will predict IFR.

(2) The contribution of IC is better observed through the human capital than the structural and relational capital. So, the human capital component of IC is more pronounced in predicting IFR.

(3) IF can better be observed in predicting IFR when mimetic and coercive forces are stronger as compared to normative forces.

IFR among financial services firms in Uganda is more associated with IC than IF. As IFR is a new tool for disclosing financial information, it is important that IC should be given more attention. Employees need to be knowledgeable in their work and firms should recruit staff members who are qualified. This means that once employees are knowledgeable in their work and are possibly qualified, they are able to identify those resources that are sufficient to perform their work. The organization needs to ensure that

all the necessary resources are provided and customers are also brought on board. According to the stakeholder theory, when the information needs of stakeholders are high, pressure is mounted on management to provide such information. The present results support the notion that external pressures force the organization to adjust its ways of operation and fit into those pressures. The study findings are thus within the premises of the stakeholder theory.

The IFR issue explored in this study depicts the nature of African economies, and it is such that IC impacts IFR and this might explain why possibly financial services firms are reluctant to adopting IFR. The fact that firms in Africa are not embracing IFR can be explained by the reluctance of firms to develop IC. In other instances, management of firms may be reluctant in responding to IF, and this has negative effects on the adoption of IFR. According to Nkundabanyanga (2016), IC is an intangible asset of an organization that is left out in reporting, but it is a key asset in ensuring that the organization achieves its intended objectives and, in this case, providing information through the internet. The study results in terms of IF are in line with those of the previous studies, for example, Nyahas *et al.* (2017) found out that IF are positively associated with voluntary disclosures of listed firms in Nigeria. However, given that there are issues with internet connectivity, it is possible that those firms that have not uploaded their financial statements do not have sufficient internet infrastructure and also miss out on IC to some extent. In other situations, employees may not have the capacity to handle internet-related matters. From the results of this study, it is evident that those firms which do not upload their financial statements and other financial performance information on their websites have not paid attention to IC, for example, in their recruitment policy, in addition to other qualifications, the capacity to handle IT and internet, in general, is not emphasized.

It should be noted that although control variables were not significant under the regression analysis, the correlation analysis results indicate that capital structure was significantly associated with IFR. The results of the firm size, as proxied by number of branches not being significant predictors, are not a surprise, given that previous scholars such as Marston (2003) documented no significant correlation between the firm size and IFR. For auditor type, previous scholars document positive association between auditor type and IFR (Mokhtar, 2017) implying that this study results are inconsistent with those of Mokhtar (2017) but consistent with studies such as Samaha and Abdallah, (2012) and Nalukenge *et al.* (2017). Results on capital structure disagree with those results of Al-Kayed *et al.* (2014) if the regression results are to be considered final.

Therefore, the results of this study thus make it obvious that once IC is not given maximum attention and the financial services firms not mindful of responding to external pressures, especially those from regulators, clients and firms in the same industry, it is possible that IFR among firms will remain low.

6. Summary and conclusion

This study aimed to find out the contribution of IC and IF to IFR. This was achieved through a questionnaire survey of 40 financial services firms. Results indicate that IC is a significant predictor of IFR, with or without IF. IF is a significant predictor of IFR only when IC is not present. Overall, IC and IF predict 33.7 percent of the variance in IFR. Given the current modern IT and its increased usage among both existing and potential investors as well as clients and regulators, it is important that financial services firms in Uganda utilize their websites in communicating their financial performance to a wide range of interested users. The modern IT presents new threats to financial services firms in terms of reporting and the content of those financial reports uploaded on their websites. Clients and other interested persons may then be able to access an entity's performance at their own will and may have time to internalize each figure disclosed in the financial statements.

Financial services firms may thus have to upload their financial statements that must be reliable and faithfully represented.

The study provides an initial empirical evidence on the contribution of IC and IF to IFR, and it partly responds to a call made by Dolinšek and Lutar-Skerbinjek (2018) on the need to conduct a perception-based study on voluntary disclosures. Initially, academicians knew that IC could only predict firm performance, and yet, according to the results of this study, IC is critical in the adoption of IFR. Regulators may have to require financial services firms to upload their financial statements and general financial information on their websites, whereas the community may demand more disclosures by their interested firms on the internet to reduce information asymmetry. Although there may be arguments that some people may not be interested in the financial reports on the internet, this study results signpost that a section of people really wish to find such information on the internet. Similar to any other study, this study is not without limitations. This study was conducted in Uganda – a landlocked developing country with internet connectivity problem, and it is possible that, in other national settings with high internet connectivity, the results of this study may not be useful. However, in countries with internet connectivity issues, the results of this study are quite essential. This study's predictor variables only explain 33.7 percent of the variance in the dependent variable, implying that there are other factors responsible for the adoption of IFR in Uganda. The results of this study point out a number of opportunities for future research in the area of IFR. Future studies may examine other determinants of IFR, since the current study only predicts 33.7 percent of the variance in IFR. Also, future studies may be undertaken in other countries, especially those with high internet connectivity so that their results can be compared with the current study results. Thus, the results of this study provide an initial empirical evidence on the exact mechanism through which IC and IF contribute to IFR.

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Further reading

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