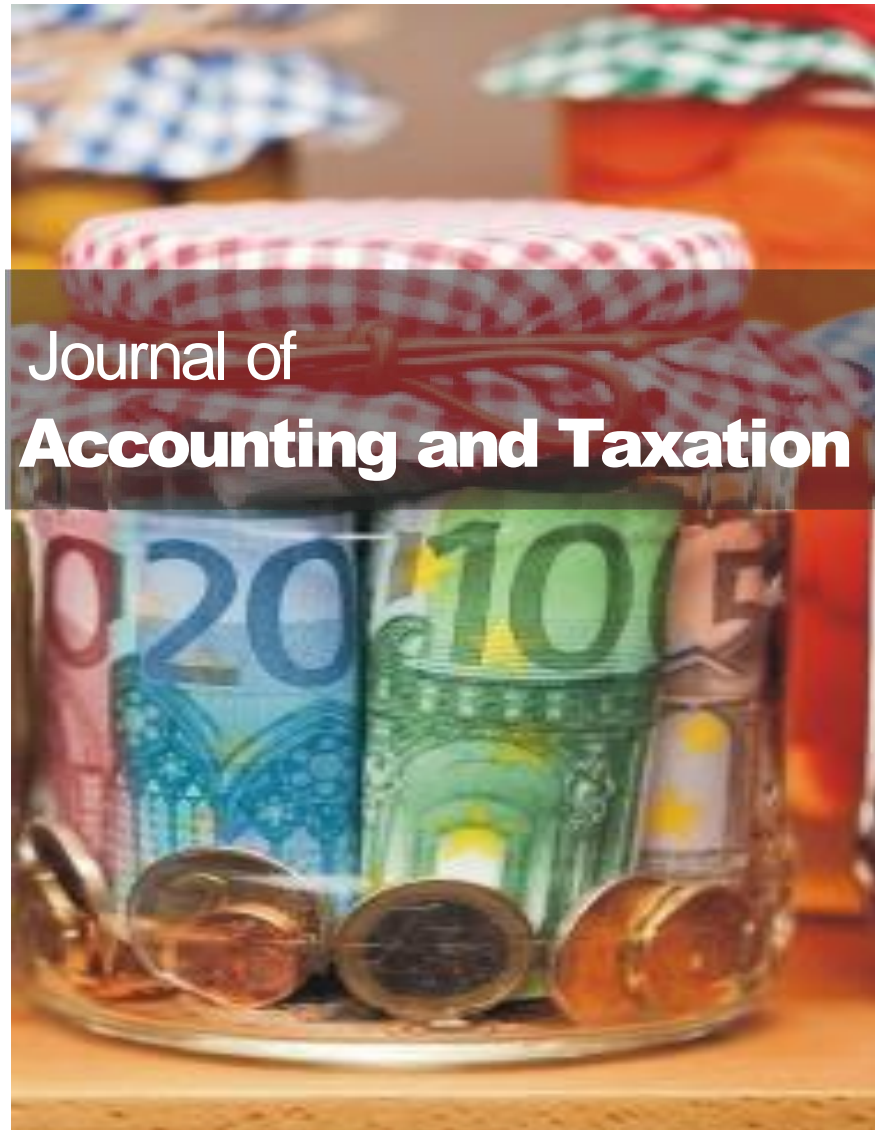


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Full Length Research Paper

Forensic accounting and financial crimes in Nigerian public sector

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The mismanagement of notable government businesses across the nation has led to the abandonment of viable public projects and the attendant indiscriminate lay-off of staff in the public sector have generated the ever-increasing attention in academic, private and public sectors. As a result of the increase in the level of decadence in the government sector, a gamut of dissenting voices have been raised necessitating the need to examine the relationship that exist between forensic accounting and financial crimes in the Nigerian public sector by specifically assessing the measures put in place to ensure a reduction in financial crimes in the Nigerian public sector and evaluating the effect of litigation support service on the reduction of financial crime in the Nigerian public sector. The study adopted survey research design and linear regression technique to analyze the empirical data collected through questionnaire and oral interview and the hypothesis formulated was also tested. The results of the hypothesis tested at 5% level of significance revealed that litigation support service had significant but negative effect (reduction) on financial crimes in the Nigerian public sector. It was recommended that forensic accounting experts be employed to carry out more litigation support services to serve as expert witness that will assist the court to reach a conclusion on issues which the court may not ordinarily have the knowledge to decide, while more forensic accountants be engaged to reduce rate of fraudulent cases in the Nigerian public sector.

Key words: Forensic accounting, litigation support, financial crime, Nigerian public sector.

INTRODUCTION

Financial crimes and fraudulent activities have been one of the most popular challenges to the worldwide economy. Corruption and other fraudulent practices seem to be a global menace that affects severely the economy of any nation and the society where it exists. It has been subject of continuous discussions in literature as the cause of retardation to developing economies like Africa, Latin America, and Asia as seen today. Economic and financial crimes are believed in most intellectual discourse

to be one of the fundamental problems of the Nigerian economy that has negatively impacted its economic growth and development as a nation. These crimes are common and rampant in public sectors and it is the bane of slow development to the Nigerian economy as a whole. There is absolutely no aspect or sector of the economy that is not inflicted by this menace ranging from the financial institution to the health and education sectors as well as the public service. Hamilton and

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Gabriel (2012), opine that the level of fraudulent practices, corruption and other sharp practices in the Nigerian public sector is alarming and seen as norms and way of life.

Financial crimes include oil bunkering, embezzlement, bribery, looting, money laundering, fraud, tax evasion and foreign exchange malpractice (Mukoro, 2013). Ehioghiren and Atu (2016) as well as Onodi et al. (2015) posits that financial crimes comprise subsidy fraud, advance fee fraud, identity fraud, bank fraud, mortgage fraud, cheque fraud, embezzlement, credit card fraud, hedge fund fraud, consumer fraud and occupational fraud. Gottschalk (2010) notes that financial crimes are categorized into four groups which comprise: theft, fraud, manipulation and corruption; these crimes are perpetrated by individuals, organized persons as well as institutions. There is absolutely no aspect or sector of the economy that is not inflicted by this menace, ranging from the financial institution to the health, and education sectors as well as the public service. Dada (2014) posits that fraudulent activities and other sharp practices were uncovered and reported in the area of legislative process, salaries and wages, pensions and in government business. Financial crimes such as embezzlement, bribery, corruption, identity fraud, mortgage fraud, occupational fraud, bankruptcy, security fraud, amongst others are perpetrated by individuals, corporate institutions as well as organized group of people in order to acquire criminal enrichment (Ogotu and Ngahu, 2016; Onodi et al., 2015).

Financial crimes being illegal activities possess the attributes of deception, truce breaking; cover up and they do not rely on the enforcement of physical force or violence. These non-violent crimes are therefore perpetrated by organized persons, individuals and organisations to obtain personal or business advantage (Federal Bureau of Investigation (FBI), 2018) and International Monetary Fund (2017) argue that crimes are aggravated by financial needs caused by lack of self-control, indiscipline, greed, drugs addiction, gambling, debt, peer and family pressure, poor investment decision or living above one's means. Financial crimes such as fraud in public sectors are perpetrated by the rank and file depending on their capacity, capability and intelligence with its far-reaching consequences such as non-availability of economic resources to prosecute and cater for viable public developmental projects, deteriorated infrastructure, political programs of the nation, payment of staff salaries and emoluments and its attendant adverse effect on the economy (Emeh and Obi, 2013). It has become difficult to curb financial crimes committed in the public sector due to bureaucracy and high level of corruption (Adebisi et al., 2016).

Other studies in Nigeria posited that billions of naira is lost every year as a result of fraudulent activities (Akinbowale, 2018; Amake and Ikathua, 2016; Idolor, 2010). It further argues that such amount of money

represents only the amount that is made public. In Nigeria, corruption has negative economic impact as well as on national image (Ribadu, 2006). In all these, individuals, government, institutions, country and society as a whole were the victims. All this has led to very low appalling ratings of the country by Amnesty International (Gbegi and Adebisi, 2014; Sabo, 2003).

Application of computer accompanied by the introduction of electronic businesses though, profits individual and corporate institutions as it increases the performances, efficiency and effectiveness, it also make our job functions easier to execute, however, this change in technology also facilitates easy commitment of crimes which has also contributed greatly to increase in the problem of financial crimes worldwide (Asika, 2012; Efosa and Kingsley, 2016; Jugurnath et al., 2017). Employee theft, fraudulent billing systems, payroll frauds, insurance fraud, management theft, corporate frauds, evasion of tax are various forms of financial crimes and other corrupt practices that are committed in organisations. Crumbley (2009) posit that the effect of increasingly business complexity in today's world with available information and systems provides great incentives for the perpetrators to engage in theft or fraud resulting in material misstatement of financial statements. It seems relevant statutes and standards have not made adequate provisions for dealing with fraud by statutory auditors (Owojori and Asaolu, 2009).

The size and complexity of accounting services and the inability of the statutory auditors to deal with the problem of financial fraud is further constrained by the related clauses in the company laws and accounting standards. All these remain outside the scope of the statutory auditor to report on except he is placed on inquiry (Emeh and Obi, 2013). The public has been disappointed in relation to the responsibilities of auditors as they failed to contend with the issue of fraud (Gray, 2008; Modugu and Anyaduba, 2013). The growing rate of fraudulent practices and financial crimes in the Nigerian economy has made corporate organisations to devise means to combat these challenges with the use of forensic accounting services (Oseni, 2017). Ojaide (2000) and Izedomin and Mgbame (2001) believe there is need for the services of forensic accounting due to worrying rate of increase in fraudulent cases and activities in Nigeria and such view was supported by recent work (Nwaiwu and Aaron, 2018). Akani and Ogbeide (2017) believed that if the Nigerian public sector and the private sector must be free from corrupt practices, high importance must be accorded forensic accounting. Modugu and Anyaduba (2013) and Enofe et al. (2015) opined that it is envisaged that financial sharp practices may be curtailed by the application of forensic accounting in Nigeria.. According to Emeh and Obi (2013), financial crimes have grave impact on organisations and this has made forensic accounting emerged to curb the increasing rate of financial crimes.

Forensic accounting as a field in accounting is gradually attracting attention due to persistent occurrence of frauds and other related financial crimes in both private and public sectors of the economy. Forensic accounting is a specialised scientific approach, deemed as an efficient and effective institutionalised framework to be readily applied to radically tackle the ugly monster of fraudulent practices in the Nigerian public sector. Ozumba et al. (2016) look at forensic accounting as the utilization of accounting, auditing and investigative skills to assist in legal matter and applies specialised body of knowledge to the evidence of economic transaction and reporting suitable for court proceeding and accountability. Economic crimes and financial scandals such as those of Tyco International Xerox (USA), Tesco of UK, HIH insurance, Waste Management, Sunbeam, Global Crossing, mobility of Saudi Arabia and corporate fraud perpetrated in Nigeria by management of Lever Brothers (now Unilever), Union Dicon Salt, Cadbury (Nigeria) and fourteen distressed banks as exposed by forensic accounting experts, who deployed investigative and analytical skills and techniques due to failure of traditional audit techniques in unraveling financial crimes. The primary aim of forensic accounting is fraud detection and resolving financial issues in a manner that meets standards required by court of law, unlike the traditional auditing that focuses on review of errors, internal control system, identification and prevention.

Forensic accountants have been described as experienced auditors, accountants and investigators that are hired to look into legal and financial documents to detect fraud and prevent a recurrence of sharp practices (Zysman, 2004). These professionals also provide services in areas such as criminal investigation, shareholders' and partnership disputes, business economic loss, mediation and arbitration, professional negligence, personal Injury claim/motor vehicle accident, accounting, damages, analysis, evaluation, and general consulting (Oluyombo and Okunola, 2018). Forensic accountants, law enforcement personnel and lawyers work together during investigations and often appear as expert witnessing during trials (Oyedokun, 2015; Rabi and Noorhayati, 2015; Suleiman et al., 2018). Forensic Accounting is an amalgam of forensic science and accounting and can be described as the use and application of accounting, auditing, investigative and analytical skills for the purpose of resolving financial issues in a manner that meets standards required by court of law (Crumbley, 2006). The integration of accounting, auditing and investigative skills results in the special field known as forensic accounting. It was stated that forensic accounting involves the application of accounting concepts and techniques to legal problem (Coenen, 2005). It demands reporting, where the accountability of the fraud is established and the report is considered as evidence in the court or in the administrative proceeding. It provides an accounting

analysis that is suitable to the court, which will form the basis of discussion, debate and ultimately dispute resolution (Zysman, 2004). This analysis was also explained in the SCOPE model of fraud (Vousinas, 2019). This means that forensic accounting is a field of specialization that has to do with information that is being used as evidence especially for legal purposes. Forensic accounting encompasses both litigation support and investigative accounting. Litigation support provides assistance of all nature in a matter involving existing or pending litigation. It deals primarily with issues related with the quantification of economic damages, while investigative accounting is associated to the investigation of criminal matters (Economic and Financial Crimes Commission, 2017).

To combat the menace of financial crimes and fraudulent activities, various anti-corruption agencies set up to counter economic and financial crime in Nigeria has not shown much significant improvement in public sector in Nigeria today. Economic and Financial Crimes Commission (2004) posits that financial crimes have become a talking point on every national discourse and is assuming a position of preeminence in the scale of governmental preference for urgent attention. Okoye and Gbegi (2013) observe that three elements are required to establish that fraud has been committed under common law, a material false statement made with intent to deceive, a victim's reliance on the statement and damages. Dada (2014) posits that several anti-corruption agencies such as the tribunals, probe panels has been set up to reduce the growing rate of corruption and financial crimes, but it appears they do not have the skills to carry out investigations that can lead to a successful prosecution of persons accused of corruption. Enofe et al. (2013) opine that forensic accounting arises as result of causes and effects of fraud and technical errors made by human. According to the Nigerian institute of Advanced Legal studies (2010), the public sector should be involved in the forensic investigation initiative for in view of the fact that it is the biggest spender in the Nigerian economy and it is the victim of most of the corrupt practices and therefore need forensic and investigative accounting support than other stakeholders. There is a need to adopt effective forensic accounting technique that will assist the anti-corruption institutions to successfully reduce corruption. Against this backdrop, this study examined forensic accounting and financial crimes in Nigerian public sector. The objective of the study is to examine the effect of litigation support service in the process of reducing financial crimes in Lagos State public sector.

LITERATURE REVIEW

Forensic accounting refers to the application of analytical and investigative skills for the purpose of resolving

financial issues in a manner that meets standards required by court of law. Forensic accounting is also defined as the application of accounting concepts and techniques to legal problems (Abdulrahman, 2019). This suggests however, that the term 'forensic' may cut across several areas of life for which evidences may be sought for litigation (Eliezer and Emmanuel, 2015). Accounting, on the other hand, according to Oluyombo (2016), is the process of collecting, recording, analysing, presenting and interpreting financial information for the users of financial statements. This involves accurate book-keeping, records, measuring and interpreting the financial results of the business by the preparation of accounting ratios and communicating these results to management and other interested parties or users. Merging these two terminologies will paint the picture of what forensic accounting entails. Forensic accounting according to Apostolou et al. (2000) and Kolawole et al. (2018) is the use of accounting, auditing and investigative abilities to provide expert support in legal matters. Jugurnath et al. (2017) describe forensic accounting as a field of accounting that takes care of present, existing or projected disputes hence it is therefore suitable for legal assessment and ensures a successful reduction of financial malpractices. From the point of view of the prosecutor, forensic accounting is concerned with collecting, understanding, compacting and displaying intricate financial matters in a clear, precise, and accurate way. Onodi et al. (2015) perceive forensic accounting as the utilisation of the concepts of accounting and its definitions in dealing with legal issues. Manning (2010) defined forensic accounting as the art of assembling and exhibiting financial data in a form that will be acknowledged by a court of jurisprudence against culprits of monetary violations.

CONCEPT OF LITIGATION SUPPORT SERVICE

Litigation is a term encompassing the use of court processes to resolve a dispute, in line with the rules in place in that jurisdiction. According to Harwood (2016), stages in litigation involves before litigation starts, preparing a case and finally, trial and enforcement. Before litigation begins various forms of preliminary investigations takes place also, various forms of alternative dispute resolution (ADR) are encouraged to be examined. It is encouraged that parties consider alternative means of resolving the disputes first. The more conventional alternative dispute resolution (ADR) options include: Arbitration a confidential form of dispute resolution where one or more arbitrators decide a case rather than a court appointed judge. Mediation is a facilitated negotiation assisted by an independent third-party mediator appointed by the parties. An independent expert is appointed to resolve the matter by producing a legally binding decision (Harwood, 2016). In preparing cases for litigation claim forms and particulars of claims

for both parties are drafted and served accordingly, this is usually followed by defence and counter claims and replies by the parties involved. Allocations and directions for future conducts of the case are done, presentation of documents, statements by witnessing, expert reports and meetings with experts all form part of the preparation of cases for litigations. This stage is now followed by the trial and enforcement stage as well as appeals by the parties involved. The concept of litigation and business advisory adopted in this study is how the fear and possible avoidance of a court process as well as yielding to expert's objective and independent advice as a forensic accounting technique can serve as an instrument for mitigating as well as possible curbing of financial crimes in the public sector organizations by the perpetrators of these crimes (Harwood, 2016).

Financial crimes

Financial crimes according to Eiya and Otor (2013) may involve fraud or any other crime against property. It may be in respect of falsification of the ownership of property belonging to another as one's own personal use and benefit. Financial crimes may be carried out by individuals, corporations, or by organised crimes against individuals, corporate bodies and governments. Financial crimes involve corruptions, bribery, political donation, nepotism, kickbacks, artificial pricing and frauds of all kinds. The EFCC Act (2004) attempts to capture the variety of economic and financial crimes found either within or outside the organisation. The salient issues in the definition include violent, criminal and illicit activities committed with the objective of acquiring wealth illegally in a manner that violates existing legislation and these include any form of fraud, embezzlement, money laundering, bribery, narcotic drug, trafficking, tax evasion, theft of intellectual property and piracy, foreign exchange malpractice including counterfeiting, open market abuse, dumping of toxic waste and prohibited goods, illegal oil bunkering and illegal mining, looting and any form of corrupt malpractices and child labour.

In the opinion of Okafor (2004), fraud can be said to be a non-violent crime and illicit activity committed with the aim of acquiring illegal wealth either individually, as a group or an organised manner which violates existing legislation governing the economic activities of government and its administration. Fraud, according to Ramamoorti (2008), involves deceit, purposeful intention, risk of being cut, rationalisation, strong desire and violating trust. Fraud is a planned tricky process or device usually undertaken by a person or group of persons with the full intention of cheating another person or organisation to gain ill-gotten benefits (Onodi et al., 2015).

Ngai et al. (2010) observe in their study that financial fraud is becoming an increasingly serious problem and effectively detecting an accounting fraud has always

been an important but complex task for financial experts. It was observed that about 80% of public sector officials are involved in fraudulent activities and other economic misdeed which have hindered national growth and development. Forensic accountants are therefore expected to be proactive and possess professional and expert skills not found in traditional auditor in identifying and preventing fraud.

This study was driven by the fact that although there exist a substantial amount of research works carried out on forensic accounting there is however a dearth of empirical studies that critically examines the influence of litigation support service on financial crime in the Nigerian public sector (Augustine and Uagbale-Ekatah, 2014; Amahalu et al., 2017; Dada et al., 2013; Enofe et al., 2015; Kalubanga and Kakwezi, 2013; Nwaiwu and Aaron, 2018).

One of the gaps noticed by the current study is that previous researchers did not take time to decompose the concept of financial accounting tools into proxies and concepts that can be easily analyzed for the proper understanding of the study. For instance, Anuolam et al. (2017) studied the relative impact of forensic accounting on financial crisis in Nigeria with no special focus on decomposed measures of forensic accounting or financial crime variables but they used the concept of forensic accounting as it were. The study filled the gaps in literature in that it provided empirical evidence on the effect of forensic accounting on financial crimes in the Nigerian public sector unlike prior studies that focused on knowledge and skills of task performance fraud risk assessment. All the studies listed above failed to look into the effect of litigation support services on the financial crimes the public sector in Nigeria focussed on these gaps in the literature.

METHODOLOGY

This study adopted survey research design and data used for the study is the primary data and hence, such design was considered appropriate for this study since it involves the use of quantitative method of data collection, analysis and the evaluation of opinions of respondents with regards to the focus on the study. Additionally, similar studies carried out by some researchers (Dada et al., 2013; Modugu and Anyaduba, 2013; Okoye and Gbegi, 2013; Popoola et al., 2015; Amahalu et al., 2017) adopted survey research design method. The research objective investigates the effect of forensic accounting on reduction of financial crimes in Lagos State public sector.

For the purpose of this study, staff in finance function with knowledge of forensic accounting in Lagos State Ministries, Departments and Agencies (MDAs) constitutes the population of the study. Lagos State was chosen because it's approved budgets for 10 years reviewed constitutes almost 32% of all other states of federation budgets. Secondly, this particular population was used due to the peculiarity of the study and the fact that the federal government parastatals are more difficult to access during the period of the study. Also, considerations were made for the knowledge of the respondents on forensic Accounting and financial crimes. A total of 10,158 staff in finance functions with knowledge of

forensic accounting in Lagos State Ministries, Departments and Agencies (MDAs) in Lagos State as elements of the population. Employing the formula developed by Taro (1964), the sample size of 384 was derived as specified in the workings below:

$$n = N/(1 + N(e)^2)$$

Where n = Sample size
 N = Population of the study (10,158)
 e = Tolerable error (5%)

$$n = \frac{10,158}{1 + 10,158 (0.05)^2}$$

$$n = 384$$

To assess the effect of litigation support service on financial crimes in the Nigerian public sector, linear regression analysis using Statistical Package for Social Sciences (SPSS) was employed to establish the relationship that exists between the response variable (financial crimes) and the explanatory variables (Litigation support service).

Model specification

$$Y = f(X)$$

Where: Y = dependent variable (Financial Crimes (FC))
 X = independent variable (Litigation Support services (LSS))
 Financial crime (FC) = f (Litigation support service (LSS))
 That is $FC = f(LSS)$
 X = Litigation support service (LSS)
 $FC = f(LSS)$
 $FC = \alpha_1 + \beta_1 LSS + \mu_1$

Where:
 α_1 is intercept ; β_1 is the coefficients of the explanatory variables
 μ_1 is the stochastic variables of the model (Table 1).

RESULTS AND DISCUSSION

Model

$$FC = \beta_0 + \beta_1 LSS + \mu$$

$$FC = -3.69 - 1.171 LSS$$

$$(0.330) \quad (0.017)$$

The simple regression result of model tested the relationship that exists between forensic accounting and financial crimes. The result revealed that forensic accounting measured by Litigation Support Service had a negative effect on financial crimes. This is indicated by the negative sign of the coefficient, that is $\beta_1 = -1.171$; which is < 0 (Table 2).

The magnitude of the result of the coefficient -1.171 implies that a unit rise in the adoption of Litigation support service in forensic accounting to about 1.17 units will bring about decrease in financial crime in the Nigerian public sector. This result agrees with the *a priori* expectation that the forensic accounting would have a negative effect on financial crime. This therefore implies

Table 1. Summary of Linear Regression Analysis of the tested Hypothesis.

Variable	Co-efficient	Standard error	t-Stat	Probability
Constant	-3.690	0.330	-11.166	0.000
LSS	-1.171	0.017	69.493	0.000
R ²	0.930			
Adjusted R ²	0.929			
S.E of Regression	1.153			
F-Statistics	4829.254			
Prob (F-statistics)	0.0000			
Observation	368			

Dependent variable: Financial crime, Significant at 5%.
Source: Researcher's Computation (2020).

Table 2. Regression result for model.

S/N		Results	Decision
1	Sign of the coefficient	-ve	Litigation Support Service is negatively related to Financial Crime
2	Size of coefficient (β)	-1.171	It implies that a unit rise in the adoption of Litigation support service of forensic accounting to about 1.17 units will bring about decrease in financial crime in Nigerian public sector.
3	T-Statistics	69.493	It shows that the two variables (Litigation Support Service and Financial Crime) are significant at 5% level of significant which is acceptable in this study.
4	R ²	0.930	It implies that 93% variation in Financial crime is caused by Litigation support service
5	F-Statistics	4829.254	It shows that Litigation support service has significant effect on financial crime in the Lagos State public sector.
6	Probability	0.000	It shows that Litigation support service significantly affect financial crimes in the Lagos State public sector.

Dependent variable: Financial crime, significant at 5%.
Source: Researcher's Computation (2020).

that the Litigation process is very paramount to forensic accounting as anybody in the public sector knows that in a proper judiciary settings with a good litigation process of forensic accounting, those involved in crimes will be prosecuted and if found guilty, they will be served the appropriate jail terms. This is expected to serve as a deterrent, thereby, trigger a reduction in the propensity for financial crimes among other public officials in the government settings. Also, looking at the individual probability of t-statistic, it showed that the two variables are significant at 5% level of significance, which is acceptable in this study. This is because the probability value of the t-statistics (69.493) of LSS is 0.000. The R-square of 0.93 showed that about 93% variations in financial crime can be attributed to Litigation Support Service of forensic accounting while the remaining 7% variations are due to other factors external to the model. Hence the coefficient of determination shows that the main model has a good explanatory power of the model.

The F-statistics is 4829.25 with a probability value of 0.0000 shows that Litigation Support service has

significant effect on financial crime in the Lagos State public sector. Therefore, this study rejected the null hypothesis and accepted that alternative which means that there is significant relationship between the litigation support service of forensic accounting and reducing of financial crimes in Lagos State public sector. It is therefore theoretically proven that Litigation support service has a negative relationship with financial crime and it therefore corroborates the theory of fraud triangle which explains the motivation behind an individual's decision to commit fraud and it outlines three components (opportunity, pressure and rationalization) that contribute to increasing the risk of fraud. Hence, when there is something that acts as a barricade to financial crime, it is being curbed invariably.

By implication, there are some studies that lend credence to the current findings. For instance, Nwaiwu and Aaron (2018) in investigating the relevance of forensic accounting (through litigation support service) and fraud detection process and financial performance in Nigeria, failed to properly decompose the forensic

accounting variable such that it was only evaluated from the litigation support angle, which is however too shallow when forensic accounting is analysed. Also, from the argument by Amake and Ikhatua (2016) on how forensic accounting especially litigation can help in fraud detection in the Nigerian public sector, it was discovered that the use of forensic accounting to detect fraud in Nigerian public sector is not very effective.

Conclusion

This study has provided insight into the effect of forensic accounting, proxied by litigation support service, on financial crimes on Lagos State MDAs. It also provides an affirmation of the extent to which the variations in the response variable are caused by the explanatory variables as depicted by the R-square. Thus, the study concluded that litigation support service (as proxy of forensic accounting) indeed an anti-financial crime strategy which will help bring financial prudence and sanity to the ministries, departments and agencies of the government in the Nigerian public sector.

Recommendations

- (i) Based on litigation support services, forensic experts from professional accounting firms must be involved in order to provide professional and technical supports to the court in reaching reasonable conclusions on issues that the court may ordinarily not have the knowledge to decide.
- (ii) There is the need to review the strategic plans and strategies by organizations and public sector ministries, departments and agencies in order to capture forensic accounting in a digitalized environment taking into consideration forensic software as an aid to speed up the investigation of fraudulent cases and other criminal offences.
- (iii) More awareness on forensic accounting should be created in order to have more forensic accountants to engage them in handling fraudulent cases thereby reducing financial crimes in Nigeria.
- (iv) The public sector organizations should ensure improvement of their internal control measures to check fraudulent practices by the perpetrators.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Full Length Research Paper

Effects of information technology on effective tax assessment in Nigeria

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Ineffective tax assessment and systemic deficiencies have been the general perceptions that tax administrators do not remit tax collections, and this is greatly affecting tax revenue generation in Nigeria. Prior studies have attributed these anomalies to lack of efficient information technology and competent tax administrators. Consequently, this study investigated the effect of information technology on effective tax assessment in Nigeria. The study adopted survey research design. The population was 2,857 management and administrative staff of six selected multinational companies in Lagos State alongside the Federal Inland Revenue Services in Lagos offices and Lagos State Internal Revenue Service. Krejcie and Morgan' formula was used to determine the sample size of 641 based on stratified sampling technique. The Cronbach's alpha reliability coefficients ranged between 0.88 and 0.96. Descriptive statistics and inferential statistics used for data analysis revealed that information technology had a positive statistical significant effect on effective tax assessment $Adj. R^2 = 0.172$; F-Statistics (4, 637) = 35.46; P-value = 0.000. The study recommended that the government should provide enabling tax laws as well as simplifying the ambiguities and complexities in some of the existing tax laws to facilitate effective tax assessment in Nigeria.

Key words: Digital tax, easy filing, enabling tax laws, information technology, tax assessment, tax revenue.

INTRODUCTION

Tax administration in Nigeria and indeed globally is faced with myriad of problems affecting much desired expectations of stakeholders (Price Waterhouse Coopers, 2010). The study of Leyira et al. (2017) also revealed that one of the problems of tax administration is multiplicity of taxes especially in developing nations of the world. According to them, some countries that operate federal, states or regions/provinces and possibly local administrative areas still have the problems of clear cut tax jurisdiction between the tiers of government, causing

multiplicity of tax collection between the federal, state and the local government. In addition to multiplicity of taxes, the issue of tax illiteracy, low tax awareness and insufficient tax awareness is predominant among developing nations. The studies argued that some countries are faced with inefficient tax administration as the tax administrators most often focus on trade and petroleum taxes, and inadvertently neglect a whole lot of areas especially the informal sectors of the economy (Edori et al., 2017; Odusola, 2016).

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Digitalisation has taken the center stage in the nation's economic activities and has rendered the existing traditional tax rules and processes ineffective. Consequently, the advent of digital age has been the motivating force of all human activities. Information technology now rules the world giving rise to digital economy, E-commerce, and information technology of tax system which has brought unprecedented speed in business transactions and revolution changing the face of tax administration in countries (Obe, 2019). Tax is the main source of revenue to the government and the administration of tax is the hub for the amount of tax revenue accruable to the government. The essence of information technology is to aid tax administrators' performance, thereby reducing tax avoidance and evasion, and beyond that, information technology eases faster and accurate analysis of tax data. Taxation is often used by government as a way of influencing social amenities and the social lives of its citizens (Dimitropoulos et al., 2018).

Studies from developing economies other than Nigeria had made some valuable contribution in this regard. Digitalization has played pivotal roles in many countries of the world, such as Malaysia, Japan, South Korea, Zambia, India and South Africa (Perrou, 2018). It has contributed substantially to the success story of these countries and has also brought about revolution of tax revenue and tax administration (OECD, 2015). Digitalization has been widely accepted as the spring board for sustainable economic development and cross boarder tax administration and management. Aside from the fact that digitalization and tax administration have contributed to increase per capital income and tax revenue, they have also created employment opportunities, encourage import substitution, foreign direct investment and multi-national corporations effectiveness and efficient utilization of local and international tax laws synchronization (Leyira et al., 2017).

Ineffective tax assessment and systemic deficiencies have been the general perceptions that tax administrators do not remit tax collections, and this is greatly affecting tax revenue generation in Nigeria (Ganyam et al., 2019). Prior studies have attributed these anomalies to lack of efficient information technology and competent tax administrators. This study became imperative at this time and period as Nigeria is striving to catch up with the rest of the world in digitalization of tax system and tax administration, much more in the ways of improving tax revenue generation through best practices in tax administration for the government. This study is considered significant considering the digital age and the importance of tax revenue generation to the Nigerian government and to any nation, especially at a time of dwindling oil revenue, exponential population growth and the need of the government to perform more on infrastructural development to stimulate business and

employment. The corporate bodies and other tax payers are eager to see the possibility of transacting their tax activities seamlessly, considering the time and speed of information technology. Taxpayers would be glad to start and complete their tax transaction, including the filling and payment at the comfort of their homes. To this effect, an understanding of this study will serve as a guide to both taxpayers, tax policy makers and the government at all levels. Therefore, these researchers consider this study appropriate and justifiable for contributing to this body of knowledge and for its originality. Consequently, this study investigated the effect of digitalization on tax administration in Nigeria.

Statement of the problem

Tax administrators in Nigeria are being confronted with myriads of challenges and difficulties adapting to the new information technology, 'digitalization'. According to Ifere and Eko (2014), tax administrators in Nigeria is faced with the problems of manual computation resulting in inaccuracies and errors, perennial delay in tax assessments, loss of tax revenue generation due to inadequate taxpayers database, and nontax compliance. Similarly, Sunday et al. (2017) documented that the challenges of manual computations and filing of forms in Nigeria among taxpayers are quite disturbing. The challenges of poor tax revenue in Nigeria include: reliance on manual computation, with the associated inevitable errors and delay in form filing, lack of comprehensive taxpayers database leading to poor tax compliance, increasing tax evasions, ineffective tax assessment and returns, high level of professional incompetence and unskilled tax administrators, huge reported unethical sharp practices and corruptions cases (Ayodeji, 2016).

Ineffective tax assessment and syndromic perceptions that tax administrators do not remit tax collections is greatly affecting tax revenue generation in Nigeria (Ganyam et al., 2019). The studies that exist in Nigeria focused largely on tax and their impact on economic growth and/or economic development. Consequently, there was need to fill this gap, information technology of the Nigerian tax administrative system. Unfortunately, there were evident challenges: inadequate staff, incompetent professionals, huge corruption profile and inefficient trained managers to control its administrative activities and the case of putting round hole in square pegs (Abogan et al., 2014; Olaoye and Aguguom, 2018).

Based on the review so far, the need for effective tax assessment becomes imminent, as the Nigerian tax administration is burdened with the following lots of administrative challenges ranging from poor documentation of the information about the taxpayers and their economic activities; inadequate tax laws and legislative capacity (sovereignty) to determine taxpayers

obligations holistically; and the presence of low administrative capacity (feasibility) for the efficient application of the legislation (Ganyam et al., 2019). While, Abdullahi (2012) documented that with information technology desperately needed to drive information technology adequate skilled personnel who will drive the technology is imperative, high need of enabling laws to synchronize and consolidate with other nations' trade relations as it affects taxation. Also, Ayodeji (2016) posited that high level of tax illiteracy, low level of educational qualification of some tax officials, are some of the problems of effective tax assessment, that there has been an endemic high level of corruption and lack of patriotic attitudinal disposition by the tax administrators.

Beyond this, there are gaps existing between the knowledge of information technology required for information technology in tax administration to make the expected impact on the tax administration in Nigeria. Though some literatures do exist in information technology and effective tax assessment, however, there are few of them that had focused the effect of information technology on effective tax assessment in Nigeria. In addressing this gap and extending the frontiers, in the emerging literature in Nigeria, this study sought to investigate the effect of information technology on effective tax assessment in Nigeria.

LITERATURE REVIEW

Tax administration

An effective tax assessment is essentially important in tax administration of countries' tax revenue drive, as the tax revenue is desired for by all levels of government as major source of government income to meet its financial obligations. From the Nigerian perspective, Federal Inland Revenue Services is given the responsibility, mandated and statutorily vested with powers of tax administration and handle all issues of collecting and remittances of same to the federal government account. Hence, the Federal Inland Revenue Services has the mandate to sanction tax defaulters with the appropriate penalties commensurate to such offences (Sanni, 2019). Federal Inland Revenue Services was established by the Federal Inland Revenue Service (Establishment) Act No.13 of 2007. Their functions include power to assess and collect revenue accruing to the federation as stipulated in S8 of the enabling Act. Consequently, the Federal Inland Revenue Services is expected to carry out effective assessment of taxpayers, most especially corporation organizations, on their chargeable incomes. It is also their responsibility to ensure accurate collection and ensure enforcement of tax laws. The agency is equally empowered to recover from taxpayers such defaults or accumulated taxes (Salami et al., 2015; Sanni, 2019).

Effective tax assessment

The concept of tax assessment is the process by which the tax payers and/or the tax administrators break down the actual tax liability of each tax payer. According to Section 8(1) of the Federal Inland Revenue Services Act (FIRSA) of 2007, the Federal Inland Revenue Services is expected to handle all federal tax related matters. Whilst the State Internal Revenue Service handles the tax relating to their respective states, the local government tax revenue committee is saddled with all local government tax related matters (Ishola, 2019; Oluyombo and Olayinka, 2018). An effective tax assessment should ensure fairness, adequacy, simplicity and transparency. It is the expectation of this study that proper application and implementation of information technology will significantly enhance effective and efficient tax assessment by the tax administrators in the three tiers of government. An effective tax assessment enables the government to impose accurate tax collections in order to achieve the following objectives of the government:

- i) Taxes are the product of tax assessment as levied to cover the cost of administration, internal and external defense, maintenance of law and order as well as social services required by the citizens.
- ii) Taxes are instruments used by governments to protect companies in their infant stages. This is done by reducing specific tariffs which will invariably reduce the cost of production relative to imported products that may be substitutes.
- iii) Taxes can also be used to discourage the consumption of dangerous/harmful products.
- iv) Assessment is done for taxes aimed at controlling the importation, production and consumption of certain goods and services thereby preventing a country becoming a dumping ground of other nation's production. This can be achieved by increasing tax payable on such goods and services.
- v) Taxes are important instruments of government in the area of redistribution of wealth and income among various income earners through progressive tax system. This helps to reduce income inequality.

Information technology

Digital disruptions have significant implications on the organization and functioning of any economy and one of the consequences is their impact on taxation. Information technology is an integration of digital technologies into every life, including tax administration (Warren, 2018). Santiago-Diaz-De (2018) defined information technology as the adoption of digital technologies to modify a business model as it relates to tax administration in all ramification in line with the global trend, with the aim of creating value from the use of advanced technologies, by exploiting digital networks dynamics for the benefit of the

improved tax generation and ease of tax payments by taxpayers. Furthermore, Isiadinso and Omoju (2019) submitted that information technology is the process by which companies re-organize their administrative tax work methods and strategies to obtain greater benefits including the implementation of new technologies.

Given the differences in tax laws in different tax jurisdictions and the preferences of countries regarding their tax treaties, this is one of the problems that slows digitalized tax drive wheel of tax administration in Nigeria, the existing tax laws in Nigeria are either faulty or some level of limitations are evidently not put into right perspective at the time of drafting these tax laws (Gurama and Mansor, 2015). The current tax regulations are not adequate for companies operating across borders. Statistics show that today, 9 out of the top 20 companies in the world capital market capitalization are found to be digitalized. It is the biggest challenge in ensuring that digital companies contribute fairly to their share in tax revenues (Juswanto and Simms, 2017; Lipniewicz, 2017). Consequently, we hypothesis that:

There is no significant effect information technology on effective tax assessment of Taxpayers in Nigeria.

Theoretical underpinning

Theory of digital diffusion

Innovation theory was developed by a sociologist Everett Rogers in 1962 in the first edition of a publication 'Diffusion of Innovations' in 1962. The theory of digital diffusion is based on the notion that adoption of an innovation involves the spontaneous or planned spread of new ideas. It involves the application of new idea, practice or object that is perceived as new in (Rogers, 1995). The theory stressed that it is the perception of change that is important, if the idea seems new to the potential adopter then it should be considered to be an innovation. The theory approached innovation diffusion by considering a variety of case studies on some topics including controlling scurvy in the British Navy, diffusion of hybrid corn in Iowa, diffusion of new news, bottle feeding a babies in the third world, how the refrigerator got its hum, Xerox Parc and Apple computers, digital economy, black music in white America and the possible information technology of administrations and products (Thomas, 2014). The philosophy of this theory is associated with the independent variable of this study, hence considered appropriate and relevant to the study as the theory contented that a technological innovation embodies information and its adoption acts to reduce complexities as applicable tax related issues in Nigeria.

Empirical review

Ganyam et al. (2019) examined the effect of tax

administration on revenue generation in Nigeria with special reference to the reforms introduced by the Benue State tax administration in Benue State, for the period of 3 years (2015-2018). The study employed survey research design using a structured questionnaire distributed to selected respondents staff of the Benue State Internal Revenue Services in the state. The study found electronic tax system having a strong significant effect on tax revenue generation and tax accountability in Benue State. The study equally found that tax administration significantly improved revenue generation in Nigeria at large. The study then recommended that government at all levels should cooperate and support the relevant tax authorities to enable them effectively manage the tax system for the desired result.

Theobald (2018) examined the impact of tax administration on government revenue in Tanzania, a case of Dar-es Salaam region. The study employed structured questionnaire administered to selected 85 targeted respondents. The received questionnaires were analyzed and found only good tax structure backed with effective tax policies, laws and administration positively affecting tax revenue in Tanzania. Chijioke et al. (2018) investigated the impact of e-taxation on Nigeria's revenue generation and economic growth, using secondary data obtained from Federal Inland Revenue Services and Central Bank of Nigeria for the period of 4 years (2013-2016). The study found federally collected revenue and tax GDP ratio significantly decreasing after the introduction and implementation of e-taxation. The study also found that tax revenue decreased after the implementation though the mean difference was not statistically significant.

Soetan (2017) investigated the impact of tax administration on tax revenue generation in Nigeria. The study used survey research design and deployed a structured questionnaire administered to 126 respondents randomly selected from Benue State. The study analyzed the collected questionnaires using descriptive statistics and with the help of SPSS software. The study found tax administration having positive significant effect on tax revenue generation in Nigeria. The study advised for more tax administrators' pro-activeness towards boosting more tax revenue.

Animasaun (2016) investigated tax administration and revenue generation in Ogun State, Nigeria. The study adopted survey research design administering questionnaire to 70 staff of the Ogun State Internal Revenue Services. Both descriptive and inferential analyses were employed in the study. The study found tax administration having a negative relationship with the amount of revenue generated.

Ifere and Eko (2014) examined the tax innovation, administration and revenue generation in Cross River State. The study employed qualitative research technique using a structured questionnaire to access data from the three senatorial districts in Cross River State. The study

using an analytical statistics of descriptive and regression analysis found significant degree of inefficiency in the administration of taxes in Cross River State.

Abiola and Asiweh (2012) investigated the effect of tax administration on government tax revenue in a developing economy using Nigeria as case study. The study obtained data from 93 respondents using structured online questionnaire, found increasing tax revenue a function of effective enforcement machineries which included among others adequate manpower, information and communication system.

Enahoro and Olabisi (2012) investigated the overall effectiveness of tax administration in relation to assessment, collection and remittances of tax in Lagos State. Data for the study were obtained from a survey method using a structured questionnaire administered to 130 civil servants directly connected with tax administration in five local government of Lagos State (Shomolu, Mushin, Ikeja, Kosofe and Surulere). The study found that tax administration in Lagos State is not too efficient and therefore, tax administration negatively affected tax revenue generation by the government. The study also found a positive significant relationship between tax administration, tax policies and tax laws.

In summary, previous studies have revealed mixed results, some have reported positive significant effect, others reported negative effects. To the best of the researchers' knowledge, there is still dearth of studies that have considered the effect of information technology on effective tax assessment in Nigeria. In addressing this gap in literature and expanding the frontiers of knowledge in this regards, this study sought to contribute to knowledge proposed and investigated the effect of digitalization on effective tax assessment in Nigeria.

Models specification

$$Y = f(X)$$

$$Y_i = \beta_0 + \beta_1 X_i + \epsilon_i$$

Where

Y = Dependent Variable: Tax Administration
 X = Independent Variable: Information Technology

Models specification

$$ETA_i = \beta_0 + \beta_1 DTNTP_i + \beta_2 ETL_i + \beta_3 ITA_i + \beta_4 FRSt_i + \mu_i \dots \dots \dots Model$$

Where;

- ETA = Effective Tax Assessment
- DTNTP = Digital Tax Net of Taxpayers
- ETL = Enabling Tax Laws
- ITA = Information Technology Acquisition
- FRS = Financial Resource Support
- β_0 = regression intercept which is constant

While β_1 = the coefficient of the explanatory variables
 i = Cross sectional

METHODOLOGY

This study employed survey design to examine the effect of digitalization on tax administration in Nigeria. This design was deemed appropriate because a survey obtains stronger data representation and better approximation. The population was 2,857 management and administrative staff of six selected multinational companies in Lagos State alongside the Federal Inland Revenue Services in Lagos offices and Lagos State Internal Revenue Service. Krejcie and Morgan' formula was used to determine the sample size of 641, while stratified sampling technique was used to determine the sample size of the study. Primary data were used by the researchers. Copies of questionnaire were distributed to the target population. Primary data were preferred because it helped in obtaining raw information from the selected respondents. The data were collected with the aid of six scale structured questionnaires. The justification for using structured questionnaire was because it enabled the researchers to reach large number of respondents in a short period of time and at lowest cost with high flexibility. Data were analysed using Statistical package for social sciences (SPSS) 21.0 software. The result from the respondents was easily analyzed more scientifically and objectively by the researcher with SPSS software. In order to ensure the reliability and validity of the study, the study carried out a pre-test of reliability and validity of the research instrument, using Cronbach Alpha reliability test. The Cronbach's alpha reliability coefficients result revealed a range between 0.88 and 0.96. The items and structure of result of the reliability test are shown in Table 1. The result of the pre-test carried out by the researcher showed that the scales were considered as reliable because the Cronbach's alpha coefficient was greater than 0.70 and the manipulation check carried out was valid.

DATA ANALYSIS AND RESULTS

Effective tax assessment

Table 2 shows the number of respondents supporting the statement, 'Efficient tax administration will improve with effective tax assessment in Nigeria' {Average Score = 4.36; SD = 0.89}; 84.2% of the respondents that totally agree are on the high side and ranked 1. For the statement: 'Effective tax assessment can be achieved when digital tax net of taxpayers is put in place in Nigeria' {Average Score = 4.06; SD = 1.01}, the percentage of respondents that totally agree is 74.3%, which has the least average score. This is preceded by the statement, 'Introduction of information technology will bring about effective tax assessment in Nigeria' {Average Score = 4.18; SD = 0.87}; it has 81.3% of respondents that totally agree.

Other diagnostics

To ensure validity, post estimation tests were carried out. From the result of Breusch-Pagan / Cook-Weisberg test

Table 1. Results of the reliability test.

Variable	No. of items	Cronbach's alpha
Digital tax net of taxpayers	5	0.887
Enabling tax laws	5	0.875
Information technology acquisition	5	0.923
Financial resources support	5	0.962
Ease of filing of tax returns	5	0.961
Ease of registration by taxpayers	5	0.936
Ease of payment of tax	5	0.913
Effective tax assessment	5	0.947
Professional competence	5	0.912

Source: Pilot Study (2020).

Table 2. Effective tax assessment.

	Strongly disagree	Disagree	Undecided	Agree	Strongly agree	Total	% of Total Agree	Mean (Std.)	Rank
Effective tax assessment can be achieved when digital tax net of taxpayers is put in place in Nigeria	6 [0.9]	57 [8.9]	102 [15.9]	204 [31.8]	272 [42.4]	641 [100]	476 [74.3]	4.06 (1.01)	5
Enabling tax laws will enhance effective tax assessment in Nigeria.	3 [0.5]	37 [5.8]	117 [18.3]	147 [22.9]	337 [52.6]	641 [100]	484 [75.5]	4.21 (0.97)	3
Introduction of information technology will bring about effective tax assessment in Nigeria.	3 [0.5]	31 [4.8]	86 [13.4]	249 [38.8]	272 [42.4]	641 [100]	521 [81.3]	4.18 (0.87)	4
Financial resource support to the tax administration in Nigeria will enhance effective tax assessment in Nigeria.	0 [0.0]	25 [3.9]	78 [12.2]	192 [30.0]	346 [54.0]	641 [100]	538 [83.9]	4.34 (0.84)	2
The efficient of tax administration will improve with effective tax assessment in Nigeria.	9 [1.4]	16 [2.5]	76 [11.9]	173 [27]	367 [57.3]	641 [100]	540 [84.2]	4.36 (0.89)	1

Source: Field survey (2020). Note: Percentage in square bracket.

for heteroskedasticity and Jarque-Bera normality test for normality in the lower portion of Table 3, the P-value of Jarque-Bera normality test for

normality is insignificant at 5% alpha level (P - value = 0.517) suggesting that the error term (residual) of the estimated regression model is

distributed normally as expected. Furthermore, the P-value of Breusch-Pagan / Cook-Weisberg test for heteroskedasticity is 0.000 which is below

Table 3. Effects of Information technology on effective tax assessment.

ETA	Coef.	Robust Std. err.	T	P> t
DTNTP	0.099	0.063	1.570	0.118
ETL	0.115**	0.059	1.970	0.045
ITA	0.219***	0.056	3.940	0.000
FRS	0.163**	0.064	2.540	0.011
_cons	1.736***	0.238	7.290	0.000
R-Squared		0.177		
Adjusted R-squared		0.172		
F – Statistic		35.46		
Prob > F-statistic		0.000		
Het. Test		34.49		
Prob > Het. Test		0.000		
Normality Test		1.318		
Prob > Het. Test		0.517		

***, ** and * represent 1, 5 and 10% significance levels respectively.
Source: Field survey (2020).

0.010, depicting statistically significant value at 5% significance level. This strongly suggests that the null hypothesis of homoscedasticity should not be accepted. Thus, the study concludes that the error term of the estimated regression model suffers from heteroskedasticity problem and this explains why heteroskedasticity robust Standard Error regression model is used.

$$ETA_i = \beta_0 + \beta_1 DTNTP_i + \beta_2 ETL_i + \beta_3 ITA_i + \beta_4 FRS_i + \mu_i$$

$$ETA_i = 1.736 + 0.099DTNTP_i + 0.115ETL_i + 0.219ITA_i + 0.163FRS_i + \mu_i$$

From the result, the coefficients of digital tax net of taxpayers, enabling tax laws, information technology acquisition and financial resources support are positively signed and are consistent with the *a priori* expectations ($\beta_1 = 0.099$; $\beta_2 = 0.115$; $\beta_3 = 0.219$; $\beta_4 = 0.163$) > 0. Typically, the value of F-statistics in Table 3 stands at 35.46 [P - value = 0.000]; it signifies that the explanatory variables in our model are jointly statistically significant at 5% level in explaining variances in Effective Tax Assessment (ETA). Also, the results show that Digital Tax Net of Taxpayers (DTNTP), Enabling Tax Laws (ETL), Information Technology Acquisition (ITA) and Financial Resource Support (FRS) jointly explained about 17.2% (Adjusted R-squared = 0.172) of changes in Effective Tax Assessment (ETA). Focusing on the estimated coefficients of Digital Tax Net of Taxpayers (DTNTP), Enabling Tax Laws (ETL), Information Technology Acquisition (ITA) and FRS, the result shows that Digital Tax Net of Taxpayers (DTNTP) has a positive coefficient that is statistically insignificant at 5% level ($\beta_1 = 0.099$, P - value = 0.118). This indicates that DTNTP is

not found to be a determinant of ETA.

However, the estimated coefficient of ETL [$\beta_2 = 0.115$, P - value = 0.045] is found to be positively and significantly related to ETA at 5% alpha level. This means that ETA is caused to increase by 0.115 units given a unit increase in ETL. For ITA [$\beta_3 = 0.219$, P - value = 0.000], this estimated parameter (coefficient) shows that positive and statistically significant relationship exists between ITA and EAT at 5% alpha level. This infers that 0.219 unit increase in ETA is reached when there is a unit increase in ITA. Similar to the estimated coefficients of ETL and ITA, the estimated coefficient of FRS [$\beta_4 = 0.163$, P - value = 0.011] shows a positive and statistically significant relationship at 5% alpha level. This suggests that 0.163 unit increase in ETA is recorded when there is a unit increase FRS.

DISCUSSION

Based on the results obtained from the regression analysis, at a significance level of 0.05, *F-Statistic* is 35.46; while the *P-value of the F-Statistics* is 0.000, which is less than 0.05. Consequently, the study rejected the null hypothesis and accepted the alternative, which means that digitalization had a positive statistical significant effect on effective tax assessment in Nigeria. This finding is consistent with the study of Enahoro and Olabisi (2012) who investigated tax administration and its effectiveness in Lagos State. In carrying out this investigation, the study explored the use of survey research design, making use of self-structured questionnaire administered to some selected respondents. Basically, the study was interested in ascertaining the

level of accurate tax assessment, collection, and remittances by the tax authorities on behalf of Lagos State government. The study found positive significant relationship between tax administration, tax policies and tax laws. Above all, the study found information technology having a positive and statistical significant effect on professional competence.

Similarly the study of Asaolu et al. (2015) on the effect of tax administrative and tax reform on tax revenue generation in Lagos State of Nigeria, found a long run relationship between tax reforms and tax efficiency and tax revenue generation in Lagos State possibly attributed to incompetence. The study also revealed that the tax reforms had a positive significant effect on the revenue generation structure of Lagos State. The studies of Asaolu et al. (2015) and Theobald (2018) had some similarities with the findings of this study. Both studies were found to be consistent with the result obtained in the analysis of the effect of information technology on effective tax assessment in Nigeria. The results reveal that each of digital tax net of taxpayers, enabling tax laws, information technology acquisition and financial resources support exhibited a positive significant effect on effective tax assessment. Therefore, the study result implied that digitalization had a positive and statistical significant effect on effective tax assessment in Nigeria.

Conclusion

In an effort to carry out the objective of this study, the study investigated the effect of information technology on effective tax assessment in Nigeria. The descriptive analysis effected centered on frequency, percentage, mean and standard deviation. Under this, all sections of the research instrument were considered. The responses of the respondents to all questions were analyzed and the results were presented. Diagnostics tests of correlation matrix, Breusch-Pagan / Cook-Weisberg test for heteroskedasticity and Jarque-Bera normality test for normality were carried out. The results revealed that efficient tax administration improved with effective tax assessment in Nigeria' {Average Score = 4.36}; it is on the high side and it is ranked 1, unlike the statement that says 'Effective tax assessment can be achieved when digital tax net of taxpayers is put in place in Nigeria' {Average Score = 4.06}; it has the least average score. This is preceded by the statement which says 'Introduction of information technology will bring about effective tax assessment in Nigeria' {Average Score = 4.18}. Additionally, the inferential and regression analysis results revealed that each of digital tax net of taxpayers, enabling tax laws, information technology acquisition and financial resources support exhibited a positive significant effect on effective tax assessment. Therefore, the study result implied that information technology had a positive and statistical significant effect on effective tax assessment in Nigeria.

Recommendations

It is recommended that the government should provide the essential facilities of enabling tax laws, as well as simplify some ambiguities and complexities in some of the existing tax laws in Nigeria. It should provide enabling regulatory and legal framework to reduce tax evasion; it should provide taxpayers' tax identification number for all taxpayers, and also ensure the provision of appropriate information technology to enable both taxpayers and tax administrators to comply with the digital tax processing and brace up with the rest of the world in the new digital age.

Contribution to knowledge

Vast studies have considered effective tax assessment; however fewer of these studies have studied the effect of information technology on effective tax assessment in the Nigerian emerging literature. In addressing this gap, this study had contributed in highlighting the importance of information technology and its many benefits of ease filing of tax returns, ease registration, ease of payment of tax and effective tax assessment. Like in many digitalized environment, taxpayers are favorably disposed to information technology of tax administration in Nigeria. The policy makers can now understand the importance of enabling tax laws and simplification of same to motivate tax compliance in Nigeria.

While the study had made significant contribution to knowledge, there were some limitations as the study cannot claim to have covered all issues on digitalization or tax administration in Nigeria. Like in most prior empirical studies, this research has some limitations; this does not invalidate the relevance of the findings. However, the findings from this study should be used to the extent of the following limitations: The findings of this research are applicable only to tax administration as it affects tax administration in Nigeria. However, the specific tax and the level of compliance that could arise from this study were not covered. Also the findings could only be useful for tax related matters hence it may not be effective to be used in making policies and decisions for others non- related tax issues. The study is also limited to geographical location of Nigeria and had some time constraints. One major limitation was inability to synthesize elaborately using prior studies, as there are sincerely paucity of literature on this topic to enable the researchers align the consistence of the findings with previous findings.

However, the researchers confronted and surmounted the challenges pragmatically, to ensure that the reliability and accurate data are maintained in this study. To the best knowledge of the researchers, the expected standards, quality and validity of the study were not compromised. In the research, five variables were used to measure the dependent variable and four for the

independent variable. There are other variables apart from the variables used in the study that could equally be used to proxy both tax administration and digitalization in Nigeria. Therefore, it would be interesting to see future studies exploring other indicators to re-investigate the relationship and effects of digitalization on tax administration in Nigeria. Furthermore, the study could be extended to study the effect of digitalization on other administrations in Nigeria rather than only on tax administration. Given the dynamism of tax administration in Nigeria, it is imperative that study of this nature is repeated periodically and to capture the changes in the environment; considering the complications in tax laws and behavioral attitude of taxpayers, the ability to investigate them and the perceptions of taxpayers could enhance tax compliance.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Full Length Research Paper

Risk based internal audit at Greek listed shipping companies of New York stock exchange

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In recent years, significant changes have been made in the internal audit function, based on regulatory stipulations along with the need for improvement of internal audit services. These changes had a significant impact not only on the business itself, but also on the markets and on various stakeholders, and have led to the need to implement a methodology for conducting internal audits based on risk. Our research attempts to record the established status in the Greek shipping companies listed in the New York Stock Exchange NYSE regarding risk based internal audit, based on the perceptions of internal audit professionals. In order to succeed in that, a survey was performed among internal audit employees of various levels at Greek shipping companies listed on the NYSE. The research contains useful conclusions regarding the status of implementation of risk based internal audit methodology. Also, the research focuses on the impact of certain characteristics of internal audit like control activities using multiple regression econometric model based on the regulatory framework for internal audit as provided by the Institute of Internal Auditors. In order to succeed in that, regression analysis was executed based on the results of the aforementioned survey questionnaires. The results revealed significant relationship between risk based internal audit and some the characteristics of internal audit. The conclusion is that risk based internal audit methodology may have viable outcomes to the management of risks within the Greek listed Shipping companies.

Key words: Internal audit, corporate governance, shipping industry, risk based internal audit.

INTRODUCTION

Shipping industry is an essential part of global economy. It is one of the largest sectors in a country's production process, since it links production with consumption.

Likewise any transportation facility, shipping transportation is heavily dependent on world production. Greek commercial shipping is an important sector with a

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very significant impact on the country's economy. Its growth was large and with any kind of assistance by state funding. Its contribution to the national economy has been and continues to be indisputable not only in terms of shipping but also in terms of shipbuilding capital.

Internal control system has been implemented by shipping companies long time ago. However, due to the important changes taking place in the shipping market, internal control system plays a particularly significant role, that of regulatory compliance. Internal audit activity must ensure that the company complies with all relevant regulations (internal and external), by auditing internal control system. In a company with diversified activity, internal audit activity is responsible for auditing key business risks such as risks associated with sales, the costs involved, competition, the wider financial climate as well as the risk of compliance with the institutional framework. In some companies, audit and risk responsibilities have been placed under the Directorate of Internal Control and Risk Management. In such cases, operational risk monitoring is shifting towards the operation of internal control. In addition, the role of the compliance department has been increasing in recent years.

The independence of internal audit activity from the operation of a shipping company has been fully achieved by many shipping companies. One of the most important responsibilities of internal audit within a shipping company is to fulfill its role as an independent assurance provider on the company's Board of Directors. Alzeban (2015) underlines that an auditor has to act independently and that the internal audit activity should have full and unrestricted access to the Board of Directors, whose members should receive periodically internal audit reports. Chief Audit Executive should report functionally to the Board of Directors or the Audit Committee and administratively to Chief Executive Officer. Finally, internal audit activity should audit every activity at its discretion without restriction and free from any influence, that might impair its independence or objectivity. Internal audit staff should also be professional and internal audit activity should comply with the mandatory guidance provided by The Institute of Internal Auditors.

LITERATURE REVIEW

Koutoupis and Tsamis (2009) highlighted the fact that the activity of internal audit of Greek banks is imposed by 2 separate legislations' sources, the legislation that applies to listed companies and the legislation that applies to Greek banks and comes from the Bank of Greece. According to the above authors, risk based internal audit (RBIA), even though has been evolved as a methodology the past decade, is still not finding application in Greek listed and non-listed companies. Greek banks that

included in their research stated that they follow a risk-based audit approach and develop risk based audit plans, but the vast majority of them could not prove it through a clearly documented risk assessment methodology and a risk-based audit plan. However, Bank of Greece has set up some minimum requirements regarding the operation of internal audit functions that are periodically assessed by the aforementioned banking regulator. The research concluded that internal audit and compliance functions should hire high-qualified and competent employees that possess the necessary skills and knowledge to accomplish their duties and responsibilities effectively. The development and adherence to an internal audit manual is also considered essential. Finally, they concluded that Compliance Officers should always evaluate compliance risks in all new products, business practices and types of relationships.

Castanheira et al. (2010) researched the relationship between risk based internal audit and company-specific factors. They investigated the role of internal auditing within the context of enterprise risk management (ERM). Their findings were drawn from a questionnaire survey, sent to all 96 chief internal auditors who were members of the Institute of Portuguese Internal Auditors. They concluded that there is a strong relationship between risk-based annual audit planning and large private entities of financial sector. During planning phase, adoption of a risk-based approach is positive related with the entity size. Velashani et al. (2012) highlighted the close relationship between internal audit and effective and efficient internal control systems. Internal audit provides correct information to management about effectiveness of risk management and internal controls including compliance with organizational laws and regulations. Different techniques of internal audit test the accuracy and the reliability of accounting books and financial reports, the accuracy, reliability and timeliness of control reports and the level of compliance with legal and regulatory requirements. However, in one of these an opinion about qualitative aspects of organizational management, especially risk management, is provided. They provided a comprehensive and practical model for implementing risk-based internal audit methodology. This model was designed based on theoretical principles as well as professional experience of the authors. Coetzee and Lubbe (2013) stated that internal auditing assists with the mitigation of key organizational risks. They concluded that risk management strategy currently implemented by organizations is not mature enough for internal auditing to rely on, and that internal auditing is reluctant to use a pure risk-based approach when performing audit engagements. In particular, internal audit departments still prefer to apply the traditional control-based approach with more emphasis on high-risk areas.

Mihret and Khan (2013) researched theoretically the

role of internal audit in the accountability framework within the context of corporate governance. They focused on accountability attribute, in order to conceptualize the risk management rationale of internal audit. In their research, they concluded that the need for accountability within capitalism create the demand for internal audit as a risk management technique that promotes the values of efficiency and effectiveness within firms through the performance of assurance and advisory services. Coetzee (2016), based on the perceptions of chief audit executives (CAEs), the chairs of audit committees and senior management from the South African public sector, concluded that senior management could take advantage of the efforts of CAEs and the chairs of audit committees in order to mitigate key organizational risks. Also, they concluded that audit committee could assess whether internal audit or some other activity contributes to risk management process.

Coetzee and Erasmus (2017) focused on the relationship between effective internal audit function and the improved performance of the public sector, within the South African public sector context. They provided insight into the drivers and measures of internal audit effectiveness. By sending questionnaires to the heads of the internal audit functions, senior management of public institutions and chairpersons of the audit committee and by applying exploratory factor analysis on measures of internal audit effectiveness, it shows that internal audit's independence is related with five variables, functional reporting, access to information, no scope limitation, access to the audit committee and support by audit committee. Görener (2017) underlined that fundamental changes have taken place in the concept of audit due to several reasons such as accounting scandals, changes in management mentality, technological developments and legal regulations. Along with these changes, risk-based audit approach has been developed beyond the issue of benefiting from the previous period data envisaged by the traditional audit approach.

Zainal (2017) examined the relationship between internal audit, audit committee attributes, risk management and internal control systems with the implementation of risk-based audit, by using data from 117 internal audit functions of public listed companies in Malaysia. The research revealed a positive relationship between "audit committee review and concern" and "risk management system" with the implementation of risk-based audit, while no relationship was found between internal audit experience, size of internal audit function, audit committee qualifications, and internal control system with the implementation of risk-based audit. Rahman et al. (2018), using Islamic banking institutions as a sample, examined whether internal audit is a key function that ensures compliance, taking into account the need to incorporate Shariah audit function to existing corporate governance framework of Islamic banks. Their study provided in-depth explanation on how internal Shariah audit works, especially during the planning

phase, the fieldwork phase and reporting phase. Also, they focused on the implementation of risk-based internal audit (RBIA) approach into practice. Klamut (2018) analyzed the effect of internal audit on minimizing the risk of fraud. Research results indicated that internal audit of small firms is implemented sporadically, so it is difficult to talk about its effectiveness, while on other size entities internal audit fulfills its role, provided that is properly carried out. This means that is independent and objective.

Eulerich and Lenz (2019) used as a sample six listed companies and three public/governmental organizations and deployed 26 semi-structured interviews with Chief Audit Executives and internal auditors, in order to analyze the integration of the internal audit function into the organizational governance structure and to identify best practices to improve the overall governance quality, from the perspective of internal audit function. Their results identified different practices of organizing and integrating the internal audit function into the organizational governance. In most of the cases, internal audit function is subordinated to the Board of Directors and therefore has a direct connection to the highest level of management. Koutoupis et al. (2019) examined the relationship between internal audit, corporate governance and the audit committee in the recent financial crisis in Greece and investigated the contribution of internal audit to corporate governance structures during this period in Greece. They concluded that risk based internal audit adds value to the organization and supports senior management towards the accomplishment of the organizational goals.

Marwa et al. (2020) explored the relationship between environmental audit and the quality of environmental disclosures. Using a sample of 81 French non-financial companies listed on the SBF 120 index covering the six-year period from 2012 to 2017, they concluded that a positive relationship exists between the level of voluntary disclosures regarding environmental information and the environmental audit committee, the environmental auditor's BIG 4, debt levels, firm size, earnings management and the industry. Thus, the quality of disclosures of environmental information is an important tool for managers to influence the external perceptions about their company and a strategic tool for managing its legitimacy. Roussy et al. (2020) aimed to understand how internal audit achieves organizational significance. They conducted interviews with audit committee chairs and chief audit executives from multinational corporations. Their findings indicated that internal audit effectiveness achieves and consolidates organizational significance through organizational change.

METHODOLOGY

The purpose of the present study is dual: first, to record the established status in Greek shipping companies listed in NYSE

regarding risk based internal audit, based on perceptions of internal audit professionals. Second, the study attempts to explore the interrelation between risk based internal audit and basic elements of the internal audit activity. Our sample consists of the Greek listed shipping companies in New York Stock Exchange, according to NYSE index 2018. More specifically, our sample consists of 25 listed shipping companies. For the first purpose of our study, we conducted a questionnaire-based survey. The questionnaire was sent to all assistants, seniors, managers, senior managers, Executive Directors and Non-executive directors of internal audit departments and audit committees, of the companies of our sample. We received 112 answers out of 150 questionnaires sent (response rate 74.67%). The questionnaire was initially sent on February 2019. The questionnaire was structured containing 6 categories, the first of which was asking general information about the companies and the respondents, and the next five referred to questions related to the variables of the research model under consideration. There were totally 28 questions. The first category of questions consisted of seven questions about gender, years of experience, educational level, position in the company, frequency of internal audits, reasons for performing internal audit and actions taken in case of mistakes and omissions. The other categories consisted of 21 questions presented via the Likert Scale method, where 1 represents "strongly disagree", 2 "disagree", 3 "moderate", 4 "agree" and 5 "strongly agree".

More specifically the second category is related with dependent variable of our model that is "Risk Based Internal Auditing" and contains 5 questions regarding with internal audit department and code of ethics. The third category refers to dependent variable "Risk Assessment" which includes 5 questions for methodology and control systems. As far as fourth category is concerned it is related with "Control Activities" and contains queries for segregation of duties and limits of approvals. Finally, the fifth and sixth categories concern the role of Internal Audit and the referred to auditors independence and monitoring systems respectively. Based on the literature review presented above, for the second purpose of our research, five variables were selected. The dependent variable was "Risk Based Internal Audit" (RBIA). "Risk Assessment" (RA), "Control Activities" (CA), "Consulting Role of Internal Audit" (ConIA) and "Monitoring Role of Internal Audit" (MonIA) were the independent variables of our model. In order to find the relationship between "Risk Based Internal Audit" and "Risk Assessment", "Control Activities", "Consulting Role of Internal Audit" and "Monitoring Role of Internal Audit", multiple regression econometric models were deployed. The model that we will use in our research is:

$$RBIA = a + b_1RA + b_2CA + b_3ConIA + b_4MonIA + \varepsilon$$

where: RBIA: Risk Based Internal Auditing, RA: Risk Assessment, CA: Control Activities, ConIA: Consulting Role of Internal Audit, MonIA: Monitoring Role of Internal Audit.

RESULTS AND DISCUSSION

General information, regarding gender, years of experience, educational level, position in the company of respondents, frequency of internal audits, reasons for performing internal audit and actions taken in case of mistakes and omissions are presented in Table 1. According to Table 1, the majority of the respondents are men (58%) and most of the respondents work in the same position for more than 10 years (45.5%), 27.7%

work from 5 to 10 years and 26.8% work for less than 5 years. This might imply that their opinions regarding risk based internal audit is valid, due to many years of practicing internal audit. Regarding the educational level, the vast majority of the respondents have obtained master degree (66.1%), 22.3% of respondents are university graduates and 8% hold a PhD. Regarding the question about the respondents' position in the company, most of them 33% are Head of Internal Audit (Executive Directors), 21.4% are members of the Audit Committee (Non-Executive Directors), 16.1% are Senior Internal Auditors, 12.5% are Internal Audit Managers, 10.7% are Assistants and 6.3% are Internal Audit Senior Managers. Regarding the frequency of internal audit, in most of the cases, is performed once a year (87.5%), 8.9% of the respondents replied that internal audit is performed once per two years, and 0.9% replied "once per five years". Regarding the reasons for performing internal audit, majority of the respondents emphasized on the impact of internal audit in detecting fraud (27.8%) and reviewing the proper operation of procedures (25.9%). 22.3% of the respondents replied that internal audit is useful to identify any errors, or omissions and 18.8% of respondents replied that the reason for performing internal audit is to protect assets. Only 5.4% of the respondents replied that adding value is the reason for performing internal audit. Finally, regarding the reaction in case of mistakes and omissions, 75% of the respondents replied that there are recommendations for corrective actions. Perceptions of respondents regarding the dependent variable of our model, "Risk Based Internal Audit", are presented in Table 2.

According to Table 2, the most positive responses were given for questions 3 and 4, which are related to the job descriptions carried out at all levels and the clear separation of duties and responsibilities of employees. 42.9% of respondents strongly agree that there is an organization chart for each department, which is reviewed in accordance with current developments and requirements. Half of the respondents also strongly agree that there is a detailed company manual of procedures with imprinted tasks. Finally, vast majority of the respondents agree or strongly agree that a Code of Conduct should be adopted and properly communicated.

Table 3 presents our results regarding "Risk Assessment" independent variable.

According to Table 3, audit procedures are implemented to various extents depending on the risk intensity of the audited Service/ Department (69.6%). Internal control system is applicable not only in regular but also in exceptional cases (51.8%). There are specific targets that are adjusted at regular intervals (42%) and most of the goals set by management are realistic and can be achieved (37.5%). On the other hand, responses about whether there is a specific methodology for assessing the company's risks are quite negative, given that 37.5% disagree and 36.6% strongly disagree with the question.

Table 1. General Information.

		N	%
Gender	Male	65	58
	Female	47	42
	Total	112	100
Years of experience	0-5	30	26.8
	5-10	31	27.7
	>10	51	45.5
	Total	112	100
Education	High school	4	3.6
	University graduate	25	22.3
	Master	74	66.1
	PhD	9	8%
Position in the company	Total	112	100
	Assistant	12	10.7
	Senior	18	16.1
	Manager	14	12.5
	Senior Manager	7	6.3
	Head of internal audit-executive director	37	33
	Audit committee member-non executive director	24	21.4
	Total	112	100
Frequency of internal audit	Once a year	98	87.5
	Once per two years	10	8.9
	Once per five years	1	0.9
	Other	3	2.7
	Total	112	100
Reasons of performing internal audit	To identify any errors or omissions	25	22.3
	To audit the proper functioning of department procedures	29	25.9
	To detect possible fraud	31	27.7
	For the protection of assets	21	18.8
	To add value to the business	6	5.4
Total	112	100	
Reaction in case of mistakes and omissions	Recommendation for correction of errors and omissions	84	75
	Recommendation and accountability	22	19.6
	Other	6	5.4
	Total	112	100

Table 4 presents our results regarding “Control Activities” independent variable.

According to Table 4, most of the respondents agree (or strongly agree) that the levels and limits of approvals / responsibilities are appropriately communicated (43.8% and 50.9% respectively). Vast majority of the respondents disagree (or strongly disagree) that there is a prior approval of management for the adoption of automated information and other systems of the company.

However, they strongly agree that the internal control system protects against unauthorized transactions (66.1%). Finally, the respondents’ answers regarding the statement that job descriptions include specific references to control-related activities are controversial. Table 5 presents our results regarding “Consulting Role of Internal Audit” independent variable. According to Table 5, respondents strongly agree that auditors are providing information to external auditors (79.5%).

Table 2. Statements Regarding the Risk Based Internal Audit.

	1		2		3		4		5		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
1. There is an organization chart for each department which is reviewed in accordance with current developments and requirements.	0	0	3	2.7	19	17	42	37	48	42.9	112	100
2. There is a detailed company manual of procedures with imprinted tasks and how they are executed.	2	1.8	2	1.8	12	10.7	39	34.8	57	50.9	112	100
3. Job descriptions have been carried out at all levels	0	0	0	0	2	1.8	12	10.7	98	87.5	112	100
4. The separation of duties and responsibilities of employees is clear	1	0.9	2	1.8	5	4.5	17	15.2	87	77.7	112	100
5. A code of Conduct has been adopted and communicated or otherwise the principle of integrity and respect for workers' ethical values has been proclaimed	11	9.8	9	8	27	24.1	32	28.6	33	29.5	112	100

Table 3. Statements regarding risk assessment.

	1		2		3		4		5		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
6. There is a specific methodology for assessing the company's risks.	41	36.6	42	37.5	21	18.8	4	3.6	4	3.6	112	100
7. There are specific targets that are adjusted at regular intervals.	5	4.5	5	4.5	24	21.4	31	27.7	47	42	112	100
8. The goals set by management are realistic and can be achieved.	6	5.4	4	3.6	29	25.9	42	37.5	31	27.7	112	100
9. Internal control system is applicable not only in regular but also in exceptional cases.	11	9.8	10	8.9	27	24.1	6	5.4	58	51.8	112	100
10. Audit procedures are implemented to various extents, depending on the risk intensity of the audited service / department.	1	0.9	0	0	7	6.3	26	23.2	78	69.6	112	100

Table 4. Statements regarding control activities.

	1		2		3		4		5		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
11. The levels and limits of approvals / responsibilities are known.	0	0	0	0	6	5.4	49	43.8	57	50.9	112	100
12. There is a prior approval of management for the adoption of automated information and other systems by the company.	43	38.4	42	37.5	21	18.8	4	3.6	2	1.8	112	100
13. The control system protects against unauthorized transactions.	1	0.9	2	1.8	8	7.1	27	24.1	74	66.1	112	100
14. Job descriptions include specific references to control-related activities.	1	0.9	2	1.8	51	45.5	52	46.4	6	5.4	112	100

Furthermore, auditors are provided with the most reliable information by employees (57.1%). Also, auditors contribute their knowledge to the safe resolution of issues that occur when conducting

regular audits in a department of the company or the management (68.8%). Finally respondents disagree (or strongly disagree) that auditors have access to specially designed software to retrieve

information from other departments (38.4 and 7.5% respectively). Table 6 presents our results regarding "Monitoring Role of Internal Audit" independent variable.

Table 5. Statements Regarding the Consulting Role of Internal Audit.

	1		2		3		4		5		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
15. Internal auditors are providing information directly and as a matter of priority to external auditors.	0	0	0	0	3	2.7	20	17.9	89	79.5	112	100
16. Auditors are provided with the most reliable information by employees.	4	3.6	4	3.6	19	17	21	18.8	64	57.1	112	100
17. Auditors have access to specially designed software to retrieve information from other departments.	42	37.5	43	38.4	19	17	3	2.7	5	4.5	112	100
18. Auditors contribute their knowledge for the safe resolution of issues that occur when conducting regular audits in a department of company or management.	0	0	0	0	8	7.1	27	24.1	77	68.8	112	100

Table 6. Statements Regarding the Monitoring Role of Internal Audit.

	1		2		3		4		5		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
19. Audit activity is evaluated by management.	47	42	49	43.8	10	8.9	3	2.7	3	2.7	112	100
20. Department's responsibilities are assigned in a way that prevent a person from processing details of a transaction as a whole, executing it, and finally archiving it without further scrutiny by others.	1	0.9	1	0.9	17	15.2	59	52.7	34	30.4	112	100
21. The company has established monitoring systems through budget reporting and other arrangements.	12	10.7	8	7.1	68	60.7	12	10.7	12	10.7	112	100

According to Table 6, vast majority of the respondents disagree (or strongly disagree) that audit activity is evaluated by management of the company (4.8% and 42% respectively). On the other hand, most respondents agree that the departments' responsibilities are assigned in a way that prevent a person from processing details of a transaction as a whole, executing it, and finally archiving it without further scrutiny by others (52.7%). Finally, respondents neither agree nor disagree that the company has established monitoring systems through budget reporting and other arrangements (60.7%).

As far as the second purpose of our research is concerned, we used SPSS in order to calculate the Pearson correlation matrix for the dependent

and independent variables of our model, as well as to perform the actual regression analysis. Results are presented in Tables 7 to 9 accordingly. According to Table 7, we found a significant and positive correlation ($r=0.181$) between "Risk Based Internal Audit" and "Risk Assessment" at $p<0.05$ and a significant and positive correlation ($r=0.29$) between "Risk Based Internal Audit" and "Control Activities" at $p<0.05$. Also, there is a positive correlation between "Risk Based Internal Audit" and the "Consulting Role of Internal Audit" ($r=0.135$) which is not significant ($p>0.05$) and there is no significant correlation between "Risk Based Internal Audit" and the "Monitoring Role of Internal Audit" ($r=0.135$, $p=0.359$).

Moreover, there is a significant and positive correlation ($r=0.261$) between "Risk Assessment" and "Control Activities" at $p<0.05$ and a significant and positive correlation ($r=0.192$) between "Risk Assessment" and the "Consulting Role of Internal Audit" at $p<0.05$. On the contrary, there is a positive correlation between "Risk Assessment" and the "Monitoring Role of Internal Audit" ($r=0.058$) which is not significant ($p>0.05$). Furthermore, there is a positive correlation ($r=0.05$) between "Control Activities" and the "Consulting Role of Internal Audit" which is not significant ($p>0.05$) and a slightly negative correlation ($r=-0.02$) between "Control Activities" and the "Monitoring Role of Internal Audit" which is not significant ($p>0.05$). Finally, there is a

Table 7. Correlation matrix.

		RBIA	RA	CA	ConIA	MonIA
Pearson correlation	RBIA	1.000	0.181	0.293	0.135	0.034
	RA	0.181	1.000	0.261	0.192	0.058
	CA	0.293	0.261	1.000	.053	-0.020
	ConIA	0.135	0.192	0.053	1.000	0.064
	MonIA	0.034	0.058	-0.020	0.064	1.000
Sig. (1-tailed)	RBIA	0.	0.028	0.001	0.078	0.359
	RA	0.028	0.	0.003	0.021	0.271
	CA	0.001	0.003	0.	0.289	0.418
	ConIA	0.078	0.021	0.289	.	0.250
	MonIA	0.359	0.271	0.418	0.250	.
N	RBIA	112	112	112	112	112
	RA	112	112	112	112	112
	CA	112	112	112	112	112
	ConIA	112	112	112	112	112
	MonIA	112	112	112	112	112

Table 8. Anova results.

Model		Sum of squares	df	Mean square	F	Sig.
1	Regression	1.988	1	1.988		
	Residual	21.121	110	0.192	10.354	0.002
	Total	23.109	111			

Table 9. Coefficient results.

Model		Unstandardized		Standardized	t	Sig.
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	2.518	0.558		4.510	0.000
	RA	0.082	0.086	0.091	0.946	0.346
	CA	0.287	0.103	0.265	2.798	0.006
	ConIA	0.105	0.096	0.102	1.094	0.276
	MonIA	0.022	0.074	0.028	0.304	0.762

positive correlation ($r=0.064$) between the “Consulting Role of Internal Audit” and the “Monitoring Role of Internal Audit” which is not significant ($p>0.05$). Table 8 presents the results of the regression analysis with the application of ANOVA. According to the table, the overall model is significant ($F=10.354$, $\text{sig.} = 0.002 < 0.05$). Finally, Table 9 presents the results of the coefficients of our OLS model.

$$\text{RBIA} = a + b_1\text{RA} + b_2\text{CA} + b_3\text{ConIA} + b_4\text{MonIA} + \varepsilon$$

$$\text{RBIA} = 2.518 + 0.082\text{RA} + 0.287\text{CA} + 0.105\text{ConIA} + 0.022\text{MonIA} + \varepsilon$$

The results indicate that there is a positive and significant

relationship between “Risk Based Internal Audit” and “Control Activities” ($b_2=0.287$, $p=0.006<0.05$). The relationships between “Risk Based Internal Audit” and all other independent variables are positive but insignificant ($p>0.05$).

Conclusion

Effective management is important for businesses, and one factor that affects it is the implementation of sound corporate governance mechanisms. In a modern and constantly evolving economy, managers take control of businesses, since growth of a company depends on

effective management and corporate governance. One of the main pillars of sound corporate governance is the function of internal audit. Internal audit assesses, among others, the effectiveness and the efficiency of the internal control system, which is one of the cornerstones for the achievement of companies' objectives. In the shipping industry, effective internal control system is a measure of effectiveness of the companies. In Greece, risk management and risk based internal auditing methodology, are at early stages of development, since there is no obligation by the law Greek listed companies to deploy any specific methodology. At academic level, there are many researches regarding risk based internal auditing effectiveness. Our research has concluded that risk based internal audit methodology is essential part for the function of internal audit, as it helps to fulfill its objective of providing reasonable assurance to management through risk management and under the newly established and implemented best practices at international level.

Our research showed that the listed on the New York Stock Exchange Greek shipping companies deploy an organization chart for each Directorate that the division of duties and responsibilities of employees is very clear and that job descriptions have been implemented for all job levels. However, only few of them implement a full risk based internal audit methodology. Their current methodology has not incorporated standardized audit planning procedures. The majority of listed companies use hybrids of methodologies for risk identification and risk management. Moreover, they use a combination of audit processes. A possible explanation might be the lack of specialized knowledge both by board members, managers and internal auditors as well, along with the lack of specific compliance terms at regulatory frameworks. For the second purpose of our research, our results showed that a strong relationship exists between risk based internal audit methodology and risk assessment and control activities, and that also, a relationship exists between risk based internal audit and the consulting role of internal audit. It is worth to mention that, according to our results, both roles of internal audit activity, that of assurance provider and that of the consultant could be supported by the implementation of a risk based methodology.

This study is subject to a limitation related to input data used for the development of our model. In particular, we based our arguments on perceptions of respondents; consequently, a level of bias is embedded. In any case, the fact that we sent our questionnaire only to internal auditors of any level reduces the possibility of existence of bias at respondents' answers. Another limitation is the conducting of a sector-specific study, which probably restricts the possibility of generalizing our findings. Our research results could be proven useful to Chief Audit Executives, Board members, business executives, consultants, official authorities or any other who express interest for the improvement of internal audit activity and

consequently of corporate governance practices in Greece. Future research efforts could be directed to the comparison of our research results with similar researches that used different sample, different time period, and different data regarding risk based internal audit.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Full Length Research Paper

Factors influencing International Financial Reporting Standards (IFRS) implementation success: Evidence from Ethiopia

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Drawing on Institutional and Economic Network Theories, this study investigated factors influencing International Financial Reporting Standards (IFRS) implementation success in Ethiopian business organizations identified as Public Interest Companies by the government which were expected to adopt IFRS for the year ending June 30, 2018. The study adopted explanatory method to answer the research questions and test hypotheses stated. Data were collected from 123 respondents in 22 first time IFRS adopting business organizations using questionnaires. The findings of the study revealed that economic factors, project governance factors and cultural factors were found to influence project success at 5% level of significance whereas influence of institutional pressures was accepted at 10% level of significance (sig=0.055, closer to 5% of course). Contrary to the literature, economic factors were not positively correlated to IFRS project success as the firms were predominantly operating locally and due to IFRS implementation costs. Project governance factors were found to contribute significantly for IFRS project success in the firms studied. This was in line with the project management literature that proper project governance will turn even a highly risky project into a success. In addition, there was no statistically significant difference in the IFRS project implementation success of private and public firms. Future research shall consider additional variables that influence IFRS project success and other firms that implemented IFRS in the next years as well as regional level public enterprises.

Key words: International financial reporting standards (IFRS), regulatory body, public interest company, project governance, project success.

INTRODUCTION

Accounting practice and business operations are highly intertwined as organizations, whatever their form, mobilize scarce resources to realize their strategic objectives and survive for long. This is much more critical for business organizations whose survival depends on

their profitability and wealth creation for the shareholders. Performance measurement and evaluation using accounting systems is a key and inevitable process. Even though accounting reflects economic, social, political, cultural and other local environmental conditions, the

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development of the accountancy profession itself is influenced by a range of factors such as institutional, political, cultural and economic ones (Perera, 1989).

According to Zeghal and Mhedhbi (2006), with the growing internationalization of economic trade, businesses in general and financial markets in particular, financial information prepared according to a national accounting system may no longer satisfy the needs of users whose decisions are more and more international in scope. In some ways, purely domestic information may even be a handicap for businesses as well as investors. They have further argued that conscious of this reality as well as the need to adapt accountancy to the new global environment and to the new requirements of decision makers, accounting regulating authorities have sought out solutions that allow for the improvement and advancement of financial accounting and its principal outputs. Although several initiatives have been put forward, harmonization of accounting standards and practices on an international scale has been the fundamental change in recent years. Al-Htaybat (2017) stated that uniform global accounting standards allow investors to make better-informed decisions, and reduce risks for investors, which ultimately reduces the cost of capital as well-developed accounting regulation system plays an important role in most economies in actively supporting economic development, and giving economies a competitive advantage by providing the right business infrastructure that creates an attractive investment climate to encourage both domestic and foreign investors. Zeghal and Mhedhbi (2006) clearly asserted that the International Accounting Standards Board (IASB) has prepared and published international accounting standards (IASs and IFRSs), which have become the reference for the entire world to realize the objective of international harmonization of accountancy practice.

Modern Accounting Practice is more than one century old profession in Ethiopia. However, there were no Accounting and Auditing Standards at country level for so long (Mihret et al., 2012). Mihret and Bobe (2014) claimed that the growing accounting history literature explains how the craft of accounting and models for professional organization of accountants have been transferred to developing countries like Ethiopia in the context of imperial connection. Mihret et al. (2012) as well as Mihret and Bobe (2014) further stressed that as of 2011, Ethiopia's accounting practice, education and professional licensing was characterized by a lack of an overarching proclaimed frame of reference. Tertiary accounting education draws on the US model; professional accountancy certifications was imported from the UK; and accounting practice, while not making explicit reference to any financial reporting framework, tends to have been influenced largely by the UK system. Hence, there was a serious need for accounting and auditing standards to be enforced as national standards.

This resulted in considering International Financial

Reporting Standards (IFRS) as a solution for Ethiopia.

Ethiopia has been undertaking various economic policy reforms along the lines of neo-liberal economic concepts (Peterson, 2001; Tesema, 2003) and as a result, Ethiopia is one of the many African countries that have adopted IFRS (Zori, 2011), with companies in the Ethiopian banking sector being given the option and at least claiming to report according to IFRS since 2008 (Government of Ethiopia, 2008). IFRS adoption has also been under consideration for reporting entities in other sectors than the finance industry such as for instance members of the Ethiopian Commodity Exchange Markets which was response to Ethiopia's continued trialing various policy responses largely driven by requirements of international funding agencies and continued dependence on imported accounting expertise and shifting agendas of transnational stakeholders (Mihret and Bobe, 2014).

As per Mihret and Bobe (2014), while the importation of Western accounting education and professional certification continued, the globalization era produced new dynamics that called for Ethiopia's adoption of IFRS. Serious consideration of IFRS came into reality only few years back when Accounting and Auditing Board of Ethiopia (AABE, 2014a) has been established via Proclamation 847/2014 and Regulation 332/2014 to regulate the accountancy profession in Ethiopia demanding IFRS as the country's reporting standard (AABE, 2014). Hence, IFRS implementation process was being undertaken by first time adopters as a project with special team dedicated for the task either from the company itself or from outside the firm on consultation basis or a combination of both. The success of the project was often influenced by various factors one of which is the governance mechanisms the project passes through. IFRS implementation projects are, therefore, undertaken by government owned business organizations and private business enterprises in three phases based on their public impact (AABE, 2014).

IFRS implementation projects like any other projects such as IT projects demanded the governance requirements for any project. According to Musawir et al. (2017), many projects are not able to meet their objectives and only 40% of project objectives are aligned with their organizational strategy that qualifies as project failure. They further indicated that many organizations continue to struggle with the implementation of a comprehensive benefits management approach and therefore fail to maximize the return on their project investments as only 17% of organizations report a high level of benefits realization maturity and this figure has remained unchanged. Badewi (2016) emphasized that delivering project outputs within time and budget was the main concern for project managers for so long (in 1960 up to the 1980s) and suggests that Benefits Management (BM) and Project Management (PM) were two interrelated approaches to the success of projects. IFRS

adoption changes from one emerging economy to another where the decision to adopt IFRS by a country does not necessarily mean a full adoption or a partial adoption. It is noteworthy that the nature of IFRS adoption by a country varies across jurisdictions and across time. Musawir et al. (2017) argued that strong governance framework provides the structures, roles, and accountabilities that enable effective project implementation and success. This should, as a result, ensure that project outputs and outcomes are continuously aligned with the benefits envisioned in the project's business case. They added that there is a lack of understanding in the existing literature regarding the governance mechanisms that facilitate the adoption and implementation of benefits management practices. It is not also clear if a comprehensive benefits management approach enabled by effective project governance would actually translate into a significant and positive impact on overall project success.

IFRS adoption research takes different scopes such as comparison of various countries, assessment of the case of a single country or specific organizational level study. Pricope (2016) claimed that Marquez-Ramos (2011) shifted the focus of IFRS implementation research from firm-level analysis to country-level analysis and investigated the process of IFRS adoption within national economic environments. Subsequently, country level analyses focused on the particular case of developed countries and pay very little attention to the drivers and effects of the IASB standards in the developing world. Likewise, in Ethiopia, even if studies were conducted on opportunities and challenges of IFRS as well as their effect on reporting quality, there was no comprehensive study about factors that influence mandatory IFRS implementation success at country level. Therefore, this study had assessed what factors critically influenced successful first time adoption and diffusion of IFRS projects in Ethiopia. The research questions answered in this study were:

RQ1: What was the influence of variables identified from the extant literature (institutional pressures, economic factors, project governance factors and cultural factors) on the adoption of IFRS in Ethiopia?

RQ2: Is there significant difference in the IFRS project implementation success of private and private firms?

There were prior studies about opportunities and challenges of IFRS adoption as well as perceptions of managers as to how IFRS would affect individual organizations, but there were no empirical studies that identified what factors influenced the adoption of IFRS in Ethiopia observing several projects at country level. This is partly due to the fact that the first phase of truly adopting IFRS started only on June 30, 2018. In addition, considering the IFRS adoption as a project and observing

the role of project governance in the IFRS implementation success is a new paradigm observed in this study. Lastly, while different authors considered each factor affecting IFRS implementation independently, bringing the constructs in this research model together incorporating the influence of culture is another unique contribution in this research.

The study has covered the first phase adopter business organizations that have implemented IFRS as their reporting standards as of June 30, 2018. According to AABE, all banks, insurance companies and public enterprises fall in this category. Hence, those organizations whose headquarters are located in Addis Ababa (the Capital of the Country, Ethiopia) were within the scope of this study. The study does not include microfinance institutions as head quarters of most of them were out of Addis Ababa.

REVIEW OF RELATED LITERATURE AND HYPOTHESES

Theoretical background

The institutional theory and the theory of economic regulation are the fundamental theoretical frameworks for this research. According to Sellami and Gafsi (2017), institutional and economic network theories focus on the effect of institutional as well as economic pressures on the organizations' practices and more generally on the strategic decisions of nations seeking to legitimize national practices via adopting world-accepted models which includes mandatory adoption of IFRSs. Al-Htaybat (2017) claimed that the accounting system projects are subject to many factors, both internal and external. He also stressed that it is important to note that different accounting regulation systems react to these environmental factors differently. For instance, in the emerging economies context, the framework of accounting practices and regulation systems lacks basic requirements and guidance for what should be and how it should be.

Organizational pressures and the diffusion of IFRS

Previous literature has consistently provided evidence that the environmental factors at a country-level have an important influence on accounting development and have led to accounting diversity. As per Mihret et al. (2012) and Mihret and Bobe (2014), in a globalized environment, the interactions between nation-states have greatly increased and the diffusion of best accounting practices, including IFRS, has been accomplished through the contribution of international organizations such as the WB and IMF. This asserts that institutional factors significantly influence successful IFRS adoption. Hence, a number of institutional factors (political, legal, educational

and religious) that influence IFRS adoption can be considered. This is stated for instance by Al-Htaybat (2017) who claimed that institutional theory also provides an explanatory framework for accounting change. Sellami and Gafsi (2017) asserted that institutional theory can be used as lens to explore the process of IPSAS adoption in emerging economies which is equally applicable for IFRS adoption. This is because there has been an increasing interest in the institutional theory in many areas and the theory has been adopted in accounting literature as a valuable framework to explain the country-specific factors affecting emerging economies' decisions to permit the use of IPSAS. As IPSAS and IFRS are issued by the same institution (IASB) and applied in a similar context, it also works for IFRS adoption. According to Hao et al. (2013) however, the existing accounting literature on institutional factors primarily use cross-country settings to investigate the impact of institutional differences on accounting information quality and hence, regional differences on levels of institutional development within a single country has yet to be determined. Pricope (2016) as well as Sellami and Gafsi (2017) argued that pressures due to institutional factors or institutional isomorphism occur through three mechanisms:

(1) Coercive isomorphism occurs when both formal as well as informal pressures are exerted on reporting organizations by other organizations upon which they are dependent, say the government. This may as well include cultural expectations in the society within which organizations function.

(2) Mimetic isomorphism is where organizations tend to model themselves after similar organizations in their field that they perceive to be more legitimate or successful which is often known as the follower advantage; and

(3) Normative isomorphism is a situation where the collective struggle of members of a profession has power to define the conditions and methods of their work, to control the production of producers and to establish a cognitive base and legitimization for their professional autonomy. Ali and Al-Alkawi (2018) also assured the aforementioned by stating that it is perceived that in nations where the government depicts a noteworthy quality, the accounting standards, which are IFRSs in this study, are broadly actualized. They further argued that among the numerous natural variables (financial, legitimate, social and political), political factor apply the most critical effect on the advancement of accounting practices. Hence, it can be hypothesized as follows:

H₁: Institutional pressures influence positively and significantly IFRS project implementation success.

Economic network theory and IFRS adoption

Shima and Yang (2012) stated that a single set of high quality accounting standards such as IFRSs would

provide a great deal of support by availing timely and accurate financial information for international investors to evaluate the performance of companies across national boundaries. That is, IFRS standards are likely to lower transaction and capital costs for foreign users of financial statements. They also argued that factors relating to political and economic ties, reliance on foreign-source of debt create contracting incentives for IFRS adoption which takes globalized business as a precondition.

This implies that the benefits that a given country derives from IFRS adoption can be explained by the magnitude of its economic relations with other partner-countries that have already adopted IFRS. In this sense, IFRS standards are considered a network-dependent product (Sellami and Gafsi, 2017). From the perspective of economic theory of networks, it is expected that the extent of IFRS adoption in an emerging economy like Ethiopia will increase due to the magnitude of trade relations with IFRS adopter partner-countries. But Al-Htaybat (2017) empirically found out that the political element can also be an obstacle in successful IFRS project implementation, as internal adoption of an external regulatory system can be met with resistance which is typical of mandatory IFRS implementation in Ethiopia. This implies that even if the literature stated that IFRS adoption will have economic motives, practically this may not be the case in some circumstances. Hence, it can be hypothesized as follows:

H₂: Economic factors will positively and significantly influence IFRS project implementation success.

Project governance and IFRS implementation success

Mashiloane and Jokonya (2018) studied the governance of IT projects and stated that greater attention needs to be given to the governance and management of IT projects further claiming that if governance of IT project is not well addressed, successful implementation of them will continue to be a real challenge. This argument equally applies to any other type of project and IFRS implementation project cannot be an exception. In addition, IFRS implementation mostly involves modernizing the IT support of the accounting and finance functions of the organizations. Ekung et al. (2017) defined Project Governance as an internal control framework established to properly safeguard the interests of the owner and mitigate risks throughout the project lifecycle. The term has been used contextually to refer to a set of management systems, rules, protocols, relationships and structure that provide the framework within which key managerial decisions are made for project development and implementation to achieve the intended business or strategic objectives.

Sirisomboonsuk et al. (2018) also stated that one

mechanism that could be used for behavioral monitoring in projects, like IFRS implementation projects, was project governance. They mentioned the experience of several researchers and practitioners who regarded project governance as a subset of corporate governance that emphasizes on the project activities particularly. That is, project governance was directly involved in performance of the project. Due to this, various researchers and practitioners suggested that one of the reasons for poor project performance was the lack of effective project governance. Mashiloane and Jokonya (2018) also added that project governance plays a critical role in the implementation of IT projects. This applies for all types of projects as they argued that the required structures, processes and controls are in place if there is properly defined project structure with clear reporting lines, alignment of the structure with the strategic vision of the project, decision rights being distributed, communication strategy being well defined, risks being managed and proper reporting structures to the project team. Effective governance structures and processes are critical to ensure that IT projects are completed successfully on time, within budget and according to specifications and project objectives. Hence, it can be hypothesized that:

H₃: Effective project governance influences positively and significantly IFRS project implementation success.

Cultural factors

In many systems literature, cultural factors are believed to influence the level of diffusion and utilization of an information systems project. IFRS implementation could also be subject to cultural factors the environment the project operates in. Al-Jumeily and Hussain (2014) identified three primary continuums drawn from the cultural dimensions theory of Hofstede that are used to identify the differences in the cultural factors: individualism/collectivism, uncertainty avoidance, and power distance. Individualism/Collectivism is the degree to which individuals are integrated within any group. In individualism, the emphasis is on individual roles and rights, where individuals are expected to stand up for themselves, their own family and their own affiliations. In contrast, in collectivism, individuals behave as members of an organization or group, so that their family is that group or organization to which they pay unquestioning loyalty. Uncertainty avoidance is defined as the tolerance of a society for uncertainty. It measures the extent of coping with anxiety by avoiding uncertainty. High uncertainty-avoidance cultures implement rules and laws to support plans that are followed step-by-step to minimize unknown and ambiguous circumstances. On the other hand, low uncertainty-avoidance cultures have as few rules as possible, they tolerate changes and

accept a changeable environment and situations; these cultures tend to be pragmatic cultures (Hofstede and Bond, 1984). Power distance reflects the way people accept and perceive power differences. High power-distance cultures accept autocratic power relationships, where people are not equal to each other, and their positions are classified hierarchically from superior to subordinates (Akour et al., 2006). In contrast, low power-distance cultures experience more democratic relationships, and equality is practiced by all members of the society, who have the right to criticize and change the decision making of those who are in power (Teo et al., 2008). Al Hasani et al. (2017) argued that cultural factors do not have any significant direct effect on Project Success. However, these factors have significant indirect effects on Project Success through the mediating constructs of External and Internal Risks and Communication. But Aronson et al. (2004) stated that project culture emphasizing initiative and cooperation predicts project success. Jetu and Riedl (2013) also asserted this by stating that personally or individually focused cultural values (openness to change) rather than socially focused cultural values (such as self-transcendence) have the most significant positive influence on project team performance. Hence, it can, therefore, be hypothesized that:

H₄: Cultural factors influence positively and significantly IFRS project implementation.

Project success

According to Badewi (2016), delivering project outcomes within time and budget is a major concern for all project managers globally and a lot needs to be done to realize project success. Hence, closing a project within budget, time and expected quality can be considered as success criteria. Atkinson (1999) claimed that more than the Iron triangle, a Square Root should be used to evaluate project success. Based on the literature, Figure 1 shows the conceptual framework developed for this research.

RESEARCH METHODOLOGY

The study adopted explanatory research method to answer the research questions and test the hypotheses stated. It observed the effect of explanatory variables (independent variables) that influenced the adoption and detailed diffusion of IFRS (dependent variable). Explanatory research determines the causal relationships among variables (Saunders et al., 2012). The survey method was used to gather information that was employed in quantitative analysis generating data used in the analysis. With the help of the survey strategy, it gave the researcher more control over the search process by administering self administered questionnaire for the data collection (Saunders et al., 2012).

Prior studies were limited to describing the opportunities and challenges of IFRS adoption or perception of managers about the costs and benefits in a case study approach for a specific

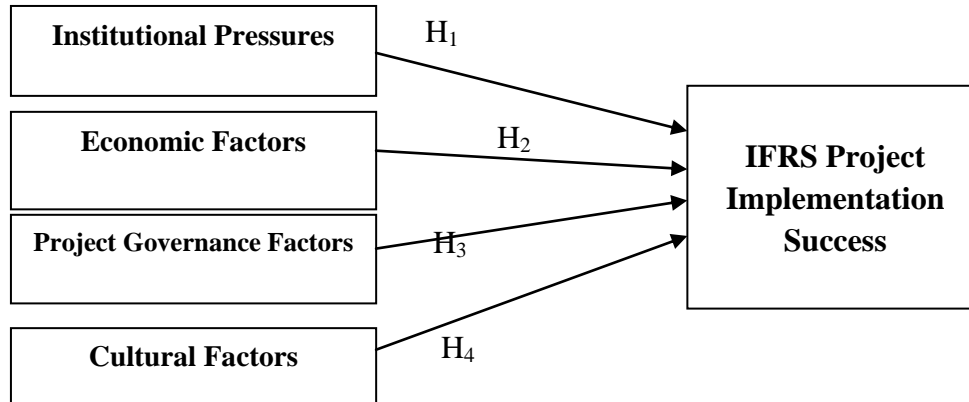


Figure 1. Conceptual framework of the study (based on prior literature).

organization. Explanatory design would help understand the antecedents of IFRS project implementation success thereby providing relevant recorded information for future implementation success of IFRS, IFRS for SMEs and IPSAS. For this purpose, quantitative data were collected based on Likert Scale questionnaires about the factors influencing IFRS implementation and the degree of success in the process of IFRS implementation. Such data were relevant in assessing the relationship between the independent variables (institutional pressures, economic factors, project governance factors and cultural factors) and the dependent variable (IFRS implementation success) as well as the combined effect of the former on the later (Saunders et al., 2012).

The target population of this study included all business organizations that were required to adopt IFRS on June 30, 2018 as first phase IFRS adopters (as Ethiopian firms were required to adopt in three phases-June 30, 2018, June 30, 2019 and June 30, 2020 based on their nature such as Public Interest Companies and size measured in terms of number of employees, sales turnover and profit information). Accounting and Auditing Board of Ethiopia (AABE, 2014b) database was used for the list of first phase adopters. However, because some of those required to adopt IFRS have not yet done properly, only those that submitted their reports to AABE were considered. Of these again, those located in Addis Ababa (the Capital City of the country) were the population from which a sample was taken. 22 Public Enterprises, Banks and Insurance Companies (including both public and private ones) were selected for this study using simple random sampling method (on lottery basis) out of 53 business organizations that were expected to adopt IFRS for the first time. Once a first time adopter firm is selected, all IFRS Project Office Team Members were involved in the survey on a census basis.

The survey instrument for this study was developed from prior studies which treated each construct individually and based on the extant IFRS literature reviewed. It is presented on the next page. The instrument was developed on a 5 point Likert Scale basis from strongly disagree to strongly agree. The instrument was pretested by requesting expert opinion (accounting academics and IFRS implementation support consultants) on its content and face validities and invaluable inputs were incorporated in this process. The reliability of the variables was also tested using Cronbach's alpha where all of them passed the cut of point (0.7). The plan to incorporate interview and secondary data was not possible due to various constraints. The data collected using the questionnaire were analyzed using descriptive statistics (mean and standard deviation), correlation and multiple linear regression analysis methods to test the relationship of variables (independent and

dependent variables) using SPSS software (version 22). Test of equality of means using 2 Tailed T-Test in IFRS project success between different groups of organizations (Public vs. Private) were also tested. Based on the findings of the study, candid recommendations and directions for future research were given to policy makers, managers utilizing the implemented projects and other firms that are yet to implement similar projects in the next two phases (June 30, 2019 and June 30, 2020) (Table 1).

RESULTS AND DISCUSSION

In this part, the data collected from the respondents were presented and analyzed using descriptive and inferential statistics. The demographic background of the respondents was presented first followed by brief summary of the constructs in terms of mean and standard deviation. Finally, correlation and simple linear regression analysis were presented.

Demographic background of respondents

The respondents were asked their demographic data to check if they are the right respondents for this research. The list of organization visited was annexed at the end as the list is lengthy. Table 2 presents overall background of the respondents.

As indicated in Table 2, the data for this research were collected from 123 respondents from 22 IFRS First Time Adopting Business Organizations (both public and private firms including financial and nonfinancial institutions that were identified by the government as Public Interest Entities). These data are believed to be representative of all subjects of the study as there is homogeneity in the regulatory and operating environments the organizations operate in. All public enterprises are under the supervision of a single regulatory body (public Enterprises and Privatization Agency) and all banks and

Table 1. Operationalization of the survey instrument.

Variable	Source	Items used
Institutional factors	Al-Htaybat (2017) and Sellami and Gafsi (2017)	Formal pressures influenced IFRS adoption in this organization Informal pressures influenced IFRS adoption in this organization Expectations in the society influenced IFRS adoption in this organization IFRS adoption by other similar organizations could lead us to adopt IFRS
Economic factors	Shima and Yang (2012) and Sellami and Gafsi (2017)	IFRS expected to lower our transaction costs of operating globally IFRS expected to expand economic relations with partnering organizations IFRS expected to improve access to finance or credit from our partners IFRS expected to increase trade volume with firms in other countries IFRS expected to reduce cost of raising capital from our partners
Project governance factors	Sirisomboonsuk et al. (2018) and Mashiloane and Jokonya (2018)	Internal Control framework helped for successful adoption of IFRS Well-designed project office contributed to adopt IFRS successfully Planning and performance evaluation helped adopt IFRS successfully Autonomous decision making enabled adopt IFRS successfully Project risk management systems helped adopt IFRS successfully Commitment of project team members enabled us adopt IFRS successfully
Cultural factors	Al-Jumeily and Hussain (2014) and Akour et al. 2006)	Individualistic culture contributed to IFRS adoption success Uncertainty Avoidance attitude helped towards IFRS adoption success Much Power Distance influenced towards IFRS adoption success Masculinity dominance contributed towards IFRS adoption success
IFRS implementation success	Badewi (2016), Atkinson (1999) and Sirisomboonsuk et al. (2018)	IFRS was implemented within the stated time schedule IFRS was implemented within the budget limit initially stated IFRS was implemented up to the quality standards initially expected IFRS was implemented in a way to satisfy the interest of all stakeholders IFRS was implemented in a sustainable manner to improve quality of accounting information

Table 2. Profile of respondents.

Attribute	Items	Number	Percent
Level of education	BA Degree	66	53.7
	Masters	57	45.5
	Total	123	100.0
Years of experience	1-5	27	22.0
	6-10	40	32.5
	11-15	30	24.4
	>16	25	20.3
Position	Top level management	22	17.9
	Middle level	57	46.3
	Lower level	41	33.3

insurance companies operate under the strict control of National Bank of Ethiopia.

The qualification of majority of respondents was BA Degree (53.7%) followed by MA holders (46.3%). This

Table 3. Test of co-linearity.

Constructs	VIF
Influence of Formal Pressures	1.042
Influence of Economic Factors	1.114
Project Governance System	1.073
Cultural Factor of Team Members	1.049

Table 4. Descriptive analysis.

Variable	Mean	Std. deviation
Influence of institutional pressures	4.3252	0.75200
Influence of economic factors	3.3089	0.96776
Influence of project governance system	3.7561	0.79281
Influence of cultural factors	3.4228	0.75756
IFRS project implementation success	3.6423	0.84086

indicated that the respondents were able to understand the issues in the questionnaire and provide appropriate responses about IFRS project and its implementation process. As indicated earlier, the majority of the respondents have 6 to 10 years of experience (32.5%) followed by those from 11 to 15 years of experience (24.4%). Of course, quite good number of respondents (22%) also has experience of up to 5 years. The experience of the respondents, like their academic qualification, indicated that they are fit for participating in the research process and providing sufficient data for the study.

The managerial position of the respondents indicated that the top level managers were very few (17.9%) as they are at the top of the pyramid and naturally low in number in any organization. Large number of respondents was from middle level managerial position (46.3%) followed by lower level managers (33.3%). This implies that the respondents were the proper targets of IFRS project implementation as well as future operation and use.

Testing model-data fitness

Test of co-linearity

Co-linearity was tested by checking variance inflation factor for the factors used in the study as indicated in Table 3.

As indicted the Table 3, variance inflation factor of less than 10 indicates no problem of co- linearity.

Test of normality

The data should be tested for normality before analyzing

it. According to Ghasemi and Zahediasl (2012), large sample size (more than 30 respondents as rule of thumb) is believed to be normally distributed. They further stated that with large enough sample sizes, the violation of the normality assumption should not cause a major problem which implies that we can conduct parametric tests even when the data may not be normally distributed. If we have samples consisting of hundreds of observations, they assured that we can ignore the distribution of the data. According to the central limit theorem, if the sample data are approximately normal then the sampling distribution too will be normal and in large samples (>40), the sampling distribution tends to be normal, regardless of the shape of the data and means of random samples from any distribution will themselves have normal distribution. As the current study had used 123 respondents from 22 organizations, the data tended to be normally distributed.

Then the descriptive statistics is presented and followed by correlation and regression analysis of the findings. The descriptive analysis part of the data analysis includes the mean and standard deviation analyses of independent and dependent variables.

Descriptive analysis of factors influencing IFRS project implementation

Table 4 shows the descriptive analysis of factors influencing IFRS Project Implementation Success.

(1) Influence of institutional pressures has the highest mean result and lowest standard deviation indicating that the government mandatory legal requirement to implement IFRS by the target firms is the very source of the project idea. It is a key requirement for tax filing and

Table 5. Correlation matrix.

Correlation		1	2	3	4	5
Institutional pressures (1)	Pearson correlation	1				
Economic factors (2)	Pearson correlation	-0.130	1			
	Sig. (2-tailed)	0.152				
Project governance (3)	Pearson correlation	0.040	0.249**	1		
	Sig. (2-tailed)	0.657	0.006			
Cultural factor (4)	Pearson correlation	-0.157	0.167	0.009	1	
	Sig. (2-tailed)	0.082	0.065	0.919		
IFRS project success (5)	Pearson correlation	0.170	-0.105	0.360**	0.162	1
	Sig. (2-tailed)	0.060	0.249	0.000	0.073	

**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

license renewal for private firms. Hence, this is in line with prior studies such as Pricope (2016) as well as Sellami and Gafsi (2017) which claimed that institutional pressures are key inputs for IFRS implementation.

(2) Influence of economic factors indicated the least mean result and the highest standard deviation. Even if one solid foundation for adopting IFRS was considered to be economic advantage and cost saving (Shima and Yang, 2012) for instance, findings by Al-Htaybat (2017) indicated the political intervention by governments resulted in resistance and IFRS adopters considered it as cost. In addition, IFRS project is costly investment at the beginning and for firms not having significant international trade, foreign branches, subsidiaries or affiliates, economic reasons did not demand the implementation of IFRS.

Economic justification works for international firms having so many branches and subsidiaries abroad. Wagaw et al. (2019) also examined the unique nature of IFRS adoption in Ethiopia using the neo-Gramscian theory of globalization and the state. They concluded from their study that this theoretical lens enables incorporating a broad range of factors than market-based explanations of IFRS adoption which prior research has emphasized. However, their study was a qualitative one which should be empirically tested. The findings of this study were, therefore, in line with their proposition.

(3) Influence of project governance systems has higher mean value next to influence of institutional pressures and contributes a lot to put on the ground whatever a project idea at hand. This is again in line with the literature that proper project governance contributes to project success even when the project deemed to be highly risky (Mashiloane and Jokonya, 2018).

(4) The influence of cultural factors of team members also indicated moderate mean value having its own contributions in all stages of the project life cycle (from conception to closure). In most public enterprises

particularly, the project was undertaken by foreign consultants where the cultural issues of team members would be critical success factor. This is as well in line with the literature as for instance Aronson et al. (2004) who stated that project culture predicts project success.

Correlation matrix

Table 5 shows how each of the independent variables correlates with each other and with the dependent variable individually. As can be seen from the following correlation matrix table, except economic reasons which does not have meaningful correlation with IFRS implementation success, all the independent variables were positively correlated to IFRS Project success. This finding was the same as that of the descriptive analysis mention earlier and the hypotheses stated except for economic reasons (as justified earlier). This implies that properly understanding and handling these factors will lead to project success in the future IFRS (both IFRS as well as IFRS for SMEs) and IPSAS projects.

Project governance factors were strongly correlated to IFRS implementation success at 1% level of significance. While economic factors were not correlated with IFRS implementation success, institutional pressures and cultural factors were also correlated with IFRS implementation success at 10% level of significance.

Regression analysis

Table 6 shows the regression results indicating the influence of the independent variables (institutional pressures, economic factors, project governance factors and cultural factors) on the dependent variable (IFRS project implementation success).

Table 6 shows that all the independent variables except economic factors influence positively IFRS project

Table 6. Regression table.

Model	Unstandardized coefficients		Standardized coefficients	t	Sig.	
	B	Std. error	Beta			
(Constant)	1.328	0.551	-	2.408	0.018	
1	Institutional pressures	0.128	0.066	0.159	1.937	0.055
	Economic factors	-0.193	0.074	-0.222	-2.608	0.010
	Project governance	0.431	0.089	0.407	4.867	0.000
	Cultural factor	0.245	0.092	0.221	2.669	0.009

Dependent Variable: IFRS project implementation success.

success. As per Sellami and Gafsi (2017), institutional pressures influence the adoption of IFRS in Ethiopian business organizations studied at 5.5% level of significance. Even though institutional pressures were key factors to initiate the IFRS project, their influence towards successful completion may be questioned by the IFRS project stakeholders. Though this is a little higher than the cutoff point (5%), the researcher would like to accept the hypothesis and suggest future research to further confirm it instead of rejecting. This was in line with the extant literature and as per hypothesis 1 which the data support it to accept. The findings of Pricope (2016) also support the same. Hence countries need to strengthen their legal frameworks and supervision process to enforce business and other organizations successfully adopt IFRS. This should be used in upcoming implementations as well.

Economic factors as well influence IFRS implementation success but were not positively correlated with IFRS project success contrary to the literature as per Shima and Yang (2012). The aforementioned evidence showed that hypothesis 2 was not accepted. This may be partly because the Ethiopian context is different from the other environments in that most firms operate predominantly locally not properly feeling the value of IFRS in reducing transaction costs of doing business globally. In addition, the respondents might have seen the significant initial cost that adopting IFRS involves instead of the long term benefits that it might have brought in the future. As there is no secondary stock market in Ethiopia and as the national tax office (Ministry of Revenues) does not accept IFRS based financial reports as the base for assessing tax liability of the business organizations, the economic benefit of adopting IFRS could not be visible for business people in Ethiopia in the short term. This was also in line with the study of Wagaw et al. (2019) who concluded that there are a broad range of factors (social and political, for instance) other than pure monetary and market-based explanations of IFRS adoption in Ethiopia. The work of Riahi and Khoufi (2015) which concluded that behavioral factors related to government decision makers, mainly corruption, influence more than economic factors the decision of adopting or not IFRS by developing countries,

may also justify that. Al-Htaybat (2017) also stated that more legal and political intervention by the government results in resistance to the extent of denying economic benefits and observing only the short term burden as a cost (both in money terms as well as psychologically). In the medium term such as five years and in the long term (say up to 10 years), however, adopting IFRS will eventually bring economic benefits as well in relation to establishment of secondary stock market and possibilities of securing loans from abroad.

Project governance was also found to influence project success positively and more significantly than other factors as stated by Mashiloane and Jokonya (2018) who studied the governance of IT projects and who advised that great attention needs to be given to the governance and management of IT projects for their successful implementation. As IFRS implementation is a project by itself as well as it involves changing the information technology applications in the accounting and finance functions, this argument was equally applicable for IFRS project implementation success.

The view of Ekung et al. (2017) internal control and governance framework established to help protect the interests of the owner and mitigate risks of a project also justifies the role of project governance for project success, one of which is IFRS implementation project. This was also asserted by Sirisomboonsuk et al. (2018) who claimed that the reasons for poor project performances were lack of effective project governance. Contrary to the argument by Al Hasani et al. (2017) who claimed that there is no direct effect of culture on project success and as per the findings of Aronson et al. (2004), cultural factors did have significant positive effect on project success in this study. This was also in line with many prior studies in information systems projects (Jetu and Riedl, 2013) for instance. As the concept of IFRS is imported from the Western environments (Mihret et al., 2012; Mihret and Bobe, 2014) and most of the big public companies used consultants were recruited from these environments, the role of culture in IFRS project success should be given due weight. This circumstance will continue in future projects as well and project planners and implementers should be aware of these facts. The business organizations in this study were both private as

Table 7. Test of equality of means (2 Tailed T-Test).

Group statistics	Ownership of the organization	N	Mean	Std. deviation	Std. error mean	
IFRS project	Public	48	3.5208	0.92229	0.13312	
implementation success	Private	52	3.6731	0.87942	0.12195	
Levene's test for equality of variances						
		F	Sig.	t	df	Sig. (2-tailed)
IFRS project	Equal variances assumed	0.471	0.494	-0.845	98	0.400
implementation success	Equal variances not assumed	-	-	-0.843	96.412	0.401

well as public (state owned and state controlled business organizations). Whether the form of ownership has impact on IFRS project implementation was considered as a control variable. The data also indicated that there were no significant statistical differences in the IFRS project implementation success of public and private firms as shown in Table 7.

This implies that the form of ownership and thereby the related project management practice including the consultant recruitment process did not have significant effect on IFRS project implementation success. Hence, the aforementioned research model that was empirically tested in this research would be equally applicable for all forms of organizations.

Policy and managerial implications

The research was conducted to assess the influence of various factors on IFRS Project Implementation success of first phase adopter business organizations in Ethiopia. Except economic factors which were not positively correlated with IFRS project success, institutional pressures, project governance systems and cultural factors contributed positively for IFRS project success. Managers in future IFRS Implementation Projects shall consider these factors to successfully implement their projects within time, budget and customer expectations as well as regulatory requirements. This study will have significant contributions to various stakeholders. Primarily, it helps policy makers, managers as well as practitioners to better adopt and operate IFRS, IFRS for SMEs and IPSAS in Ethiopia. Secondly, it will help accounting education to better design the curricula and improve the content delivery process. It will also contribute to accounting theory by identifying new variables that influence IFRS adoption. Finally, it will serve as a base for future research on IFRS adoption in Ethiopia and other Eastern African countries with similar social, political and economic contexts to Ethiopia.

Limitations and directions for future research

As the target population was busy in day to day

operations and year end closings during the data collection period, securing the required volume of data was a basic limitation in this study. In addition, respondents might have provided the socially desirable response instead of the real situation on the ground. Extra effort of data collection was used to minimize the effect of these limitations. Future research may consider replicating the same study on other firms in Ethiopia as well as other Eastern African countries, include other variables that influence project success based on the extant literature, incorporating organizations in the regions within Ethiopia and firms that are expected to implement IFRS in the next two phases (June 30, 2019 and 2020). The same research may also be conducted for NGOs which are expected to implement International Public Sector Accounting Standards (IPSAS) which is the NGO version of IFRS.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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Full Length Research Paper

Has tax and accounting relationship come to nothing? An investigation into the decision usefulness of financial information disclosure

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This paper investigates the decision usefulness of financial information disclosure to the Nigeria tax authority in discharging its tax assessment and collection responsibility. The paper is built on the notion that the long relationship and influence of taxation on accounting should in particular promote decision usefulness information to the tax authority. Thirteen tax themes were developed whose reflection was checked in the financial reports of firms in the Nigerian banking industry spanning a period of fifteen years (2004-2018). The data generated were analysed using Decision Usefulness Index and descriptive statistics. The computed overall Decision Usefulness Index of 53.85% shows that financial information disclosure in the industry is not significantly decision useful to the tax authority. Further, an analysis of the separate themes reveals that their reflection in the financial reports could not be traced to the relationship and influence of tax on accounting but other factors. The paper concludes that the tax authority requires decision useful financial information in order to fairly conduct tax assessment and collection in the economy. It is therefore recommended that a section in the financial reports of listed firms in Nigerian should be devoted to make disclosure of the themes highlighted in this work. Other countries where disconnect exists between tax and accounting rules are advised to follow in this light.

Key words: Decision usefulness, financial information, tax authority, accounting, tax, tax approach to accounting thought.

INTRODUCTION

Taxation has had a strong influence on and relationship with accounting. James (2009) pointed out a number of ways in which taxation has influenced accounting or dependence exists between the two. One area of influence is stated to lie where there is a choice between

different accounting policies; the one that is chosen is the one that also has to be used for tax purposes. Secondly, tax rules are often used for commercial accounts where no specific accounting rules apply. With this linkage, the tax authority should undisputedly find decision usefulness

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from the information disclosed in financial reports.

Prior to accounting standardization when accounting standards became the primary framework for financial information disclosure, in several countries including Spain, France, Germany, Belgium, Finland, Italy, Austria, among others, tax laws were substantially considered for financial statements preparation. This means that financial reporting practice in these countries was sustainably aligned with tax laws therefore a strong connect existed between accounting and taxation.

Although in Nigeria, the relationship between accounting and taxation is not well documented, taxation has a history that predates and perhaps contributes to financial reporting in the country. The history of the country's tax legislation dates back to 1961 when the Income Tax Management Act was promulgated. The Companies Income Tax Act was created from the Income Tax Management Act of 1961 in 1979 with amendment in 1990 and subsequently 2004. In contrast, the Nigeria Accounting Standards Board (NASB) now Financial Reporting Council of Nigeria (FRCN) vested with the responsibility of developing and issuing accounting standards was established in 1982 as a private sector initiative by the Institute of Chartered Accountants of Nigeria (ICAN); it became a government agency in 1992 statutorily empowered to develop and issue accounting standards. However, the legislative backing came in 2003 through the passing into law of the NASB Act of 2003. The tax authority in Nigeria is structured into three tiers namely the Federal Inland Revenue Service (FIRS), State Board of Inland Revenue Service (SBIRS) and the Local Government Revenue Committee (LGRC). These bodies are responsible for tax assessment and collection at the federal, state and local government levels respectively in the country.

Financial reporting may be general purpose or decision usefulness approach focused (Dandago and Hassan, 2013; Ravenscroft and Williams, 2011; Sutton, 2009). General purpose financial reporting, usually guided by accounting standards, is aimed at providing financial information that fairly satisfies the information needs of all the different users of the information. The capacity of general purpose information disclosure to effectively serve the decision purposes of the various users including the tax authority has been questioned for the past four decades (Ravenscroft and Williams, 2011). Though there are studies that had investigated the relationship between accounting and taxation including those by Lamb et al. (1998); Nobes et al. (2004); Dandago and Hassan (2013) and Vokshi (2018), none except Dandago and Hassan (2013) focused on the decision usefulness of financial reporting perspective to the tax authority. Moreover, these previous studies were conducted outside Nigeria and essentially adopted a qualitative than a quantitative approach in investigating the relationship based on financial statement data. This current paper investigates the accounting and tax

relationship with a focus on the decision usefulness to the Nigeria tax authority using a quantitative approach whereby tax themes were developed from the Nigeria tax law with reflection checked from the financial reports. That is, using financial statement data. In particular, the paper investigates the accounting and tax relationship in the Nigerian banking industry but with a more superior approach as it utilizes financial reports than drawing conclusion based on opinion research. The paper raised two research questions for investigation. These include: (i) To what extent does financial information disclosure satisfy the decision usefulness needs of the tax authority? (ii) Does the long relationship between tax and accounting promote financial information decision usefulness to the tax authority?

This paper makes a significant contribution to knowledge by showing the relevance of financial reporting in Nigeria particularly in the banking industry to the tax authority in discharging its tax assessment and collection responsibility and by so doing further reveals whether or not the long-established relationship between accounting and taxation has come to anything with accounting standardization.

LITERATURE REVIEW

Accounting in the context of this paper is synonymous with financial reporting which is the process of preparation of a company's financial statements to determine the profit or loss and the financial position during a period. Taxation is the imposition of tax by the government on the profits of companies in order to generate revenue and for other socio-economic reasons. Figure 1 show that in an environment of strong relation between accounting and taxation, tax rules dictate financial reporting practices of companies such that the accounting information produced is user-specific purpose information oriented; hence the information disclosed is high decision useful to the tax authority for tax purposes. On the other hand, in an environment of weak relationship or disconnect between accounting and taxation, accounting standards mirror financial reporting practice such that the accounting information produced is general purpose oriented in which case the tax authority will find low decision usefulness from the information disclosed for tax purposes.

From a theoretical perspective as can be seen in Figure 1, the application of tax rules for financial reporting purpose is underpinned by the single-person theory. However, where accounting standards guide financial reporting practice, the information disclosed in financial statements is general purpose oriented; thus the stakeholder theory provides a relevant theoretical framework. In other words, the relevant theories to this paper are the stakeholder and single-person decision usefulness theories. Figure 1 depicts the relationship

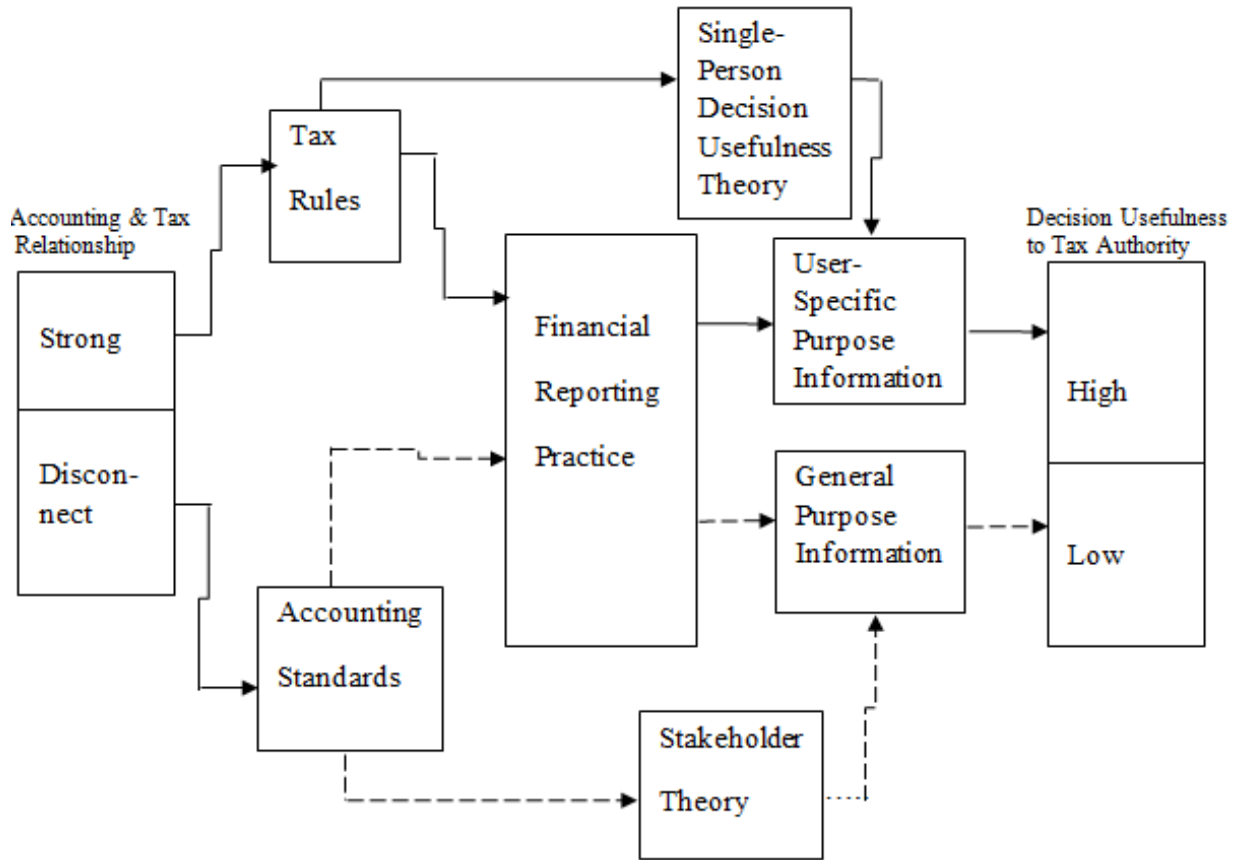


Figure 1. Relationship between accounting and taxation and decision usefulness of accounting information to the tax Authority.

Source: Authors' Design (2018).

between accounting and taxation, and how the relationship possibly impacts the decision usefulness that the tax authority finds from accounting information disclosure in financial statements.

The accounting and tax relationship

Dacian (2009) documented substantial literatures on the relationship between accounting and taxation. James (2009) examined the relationship between accounting and taxation and concluded that a relationship exists between the two, stressing that this relationship is evolving with further developments expected. James (2009) pointed out two ways by which taxation influences accounting or dependence exists between the two. One area of influence is stated to lie where there is a choice between different accounting policies; the one that is chosen is the one that also has to be used for tax purposes. Secondly, tax rules are often used for commercial accounts where no specific accounting rules apply.

However, James (2009) noted that the purposes and requirements of commercial accounts rules and those of

taxation are not always the same. The differences in tax and financial accounting rules are recognized in the debate documented in the literature pertaining to income manipulation. It is argued that the relationship allows managers to maximize financial accounting income and minimize taxable income. Contrariwise, Abd et al. (2018) pointed out that high tax rate will make corporations to react with sharp tax planning strategies that distort the accuracy and correctness of financial statements. Tijjani and Peter (2020) explain that firms exploit tax planning strategies because tax is a significant expense/liability to firms and their owners with far reaching effects on available profits. Moisescu (2018) found evidence pointing to the fact that Romania firms in doing tax planning either aim to decrease financial result (profit) in order to avoid payment of a bigger tax to the state authority or postpone it. Frank et al. (2009) documented that financial and tax reporting aggressiveness recorded a high between the mid-1990s to the early 2000s. During this period, many companies involved in either fraudulent accounting practices or abusive tax shelter transactions. What is to be pointed out here is that, if there were no differences between financial reporting and tax rules, little or no room would have existed for such practices.

Though financial accounting and income tax rules are very different, as noted by D'Ascenzo and England (2003), financial statements are necessarily the starting point for income tax computations. The promulgated tax laws require certain information such as register of fixed assets for claim of capital allowances to be disclosed for tax computation purposes. The requirements of these tax laws therefore have a direct and significant influence on the way and manner financial statements are prepared.

Prior to the introduction and adoption of International Financial Reporting Standard (IFRS), studies have suggested a strong influence of tax rules on accounting in the continental European countries particularly France and Germany (Dacian, 2009). Hoogendoorn (1996) showed that there is a strong relationship between the accounting and taxation arrangements in Belgium, Finland, France, Germany, Italy and Sweden in the European region. Cerne (2009) also documented that in countries such as Austria and Germany whose accounting system is based on Roman law, there is virtually a single reporting system for tax purposes and business purposes. Chariri (2011) also reported France and Austria as using tax rules for financial reporting. In the context of Spain, Gonzalo and Gallizo (1992) are quoted by Nobes et al. (2004) to suggest that in the past, tax rules were a main source of bookkeeping and its regulation, with commercial law playing a minimal role in that regard. In fact, in the European Union, Gielen and Hegarty (2007) stated that the degree of relationship between tax and accounting varies significantly along two divides. On the one hand, its member states where financial accounting rules follow tax rules or that tax rules follow financial accounting rules, and on another hand, member states where there are different rules for financial accounting and taxation.

In South Korea, Kim (2001) identified specific areas in which national tax policies influence financial reporting practices. During the 20th century in the Ottoman Empire which metamorphosed into the present Turkey, accounting records and financial statements were equally the basis for tax collection. This important role of accounting as documented by Guvemli and Guvemli (n.d) was the reason behind the passage of regulations regarding matters such as (1) qualifications of accountants, (2) framework for budgets, and (3) audit departments. All these are noted as significantly providing an appropriate environment for the development of accounting thought during the republic period in Turkey. Perhaps, this may be because these regulations that were developed provided a basis that further improved financial accounting practices in that country.

By and large, these assertions could be understood that in some of these countries, tax laws were considered for the purpose of financial statements preparation such that operating profit arrived in forms the basis of income tax assessment without any adjustments required. In other words, the position of the tax law on an item in these

countries influenced its treatment and reporting in the financial statements. It is important to note that in Europe, the introduction of the Fourth European Directive has produced major changes in many countries within the region that have resulted in significant independence between accounting and taxation (Dacian, 2009). Specifically, in Spain, Nobes et al. (2004) indicated that the tax dominance in the country prior to the early 1990s has changed dramatically.

The adoption of IFRS in the European region has further changed the narrative. Gielen and Hegarty (2007) explained that IFRS is essentially 'investor-focused' with the main concern being the provision of financial information to providers of risk capital to enable them make informed decisions about companies in which they invest the risk capital. Jiraskova and Molin (2015) pointed out clearly that IFRS is directed to capital market and accounting information users needs and not for tax needs. Gielen and Hegarty (2007) explored the association and disassociation between tax accounting and financial accounting in the presence of IFRS in the European Union member states and concluded that the accounting profit determined in conformity with IFRS requires a significant number of adjustments for it to serve a relevant tax base. This is an indication that the decision usefulness of financial accounting information to the tax authority (tax purposes) in the region has reduced in the IFRS reporting regime.

To further buttress the association between accounting and taxation, prior to the introduction of IFRS on Small and Medium Enterprises (SMEs), it was mandatory for every business to pay income tax; even these categories of businesses that were not statutorily required to produce and publish financial statements engaged in the preparation of at least the basic statements of profit and loss account and balance sheet (income statement and statement of financial position respectively). The foregoing shows tax has a relationship with accounting that should ordinarily enhance decision usefulness to the tax authority as a user of financial information. Empirically, applying an analogue method of analysis, Lamb et al. (1998) investigated the connectivity between taxation and financial reporting with a focus on international variations in the year 1990. They used five types of connection and disconnection classifications to test if there were differences in the connection between taxation and financial reporting between Anglo-Saxon and Continental European countries using fifteen topics. The five connection and disconnection classifications adopted were:

Case I: Disconnection- different tax and financial accounting rules.

Case II: Identity- tax and financial rules are the same.

Case III: Accounting Leads- financial accounting rules are followed for both accounting and tax purposes.

Case IV: Tax Leads- tax rules are followed for both purposes.

Case V: Tax Dominates- financial accounting rules are overridden.

The conclusion reached was that, from a contemporary operational sense, the sampled countries could be distinguished in terms of relatively low and relatively high tax influence on financial reporting. Though the relationship between or influence of tax on financial reporting was shown to be on a declining trend, the results of the study did show that in some countries the tax authorities substantially found decision usefulness from financial information disclosure.

Nobes et al. (2004), adopting a similar methodology with Lamb et al. but using sixteen rather than fifteen topics covering the periods 1980, 1994 and 2003 in Spain, refute the proposition suggesting that the relationship between taxation and financial reporting has substantially reduced. The sixteen topics used included: fixed asset measurement; lease classification; depreciation (normal and excess); contingencies, provisions; grants and subsidies; research and development costs; inventory valuation (flow assumptions and other areas); long term contracts; interest expense (capitalization and others); foreign currency transactions; non-consolidation purchased goodwill; pensions; policy changes and fundamental errors; scope of the group; fines, charitable donations, entertaining expenses; and financial assets. Nobes et al. (2004) however noted in their conclusion that the adoption of IFRS which was proposed in their study area by 2005 might lead to amendments in tax law that may create a further disconnect between financial reporting and tax rules. Studies after the IFRS adoption by Gielen and Hegarty (2007) concluded that the accounting profit determined in conformity with IFRS requires a significant number of adjustments for it to be relevant for tax purposes. Gavana et al. (2013) also showed that while Italian GAAP reporting is closely related to tax rules, a high degree of disconnection exists between IFRS and tax reporting in the country. These are clear indications that financial accounting information has become less decision useful to the tax authorities during the IFRS adoption in the European region.

Radcliffe (1993) cited in Dacian (2009) focused on establishing whether a distinction exists between tax compliance and financial compliance. Tax compliance was defined on the assumption that "taxable income is calculated under Generally Accepted Accounting Principles" and financial compliance as "a financial reporting practice involving substantial dependence on the choice of a specific accounting practice in preparing financial statements, to be conclusive for tax purpose". The results showed the existence of compliance which the author interpreted to reflect that there is a close relationship between accounting and taxation and that both of them have the power to influence each other. Also cited in Dacian (2009), Boross et al. (1995) who

examined the influence of tax on financial reporting based on some new accounting system introduced in Hungary since 1992 found that tax rules have priority in preparing financial statements.

In a more recent and novel study, Vokshi (2018) examined the connection between taxation and accounting with a focus on the degree of knowledge and application of accounting and tax rules by professionals (accountants and auditors) in the preparation of financial statements. The study used questionnaire which was administered to professionals across 264 business organisations in Kosovo. Two dominant research questions were explored by the study: (1) "When preparing the financial statements, are you led by fiscal rules and then you make adjustments for your accounting needs?" and (2) "When preparing the financial statements, are you led by accounting rules and then you make adjustments for your fiscal needs?" The first question essentially sought to understand if financial statement preparation is influenced by tax rules while the second by accounting rules. The study's independent variables included the characteristics of respondents such as level of education, familiarity with legal regulations, work experience and continuous professional training. Descriptive statistics and cross-tabs were used to analyse the data. The results indicated that 16.7% of the respondents fully agree with another 15.5% partially agreeing on question one. About 49.2% totally disagree on the issue while the remaining 14.4% were neutral. The cross-tab based on the respondents' characteristics revealed that the higher the level of education, the more the professionals deny the fact that financial statements are prepared in accordance with tax rules, then, adjusted for accounting needs. The same finding was the case for professional experience, professional training, and knowledge of legal framework. This result led to the rejection of the hypothesis that in preparing the financial statements, business organisations are governed by fiscal (tax) rules. The results with respect to the second research question and corresponding hypothesis revealed that 53.0% of the respondents fully agree, 15.5% moderately agree, another 15.5% were neutral and 16.0% disagree with the assertion. The cross-tab indicated that educational level, professional experience, professional training, and knowledge of legal framework all influenced professionals' agreement with the fact that financial statements are compiled under accounting rules and then adjusted for tax purposes. Based on the evidence, the study accepted the hypothesis that in preparing financial statements, business organisations are guided by accounting rules, then, adjust for tax purposes. By and large, the study showed that a disconnect exists between accounting and tax rules with accounting rules dominating over tax rules in the preparation of financial statements. In other words, Vokshi (2018) showed that Kosovo falls within the third category (Case III-Accounting Leads) of Lamb et al.

(1998) connection and disconnection taxonomy. These studies provide mixed evidence to believe that financial information disclosure is decision useful to the tax authorities.

Specifically, from a decision usefulness approach to financial reporting perspective, Dandago and Hassan (2013) examined whether or not financial reporting of companies in Malaysia provides useful information to the Inland Revenue Board for income tax determination. The study collected data through questionnaire and the analysis using descriptive statistics revealed that financial reporting of companies is not tailored towards decision usefulness to the Inland Revenue Board's function of tax assessment and income tax determination. A major short coming of this study is that it was but entirely an opinion research. The current study explores the subject matter utilizing financial statements which are anchored by accounting standards which might increase disconnect between tax and accounting.

Consequences of the tax and accounting relationship

The tax influence or relationship with accounting is not without consequences. The influence of tax on accounting is so much that it had been stated at some quarters that the development of good accounting which lies in financial reports showing "true and fair view" is hindered by tax concerns (D' Ascenzo and England, 2003). According to D' Ascenzo and England, the tax authorities are interested in consistent, well-specified and easy to verify rules than the true and fair view rule which is the key objective of financial statement preparation in accounting. In practical terms, Balakrishnan et al. (2011) showed that the requirement that companies pay taxes makes them to indulge in aggressive tax planning so as to reduce their tax liability; the effect of which is less transparent financial reporting. James (2009) argued that accounts are sometimes subject to modification for the purposes of taxation, ending in a serious effect on the most profitable way the business is operated. James (2009) further posited that though there may be alternative methods of preparing accounts that conform to accounting standards; the choice might be influenced by the taxation implications in an inappropriate way. Kim (2001) also postulated that in countries where tax influence on accounting is very strong, conservative financial reporting practices are likely to be adopted by companies in order to minimize tax liabilities. Empirically, Asgari and Behpour (2014) investigated the effect of tax cost on accounting conservatism using 61 firms listed on the Tehran stock exchange for the period 2004 to 2009. It was found that the relationship between conservatism accounting and corporate tax burden is positive and significant. In furtherance, the results showed that firms with high book-tax conformity had higher motivation to use conservative accounting to reduce their tax

payments.

It is evident that taxation impacts financial reporting directly and indirectly. Directly, the conformity with tax requirements influences financial reporting and indirectly, tax avoidance strategies by companies also influence financial reporting. Suzuki (2005) documented critics who maintained that the connection between financial reporting and taxation distorts useful financial information disclosure. The Organisation for Economic Cooperation and Development (OECD, 1987) as cited in Macdonald (2002) also stated that tax influences pose an obstacle to the achievement of comparability and harmonization in financial reporting. This assertion was recently reaffirmed by Abd et al. (2018) in their study on impact of international taxation systems variations on the application of financial accounting principles. Dacian (2009) and Nobes et al. (2004) arguing in the same direction pointed out that international harmonization of accounting practice will prove difficult where the relationship between financial reporting and taxation is strong especially as tax rules are based on national economic considerations. On the strength of these evidences; Cannon (1973) concluded that the influence of tax on accounting exceeds that of accounting on tax. Notwithstanding, Jiraskova and Molin (2015) indicated that proponents for the strengthening of the relationship between accounting and taxation believe that a one-book system will decrease opportunistic behaviour by corporate managements thereby allowing tax authorities greater control of corporations reported earnings. It suffices to conclude here that tax exerts significant influence on financial reporting particularly in the area of business income tax determination. Recent efforts world over in the standardization of accounting practice in IFRS seems to create a significant disconnect between tax and accounting therefore reducing to the minimal some of these consequences.

Theoretical framework

This paper is underpinned by the single person decision usefulness theory. Dandago and Hassan (2013) documented that the single-person decision usefulness theory is promoted by the works of Demski (1972), Ijiri (1983), Raiffa (1968), Scott (2009) and Staubus (1999). The theory was developed in response to the criticism of general purpose financial statements. Accounting has different users including investors, creditors, tax authorities, customers, managers, employees, financial analysts, legislators and community, each with varying decision information needs. With the different users and their varying information needs, general purpose financial statements are considered inadequate in effectively satisfying these information needs. The single-person decision usefulness theory is premised on an individual user of financial reports who has to make decision under

condition of uncertainty. It emphasizes preparers of financial reports identification of who the users of the reports are and an understanding of their decision problems and information needs (Dandago and Hassan, 2013). Though, the theory emphasizes usefulness of financial reporting to the primary users (investors and creditors), Dandago and Hassan (2013) argued that other users such as the Inland Revenue Board (tax authority) should be provided with accounting information which is useful to their decision needs. Put differently, this theory advocates for each user decision specific information disclosure than the general purpose financial reporting that is currently obtained. This theory has valid argument because the preparation of general purpose financial statements sometimes does not capture key items of relevance to a particular user or requires search strategies (or adjustment) to obtain such information. The single-person decision usefulness theory directly or indirectly seeks to promote relevance and reliability of financial reporting to each of the stakeholders which in the context of this paper is the tax authority.

METHODOLOGY

This paper adopts an objectivist research paradigm. Thus, a quantitative approach is followed. The question of whether or not the long relationship between tax and accounting has come to nothing in terms of decision usefulness of financial information disclosure to the tax authority is explored in this paper by examining the financial reports of quoted Nigerian banks during the period 2004 to 2018. The sentence should read "The choice of 2004 as base year was informed by amendment to the companies' income tax Act in Nigeria from where the tax themes were developed for this paper. The paper using a filter whereby a bank must be quoted on the Nigerian Stock Exchange, be a Nigerian based bank and have complete data, sampled 15 banks out of the 21 quoted banks as at 31 December 2018. A total of 2,925 observations were made. The banking industry was selected because it is one of the most highly regulated and investor patronized (Tijjani, 2010; Umoren, 2009) and is reported to post profits higher than firms in the real sector of the Nigerian economy such as the manufacturing industry (Bello, 2009). The paper adopts the tax approach to accounting thought to examine the issue. The tax approach to accounting thought is an accounting reasoning whereby tax rules are applied for the purposes of financial reporting (Dandago and Ormin, 2011; Hamid, 2009). Using a similar but more empirical approach to Lamb et al. (1998) and Nobes et al. (2004) as postulated by the authors but consistent with Tijjani and Ormin (2016), 13 themes were developed from the Nigerian tax law (Appendix Table 1) and their reflection in financial statements checked. Also, following the technique characteristics of compliance or application of accounting standards studies, the reflection of any theme in the financial reports was scored 1 otherwise 0. The modified criteria of Kantudu (2005) and Abdullahi and Maishanu (2014) for judging level of compliance or application of accounting standards in financial reports was adopted for deciding on decision usefulness of financial information disclosure to the tax authority. An overall mean score of 0-19% denotes "decision not useful", 20-39% "very weakly decision useful", 40-49% "weakly decision useful", 50-69% "decision useful" and 70-100% "significantly decision useful". In order words, decision usefulness index and descriptive statistics (mean, minimum, maximum and standard deviation) were utilized to

analyse the data.

RESULTS AND DISCUSSION

This section presents and discusses the results of the study. Appendix Table 2 shows the decision usefulness score sheet for the 13 themes by the sampled firms during the period 2004 to 2018. Table 1 presents the summary statistical results from Appendix Table 2 using Microsoft Excel 10. Table 1 shows that of the 13 themes developed to estimate the decision usefulness of financial information disclosure to the tax authority and by extension if the relationship between tax and accounting has come to nothing, 7 of the themes as indicated by the computed mean decision usefulness index of 100% were fully reflected in the sampled financial reports during the study period. These themes include disclosure of operating and other incomes (T_1), donations/charitable gifts (T_2), corporation tax (T_3), fixed assets measurement (T_5), pension (T_{11}), financial assets (T_{12}) and withholding tax (T_{13}). Based on the developed criteria for judging decision usefulness, the financial information disclosure on these themes is significantly decision useful to the tax authority. The minimum and maximum reflection of these themes is both 100% and since the reflection level is consistently 100 percent, the standard deviation around the mean value is zero.

On the contrary, 6 of the 13 themes including depreciation (T_4), operating lease (T_6), finance lease (T_7), provisions/contingencies (T_8), research and development costs (T_9) and interest expenses (T_{10}) were completely not reflected in the sampled financial reports of the 15 firms as indicated by the computed zero mean decision usefulness index. Therefore, the financial information disclosure on these themes lacks decision usefulness to the tax authority.

The annual statistics in Table 1 which is more pertinent in reaching conclusion indicates mean decision usefulness indexes of 53.85% for each of the years. The minimum and maximum reflection of the themes for each of the years (2004 to 2018) is 0 and 100% respectively. The standard deviation around the mean decision usefulness index of 53.85% of 49.85 is the same for the years and shows existence of wide dispersion in the reflection of the 13 themes for the years. The overall mean decision usefulness index as shown in Table 1 is 53.85% which falls under the decision useful region. On this premise, therefore, it is concluded that financial information disclosure is not significantly decision useful to the needs of the tax authority. This position concurs with Dandago and Hassan (2013)'s finding that the financial reporting of companies is not tailored towards decision usefulness of the Inland Revenue Board in a country like Malaysia.

A close consideration of the 7 themes fully reflected in the financial reports to determine whether this stems from

Table 1. Application index of tax approach in financial reporting by Nigerian Banks.

Year	Themes													Mean Dec. usefulness index	Min	Max	Std Dev.	Remark
	T ₁	T ₂	T ₃	T ₄	T ₅	T ₆	T ₇	T ₈	T ₉	T ₁₀	T ₁₁	T ₁₂	T ₁₃					
2004	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
2005	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
2006	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
2007	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
2008	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
2009	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
2010	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
2011	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
2012	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
2013	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
2014	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
2015	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
2016	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
2017	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
2018	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85	0	100	49.85	Decision Useful
Mean decision usefulness index	100	100	100	0	100	0	0	0	0	0	100	100	100	53.85				
Min.	100	100	100	0	100	0	0	0	0	0	100	100	100	0				
Max.	100	100	100	0	100	0	0	0	0	0	100	100	100	100				
Std Dev.	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Remark	Sig. Dec. Useful	Sig. Dec. Useful	Sig. Dec. Useful	Not Dec. Useful	Sig. Dec. Useful	Not Dec. Useful	Not Dec. Useful	Not Dec. Useful	Not Dec. Useful	Not Dec. Useful	Sig. Dec. Useful	Sig. Dec. Useful	Sig. Dec. Useful	Decision Useful				

Table 1 shows the computed decision usefulness index of banks financial reports to the tax authority during the period 2004-2018. A decision usefulness index of 0-19%= "not decision useful", 20-39%= "very weakly decision useful", 40-49%= "weakly decision useful", 50-69%= "decision useful" and 70-100%= "significantly decision useful". The table is developed from Appendix Table 2 using Microsoft Excel 10.

the long relationship between tax and accounting does not suggest the obvious. In particular, the disclosure of operating and other incomes (T₁), corporation tax (T₃), fixed assets measurement (T₅), pension (T₁₁) and financial assets (T₁₂) might stem from the requirements of the statutes of Companies and Allied Matters Act (CAMA) and Banks and Other Financial Institutions' Act (BOFIA) which mandates disclosure on these items than any influence of tax. Similarly, the

theme of donation/charity and gifts (T₂) could be as a result of the firm's fulfilment of corporate social responsibility. These arguments corroborate the non-reflection of themes such as depreciation (T₄), operating lease (T₆), provision/contingencies (T₈), research and development costs (T₉) and interest expenses (T₁₀) which are purely tax matters.

Infact, only 2 themes namely corporate tax (T₃) and withholding tax (T₁₃) could in the real sense

be said to be underpinned by the tax and accounting relationship. Invariably, the long relationship between tax and accounting or the influence of tax on accounting as documented by Boross et al. (1995) in Dacian (2009), Lamb et al. (1998), Nobes et al. (2004) and Vokshi (2018) has faded away with the standardization of accounting practice whereby accounting standards mirrors financial reporting. Simply put, the long relationship between tax and accounting has not

promoted financial information decision usefulness to the tax authority. This does not only confirm Lamb et al.'s assertion of a declining trend in the tax and accounting relationship, but also reinforces D'Ascenzo and England (2003) by showing that developments in accounting have created differences between tax and financial reporting rules. In particular, there is evidence pointing to the fact that IFRS implementation around the world will further widen the tax and accounting relationship (Gavana et al., 2013; Gielen and Hegarty, 2007; Jiraskova and Molin, 2015). This position was not obvious from the current study since the reflection of the tax themes in financial statements remained unchanged after IFRS adoption by banks in 2012 in Nigeria.

By and large, the result shows a disconnect between tax and accounting in the Nigerian environment. The implication is that financial statements produced have little decision usefulness to the tax authority in Nigeria. This further means that a lot of efforts will still be exerted by the tax authorities in adjusting financial statements prepared to conform with the requirements of the tax law. This in turn has far reaching effect on the timeliness of tax payment and collection as well as overall cost of tax administration in the country.

Conclusion

Financial information disclosure is of little or has no meaning if each of the users does not obtain maximum utility in aiding their decision purposes. The diversity in the information needs and desire by users for more decision usefulness financial reporting calls for a rethink of emphasis on general purpose financial information disclosure. The tax authority is one of the user groups that require decision useful financial information to ensure fairness in income tax assessment and payment in the economy.

In the past, taxation was strongly seen as dictating financial reporting, a relationship that would have ensured financial information disclosure usefulness to the tax authority. Perhaps, this has significantly changed with the development of capital markets and standardization of accounting practice. Recent studies by Mulyadi et al. (2012), Hymers (2009) and Fakile et al. (2013) tend to show that accounting has rather become the dictator of changes in tax rules and practices. This paper clearly shows that notwithstanding the long-established relationship between taxation and accounting; the tax authority does not find the financial information disclosed significantly decision useful. There have been notable strategies including graphical presentation of results and inclusion of financial ratios adopted in financial reporting to promote decision usefulness to stakeholders such as investors and creditors. These gestures should be extended in ways that will also ensure decision usefulness to the tax authority. Specifically, this paper

recommends that a section should be devoted in the financial statements of listed firms in Nigeria to make disclosure on the themes highlighted in this work. Other countries where disconnect exists between tax and accounting rules should also do the same.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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APPENDIX

Appendix 1. Decision usefulness tax themes.

S/N	Theme	Provision	Financial report component used for check	Theme No.
1	Disclosure of operating and other incomes	Tax should be computed on global income of the company	Profit and loss account	T ₁
2	Donations/charitable gifts	Disclosure of breakdown to decide on which donations are allowable and unallowable	Directors report	T ₂
3	Corporation tax	Payment of tax in any year profit is realized	Profit after tax (PAT)	T ₃
4	Depreciation	Not an allowable expense, instead capital allowance is granted on qualifying assets	Profit and loss account	T ₄
5	Fixed asset measurement	Revalued amount and addition or disposal of fixed assets during the year should be disclosed	Notes to accounts	T ₅
6	Lease classification	Lease is classified into operating and finance leases which are to be treated as follows:		
i	Operating lease	The lessor (owner) of the asset claims the capital allowance	Accounting policies	T ₆
ii	Finance lease	The lessee is to claim the capital allowance	Accounting policies	T ₇
7	Provisions/contingencies	Provision for general and doubtful debts or contingent liabilities is not allowed	Notes to Accounts	T ₈
8	Research and development costs	Allowable up to 120% of cost incurred and if long-term should be capitalized and written off against profit, otherwise expended in the year	Accounting policies	T ₉
9	Interest expenses	Allowable but to be recognized on cash basis	Accounting policies	T ₁₀
10	Pension	Pension payment allowable provided contribution is made to approved pension scheme	Profit and loss account	T ₁₁
11	Financial assets	Should be valued at the lower of cost or market value	Accounting policies	T ₁₂
12	Withholding tax	Companies to deduct withholding tax on dividend paid to shareholders	Accounting policies	T ₁₃

Source: Generated from Nigeria Tax Law.

Appendix 2. Decision Usefulness Score Sheet.

Banks	Year	Themes												
		r1	r2	r3	r4	r5	r6	r7	r8	r9	r10	r11	r12	r13
Bank 1	2004	1	1	1	0	1	0	0	0	0	0	1	1	1
	2005	1	1	1	0	1	0	0	0	0	0	1	1	1
	2006	1	1	1	0	1	0	0	0	0	0	1	1	1
	2007	1	1	1	0	1	0	0	0	0	0	1	1	1
	2008	1	1	1	0	1	0	0	0	0	0	1	1	1
	2009	1	1	1	0	1	0	0	0	0	0	1	1	1
	2010	1	1	1	0	1	0	0	0	0	0	1	1	1
	2011	1	1	1	0	1	0	0	0	0	0	1	1	1
	2012	1	1	1	0	1	0	0	0	0	0	1	1	1
	2013	1	1	1	0	1	0	0	0	0	0	1	1	1

Appendix 2. Contd.

2014	1	1	1	0	1	0	0	0	0	0	1	1	1
2015	1	1	1	0	1	0	0	0	0	0	1	1	1
2016	1	1	1	0	1	0	0	0	0	0	1	1	1
2017	1	1	1	0	1	0	0	0	0	0	1	1	1
2018	1	1	1	0	1	0	0	0	0	0	1	1	1
2004	1	1	1	0	1	0	0	0	0	0	1	1	1
2005	1	1	1	0	1	0	0	0	0	0	1	1	1
2006	1	1	1	0	1	0	0	0	0	0	1	1	1
2007	1	1	1	0	1	0	0	0	0	0	1	1	1
2008	1	1	1	0	1	0	0	0	0	0	1	1	1
2009	1	1	1	0	1	0	0	0	0	0	1	1	1
2010	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 2 2011	1	1	1	0	1	0	0	0	0	0	1	1	1
2012	1	1	1	0	1	0	0	0	0	0	1	1	1
2013	1	1	1	0	1	0	0	0	0	0	1	1	1
2014	1	1	1	0	1	0	0	0	0	0	1	1	1
2015	1	1	1	0	1	0	0	0	0	0	1	1	1
2016	1	1	1	0	1	0	0	0	0	0	1	1	1
2017	1	1	1	0	1	0	0	0	0	0	1	1	1
2018	1	1	1	0	1	0	0	0	0	0	1	1	1
2004	1	1	1	0	1	0	0	0	0	0	1	1	1
2005	1	1	1	0	1	0	0	0	0	0	1	1	1
2006	1	1	1	0	1	0	0	0	0	0	1	1	1
2007	1	1	1	0	1	0	0	0	0	0	1	1	1
2008	1	1	1	0	1	0	0	0	0	0	1	1	1
2009	1	1	1	0	1	0	0	0	0	0	1	1	1
2010	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 3 2011	1	1	1	0	1	0	0	0	0	0	1	1	1
2012	1	1	1	0	1	0	0	0	0	0	1	1	1
2013	1	1	1	0	1	0	0	0	0	0	1	1	1
2014	1	1	1	0	1	0	0	0	0	0	1	1	1
2015	1	1	1	0	1	0	0	0	0	0	1	1	1
2016	1	1	1	0	1	0	0	0	0	0	1	1	1
2017	1	1	1	0	1	0	0	0	0	0	1	1	1
2018	1	1	1	0	1	0	0	0	0	0	1	1	1

Appendix 2. Contd.

	2004	1	1	1	0	1	0	0	0	0	0	1	1	1
	2005	1	1	1	0	1	0	0	0	0	0	1	1	1
	2006	1	1	1	0	1	0	0	0	0	0	1	1	1
	2007	1	1	1	0	1	0	0	0	0	0	1	1	1
	2008	1	1	1	0	1	0	0	0	0	0	1	1	1
	2009	1	1	1	0	1	0	0	0	0	0	1	1	1
	2010	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 4	2011	1	1	1	0	1	0	0	0	0	0	1	1	1
	2012	1	1	1	0	1	0	0	0	0	0	1	1	1
	2013	1	1	1	0	1	0	0	0	0	0	1	1	1
	2014	1	1	1	0	1	0	0	0	0	0	1	1	1
	2015	1	1	1	0	1	0	0	0	0	0	1	1	1
	2016	1	1	1	0	1	0	0	0	0	0	1	1	1
	2017	1	1	1	0	1	0	0	0	0	0	1	1	1
	2018	1	1	1	0	1	0	0	0	0	0	1	1	1
	2004	1	1	1	0	1	0	0	0	0	0	1	1	1
	2005	1	1	1	0	1	0	0	0	0	0	1	1	1
	2006	1	1	1	0	1	0	0	0	0	0	1	1	1
	2007	1	1	1	0	1	0	0	0	0	0	1	1	1
	2008	1	1	1	0	1	0	0	0	0	0	1	1	1
	2009	1	1	1	0	1	0	0	0	0	0	1	1	1
	2010	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 5	2011	1	1	1	0	1	0	0	0	0	0	1	1	1
	2012	1	1	1	0	1	0	0	0	0	0	1	1	1
	2013	1	1	1	0	1	0	0	0	0	0	1	1	1
	2014	1	1	1	0	1	0	0	0	0	0	1	1	1
	2015	1	1	1	0	1	0	0	0	0	0	1	1	1
	2016	1	1	1	0	1	0	0	0	0	0	1	1	1
	2017	1	1	1	0	1	0	0	0	0	0	1	1	1
	2018	1	1	1	0	1	0	0	0	0	0	1	1	1
	2004	1	1	1	0	1	0	0	0	0	0	1	1	1
	2005	1	1	1	0	1	0	0	0	0	0	1	1	1
	2006	1	1	1	0	1	0	0	0	0	0	1	1	1
	2007	1	1	1	0	1	0	0	0	0	0	1	1	1
	2008	1	1	1	0	1	0	0	0	0	0	1	1	1

Appendix 2. Contd.

	2009	1	1	1	0	1	0	0	0	0	0	1	1	1
	2010	1	1	1	0	1	0	0	0	0	0	1	1	1
	2011	1	1	1	0	1	0	0	0	0	0	1	1	1
	2012	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 6	2013	1	1	1	0	1	0	0	0	0	0	1	1	1
	2014	1	1	1	0	1	0	0	0	0	0	1	1	1
	2015	1	1	1	0	1	0	0	0	0	0	1	1	1
	2016	1	1	1	0	1	0	0	0	0	0	1	1	1
	2017	1	1	1	0	1	0	0	0	0	0	1	1	1
	2018	1	1	1	0	1	0	0	0	0	0	1	1	1
	2004	1	1	1	0	1	0	0	0	0	0	1	1	1
	2005	1	1	1	0	1	0	0	0	0	0	1	1	1
	2006	1	1	1	0	1	0	0	0	0	0	1	1	1
	2007	1	1	1	0	1	0	0	0	0	0	1	1	1
	2008	1	1	1	0	1	0	0	0	0	0	1	1	1
	2009	1	1	1	0	1	0	0	0	0	0	1	1	1
	2010	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 7	2011	1	1	1	0	1	0	0	0	0	0	1	1	1
	2012	1	1	1	0	1	0	0	0	0	0	1	1	1
	2013	1	1	1	0	1	0	0	0	0	0	1	1	1
	2014	1	1	1	0	1	0	0	0	0	0	1	1	1
	2015	1	1	1	0	1	0	0	0	0	0	1	1	1
	2016	1	1	1	0	1	0	0	0	0	0	1	1	1
	2017	1	1	1	0	1	0	0	0	0	0	1	1	1
	2018	1	1	1	0	1	0	0	0	0	0	1	1	1
	2004	1	1	1	0	1	0	0	0	0	0	1	1	1
	2005	1	1	1	0	1	0	0	0	0	0	1	1	1
	2006	1	1	1	0	1	0	0	0	0	0	1	1	1
	2007	1	1	1	0	1	0	0	0	0	0	1	1	1
	2008	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 8	2009	1	1	1	0	1	0	0	0	0	0	1	1	1
	2010	1	1	1	0	1	0	0	0	0	0	1	1	1
	2011	1	1	1	0	1	0	0	0	0	0	1	1	1
	2012	1	1	1	0	1	0	0	0	0	0	1	1	1
	2013	1	1	1	0	1	0	0	0	0	0	1	1	1

Appendix 2: Contd.

	2014	1	1	1	0	1	0	0	0	0	0	1	1	1
	2015	1	1	1	0	1	0	0	0	0	0	1	1	1
	2016	1	1	1	0	1	0	0	0	0	0	1	1	1
	2017	1	1	1	0	1	0	0	0	0	0	1	1	1
	2018	1	1	1	0	1	0	0	0	0	0	1	1	1
	2004	1	1	1	0	1	0	0	0	0	0	1	1	1
	2005	1	1	1	0	1	0	0	0	0	0	1	1	1
	2006	1	1	1	0	1	0	0	0	0	0	1	1	1
	2007	1	1	1	0	1	0	0	0	0	0	1	1	1
	2008	1	1	1	0	1	0	0	0	0	0	1	1	1
	2009	1	1	1	0	1	0	0	0	0	0	1	1	1
	2010	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 9	2011	1	1	1	0	1	0	0	0	0	0	1	1	1
	2012	1	1	1	0	1	0	0	0	0	0	1	1	1
	2013	1	1	1	0	1	0	0	0	0	0	1	1	1
	2014	1	1	1	0	1	0	0	0	0	0	1	1	1
	2015	1	1	1	0	1	0	0	0	0	0	1	1	1
	2016	1	1	1	0	1	0	0	0	0	0	1	1	1
	2017	1	1	1	0	1	0	0	0	0	0	1	1	1
	2018	1	1	1	0	1	0	0	0	0	0	1	1	1
	2004	1	1	1	0	1	0	0	0	0	0	1	1	1
	2005	1	1	1	0	1	0	0	0	0	0	1	1	1
	2006	1	1	1	0	1	0	0	0	0	0	1	1	1
	2007	1	1	1	0	1	0	0	0	0	0	1	1	1
	2008	1	1	1	0	1	0	0	0	0	0	1	1	1
	2009	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 10	2010	1	1	1	0	1	0	0	0	0	0	1	1	1
	2011	1	1	1	0	1	0	0	0	0	0	1	1	1
	2012	1	1	1	0	1	0	0	0	0	0	1	1	1
	2013	1	1	1	0	1	0	0	0	0	0	1	1	1
	2014	1	1	1	0	1	0	0	0	0	0	1	1	1
	2015	1	1	1	0	1	0	0	0	0	0	1	1	1
	2016	1	1	1	0	1	0	0	0	0	0	1	1	1
	2017	1	1	1	0	1	0	0	0	0	0	1	1	1
	2018	1	1	1	0	1	0	0	0	0	0	1	1	1

Appendix 2: Contd.

	2004	1	1	1	0	1	0	0	0	0	0	1	1	1
	2005	1	1	1	0	1	0	0	0	0	0	1	1	1
	2006	1	1	1	0	1	0	0	0	0	0	1	1	1
	2007	1	1	1	0	1	0	0	0	0	0	1	1	1
	2008	1	1	1	0	1	0	0	0	0	0	1	1	1
	2009	1	1	1	0	1	0	0	0	0	0	1	1	1
	2010	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 11	2011	1	1	1	0	1	0	0	0	0	0	1	1	1
	2012	1	1	1	0	1	0	0	0	0	0	1	1	1
	2013	1	1	1	0	1	0	0	0	0	0	1	1	1
	2014	1	1	1	0	1	0	0	0	0	0	1	1	1
	2015	1	1	1	0	1	0	0	0	0	0	1	1	1
	2016	1	1	1	0	1	0	0	0	0	0	1	1	1
	2017	1	1	1	0	1	0	0	0	0	0	1	1	1
	2018	1	1	1	0	1	0	0	0	0	0	1	1	1
	2004	1	1	1	0	1	0	0	0	0	0	1	1	1
	2005	1	1	1	0	1	0	0	0	0	0	1	1	1
	2006	1	1	1	0	1	0	0	0	0	0	1	1	1
	2007	1	1	1	0	1	0	0	0	0	0	1	1	1
	2008	1	1	1	0	1	0	0	0	0	0	1	1	1
	2009	1	1	1	0	1	0	0	0	0	0	1	1	1
	2010	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 12	2011	1	1	1	0	1	0	0	0	0	0	1	1	1
	2012	1	1	1	0	1	0	0	0	0	0	1	1	1
	2013	1	1	1	0	1	0	0	0	0	0	1	1	1
	2014	1	1	1	0	1	0	0	0	0	0	1	1	1
	2015	1	1	1	0	1	0	0	0	0	0	1	1	1
	2016	1	1	1	0	1	0	0	0	0	0	1	1	1
	2017	1	1	1	0	1	0	0	0	0	0	1	1	1
	2018	1	1	1	0	1	0	0	0	0	0	1	1	1
	2004	1	1	1	0	1	0	0	0	0	0	1	1	1
	2005	1	1	1	0	1	0	0	0	0	0	1	1	1
	2006	1	1	1	0	1	0	0	0	0	0	1	1	1
	2007	1	1	1	0	1	0	0	0	0	0	1	1	1
	2008	1	1	1	0	1	0	0	0	0	0	1	1	1

Appendix 2: Contd.

	2009	1	1	1	0	1	0	0	0	0	0	1	1	1
	2010	1	1	1	0	1	0	0	0	0	0	1	1	1
	2011	1	1	1	0	1	0	0	0	0	0	1	1	1
	2012	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 13	2013	1	1	1	0	1	0	0	0	0	0	1	1	1
	2014	1	1	1	0	1	0	0	0	0	0	1	1	1
	2015	1	1	1	0	1	0	0	0	0	0	1	1	1
	2016	1	1	1	0	1	0	0	0	0	0	1	1	1
	2017	1	1	1	0	1	0	0	0	0	0	1	1	1
	2018	1	1	1	0	1	0	0	0	0	0	1	1	1
	2004	1	1	1	0	1	0	0	0	0	0	1	1	1
	2005	1	1	1	0	1	0	0	0	0	0	1	1	1
	2006	1	1	1	0	1	0	0	0	0	0	1	1	1
	2007	1	1	1	0	1	0	0	0	0	0	1	1	1
	2008	1	1	1	0	1	0	0	0	0	0	1	1	1
	2009	1	1	1	0	1	0	0	0	0	0	1	1	1
	2010	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 14	2011	1	1	1	0	1	0	0	0	0	0	1	1	1
	2012	1	1	1	0	1	0	0	0	0	0	1	1	1
	2013	1	1	1	0	1	0	0	0	0	0	1	1	1
	2014	1	1	1	0	1	0	0	0	0	0	1	1	1
	2015	1	1	1	0	1	0	0	0	0	0	1	1	1
	2016	1	1	1	0	1	0	0	0	0	0	1	1	1
	2017	1	1	1	0	1	0	0	0	0	0	1	1	1
	2018	1	1	1	0	1	0	0	0	0	0	1	1	1
	2004	1	1	1	0	1	0	0	0	0	0	1	1	1
	2005	1	1	1	0	1	0	0	0	0	0	1	1	1
	2006	1	1	1	0	1	0	0	0	0	0	1	1	1
	2007	1	1	1	0	1	0	0	0	0	0	1	1	1
	2008	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 15	2009	1	1	1	0	1	0	0	0	0	0	1	1	1
	2010	1	1	1	0	1	0	0	0	0	0	1	1	1
	2011	1	1	1	0	1	0	0	0	0	0	1	1	1
	2012	1	1	1	0	1	0	0	0	0	0	1	1	1
	2013	1	1	1	0	1	0	0	0	0	0	1	1	1

Appendix 2: Contd.

	2014	1	1	1	0	1	0	0	0	0	0	1	1	1
	2015	1	1	1	0	1	0	0	0	0	0	1	1	1
Bank 15	2016	1	1	1	0	1	0	0	0	0	0	1	1	1
	2017	1	1	1	0	1	0	0	0	0	0	1	1	1
	2018	1	1	1	0	1	0	0	0	0	0	1	1	1

Source: Generated from the financial reports of Banks based on Appendix 1.

Related Journals:

