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The New Global Guidance of Revenue Recognition in the Anglo-Saxon Market

By Dr. Edel Lemus, DBA

Albizu University

Abstract- The purpose of this research study is to provide an understanding of the adoption of revenue recognition in the Anglo-Saxon market. One of the main findings is that the steps involved in revenue recognition mentioned in the literature review should be implemented at the organizational level. Public companies are expected to adopt the new revenue recognition guidelines by 2018. Notably, the FASB will bring a global vision to a new set of accounting rules in the United States. Research limitations indicate organizations are running out of time to adopt the new deadlines proposed by FASB. Any delay in the adoption of revenue recognition will have an impact on companies' bottom line finances. The participation of tax professionals in the adoption process mentioned above is minimal. Therefore, businesses are expected to be affected directly by the lack of tax professional participation.

Keywords: FASB, IASB, FinRec, USGAAP, IFRS, revenue recognition.

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Dr. Edel Lemus, DBA

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Keywords: FASB, IASB, FinRec, USGAAP, IFRS, revenue recognition.

I. THE COMPLEXITY OF REVENUE RECOGNITION IN THE ANGLO-SAXON MARKET

The focus of this article is on the implementation of revenue recognition in the Anglo-Saxon market. Presently, both boards indicate there are some existing areas of financial reporting challenges and weaknesses under USGAAP and IFRS. Guidelines under Rules-based and principles-based have been prepared for particular industries to report revenue as governed under each accounting setting format.

The five steps of the revenue recognition process are designed to support the core principles of business contract and the accountability of major business entities. The five steps are: (a) identify a contract with a customer, (b) identify separate performance obligations, (c) determine the transaction price, (d) allocate the transaction price to separate performance obligations, and (e) recognize revenue when or as performance obligations are satisfied. "The main objective of the joint revenue recognition project is to consolidate the financial reporting inconsistencies that exist under the Financial Accounting Standard Board (FASB) and the International Accounting Standard Board (IASB)" (Lemus, 2014, p. 1). Financial users will require more comprehensive training and guidance to deal with the new revenue recognition contract in the near future (Tysiac, 2017).

In 2016, Bell, Kalavacherla, and Thompson conducted an accounting survey by analyzing the results of the new revenue recognition in different business sectors and find the need of aligning customer business contract service. The implementation of the new revenue recognition standard will bring new financial challenges to the operating aspects of both public and private companies. According to the results of a survey of more than 140 companies, where the majority of the companies are public and carrying revenue of \$1 billion would face operational and financial challenges (Bell et al., 2016).

II. REVIEW OF THE LITERATURE

a) New Revenue Recognition Historical Timeline Approach

In 2011, the FASB and the IASB issued an Exposure Draft (ED) detailing the necessary steps to implement the new revenue recognition from contracts with customers. In 2014, both boards agreed the earliest date to adopt the new revenue recognition would be January 1, 2015. The ED that was presented by the FASB and the IASB was similar to the Exposure Draft (ED) issued in 2010. As a result, the revised ED is consistent with the five steps of revenue recognition mentioned previously (Holzmann & Ramnath, 2013).

In 2014, the FASB and the IASB began the convergence effort toward revenue recognition by bringing alignment to the revenue from contracts with customers. The Transition Resource Group (TRG) was established by the FASB and IASB. Revenue recognition under USGAAP and IFRS continues to experience some accounting technical challenges such as revenue recognition in the financial statement consolidation process (Kepple, 2016).

In 2016, the FASB issued several standards to clarify and propose a new set of principles guidance interpretation related to revenue recognition. Public companies are expected to adopt the new revenue recognition guidance by January 1, 2018. Non-public companies should engage in the transition to the new revenue adoption guidance a year later. The new revenue recognition guidance promotes principles-based standards. Therefore, public companies are finding the need to make changes in their accounting policies and auditing settings (Bell et al., 2016).

In 2018, public companies should commence the new revenue recognition adoption and by 2019 non-

public companies should commence this new financial effort. The FASB, with the new revenue recognition standard, will bring a global vision to the world financial sector. For example, one industry that is expected to be affected by the revenue recognition change is the health care industry. Therefore, the companies that will be affected directly by this change are companies that follow specific guidance under USGAAP as it relates to their industry (Munter, 2016).

b) *Concerns or Weaknesses in Existing Revenue Recognition Standards*

Table 1 (Munter, 2016, p. 31) shows some areas of financial reporting weaknesses under USGAAP and IFRS.

Table 1: Financial Reporting Weaknesses

USGAAP	IFRS
<p>Contains a large number of individual standards or codification topics, making it difficult to determine which standard or topic is applicable in some situations. Some standards/topics focus on completion of the earnings process while others focus on activities.</p> <p>There is a lack of comparability among entities because similar transactions are accounted for differently as different standards/topics apply.</p> <p>Some of the guidance contains bright lines, giving rise to a significant difference in the accounting outcome for similar arrangements. Some of the guidance was developed from an antiabuse perspective, establishing implicit bright lines through rebuttable presumptions that are difficult to overcome. There is limited guidance on applicable disclosures, resulting in boilerplate disclosure about revenue by some entities.</p> <p>The separation guidance for multiple element arrangements differs among standards/topics, which results in different units of account and therefore different revenue recognition patterns for similar arrangements.</p>	<p>There is limited guidance—one general standard for goods and services and one for construction-type activities—supplemented by a few interpretations. The general standard focuses on completion of the earnings process, whereas the standard on construction-type activities focuses on activities. There is a lack of comparability among entities because the lack of guidance results in different conclusions reached by companies about the accounting for similar transactions.</p> <p>There is limited guidance on applicable disclosures, resulting in boilerplate disclosures about revenue by some entities.</p> <p>There is limited guidance on separation for multiple element arrangements, which results in diversity in practice and a lack of comparability among entities in accounting for similar arrangements.</p>

Most of the specific guidance has been developed for particular industries such as insurance, the health sector, and other service industries. In the health care industry, revenue is recognized at the time when the service is rendered. As mentioned by Munter (2016), "According to ASC paragraph 954-605-45-4, if the patients do not pay, the providers present the resulting bad debts as an adjustment to revenue" (p. 31). Other health care services guarantee the collectability of the service provided prior to recognizing revenue. At this point in time, there are limited disclosure items related to revenue recognition. Financial statement users are primarily concerned with the limited disclosure items under the revenue recognition governed by USGAAP (Munter, 2016).

c) *Five Steps of the Revenue Recognition Process*

Financial users will require more comprehensive training and guidance to deal with the new revenue recognition contract. The following five steps of the revenue recognition process will support the core principles of business contract and the accountability of major business entities. The five steps are: (a) identify a contract with a customer, (b) identify separate

performance obligations, (c) determine the transaction price, (d) allocate the transaction price to separate performance obligations, and (e) recognize revenue when or as performance obligations are satisfied.

Step 1. A contract should exist when a service is rendered to a customer where it can be legally enforceable and create a commitment of future cash flows. Also, liability will remain in the contract until all conditions are met.

Step 2. The contract should specify how the customer can benefit from the service and how to identify the promises in the contract as they relate directly to performance obligation.

Step 3. It is imperative that the entity indicate whether the transaction price is fixed or variable, because the new revenue recognition standard states that if there is fluctuation in the price, adjustment should be in accordance with the concession of the price changes indicated in the contract by not necessarily altering the cost of goods sold reported in the income statement.

Step 4. The transaction price should be identified as distinct and meet the performance obligations of the contract.

Step 5. All obligations should be satisfied as anticipated in the performance obligation at a point in time.

The implementation of the new revenue recognition by the FASB is raising a number of challenges for financial users as well as for auditors in public companies. The American Institute of Certified Public Accountants (AICPA) mentioned that the new revenue recognition is expected to provide specific guidance on an industry basis and auditors require a degree of adaptability to the new accounting measurement changes in the financial market. In the aerospace and defense industry, entities are expected to deal with step 5 under the new guidelines of revenue recognition, which is to “recognize revenue when (or as) the entity satisfied a performance obligation.” This is related to FASB Accounting Standards Codification (ASC) Topic 606. In the aerospace and defense industry, the nature of contracts tends to vary across the board. The satisfaction selection progress should reflect the timing and service delivery. As a result, in the aerospace industry, revenue can be measured as straight-line revenue recognition and cost-to-cost for the service to be rendered to the customer (Tysiac, 2017).

In the case of asset management, financial preparers deal with step 1, which is to identify the contract with a customer. Financial Reporting Executive Committee (FinRec) developed the following characteristics for financial users when dealing with asset management:

- Legal entities such as corporations, partnerships, and business trusts should be recognized as legal entities
- The board of directors should have full control of the entity governance
- Investors should have the availability to negotiate their advisory fees
- Investors' diversity will contribute to the expansion of the entity
- Investors who register through a third party will have a lack of visibility as to who is the ultimate investor in the company
- Investment companies in the United States should be regulated
- The asset manager should have different contractual services (Tysiac, 2017)

The fact is that the changes related to the new revenue recognition will affect industries in the private sector. Professionals in the accounting and financial sector are aware of the topic of ASC 606. Public companies should prepare for the upcoming changes in the financial sector. In 2018, non-public organizations will commence making changes in their financial reporting. This will involve assessing the company's day-to-day operations and streamlining the process of revenue recognition activity. As a result, the implementation of the new revenue recognition should

commence at the organizational level because organizational leaders will have to use their best judgement to adopt the principles-based standards for optimization purposes (Arms & Bercik, 2015).

The FASB recommends that public entities adopt the new revenue recognition standard by December 15, 2017. Public companies are not permitted to engage in early adoption. Moreover, all other major companies are expected to adopt the new revenue recognition after December 15, 2018, with interim periods of annual reporting by December 15, 2019 (Holloway, Sutton, & Swafford, 2017).

The new revenue recognition standard presents two methods as important rules. The FASB will have a degree of flexibility with public companies in electing either two of the rules. The first method is to allow an organization to adopt retrospectively the new revenue recognition at the end of each reporting period. The second method is for an organization to recognize the opening balance at the initial date of the application of the period. It is anticipated that the new revenue recognition will replace some of the rules written under USGAAP. As a result, the adoption is overwhelming for both organizations and practitioners in the accounting industry. Therefore, in order to advance and comply with the time table of deadlines proposed by FASB, organizations should have dual-reporting capabilities in place (Holloway et al., 2017).

The AICPA noted that financial sustainability can be attributed to the relationships that exist among business members in the community, industry services, and the government. Financial users are recommended to visit the FASB website (www.fasb.org) to explore the most recent updates and developments as they pertain directly to the new revenue recognition convergence standard. The purpose of the new revenue recognition is easy to understand and serves as the financial communication process for revenue recognition by industry. The FASB revealed that the revenue treatment and related transactions of recognition differ from industry to industry (James, 2016).

The SEC commented that the new revenue recognition is a new era for fraud in the U.S. capital market. On the other hand, IFRS have two standards of revenue recognition and including minimal guidance of interpretation. For instance, experts on revenue recognition have criticized the elements arrangements that exist under IFRS. The accounting software that should be updated includes OneSource, Corp Tax, and other related tax accounting software. Also, during the tax evaluation process of the adoption of the new revenue recognition, different stages should be considered. As a result, effective communication is paramount so optimal results can be achieved. The implementation of the new revenue recognition should depart from comparability and consistency, most importantly in different governing jurisdictions around

the globe. It is recommended that the Joint Transition Group for Revenue Recognition (TRG) create a public forum as an educative avenue for stakeholders, internal and external auditors, and users of financial statements (Levin-Epstein, 2015).

Historically, changes in the financial market have been the main driving force for progress in business development. By 2019, it is expected that public and private companies will have embraced the new guidelines of revenue recognition under ASC 606. The AICPA stated that the adoption of accounting guidelines will have an impact on day-to-day business operations. The FASB's top priority is to create new guidelines for future investors. Bell et al., (2016) International Accounting Survey study results revealed 40% responded to the implementation process that will have results by seeking harmonization from USGAAP to IFRS. Furthermore, 54% of professionals in the finance industry have not begun to assess the technicality aspect of revenue recognition under ASC 606, 36% do not have a plan for implementing the changes, and 24% are confident new change may affect the accounting industry. Organizational leaders will have to conduct an extensive review to find comparability in the accounting

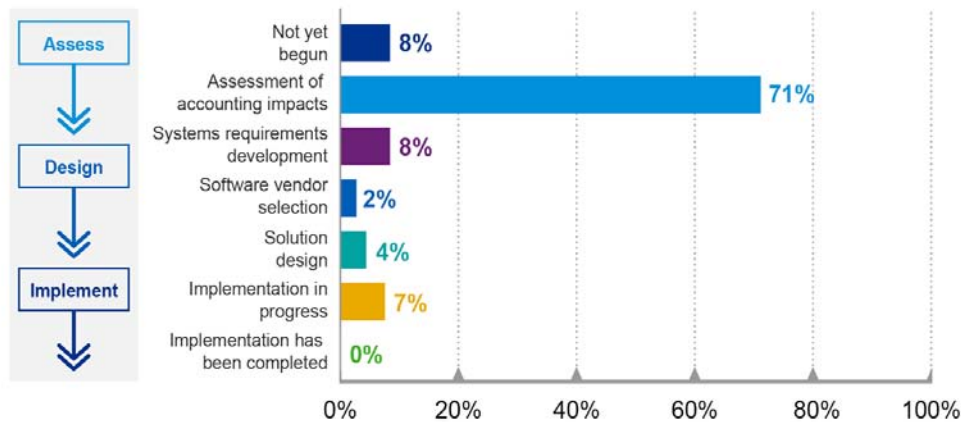
policies and at the same time be innovative. Therefore, the global economy is constantly changing and operational challenges are in the horizon (Bredehoft, 2016).

Organizations are running out of time to meet the deadlines proposed by the FASB. Organizations have not completed as of yet the assessment of new accounting system changes. According to Steve Thompson, consultant at KPMG, some companies are undermining the time effort needed to implement the new revenue recognition (Bell et al., 2016).

d) Revenue Implementation Status

Public companies are behind schedule. Regulators in the United States have expressed a degree of concern because 80% of public companies have not yet begun the assessment phase (Bredehoft, 2016). The delayed process will have an impact on the bottom line finances of companies because the operation costs are expected to be inefficient and increase risks across the board, and identify new strategic role settings. Also, 60% of public companies as participants surveyed acknowledged they were running behind schedule (Bell et al., 2016).

Status of revenue recognition implementation – Public companies



Bell et al.'s (2016) survey study results indicate that 80% have not commence as of yet the new adoption assessment phase of revenue recognition. Figure 1. Status of revenue recognition implementation- Public companies (Bell et al., 2016, p. 4).

e) Revenue Accounting Systems

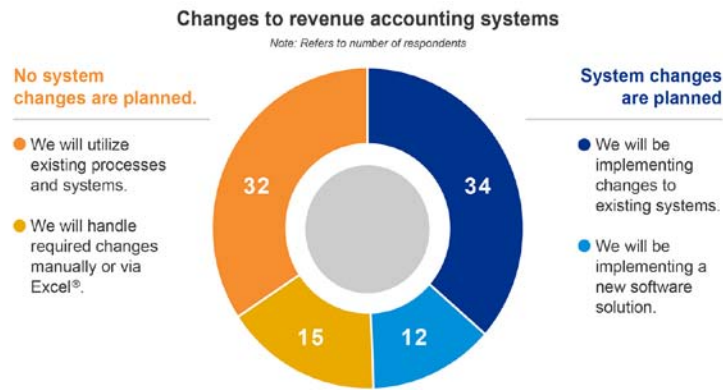


Figure 2

The configuration of software to be implemented through the new revenue recognition adoption can take approximately 9 to 12 months. Participants in the survey study anticipated that 49% will process accounting data manually. As a result, the software that should be considered in the adoption of the new revenue recognition is SAP, Rev Pro, Rev Stream, and Oracle (Bell et al., 2016). Figure 2. Changes to revenue accounting systems (Bell et al., 2016, p. 6).

The configuration of software to be implemented through the new revenue recognition adoption can take approximately 9 to 12 months. Participants in the survey study anticipated that 49% will process accounting data manually. As a result, the software that should be considered in the adoption of the new revenue recognition is SAP, Rev Pro, Rev Stream, and Oracle (Bell et al., 2016).

the budget. Bell et al. (2016) noted 34% of the survey participants anticipated that the total cost of the new revenue recognition guidance would be in excess of \$1 million. The operational adoption cost is expected to continue increasing. Several areas of key leading indicators can affect companies tremendously. Throughout the adoption process, company leaders are encouraged to take into consideration accounting disclosure requirements, accounting policies, guideline procedures, internal systems, timing adoption processes, customer contracts, tax implications, and the human resource department (Bell et al., 2016). Figure 3 reveals that the costs related to the adoption of the new revenue recognition at the assessment phase will exceed \$1 million.

f) Revenue Adoption Cost

When calculating the adoption cost, it will be significant to consider internal and external resources in

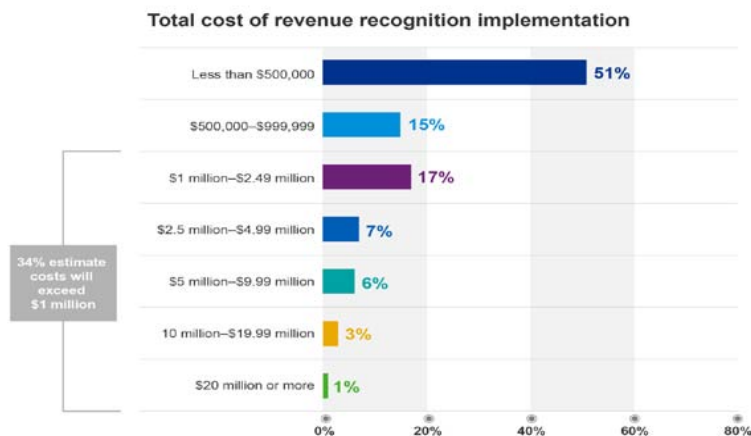


Figure 3: Total cost of revenue recognition implementation (Bell et al., 2016, p. 8).

g) Revenue and Business Impacts

In terms of business impacts, companies are expected to consider three major key drivers: comparability trends, financial reporting consistency, and systems reliability. The key drivers mentioned previously will bring uniformity to the new convergence of revenue recognition (Bell et al., 2016).

h) Revenue and Tax Implications

The participation of tax professionals in the adoption of new revenue recognition standards is minimal. Business are expected to be affected directly by the lack of tax professional participation. Bell et al.'s (2016) survey results demonstrated the areas that may lead to roadblocks from the taxable aspect are as follows:

- Existing tax compliance processes
- Taxable income
- Accounting for income taxes (ASC 740)

- Tax accounting method changes
- Other areas of tax, including transfer pricing (p. 11)

Furthermore, organizations are expected to rely on one or more accounting tax methods for financial reporting purposes. However, a careful analysis should be considered when treating the calculation of accounting policies related to revenue recognition. Therefore, tax professionals are expected to assess the tax compliance needs and evaluate the systems in a timely manner (Bell et al., 2016).

i) New Revenue Recognition Road Map Implementation

Figure 4 shows a new revenue recognition road map timeline to illustrate a proposed chronological event for the new revenue recognition guidelines by meeting the approaching deadline of December 2017.



Figure 4: What steps should you take in the near term (Bell et al., 2016, p. 12).

The new revenue recognition will soon be a reality for businesses and CPA firms. Experts in the accounting industry suggest businesses and CPAs should commence familiarizing themselves with the new guidance and standards. The FASB has played an important role in aligning the new revenue recognition. The FASB and IASB have invested 10 years into simplifying the new revenue recognition approach. The anticipated implementation effective date is December 15, 2017. The accounting standards update comprises 700 pages announcing changes in relation to this topic. Moreover, the accounting standards codification consists of 130 pages under revenue topic 606 and

other related amendments describing the principles of revenue recognition in 300 pages (Schmutte & Duncan, 2016).

Susan Callahan, CPA for Ford Motor Corporation directing the American market, suggested the new revenue recognition will bring, to some degree, more uncertainty in the U.S. market among business practitioners. The FASB and IASB had already begun a convergence process to harmonize the two accounting standards into one universal accounting language. For example, Callahan indicated the FASB and IASB created a joint transition group to help companies seek clarity when implementing the new revenue recognition. Both

accounting standard boards shared common ground about the implementation of the new revenue recognition standard (Tysiac & Murphy, 2015).

III. CONCLUSION

In conclusion, public companies are finding the need to make changes to their accounting policies. The implementation of the new revenue recognition should commence at the organizational level, because organizational leaders will have to use their best judgement to adopt the principles-based standards for optimization purposes. As a result, in order to advance and comply with the time table of deadlines proposed by the FASB, organizations will need to have a dual-financial reporting system in place. Financial statement users are primarily concerned with the limited disclosure items under the revenue recognition governed under USGAAP. Major companies are expected to adopt the new revenue recognition after December 15, 2018, with interim periods of annual reporting by December 15, 2019.

IV. RECOMMENDATIONS FOR FUTURE STUDIES

The author of this article suggests the following aspects be considered for future studies into the implementation of revenue recognition in the Anglo-Saxon market:

- The FASB should consider the following four industries as early adopters of the new revenue recognition standard: airlines, gaming, hospitality, and time-share.
- The IASB should evaluate the effectiveness and disclosure requirements of the new revenue recognition guidelines approach under principles-based.
- Companies should allocate performance obligations under the new revenue recognition standard by creating new lines of revenue.

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Executive Compensation and Accounting Performance in French

By Yamina Amarou & Mohamed Bensaid

University Sidi-Bel-Abbes

Abstract- The empirical study carried out on 37 French companies listed on the SBF120 index over the period 2015 analyzes the relationship between the accounting performance and the level of executive compensation. Our analysis demonstrated that the level of cash compensation (wages and bonuses) is affected by the size of the firm. In addition, it appears that certain governance variables negatively affect the level of executive compensation. In addition, and contrary to expectations, our results show that the ROA's accounting performance does not affect compensation.

Keywords: *executive compensation, agency theory, size, performance.*

GJMBR-B Classification: *JEL Code: M41*



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Executive Compensation and Accounting Performance in French

Yamina Amarou^α & Mohamed Bensaid^σ

Abstract- The empirical study carried out on 37 French companies listed on the SBF120 index over the period 2015 analyzes the relationship between the accounting performance and the level of executive compensation. Our analysis demonstrated that the level of cash compensation (wages and bonuses) is affected by the size of the firm. In addition, it appears that certain governance variables negatively affect the level of executive compensation. In addition, and contrary to expectations, our results show that the ROA's accounting performance does not affect compensation.

Keywords: executive compensation, agency theory, size, performance.

I. INTRODUCTION

Executive compensation is an essential part of the governance system, as it aligns the interests of shareholders with those of management. This link between the remuneration of managers and the performance of the company has been the subject of several studies which have produced contradictory results. Practically, existing empirical studies report contradictory evidence on the impact of corporate performance on executive compensation. Some studies have found a positive relationship between the level of executive compensation and performance (Crespi-Cladera and Gispert (2003)), others found no relationship between managerial pay and performance (Dogan and Smith (2002), Makinen (2005), Broye and Moulin (2010). Others, however, found relationships varying according to the performance measure used (Antle and Smith (1986)).

In France, where most French listed companies have proved to be family-run and often confused between control and management (Boubaker, 2005), the results of these developments remain nuanced. On the one hand, Pigé's research (1994) has pointed out that the link is positive but of low magnitude. On the other hand, Poulain and Rehm (2000) and Albouy (2004) announced the absence of the link. Hence, the question of the explicit determinants of executive compensation and its implicit link with performance in listed French family businesses proves to be of enormous importance. In particular, the treatment of this link remains timidly addressed in this specific field (Finkelstein and Hambrick, 1989, Golderg and Idson, 1995, Ramaswamy et al 2000, Hirigoyen and Poulain-Rehm, 2000).

Author α: Univ.Mascara, Algeria. e-mail: Amina_dro@yahoo.fr

Author σ: Univ.Sidi belabes, Algeria.

The objective sought by this article is to present the theoretical aspects justifying the remuneration policies of the managers of the companies and to question the implicit link between the remuneration of these managers and the performance in these companies. It is then necessary to present the theoretical framework that justifies the remuneration allocated to managers and its relation to the performance of the company. Finally, we propose an empirical analysis during the year 2015 that concerns 37 French companies listed on SBF120.

II. REVIEW OF LITERATURE AND FORMULATION OF HYPOTHESES

a) Agency theory

In 1776, Adam Smith understood that a conflict of interest could arise between the owners and the non-owners in the company. This conflict of interest has arisen between two (or more) parties when one of these two parties (non-owner) acts either on its own or as the representative of the other (owner). Berle and Means (1932) in their work "The Modern Corporation and Private Property" highlight the predominance of the managerial firm as a mode of majority organization of capitalism. This firm is characterized by its dispersed ownership and by professional managers ensuring its operational management. Jensen and Meckling (1976) extend this analysis and consider that the firm is a contracting nexus, associating the firm with all the different providers of resources indispensable to the organization's functioning. They model the agency relationship by representing the link between the agent (managers) and the principal (the shareholders).

Therefore, the principal-agent literature postulates that compensation should be based on appreciable results and that contracts should be designed to motivate agents of better performance, therefore there should be a positive relationship between executive compensation and performance of the company. In the theory of the agency, the problem is to create an incentive structure that aligns the interests of shareholders with the benefits of the managers. To achieve this objective, a compensation contract is generally offered to managers to increase the wealth of shareholders (J & M1990). In this context, performance improves.

According to the agency's theory, if a compensation contract reduces agency costs, the adoption of a compensation system by the firm should result in an increase in the wealth of shareholders. Also the decisions of the governed remuneration taken by the manager should lead to an improvement of the performance of the company. Once manager receive adequate compensation, it assumes they work harder and contribute to the company's performance increase.

Nevertheless, the remuneration contract is incomplete because it is impossible to predict all the situations in which the managers will have the opportunity to act from a perspective contrary to the maximization of firm value. From an agency perspective, this means that other governance mechanisms need to be put in place to control the agency's relationship and to prevent leaders from diverting the wealth of shareholders by making decisions such as Over-investment in excess free cash flow (Jensen, 1986). From a political-contractual perspective, this implies that the remuneration contract must recognize both short-term and long-term performance, both accounting and market.

Many of the existing empirical research reported contradictory results when the relationship between performance and executive compensation starting with a survey by Lewellen (1970) suggests that there is a considerable correlation between performance and wage levels of the framework. Additionally, they find these long-term remuneration elements had little effect on that reward-performance bond. Lambert and Larcker

(1987) show that compensation (salary + bonus) is positively and strongly related to the measure of accounting performance (asset return), but moderately related to the measure of market performance (stock returns)

A study by Gerhart and Milkovich (1990) found that the composition of remuneration was performance-related. The authors found that an increase of 1 percentage point in the return on assets (ROA) resulted in an increase in base salary of 0.2% (\$ 142). Sloan (1993) the existence of a positive link between executive compensation and accounting indicators that contain less noise than stock market measures.

Doucoulagos and Hoque (2005) found a positive association between pay and performance in the firm, Clarkson, Nichols and Walker (2006) find a positive association for 336 Australian firms for the period 1998-2004. Similarly, Dardour and Husser (2014) found a positive relationship. While Broye and Moulin (2010) demonstrated that the company's financial or stock market performance does not affect the remuneration of French executives for the year 2005. And others have found a negative relationship between executive pay and the ROA's accounting performance, for example (B et al., 2006), its study was based on 174 Japanese firms from 1992-96.

Generally, the empirical results that link pay to performance, even positive and significant, are insufficient to consider that performance can play an important role in determining executive compensation. Based on these studies, we propose that:

Hypothesis 1: The relationship between executive compensation and the company's accounting performance is positive.

III. DESCRIPTION OF THE SAMPLE

Our initial work sample is made up of 37 companies listed on the French constituting the SBF120 index for the year 2015, it is limited to operating companies, mainly in industrial sectors and services. The choice of companies in our sample was random and simple. Data on variables are collected from the annual reports and reference documents of these firms.

a) *Defining Variables*

In the framework of the model that we wish to develop, we start from the same theoretical postulate, namely that there is a relation between the remuneration of the managers and the accounting performance of the company, we want to justify our hypothesis and know Nature of this relationship. But first, we identify the dependent and independent variables of our model.

i. *The dependent variable*

Since the Breton Act of 26 July 2005, listed companies have been obliged to publish the remuneration of corporate officers. Prior to this date, a

similar obligation was imposed by the NRE law of 15 May 2001, but most companies were content with this global information, thus not making public the remuneration received individually for each proxy.

The total amount of compensation received by the managers during the reference year 2015 was obtained from the analysis of the annual reports, in our subject we use the normal log of executive compensation calculated by (Ln REM)). This amount of remuneration is understood to include the fixed part (salary) and the variable part (bonus, benefit in kind) of remuneration that have been disclosed in the annual reports and do not include so-called long-term incentives such as Allocations of free shares or stock options. First, we want to follow the work of Piketty (1997) and Landais (2007) on the effect of performance on pay (wage + bonus) irrespective of the long-term incentives. Compensation is due to the absence of observable annual data. The available data are indeed estimates made on the option values, with the Black-Scholes method generally; these estimates may deviate from the values that will actually be realized at the end of

the option, this may have been particularly true for options granted prior to the 2008 crisis and whose underlying capital gains have fallen.

ii. *Independent variables*

For the construction of our model, we used an independent variable and four control variables drawn from empirical studies to date.

The first of the independent variables to which we are interested in designing this model is the company's performance. We follow the study of Larker (2002), and Makinen (2005) in the measure of accounting performance, that they adopt the ROA as measure of this performance.

iii. *The control variables*

Based on the existing literature, four control variables were selected:

In France, the influence of a controlling shareholder is in particular terms, since a large number of listed companies are controlled by a majority shareholder. In addition, numerous Anglo-Saxon studies confirm that a higher shareholding held by the control blocks has a negative influence on the CEO's remuneration (Lambert et al., 1993 Cordeiro and Veliyath 2003; Ozkan 2007).

Ownership of majority shareholders (CONCEN) is owned by shareholders owning more than 5% of the company's capital. We chose 5% as do several researchers, such as Mehran (1995). Therefore, we have chosen the majority shareholder shareholders with more than 5% voting rights.

The size variable is an element traditionally taken up in the literature inherent in this research theme

and must also be taken into account when describing executive compensation (Jensen and Murphy, 1990; Tosi et al., 2000; Albouy 2004). For the measurement of this variable, Crespi-Cladera and Gispert (2003) adopt the logarithm of the total turnover. So we measure the size (SIZE) by the logarithm of turnover.

In addition, the company's growth opportunities should also affect executive compensation. To the extent that managers are responsible for developing growth opportunities, they should be rewarded when these opportunities are indeed high (Smith and Watts 1992). The relationship between growth opportunities and the level of compensation should therefore be positive. We measure growth opportunities (MTB) through the market to book ratio, which measures the ratio between the company's market capitalization and the book value of its equity.

According to Jensen (1986), the debt policy is also a mechanism of control exercised by shareholders. Indeed, an executive who would have a significant recourse to the indebtedness would be sanctioned in his remuneration. It is introduced as an observable risk measure in a study by Harjoto and Mullineaux (2001) and as a determinant of the remuneration of company executives. The measure of indebtedness (LEV) in our study is the ratio of Debt = total debts / total assets.

IV. RESEARCH METHODOLOGY

In the light of the studies of (Basu et al. (2006), Menon et al. (2006), the methodology adopted in our study is based on the multiple regression model. For this we used the following model:

$$REM = \alpha_0 + \alpha_1 ROA + \alpha_2 CONCEN + \alpha_3 MTB + \alpha_4 SIZE + \alpha_5 LEV + \xi$$

V. RESULTS

Table 1 presents descriptive statistics for our sample. Over the period of 2015, the SBF120 managers received an average annual total remuneration of € 2001 million with a range of € 118 million to a maximum of € 35,000 million. It consists of 45% in average base salary and 41% in average annual bonus, with the remaining 15% consisting of exceptional remuneration, attendance fees and / or benefits in kind. It can be seen that in most of the companies selected in our sample the bonus value is equal to the salary value but the payout is monthly whereas the bonus payment period remains according to the context of the company. It should be noted here that a number of managers do not receive variable compensation, either in the form of an annual bonus or stock options.

On average, accounting performance is very low compared to financial performance 15.11% (Table 2), which leads us to conclude that the companies in our sample are based on the allocation of shares on the stock exchange.

As is known to French companies, the concentration of property shown in Table 1 is relatively low. The average percentage of capital held by the concentrated majority shareholders is equal to 42% (42% of the voting rights). The standard deviation of this variable is 0.268, which shows that this variable is somewhat volatile compared to the others. This result confirms the particularity of the French context, namely a grouping of capital around a few shareholders (La Porta et al., 1999). Indeed, the absence of the majority shareholder in French companies increases the level of remuneration of the leaders.

According to the table, size as an important factor influencing the level of executive compensation is noticed very volatile with a standard deviation of 3.78%. We also note that the level of debt held by companies is about 27.8%, indeed the dispersion of this variable is important since it extends from 2% to 85.8% (Table 2), and this implies that the companies we have chosen rely on external means (indebtedness) on average 27% in financing its investments.

Finally, we note that more than half of the companies making up our sample are in the industrial sector 54% and the rest of these companies are specialized in the services sector.

Table 1: Descriptive statistics of dependent variables (numerical)

	N	MINIMUM	MAXIMUM	MEDIAN	SD
SALAIRE	37	597000,00	12810891,200	600814,22286	21773849,4615
BONUS	35	,00	12800000,000	514321,95714	21789581,9504
REM	37	118380,00	35000000,000	2001872 ,31429	71683982,6864
N valide (listwise)	37				

Table 2: Descriptive statistics of explanatory variables (numerical)

	N	MINIMUM	MAXIMUM	MEDIAN	SD
ROA	37	,01230	1,0681	,15114	,20648
MTB	37	,00068	10,4483	1,69553	2,21804
CONCEN	37	,01370	,99200	,418929	,268070
SIZE	37	3,6546	25,0663	20,5010	3,78152
LEV	37	,02166	,85896	,278309	,190778

a) Compensation and Performance

This section analyzes the test results of our research hypothesis on the impact of the company's accounting performance on total executive compensation, the results of the regression of our model are given in Table 3.

The results of the compensation estimate indicate that the model applied to our study sample is globally significant, its coefficients of determination are $R^2 = 26.30\%$ and the Fisher F statistics are significant at the 5% threshold for this model.

Thus, the adjusted R^2 value is 0.145 indicates that 14.50% change in total compensation is explained by the variation in the explanatory variables used in this model. And the presence of a significant constant at the 1% threshold with a very high positive coefficient (13.76) implies that the level of total compensation is explained by other governance variables that we have not used.

The coefficient of performance is negative and not significant (-0.52), this leads us to say that the accounting performance has no relation with the compensation of the managers in the companies of our

sample. This result confirms previous studies by Menon et al. (2006), Makinen (2005), Broye and Moulin (2010) that there is no correlation between total compensation and accounting performance.

Whereas, we find more studies that found that the change in compensation was explained by the change in accounting performance (Ramasway et al. (2006) and Ghosh (2003), Dardour and Husser (2014).

Statistical results show that the size of the firm, as measured by the logarithm of total assets, positively and significantly affects the relationship between total compensation and performance, these findings corroborate the work of Leonard (1990), Yermack (2004), Kubo and Kato (2006), which indicate that the level of total compensation increases significantly with the size of the firm. Thus the other control variables specific to the firm (debt, ownership structure) are all non-significant.

Moreover, the review of statistical tests, allows us to refuse our underlying assumption that executive compensation has no relation to the accounting performance.

Table 3: Compensation and performance

VARIABLES	COEFFICIENTS	TEST-STUDENT
constante	13,768	7,69***
ROA	-0,528	-0,393
MTB	-0,353	-1,745**
CONCEN	-0,474	-0,410
SIZE	0,077	1,034*
LEV	-1,564	-0,923*
$R^2=0,263$ $R^2_{ajust}=0.145$ $Fish=2,218^{**}$		

*** significant at the threshold of 1%, ** significant at the threshold of 5%, * significant at the 10% threshold.

VI. CONCLUSION

This article was devoted to empirically studying the relationship between accounting performance with executive compensation policies.

The study in question is based on a sample of 37 French companies included in the SPF 120 index over a period of one year. This method was conducted using a multiple regression technique to capture the

relationship between executive compensation and corporate performance.

From this study, we have shown the contradiction of previous studies for the impact of the accounting performance on the total remuneration of the managers. In addition, this study indicates that the level of the total remuneration of the managers (salary and bonuses) is relatively unrelated to improved performance.

Regarding control variables only the size of the company has a favorable effect on the level of remuneration.

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Effect of Leverage on Firm Performance in Nigeria: A Case of Listed Chemicals and Paints Firms in Nigeria

By Abdul Jeleel & Badmus Olayiwola

Ahmadu Bello University

Abstract- This paper assesses relationship between leverage and Return on Assets of Chemicals and Paints firms quoted on the floor of Nigerian Stock Exchange using a sample of three firms randomly chosen from a total of nine firms listed in the sector for a period of ten years, 2000 – 2009. Our sample size represent one-third of the population of the study which is considered enough to generalize the findings on the sector for the period in question. Ordinary Least Square (OLS) was used as a method of estimation for the data sourced secondarily from the NSE factbook covering the period of the study of the selected firms. Return on Assets (ROA) was used as measure of performance while Equity (EQT) and Debt Ratio (DR) as proxies for capital structure in models 1 and 2 respectively.

Keywords: capital structure, agency cost theory, firm performance, leverage, ROA.

GJMBR-D Classification: JEL Code: M49



EFFECT OF LEVERAGE ON FIRM PERFORMANCE IN NIGERIA A CASE OF LISTED CHEMICALS AND PAINTS FIRMS IN NIGERIA

Strictly as per the compliance and regulations of:



Effect of Leverage on Firm Performance in Nigeria: A Case of Listed Chemicals and Paints Firms in Nigeria

Abdul Jeleel^α & Badmus Olayiwola^σ

Abstract- This paper assesses relationship between leverage and Return on Assets of Chemicals and Paints firms quoted on the floor of Nigerian Stock Exchange using a sample of three firms randomly chosen from a total of nine firms listed in the sector for a period of ten years, 2000 – 2009. Our sample size represent one-third of the population of the study which is considered enough to generalize the findings on the sector for the period in question. Ordinary Least Square (OLS) was used as a method of estimation for the data sourced secondarily from the NSE factbook covering the period of the study of the selected firms. Return on Assets (ROA) was used as measure of performance while Equity (EQT) and Debt Ratio (DR) as proxies for capital structure in models 1 and 2 respectively. The results showed that EQT finance has a significant and positive impact on ROA but DR has a negative and insignificant relationship on the performance measure. It was therefore recommended that firms in the sector should be more of equity financed than debt by sourcing more of equity in their finance ratio and avoiding too much debts. This findings of this study is consistent with most of the empirical studies and provide evidence in support of Agency Cost Theory.

Keywords: capital structure, agency cost theory, firm performance, leverage, ROA.

I. INTRODUCTION

The essence of the application of firm assets is to generate a stream of operating cash flows in the business. The providers of capital have claims on the net cash flows of the business after paying the obligatory tax dues while the balance is retained for business operations. If firm is wholly equity financed, all the after-tax operating cash flow in each period accrues as a benefit to its shareholder in form of dividend and retained earnings. On the other hand, if the firm borrowed portion of its capital, a proportion of its cash flow must be dedicated to servicing this debt element. Firm choice of source of funds therefore determines the allocation of its operating cash flow each period between debt and shareholders. The overall significant of the firm choice of capital structure is esoteric. It relates to splitting finance into debt and equity elements with each of these having its peculiar features, merits and demerits on firm sustainability and market value.

The Modigliani and Miller's (1958) proposition always referred to as "irrelevancy" challenged the

traditional view for arguing that firm value may increase to a certain level with increased leverage up to a certain point beyond which the overall value reduces. They argued that firm market value remains same throughout the level of leverage based on certain assumptions. These assumptions include absence of taxes, bankruptcy costs and other imperfections that exist in the real world situation. The reasonableness of these assumptions led to series of publications to confirm or disconfirm this popular publication. However, the M & M explained how financial decision is irrelevant to firm value stating that with well-functioning markets (and neutral taxes) and rational investors, who can 'undo' the corporate finance structure by holding positive or negative amount of debt, the market value of the firm-debt plus equity depends only on the income stream generated by its assets. It follows in particular that the value of the firm should not be affected by the share of debt in its financial structure or by what will be done with the returns-paid out as dividend or reinvested (Modigliani, 1980, p. xiii).

Efforts have been made by the researchers on how leverage affects firm performance but mostly, they are of varying findings, conclusions and recommendations and besides these, none of those studies have considered listed Chemicals and Paints firms on the NSE solely. This study therefore aims at investigating impact of leverage on the performance of Chemicals and Paints firms listed on the Nigerian Stock Exchange. Specifically, the study shall examine:

- The relationship between equity finance and Return on Assets of Chemicals and Paints firms listed on the Nigerian Stock Exchange and
- The relationship between leverage and Return on Assets of listed Chemicals and Paints firms on Nigerian Stock Exchange.

In line with the stated objectives, the following null hypotheses are formulated:

H_{01} : There is no significant relationship between equity finance and ROA of Chemicals and Paints firms listed on the Nigerian Stock Exchange and

H_{02} : There is no significant relationship between leverage and ROA of Chemicals and Paints firms listed on the Nigerian Stock Exchange.

Author: Department of Accounting, Ahmadu Bello University, Zaria.
e-mail: abduljeleelolayiwol1@yahoo.com

The study shall be of significant contribution to existing literatures on capital structure including the sensitivity of leverage and equity finance to firm financial performance. It shall also serve as a further guide for the financial managers to design optimum capital structure to maximize the market value of their firms.

II. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

a) *Agency Cost Theory*

Agency Cost Theory was developed by Berle and Means (1932). They argued that separation of ownership and control of large corporations become more wide resulting from a continuous dilution of equity owners which gives managers an opportunity to strive for their interests at the expense of the business owners: shareholders (Jensen and Ruback, 1983). The primary responsibility of the directors is to ensure that interests of shareholders are maximized because the shareholders are the owners of the business.

According to Elliot and Elliot (2002), the duty of the directors is to run businesses in a way that maximizes long term returns to shareholders and thus maximizes company's profit. It was however observed by Jensen and Meckling (1976) that managers do not always work with this assumption and therefore the birth of the Agency Cost Theory which take principal-agent relationship into consideration as a key factor determining firm performance.

Jensen and Meckling (1976) identified agency costs as derived from conflicts between equity holders and managers which means that the agent uses various ways to benefit from the firm to maximize their own desires. Harris and Raviv (1990) argued that managers always want to make the business operations an ongoing even if liquidation is preferred by investors due to benefits they are getting from it. Stulz (1990) suggested that managers always want to invest available funds to satisfy their own desires even if shareholders prefer dividends. Therefore, the conflicts between the managers and shareholders may not be resolved unless a threat in form of debt servicing is introduced.

Agency theory becomes hardened when debt holders' interest is incorporated. As a means of financing, leverage has been extensively discussed in literatures. Modigliani and Miller (1963) demonstrated that in order to raise the value of firm, the amount of debt financing should be higher as much as possible than equity for tax subsidy. However, their theory ignores the agency cost of debt. Jensen and Meckling (1976) pointed out that the optimal utilization of debt is when debt marginal wealth benefits of tax subsidy equate marginal wealth effects of agency cost.

The theory specifically considered principal-agent relationship in the attainment of the overall goal of

an entity. It stressed that agent has hired by the principal to attain these goals only struggle to his own benefits at the detriment of the company. The only way therefore to force the agent to work towards company's goals achievement according to theory is introducing debt serving instrument which by implication ensures agents work tirelessly to serve. In a nutshell, the theory envisages higher debt ratio in firm's finance.

The problem or conflict between equity and debt holders may affect a firm's decision in three dimensions (Kuben 2008). These include investment, financing strategy and dividend distribution. Debt holders may restrict manager's investment on very risky projects even though they may bring high returns (Kalcheva and Lins, 2007). As soon as the amount of debt increases, debt holders will be more powerful and their interferences in firm's investment decisions will increase correspondingly (Margaritis and Psillaki, 2007).

Capital structure refers to the ratio at which both equity and debt are combined in financing. Since capital does not belong to the firm, it indicates her mix of financial liabilities as shown on the liability side on the balance sheet. Decisions of structuring finance are very essential to the success of any business organization. It is important not only to maximize returns to the stakeholders but also due to the significant impact such decisions have on its ability to deal with external environment or competitive environment (Bodhoo, 2009).

Onalapo and Kajola (2010) studied the impact of capital structure on performance of Nigerian firms focusing on the non-financial sector with a sample of thirty listed firms for a period of seven years, 2001-2007 from agency cost theory point of view. The result revealed that capital structure surrogated by debt ratio has a significant negative impact on financial measures, return on assets and return on equity and therefore in support of the agency cost theory's position.

Pratomo and Ismail (2006) studied capital structure and performance of Islamic Banks of Malaysia. They used profit efficiency of bank as an indicator for reducing agency cost and the equity ratio of bank as indicator for leverage. Their findings were also in consistent with the agency hypotheses.

Berger and Wharton (2002) in the same vein studied capital structure and firm performance testing agency cost theory hypothesis. The study focused the banking sector only. Their findings are well consistent with agency cost hypothesis- lower leverage or higher equity capital ratio is associated with higher profit efficiency.

Oke and Afolabi (2011) investigated the impact of capital structure on industrial performance in Nigeria. They took a sample of five quoted firms into consideration. Debt financing, equity financing and debt/equity financing were used as proxy for capital structure while profit efficiency a surrogate for

performance. For equity and debt/equity finances, a positive relationship existed but a negative relationship between debt financing and performance.

Furthermore, Anup and Suman (2010) assessed the impact of capital structure on the value of firm of Bangladesh by using secondary data of publicly listed companies traded on Dhaka Stock Exchange and Chittangong Stock Exchange using share price as a proxy for firm's value and different ratios for capital structure decision. It was found that maximizing wealth for the shareholders requires perfect combination of debt and equity and that cost of capital is negatively correlated and therefore to be reduced to minimum level.

Ong and Teh (2011) studied capital structure and performance of construction companies for a period of four years, 2005 – 2008 in Malaysia. Long term debt to capital, debt to capital, debt to asset, debt to equity market value, debt to common equity, long term debt to common were used as proxies and independent variables while return on capital, return on equity, earnings per share, operating profit margin were used to surrogate corporate performance. The result showed that there is relationship between capital structure and corporate performance.

Zeitun and Tian (2007) studied capital structure and corporate performance of 167 Jordanian firms for a period of 1989 – 2003. A significant negative relationship was found between capital structure and corporate performance. Variables such as ROA, ROE, PROF, Tobin's Q, MBVR, MBVE, P/E were used to measure performance while leverage, growth, size, tangibility were proxies for capital structure.

Pratheepkanth (2011) carried out an investigation on capital structure and financial performance of some selected companies in Colombo

Stock Exchange between 2005 – 2009. Capital structure was surrogated by debt while performance was proxied by gross profit, net profit, ROI, ROCE, and ROA. The results showed that the relationship between capital and financial performance is negative.

On the U.S. banking industry, using the ratio of Equity to Gross Total Assets (ECAP) to proxy capital structure and profit efficiency for firm performance, Berger and Wharton (2002) concluded that higher leverage is associated with higher profit efficiency.

III. METHODOLOGY

The paper employed a correlation research design to explain the direction as well as describing the relationship between leverage and performance of the Chemicals and Paints firms listed on the floor of the Nigerian Stock Exchange. All firms listed under the Chemicals and Paints Sector form our population which are nine in number going by the 2010 NSE factbook and a random selection of three firms were chosen to form our sample size which is considered enough to generalize the findings on the total. Secondary data as extracted from the NSE factbook covering the period of 2000 – 2009, a ten year period was used and analyzed using multiple regression technique.

Panel model for the study is specified thus:

$$Y_{it} = \beta_0 + \beta_1 D_{it} + e_{it}$$

Where:

Y_{it} = dependent variable i.e. performance measure

D_{it} = independent and control variables

β_0 = intercept

β_1 = beta coefficient

e = error term

Therefore, the models below are adopted:

$$ROA_{it} = \beta_0 + \beta_1 EQT_{it} + \beta_2 TAN_{it} + e_{it} \dots \dots \dots \text{Model 1}$$

$$ROA_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 TAN_{it} + e_{it} \dots \dots \dots \text{Model 2}$$

ROA=Return on Assets measured as profit after tax divided by total assets.

DR = Debt Ratio measured as total debt divided by total assets.

EQT=Equity for the period measured as total share divided by total assets.

TAN=Asset Tangibility measured as fixed assets divided by total assets. Yes, there are other firm specific characteristics that determine performance like size, age, etc, asset tangibility is used only here because we are dealing with a tangible asset based sector and besides it is only serving as a control variable.

IV. RESULTS AND DISCUSSIONS

Table 1.1 and 1.2 below present the regression results of the study for the two models.

Table 1.1: (Model 1)

Independent variables	Dependent variable (ROA)
Equity	.401 [.097] {.047}**
Tangibility	-.357 [-.849] {.077}*
R	.448
R Square	.201
Adjusted R ²	.134
F-statistics	3.07
Prob (F change)	.068
Durbin Watson	.849

Source: Computed by the authors using SPSS 16 output.

Predictors (constant) EQT and TAN.

t-statistics are shown in [] form while p-values are in {} form.

*, ** indicate significance at 5% and 10% respectively.

From Table 1.1 above, EQT, the proxy for capital structure is positively related with ROA and significant at 5% level. The implication of this is that any increase in the level of equity funding by entities in the Chemicals and Paints Sector leads to a corresponding increase in ROA (firm performance) level. However, the relationship between TAN and ROA is negative and significant at 10% level. This implies that the proportion of tangible assets of the listed Chemicals and Paints firms affects their level of performance negatively. This is against the theoretical expectation that more tangible assets in the asset base of a firm impacts more on the performance. Mackie-Manson (1990) concluded that a firm with a high fraction of plant and equipment (tangible assets) in its asset base makes the debt choice more likely and influences the firm performance. A simple explanation to this is that, firms are of two categories: those that invest on tangible assets and those that invest on intangible assets. The tangible assets are what financial institutions mostly consider as collateral securities before granting loan/advances to firms sourcing found and therefore increase their chances to fund. Besides, investing in tangible assets eliminates excessive recurrent expenditures on rent, royalties, etc and as such expected to impact positively on the performance of the firms that have them. This is the theoretical expectation and belief. However, our finding as shown above says no, asset tangibility of the Chemicals and Paints firms listed on the NSE does not affect their performance positively. In the same vein, Akintoye (2008) argued that a firm which retains large investments in tangible assets will have smaller cost of financial distress than a firm that relies on intangible assets.

The statistical results of 45% indicates a weak correlation between the variables. This is because the computed R in the model is less than the 0.875 rule of thumb. The coefficient of determination (R^2) is used to

measure the explanatory power of the independent variables on the dependent variables. Given Table 1.1, R^2 revealed 20%. This means that EQT accounted for only 20% variations in performance of Chemicals and Paints firms listed on the NSE. This implies that there are other variables besides equity that influence or affect the firms' performance which may include size of the firm, age of the firm, etc. The claim is also supported by the Adjusted R^2 with approximate value of 13%. The F-statistics of value of 3.07 indicates an insignificant relationship between EQT and ROA.

Dubin Watson, DW's value was used to assess the level of autocorrelation of the variables. As we have it on the table, DW is 0.849 which signifies absence of autocorrelation in the models because the value is positive and relatively far away from zero. The overall significant (sig. F change) value of 0.068 indicates at 5% level. This therefore provides evidence that the regression model is fitted and that fluctuations in the performance of the listed Chemicals and Paints firms in Nigeria are significantly influenced by equity.

From Table 1.2 below, DR, the surrogate for capital structure in model 2 is negatively related with ROA but significant. The implication is that higher leverage in financial structure of the Chemicals and Paints firms in Nigeria results to a corresponding decrease in the financial performance. This is in consonance with theoretical explanation of the Agency Cost Theory that higher debts results to lower performance. However, the relationship between TAN and ROA is positive and significant at 1%. This implies that the proportion of tangible assets to total assets of the firm in the sector affects their performance level positively.

Table 1.2: (Model 2)

Independent variable	Dependent variable (ROA)
Debt ratio	-.003 [-.081] {.936}
Tangibility	.980 [.337] {.000}***
R	.682
R Square	.569
Adjusted R ²	.490
F-statistics	7.134
Prob (F change)	0.000
Durbin Watson	1.379

Source: Computed by the researcher using SPSS 16 output.

Predictors (constant) DR and TAN.

t-statistics are shown in [] form while p-values are in {} form.

*** indicates significance at 1% level.

The statistical results of 68% indicates a weak correlation between the variables. This is because the computed R in the model is less than the 0.875 rule of thumb. The coefficient of determination (R^2) revealed 57% meaning that DR accounted for 57% variations in performance and that other variables influence listed Chemicals and Paints firms in Nigeria. It was supported by Adjusted R^2 with approximate value of 49%. F-statistics value of 7.134 indicates an insignificant relationship between DR and ROA.

The autocorrelation coefficient, Durbin Watson stands at 1.379. It therefore shows absence of autocorrelation in the model. The overall significance value of 0.000 indicates a significant relationship at 1% level meaning that the regression model is fitted and that the fluctuations in the performance of the Chemicals and Paints firm in Nigeria is significantly affected by leverage.

Hypothesis one predicted an insignificant relationship between EQT and ROA but the result showed otherwise. Hypothesis one is therefore rejected. On the other hand, hypothesis two predicted an insignificant relationship between DR and ROA while the result supported this. We therefore failed to reject the second hypothesis.

The agency Cost Theory hypothesis holds the view that when firms are experiencing agency conflicts amongst the stakeholders, they tend to over levered themselves as a control measure and this results to negative financial performance. The result of this study is therefore in support of the theory that firms with high debt ratio do have negative financial performance.

This finding is in line with Puwanenthiren (2011), Onalapo and Kajola (2010), Zeitun and Tian (2007), Majumdar and Chhibber (1999), Rao, M-Yahyaee and Syed (2007), Krishnan and Moyer (1997), Tzelepis and Skruras (2004), Oke and Afolabi (2010) and Akintoye (2008). However, it is against the findings of Wahya and Ismail (2006) and Anup and Suman (2010).

V. CONCLUSION

This paper examined equity and leverage finances of capital structure on firm's financial performance using three listed non-financial firms from Chemicals and Paints firms listed on the Nigerian Stock Exchange where ten years assessment of secondary data were used via the NSE factbook for a period of ten years. The study shows that the expected sign of β_1 is confirmed by the actual relation obtained for the models used in the study. Thus, capital structure is an important determinant of firm's financial performance and firms that finance with more equity performs better than that of more levered firms as shown on Tables 1.1 and 1.2.

The study further revealed that asset tangibility is an important determinant of financial performance. The expected β_2 is confirmed by the financial performance proxy in the two models. The study, however, against the theoretical expectations provides evidence of a negative and significant relationship between TAN and ROA in model one. The implication of this is that firms in the Chemicals and Paints Sectors failed to efficiently utilize the fixed asset composition of their asset base to impact positively on their performance though TAN is a major determinant of performance.

In line with the findings above, we therefore recommend that financial managers should be conscious of excessive debt when raising finance but they should source more of equity to better their firms' performances.

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Impact of Information Technology on Tax Administration in Southwest, Nigeria

By Olaoye Clement Olatunji (Ph.D) & Kehinde Busayo Ayodele

Ekiti State University

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Keywords: tax administration, tax productivity, information technology, online tax filling, online tax remittance, online tax registration.

GJMBR-D Classification: JEL Code: H20



IMPACT OF INFORMATION TECHNOLOGY ON TAX ADMINISTRATION IN SOUTHWEST NIGERIA

Strictly as per the compliance and regulations of:



Impact of Information Technology on Tax Administration in Southwest, Nigeria

Olaoye Clement Olatunji (Ph.D)^α & Kehinde Busayo Ayodele^σ

Abstract- This study examined the impact of information technology on tax administration in south west, Nigeria. It specifically investigated the effect of information technology on tax productivity and the relationship between information technology on tax implementation and tax planning. Descriptive research design was employed, of which questionnaire was used to gather data and analysed with multiple regression and Pearson product moment correlation. The study revealed that information technology (Online Tax Filing-OTF, Online Tax Registration-OTR and Online Tax Remittance-OTRE) affect tax productivity with -1.9%, 7.3% and 31.5% ($p=0.85$, 0.526 and 0.00), the relationship of -5.9% ($p=0.520$), 9.7% ($p=0.290$) and 0.344 ($p=0.000$) between OTF, OTR and OTRE on Tax Implementation-TAXIMP and -3.8% ($p=0.684$), 14% ($p=0.140$) and -0.190 ($p=0.038 < 0.05$) relationship between OTF, OTR and OTRE on Tax Planning-TAXPLNN. The study concluded that information technology enhance the level of tax productivity and administration. It is therefore recommended that the respective agencies (federal, state and local government) responsible for tax collection should carry out one on one awareness in the form of seminars and sensitization of the process and suitability of information technology on tax administration.

Keywords: tax administration, tax productivity, information technology, online tax filling, online tax remittance, online tax registration.

I. INTRODUCTION

The use of automated systems has been proven to be capable of introducing massive efficiencies to business processes at a minimal cost (Wasao, 2014), due to the bureaucratic structure of government which is costly to manage with little or no result, tax authorities as an agency of government are turning to e-government led solutions like electronic tax filing (e-filing) (Amabali, 2009), based on the arguments that it enhances the delivery of public services and fiscal profundity without incurring costly recurring overheads (Harrison & Nahashon, 2015). United Nations (2007) stated that e-taxation is a process where tax documents or tax returns are submitted through the internet, usually without the need to submit any paper return; it encompasses the use of internet technology, the WorldWide Web and Software for a wide range of tax administration and compliance purposes.

Electronic tax filing was first coined in United States, where her Internal Revenue Services (IRS) began offering tax return e-filing for tax refunds only (Muita, 2011). This has now grown to the level that currently approximately one out of every five individual taxpayers is now filing electronically. This however, has been as a result of numerous enhancements and features being added to the program over the years. Today, electronic filing has been extended to other developed countries like Australia, Canada, Italy United Kingdom, Chile, Ireland, Germany, France, Netherlands, Finland, Sweden, Switzerland, Norway, Singapore, Brazil, Mexico, India, China, Thailand, Malaysia and Turkey (Ramayah, Ramoo & Amlus, 2006). Nigeria and other developing countries such as Uganda, Rwanda and Kenya have also embraced electronic filing of tax returns (Muita, 2011).

Dowe (2008) disclosed that tax authorities around the world are using electronic tax administration systems to interact with taxpaying public in tax collection, administration and compliance settings so as to improve effectiveness and efficiency in tax administration. Globally, previous studies on the suitability of information technology complied tax system have it that; a positive impact of automation system usage and the cost of tax administration, automation and effectiveness of revenue collection of Ghana Revenue Authority using a case study of customs division (Gidisu, 2012). Wasilewski cited in Muthama (2013) with focus on the economic development and taxation system by comparing the case of Brazil and Japan. Japan's experience demonstrated that a country does not need to postpone a real change in the tax structure until it achieves a high stage of development, while in Brazil; low-income taxpayers bear most of the tax burden.

Gasteiger (2011) indicated that automated system enhances administration with the provision of multiple scenarios that allow senior management in a multi-campus university system to generate multiple income scenarios, make well-informed decisions concerning the operation of their institution and timely calculation and allocation of resources to academic departments. In Kenya, Kioko (2012) indicated that the macro model performs better the variations in funds allocated to counties than the representative tax system, Kibe (2011) disclosed that planning for revenue collection can best be carried out by a system that

Author α: Department of Accounting, Faculty of Management Science, Ekiti State University, Ado Ekiti. e-mails: clement.olaoye@eksu.edu.ng, faithkehinde@yahoo.com

combined spatial and attribute data management capabilities like geographical information systems, Harrison & Nahashon (2015) with focus on small tax payers revealed that online tax system does affect tax compliance level, while Otieno, Oginda, Obura, Aila, Ojera & Siringi (2013) stated that relationship existed between information systems and revenue collection efficiency and effectiveness and more so, there is a strong positive relationship between Internal Control Systems and revenue collection.

In Nigeria, Oseni (2015) concluded that there is no hiding place for tax evaders with the use of this modern technology since all potential taxpayers are captured by the system, but the use of ICT can be catastrophic if carelessly employed by both the tax payers and the tax administrators as scammers and hackers of the internet facilities can utilize the ignorance or the lax security of the system. Efunboade (2014) indicated that these emerging global infrastructures (Taxpayer Identification Number- TIN, Factual Accurate Complete Timely- Project FACT and Integrated System of Tax Administration- ITAS) could make it increasingly possible for eligible taxpayers to pay tax online anywhere and anytime.

In respect of the above, none of the studies had so far been carried out to investigate information technology, in terms of online tax filing, online tax registration and online tax remittance on the level of tax administration in terms of tax productivity, planning and implementation, which depicts existence of gap in literature. Although, Harrison & Nahashon (2015) studied the effects of online tax system in terms of Online Tax Filing, Online Tax Registration and Online Tax Remittance, but it was based on tax compliance. Therefore, this study examines the impact of information technology on tax administration with interest on Southwest, Nigeria.

II. LITERATURE REVIEW

a) *Information Technology*

Information technologies are tools, devices, and resources used to communicate, create, manage, and share information. They include hardware (computers, modems, and mobile phones), software (computer programs, mobile phone applications), networks (wireless communications, Internet) and basically concerned with the purpose of collecting, processing, storing and transmitting relevant information to support the management operations in any organizations (Adewoye & Olaoye, 2014). It is a system that provides historical information on current status and projected information, all appropriately summarized for those having an institutions or forms (Adigbole & Olaoye, 2013). Obi (2003) conceptualized that information technology is useful in the area of decision making as it can monitor by itself disturbances in a system, determine

a course of action and take action to get the system in control. Adewoye & Olaoye (2009) stated that the future planning information technology is built using the following; people, data processing, data communication, information system and retrieval and system planning.

b) *Tax Administration and Jurisdiction in Nigeria*

One thing is to make policies, rule and regulations in an attempt to attain a desired goal or objective and it is another thing to implement these policies, rules and regulations. The organs in charge of tax policy implementation in Nigeria are referred to as the administrative organ. Efficiency and effectiveness should be the watch word in designing a tax administration structure that will give the desired result. Kiabel & Nwokah (2009) noted citing section 100 of the personal income tax decree, 1993 and amended by decree No 18 – finance (miscellaneous taxation provision decree 1998 that tax authority in the country are Federal Inland Revenue Service, State Board of Internal Revenue and Local Government Revenue Committee, together with the Joint Tax Board (JTB) and Joint State Revenue Committee.

The assignments of each are guided by constitutional provision. The federal constitution gave the federal government exclusive power to collect levies like personal income tax, companies income tax, petroleum profit tax, capital gains tax, excise duties, value added tax, custom duties (import duties and export duties), stamp duties, all with the exception of education tax are paid into the federation account for distribution among the three tiers of government in line with national constitution. States are given the power to collect personal income tax in respect to all taxable individuals except those of the armed forces personnel and individual personnel in the federal capital territory, right of occupancy fees on lands owned by the state government in the urban areas, market taxes and levies where state finance is involved, naming of street in the state capital, entertainment tax, survey fees, pools betting and other betting taxes among others, while the constitution gave the local government the function to collect license (trading) motor part dues, property tax, shops and kiosk rate, domestic animal license, tenement rates, on and off liquor license, slaughter slab fees, market tax, motor park levies, cattle tax, naming of street excluding those in the state capital, merriment and road closure levy, radio and television license fees, vehicle radio license fees, wrong parking charges, religious places establishment permit fees and signboard, advertisement permit fee and public convenience, sewage and disposal fees (Adeleke, 2011; Ojo, 2008).

c) *Intents of Tax Administration*

Ola (2001) conceptualized that taxation is a powerful and potential fiscal stabilizer employed by

government of nations to plan development policies. The prime aim of tax administration in most nations of the world is essentially to generate revenue for government expenditure on social welfare such as provision of defense, law and order, health services and education. Revenue from taxation can also be spent on capital projects otherwise called consumer expenditure, creating social and economic infrastructure which will improve the social life of the people (Ariwodola, 2000).

Apart from this prime purpose of taxation, it can be used as a vital instrument in any nation's economy for promoting investment through the use of tax incentives and attractive tax exemptions which induce local and foreign investors in areas such as manufacturing of goods, export processing, and oil and gas, so also, taxation is usually used as an instrument for discouraging certain forms of antisocial behaviour in the society. Anti-social behaviour such as drinking of alcohol, smoking and pool betting can be controlled by the imposition of higher taxes on production of such goods (Ariwodola, 2000).

d) *Elements of a Viable Tax Administration System*

In respect to Olaoye (2008), a good tax system must be based on the following principles: efficacy; a viable tax system should advocates that ethics of professionalism transparency, accountability, probity and efficiency in tax collection; simplicity, the tax system and the tax law should be simple, flexible and adjustable, so as to compliance by tax payers and efficiency in operation by tax administrators; neutrality which implies that a good tax system should be free from any form of partiality; economy, tax system should make the economic situation better off and not worse off. It must not affect adversely the economic contribution of the tax payer. More so, the compliance costs to the tax payers and the administrative costs to the government must not negatively affect national output of taxes collected; equity, a viable tax system must not be arbitrary nor should the amount payable be influenced by prejudice or personal feelings; certainty, this stipulates that the time of payment, the manner of payment and the amount to be paid should be clear to the tax payer as well as the taxing authorities, convenience which relates to mode of payment and the timing. This principle stipulates that the time and manner of payments should not in convenience the tax payer; productivity which stipulates that a good tax system should be able to produce large amount of revenue.

e) *Tax Laws and Policies in Nigeria*

This refers to the embodiment of rules and regulations relating to tax revenue and the various kind of tax in Nigeria made by the legislative arms of government and constantly subjected to amendment. Ogbonna and Appah (2012); Kiabel & Nwokah (2009); Ayodele (2006) stated that the following are some of the prevailing tax laws in Nigeria: Personal Income Tax Act

(PITA) CAP P8 LFN 2004, Company Income Tax Act (CITA) CAP 60. LFN 1990& LFN 2004, Petroleum Profit Tax Act (PPTA) 2004 &2007, Value Added Tax (VAT) Act No 102 LFN 1993&2004, Capital Gain Tax Act CAP 42 LFN 1990, Stamp Duties Act CAP 41 LFN 1990, Education Tax Act No 7 LFN 1993& 2004, Federal Inland Revenue Service Act 2004, Customs, Excise Tariffs, etc (Consolidation) Act 2004, National Sugar Development Act 2004; and National Automotive Council Act 2004, Information Technology Development Act 2007. Based on the report of the Presidential Committee on National Tax Policy (2008) the National tax policy provides a set of rules, modus operandi and guidance to which all stakeholders in the tax system most subscribe. The formulation of tax administration policy in the country is based on the responsibility of the Federal Inland Revenue Service (FIRS), Customs, Nigerian National Petroleum Corporation (NNPC), National Population Commission (NPC), and other agencies but under the guidance of the National Assembly (Presidential committee on National tax policy, 2008). Recent reforms in tax laws in country resulted into the promulgation of Tertiary Education Trust Fund Act 2011, Personal Income Tax Act and Federal Capital Territory Act 2015.

f) *Perquisites for Implementing Electronic Taxation System*

Dowe (2008) argued that the basic prerequisites for implementing successful e-filing and e payment systems are: a reliable and accessible internet service; cooperative financial institutions; an IT oriented public; and adequate financing to set up the appropriate infrastructure in tax offices. Ideally, the setting of an e-filing and e-payment system should form part of a comprehensive IT design, development and implementation strategy, which correlates the view of Muita (2011) that for e-filing to effectively take off; skills, infrastructure and a conducive business environment are needed.

The implementation process for electronic tax systems begins with the development of a strategic business plan – documenting the ideas and actions, desired outcomes and the time frame for each component, taking into account the strengths and weaknesses of the tax administration and environmental opportunities and threats. The plan should also document the implementation strategy including the implementation approach. Many countries have taken a gradual approach by allowing voluntary e-filing and e-payment for select segments of the taxpayer base, e.g. individuals or companies only, in the initial stages to allow for live testing of the system. After testing is complete filing becomes mandatory for some taxpayers, e.g. companies (Dowe, 2008).

In addition to the above, an efficient e-taxations system needs constant electricity supply, organized seminars for tax payers and tax officers on the usage,

secured, user friendly and easy assessable website and law.

g) *Benefits of Adopting Information Technology in Tax Administration*

Dzidonu (2012) itemized the benefit of using information technology to manage the operations and delivery of public sector institutions to include: improvement in administrative efficiency, effectiveness and productivity, improvement in service delivery, reduction in administrative, operational and transactional costs of public and provision of access to information at a reduced cost. In relation to taxation, significance of the use of IT is infinite, some of which are; facilitates a reducing in the overhead cost of managing the agencies of government responsible for tax administration, instant computation of tax liability from the use of online tax calculator, reduced cost of registering tax payers and instant generation of tax identification number, reducing in staff-taxpayers collusion as regards tax liability, reduction in fraudulent activities of tax collectors in the aspect of non-remittance of tax received from tax payers and boost the revenue of government in terms of reduction in expenses (administrative, overhead and transactional) and corrupt practices.

Adewoye, Ademola, Afolabi & Oyeleye (2013) opines that the anticipated benefits of implementing

an information technology system include improvements in productivity, better profit performance, and a higher degree of accuracy of information. Productivity typically improves in organizations which implement information technology, although there can be some loss of productivity during the "learning curve." (Adewoye & Olaoye, 2014).

h) *Pitfalls of Adopting Information Technology in Tax Administration*

Ideally, the adoption of IT-facilities in administering taxation can lead to indifference attitude on the payment of taxes, garbage-in-garbage-out, that is imputation of wrong figures that will lead to wrong calculation of tax liability by online tax calculator, poor internet facility, poor electricity to power host server, high cost of maintenance of ICT facilities, lack of technical know-how by tax administering agencies, high level of illiteracy among lower income earners that characterized the population, incidence of internet hackers. So also, Oseni (2015) opined that the use of ICT can be catastrophic if carelessly employed by both the tax payers and the tax administrators as scammers and hackers of the internet facilities can utilize the ignorance or the lax security of the system.

i) *Conceptual Framework*

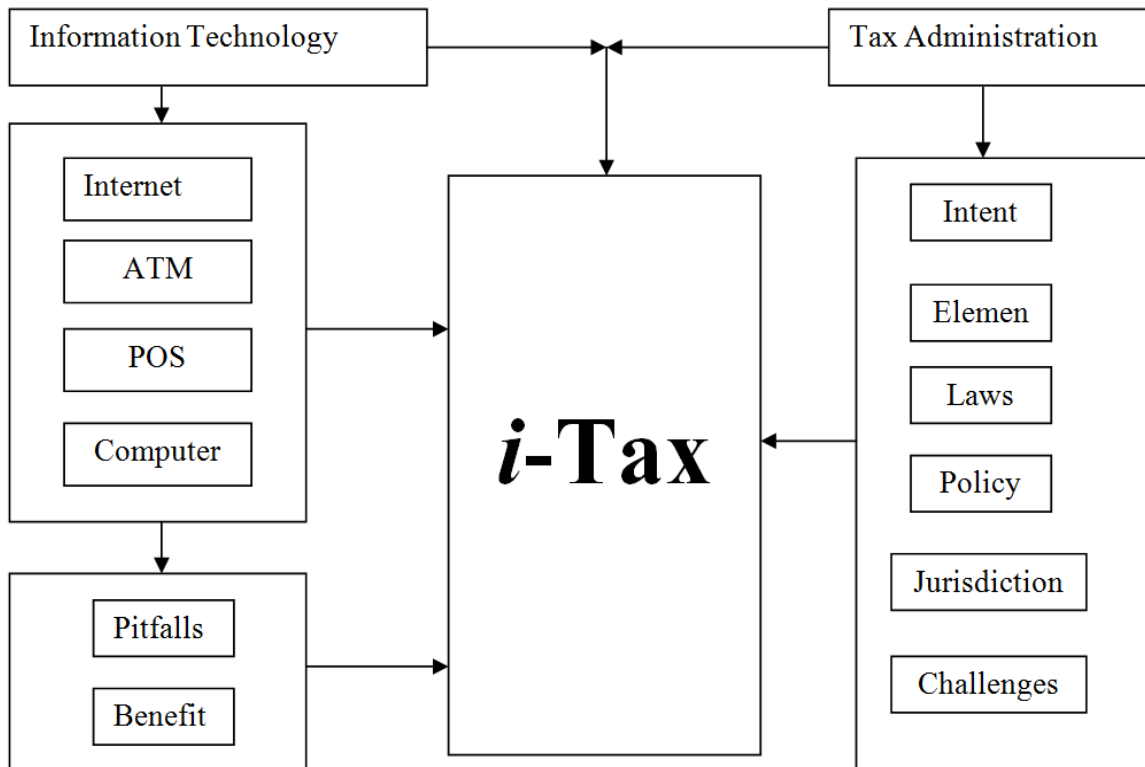


Fig.1: i-Tax connectivity

III. METHOD

The study was carried out in Southwest, Nigeria which comprised of the following States Ekiti, Ondo, Oyo, Osun, Ogun and Lagos State. The study adopted descriptive survey design and population of the study which consisted of all members of staff in the agencies of government (federal and state) responsible for tax administration in Southwest, Nigeria, while sample which comprised of members of staff excluding unprofessional cadre (gatemen, clerical staffs, messengers) was purposively selected.

Questionnaire as research instrument, while face and content validity and test-retest technique was respectively used to measure its validity and reliability. It was later administered to a total of one hundred and twenty (120) members of staff of the stated agencies. In analyzing the data collected, inferential statistics in the form of multiple regression and Pearson product moment correlation were used. So also, the following diagnostic test; variance inflation factor (VIF), White Heteroskedasticity test and Breusch-Godfrey LM test were conducted in order to ensure reliability and validity of the results.

a) Model Specification

The model of the study stated below was based on the modification of model specified by Harrison & Nahashon (2015) on the effects of online tax system in terms of online tax filing, online tax registration and online tax remittance on tax compliance.

Tax Administration (TAXAD) is a function of Information Technology (IT)

Tax Administration (TAXAD) is measured with indicators and variables given as follows:

TAXAD = Tax Collectivity-TAXCOLAD, Tax Implementation-TAXIMP, Tax Planning-TAXPLNN

while, Information Technology (IT) is measured with indicators and variables given as follows is measured with:

IT = Online Tax Filing-OTF, Online Tax Registration-OTR, Online Tax Remittance-OTRE

Therefore:

$$TAXCOLAD + TAXIMP + TAXPLNN = \beta + a_1 OTF + a_2 OTR + a_3 OTRE + \mu$$

The model is specified in a log-linear estimation form as;

$$\log TAXCOLAD + \log TAXCOLAD + \log TAXIMP + \log TAXPLNN = \beta_0 + a_1 \log OTF + a_2 \log OTR + a_3 \log OTRE + \mu t \dots i$$

IV. DATA ANALYSIS AND INTERPRETATIONS

Table 1: Regression Analysis on Information Technology and Tax Collectivity

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	7.933	1.252		6.336	.000
1 OTF	-.019	.102	-.021	-.190	.850
OTR	.073	.114	.064	.636	.526
OTRE	.315	.055	.522	5.780	.000
Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	.525 ^a	.275	.256	1.37185	

Source: Authors computation (2017)

a. Predictors: (Constant), OTRE, OTR, OTF

b. Dependent Variable: TAXCOLAD

In the table I, it could be inferred that if the explanatory variables (OTRE, OTR, OTF) are held constant, the explained variable (TAXCOLAD) will be 7.933 unit better off, which implies that in a situation where there is no adoption of IT on the administration of tax, tendency for efficiency in tax administration in the

country will be 7.938. The unstandardised beta coefficient of online tax filing-OTF is -.019 (S.E = .102, t = -.190 and p > 0.05). This depicts that an increase in the use of OTF results to 1.9% insignificant inverse effect on tax collectivity in the country, this contradicts the conclusion of Efunboade (2014) that merging global

infrastructures (Taxpayer Identification Number- TIN, Factual Accurate Complete Timely- Project FACT and Integrated System of Tax Administration- ITAS) could make it increasingly possible for eligible taxpayers to pay tax online anywhere and anytime. Online tax registration indicated 0.073($p > 0.05$) insignificant impact on TAXCOLAD, which implies that a unit increase in the use of IT facilities for tax payers registration results to 7.3% insignificant impact on tax collection.

The above findings can be ascribed to the pitfalls associated with the adoption of IT-facilities in administering taxation which includes indifference attitude on the payment of taxes, garbage-in-garbage-out, that is imputation of wrong figures that will lead to wrong calculation of tax liability by online tax calculator, poor internet facility, poor electricity to power host server, high cost of maintenance of ICT facilities, lack of technical Know-how by tax administering agencies, high level of illiteracy among lower income earners that characterized the population, incidence of internet hackers and view of Oseni (2015) that the use of ICT can be catastrophic if carelessly employed by both the tax payers and the tax administrators as scammers and hackers of the internet facilities can utilize the ignorance or the lax security of the system

Online tax remittance of tax liability by tax payers-OTRE, depict significant impact of 31.5% ($p < 0.05$) on tax collectivity, which is in tandem with the findings of; Harrison & Nahashon (2015) that online tax system does affect tax compliance level among small taxpayers, Seelmann, Lerche, Kiefer & Lucante (2011)

which concluded that computerization of tax and revenue authorities contribute to reaching the goal of good (financial) governance, by improving accountability and transparency of the revenue authorities. So also, Oseni (2015) which revealed that modern technology reduce tax evaders since all potential taxpayers are captured by the system and thus enhance the efficiency in collectivity of taxes. This correlates the view of Adewoye, Ademola, Afolabi & Oyeleye (2013) which disclosed that the anticipated benefits of implementing an information technology system include improvements in productivity, better profit performance, and a higher degree of accuracy of information. Productivity typically improves in organizations which implement information technology, although there can be some loss of productivity during the "learning curve." (Adewoye & Olaoye, 2014).

In addition, the model summary shows that there is 52.5% relationship (r) between information technology and tax collectivity- TAXCOLAD. The R^2 shows that the predictors of information technology (OTRE, OTR and OTF) explains 0.275 variations in tax collectivity. In respect of the adjusted R^2 which takes into the cognizance of the error term, signifies that adoption of information technology tools explains 25.6% variation in the TAXCOLAD while the remaining 68.1% are explained by others factors excluding information technology which are not captured in the study such as tax penalty, tax payers' knowledge on tax laws, tax audit, tax drive.

Table 2: Relationship between Information Technology and Tax Implementation

		Correlations			
		TAXIMP	OTF	OTR	OTRE
TAXIMP	Pearson Correlation	1	-.059	.097	-.344**
	Sig. (2-tailed)		.520	.290	.000
	N	120	120	120	120
OTF	Pearson Correlation	-.059	1	.604**	.457**
	Sig. (2-tailed)	.520		.000	.000
	N	120	120	120	120
OTR	Pearson Correlation	.097	.604**	1	.149
	Sig. (2-tailed)	.290	.000		.105
	N	120	120	120	120
OTRE	Pearson Correlation	-.344**	.457**	.149	1
	Sig. (2-tailed)	.000	.000	.105	
	N	120	120	120	120

Authors computation 2017

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

The results as presented in table 2 revealed that there is -5.9% ($p=0.520$) insignificant correlation between online tax filing-OTF and tax implementation-TAXIMP which implies that a growth the use of online tax filing by tax payers will result to a reduction in tax implementation. Online tax registration by tax payers and tax implementation had a 9.7% ($p=0.290$) positive correlation, online tax remittance by tax payers of tax

liability has significant inverse association of 0.344 ($p=0.000$) with tax implementation in the country. The above result is concurrence with the conclusion of Sagas, Nelimalyani and Kimaiyo (2015) in Gekonge & Wallace (2016) that electronic tax register machines have helped to curb cases of tax evasion ETRs have helped increase revenue collection due to their efficient nature.

Table 3: Relationship between Information Technology and Tax Planning

		Correlations			
		TAXPLNN	OTF	OTR	OTRE
TAXPLNN	Pearson Correlation	1	-.038	.140	-.190*
	Sig. (2-tailed)		.684	.126	.038
	N	120	120	120	120
OTF	Pearson Correlation	-.038	1	.604**	.457**
	Sig. (2-tailed)	.684		.000	.000
	N	120	120	120	120
OTR	Pearson Correlation	.140	.604**	1	.149
	Sig. (2-tailed)	.126	.000		.105
	N	120	120	120	120
OTRE	Pearson Correlation	-.190*	.457**	.149	1
	Sig. (2-tailed)	.038	.000	.105	
	N	120	120	120	120

Source: Authors computation 2017

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

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

The results as presented in table 3 shows that there is 3.8% ($p=0.684 > 0.05$) insignificant inverse relationship between online filing of tax returns by tax payers (OTF) and tax planning (TAXPLNN) which implies that a growth the use of online tax filing by tax payers will result to a reduction in tax planning. Online tax registration by tax payers and tax planning had a 14% ($p=0.140 > 0.05$) correlation, online tax remittance by tax

payers of tax liability has significant inverse link of 0.190 ($p=0.038 < 0.05$) with tax planning.

a) Diagnostic Test

The following diagnostic test; variance inflation factor (VIF), White Heteroskedasticity test and Breush-Godfrey LM test were conducted in other to ensure reliability and validity of the above results. The results of the diagnostic test were thus presented below:

Table 4: Variance Inflation Factor Test

		Coefficients ^a	
		Collinearity Statistics	
Model		Tolerance	VIF
1	OTF	.497	2.011
	OTR	.614	1.628
	OTRE	.766	1.305

Source: Authors computation 2017

Based on the result in the table IV above which showed the result for the presence or otherwise of multicollinearity among the variables used in this study, the result indicated that all the variables used in the

study are relevant to the study since the VIF factors of each (OTF, OTR, ORE) is below the benchmark of 10 and thus indicates the absence of multicollinearity in model.

Table 5: Serial Correlation Test

Breusch-Godfrey Serial Correlation LM Test:	
F-statistic	15.095818
Unadjusted R-squared	0.116036
p-value = P(F(1,115) > 15.0958)	0.000171
P(Chi-square(1) > 13.9243)	0.00019

Authors computation 2017

Table V above shows that the F-statistic and Unadjusted R-squared values of 15.095818 and 0.116036 with p-values of 0.000171 and 0.00019 respectively indicates the presence of autocorrelation in model since the F-statistic and Unadjusted R-squared

with p-values of 0.000171 and 0.00019 are lesser than the critical values at 5% level of significance. Thus, we can conclude that there is presence of autocorrelation in the model used for the study.

Table 6: Heteroskedasticity Test

Heteroskedasticity Test: White	
F-statistic	62.089868
Unadjusted R-squared	0.517416
P(Chi-square(9) > 62.089868)	0.00

Authors computation 2017

The table above shows that the F-statistic and Unadjusted R-squared values of 62.089868 and 0.517416 with p-value of 0.00 respectively indicates the presence of heteroskedasticity in model1 since the F-statistic and Unadjusted R-squared with p-values of 0.00 is lesser than the critical values at 5% level of significance. Thus, we can conclude that there is presence of heteroskedasticity in the model.

among tax payers because it enhance flexibility in tax collection, but it must be controlled with manual remittance due to its inverse impact on planning and implementation of tax administration; anda replica of the study should be carried out in other parts of the country in other to re-validate and test the applicabilityof the findings in them.

V. CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study, It is mainly concluded that information technology enhance the level of productivity in tax collectivity and administration. Specifically; online filing and remittance of tax returns by tax payers' are inversely associated with tax planning and implementation by tax administrative agencies. The adoption of information technology in the registration of eligible and potential tax payers portrays efficiency in tax planning and implementation which in turn ensures ease collectivity of tax returns.

In respect of the research findings, the study recommends that: filing of tax online should be monitored and controlled because of its adverse effect on planning and implementation of tax collectivity; respective agencies (federal, state and local government) responsible for tax collection should sensitize eligible and potential tax payers on the process and suitability of online tax registration by tax payers in other to enhance its impact on tax administration in the country;online tax remittance should be encourage

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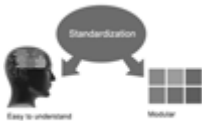


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- One should start brainstorming lists of possible keywords before even begin searching. Think about the most important concepts related to research work. Ask, "What words would a source have to include to be truly valuable in research paper?" Then consider synonyms for the important words.
- It may take the discovery of only one relevant paper to let steer in the right keyword direction because in most databases, the keywords under which a research paper is abstracted are listed with the paper.
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Keywords are the key that opens a door to research work sources. Keyword searching is an art in which researcher's skills are bound to improve with experience and time.

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