

1<sup>st</sup> International Conference on Accounting and Finance

**ICAF-IMDS 2019**

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Proceedings of the  
**1<sup>st</sup> ICAN Malaysia International Conference  
on Accounting and Finance  
(ICAF-IMDS) 2019**

18-21 February 2019, Langkawi Island, Malaysia

**Editors**

Oluwatoyin Muse Johnson Popoola

Abdulmalik Olarinoye Salau

Aidi Ahmi

Siti Zabedah Saidin

Zaimah Abdullahi

Saliza Abdul Aziz



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## Message from Guest Editors

Oluwatoyin Muse Johnson Popoola, Abdulmalik Olarinoye Salau  
Aidi Ahmi, Siti Zabedah Saidin, Zaimah Abdullah, Saliza Abdul Aziz

*ICAN Malaysia District Society, 06010 Changlun, Kedah, Malaysia*

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This year symbolises the organisation of the 1<sup>st</sup> ICAN Malaysia International Conference on Accounting and Finance by the Institute of Chartered Accountants of Nigeria Malaysia District Society (an eminent research and innovation district). The maiden theme captions “Transition to the Fourth Industrial Revolution: The Starting Blocks for Emerging Economies”.

The Conference was well attended by international and local researchers, academicians, graduate students and practitioners highlighting emerging issues in Accounting and Finance with emphasis on the Fourth Industrial Revolution. In addition, the Conference has been recognised for providing a veritable platform for an international academic forum on the development of collaborative linkages or networks to enhance research synergies. The successes achieved thus far made it imperative to continue to organise the Conference every year.

Presenters and discussants offer innovative and intellectual discovery in Accounting and Finance, as exemplified in the quality of papers submitted. As usual, practitioners and academicians rub minds on opportunities and challenges for emerging economies start-up blocks with Industrial Revolution 4.0 as a significant focus for the four-day event. While noting the Conference recorded a huge success, the organisers recognised the inputs for improvement from the participants.

Lastly, the Editorial Board of Langkawi 2019 wishes to express its profound appreciation to all the sponsors, session chairs, presenters, reviewers, participants, the various Committees, and the management and staff of Adya Hotel Langkawi for their contributions to the success of the Conference.

We look forward to meeting you in ICAF-IMDS 2020 in Kuching, Sarawak, Malaysia, Borneo.

Thank you.

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# An Empirical Assessment of the relationship between Financial Ratios on Investment Decision: A Case of Nigerian Telecom Industry

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## Abstract

This paper aims to determine the relationship between financial ratios among Nigerian listed telecommunication companies on investment decisions. The study uses the current ratio, quick ratio, cash ratio as measures of liquidity ratio, return on assets, net profit margin, and operating cash flow as measures of profitability ratio. This study fills in the gap by using a sample of 12 Nigerian listed telecommunication companies in the stock market for 2016-to-2017. Data was collected from Thompson Reuters, Data Streams, and companies' financial statements. Quantitative research design is used to find the relation and strength of the relation correlation between the variables. The study found a significant positive relationship between liquidity measures (current and cash ratio) and profitability measures (return on asset and operating cash flow) in 2016. However, the relationship between quick ratio and net operating margin is a weak positive relation. Furthermore, the study found a significant positive relationship between all the liquidity and profitability ratios in 2017. The study concluded a positive relationship between liquidity ratio and profitability ratio. Therefore, this study's findings provide additional literature on the relationship between financial ratios outlined in the financial statement. The study's implication is to policymakers, regulators, current and prospective investors, and the government that liquidity and profitability ratios have a positive relationship.

**Keywords:** Financial Statement, liquidity ratio, profitability ratio

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## 1. INTRODUCTION

Investment decision requires full disclosure of financial information. The most crucial financial information needed in business decisions comes from the published financial statement (Scout, 2006). Both large and small organizations need to retain their existing and attract potential investors and satisfy their legislating requirements. These can be achieved by fully disclosing financial information where the financial ratios are widely revealed.

Financial information is a formal and comprehensive statement describing the financial activities of a business organization. Providing high-quality financial information is essential because it will positively influence capital providers and other stakeholders in making investment, credit, and similar resource allocation decisions to enhance overall market efficiency (IASB, 2008).

The perception of both investors (existing and potential) about a company's ability affects the market prices of the company's security relative to others in the same industry. Financial ratios can only be useful to investors if they are well understood with their contents. A published financial statement is the information source that is most



directly related to the items of interest to both existing and potential investors. Ekwe (2013) states that these items include but are not limited to accounting ratios.

Liquidity management is an essential tool for managing organizations; it reflects the organization's ability to repay short-term liabilities, including operating expenses and financial expenses resulting within the organization in the short term. Besides long-term debt during the financial year or the operating cycle, whichever is longer? Organizations use many liquidity ratios to manage their liquidity, such as (current ratio, quick ratio, cash ratio, among others), which can significantly affect the profitability of companies (Robinson et al., 2015).

Liquidity ratios show the companies' ability to meet their short-term obligations. The value of these ratios' weakness indicates that the organization may face difficulties meeting its short-term financial obligations (Amengor, 2010). This would, in turn, have a negative impact on the company's activity and also on its profitability performance. On the other hand, improving the value of the ratio shows a recovery in companies' liquidity, reflecting a positive increase in their activity and profitability (Gibson, 2009).

Similarly, a long tradition among different industries in using financial ratios both in practice and in the literature of financial statement analysis, and of classification and selection of relevant financial ratios to reduce the redundancy between many financial ratios has been a subject of many types of research (Horrigan, 1968 & Barnes, 1987). Accounting ratios reveal the relationship among different items in the financial statements. Thus, they are essential to internal management, prospective investors, creditors, and outsiders. Ratios are also better tools for measuring liquidity, solvency, profitability, and management efficiency. Therefore, there is a general belief that published financial statements have failed in their responsibility to provide credible information for investors and other users of financial statements (Duru, 2012).

Given the above, the Nigerian Communication Commission required boards to develop a corporate reporting model tailored to shareholders and other stakeholders' needs. The corporate reporting model should be built upon transparency principles embedded in presenting and disclosing information relating to the licensee's activities and the board's business stewardship (Danbatta, 2016).

This research considers the problems above because they wipe away both existing and potential investors' confidence. The research will also investigate the degree of reliance on the published financial statements by corporate investors, emphasizing financial ratios drawn on it. The study will focus on the telecom industry because it plays an essential role in its economy due to limited research. The sector is an idle area for this type of study because it promotes the growth and success of almost all businesses in developed and developing economies and contributes immensely to its gross domestic product (GDP).

This research aims to assess the relationship between financial ratios on investment decisions with the Nigerian telecom industry as a case study. Telecom companies' was chosen because of their significant contributions to providing services to different sectors, Government, Africa, and the world. These services are; sales and installation of terminal equipment, provision, and operation of public pay-phones, provision and operation of the private network link, employing cables, radio communications, or satellite within and outside Nigeria. (Danbatta, 2016). Also, the sector was chosen because of its immense contribution to the country's (Nigeria) economy, which amounted to NGN1,411.74 billion (8.83 percent) of the total Gross Domestic Product as of the first quarter of 2016 (National Bureau of Statistics, 2016). The specific objectives are; to examine the relationship between the Nigerian telecom companies' liquidity ratios and profitability ratios for two years (2016 and 2017). The rest of the paper is divided as follows: Section 2 provides an overview of related literature on financial ratios. Section 3 provides the study's methodology. In contrast, section 4 provides empirical analyses of the correlation results. Section 5 gives the conclusion, recommendations, and suggestions for further research.

## **2. LITERATURE REVIEW**

### **2.1 Concept of Financial Statement**

The financial statement is a collective name given to the income statement and statement of an enterprise's financial position in an organized manner. The financial statement is a basis for financial planning, analysis, and decision making. The financial statement is needed to predict a firm's earning ability and liquidity position. Financial statements present information about an entity's financial position, performance, and changes in a standardized and accurate form to investors, regulators, financial analysts, and other users in making economic decisions (IASB Framework, 2007).

Karim et al. (2010) defined a financial statement as a written report summarising an organization's financial status for a stated period. It includes an income statement and a financial position statement describing the flow of resources, profit and loss, and the distribution or retention of profit. Financial statements are formal records of a business, person, or other entity (Suh, 2017). The financial statement refers to a summary that explains an accurate picture of the financial position/business performance and other business activities during a specified period (Atrill & McLaney 2015).

Damodaran (2013) asserts that when evaluating a company's profitability and potential return from its investment, there are several factors that the financial statement used in conjunction with one another. Thus, the amount of debt the business has or took, the operating cash that the business has, and the value of its products and investment can all be found in the financial position, income statement, and cash flow.

There is a long tradition of developing and using financial ratios both in practice and in the literature of financial statement analysis. The classification and selection of relevant financial ratios to reduce the redundancy between many financial ratios have been the subject of much research (Horrigan, 1968 & Barnes, 1987). Accounting/financial ratios reveal the relationship among different items in the financial statements. Thus, they are essential to internal management, prospective investors, creditors, and outsiders. Ratios are also better tools for measuring liquidity, solvency, profitability, and management efficiency. Therefore, accounting's role is very significant towards increasing the efficiency of the management to reduce the expenditure level, hence increasing the rate of profit (Ahmad, 2016).

Ratios help identify the potential causal relationships among different items after analyzing and scrutinizing a firm's past results. After researching and examining the past effects, the ratios derived can help the management prepare budgets to formulate policy and prepare plans of action. Those acts help prospective investors in making economic decisions. To this extent, the research would concentrate on profitability, efficiency, and liquidity ratios since they are significant factors for any investment decisions.

## **2.2 Liquidity Ratio**

According to Cleary (1999), firm investment decisions are directly related to liquidity ratio. According to traditional financial ratios, investment decisions of firms with high creditworthiness (according to conventional financial ratios) are susceptible to internal funds; less creditworthy firms are much less sensitive to internal fund availability.

The liquidity ratio shows its short-term assets (cash, inventory, receivables) to pay its short-term debt. As the current ratio is higher, the firm will be more capable of paying its short-term obligations. If the ratio is less than one, it indicates that the firm cannot pay off its short-term liabilities. The company would be financially weak but not bankrupt (Durra et al., 2016). Companies with difficulty getting paid on their receivables or high inventory turnover can have liquidity problems because they cannot reduce their obligations (Ahmad, 2016). Liquidity management is achieved through the effective use of assets (Robinson et al., 2015). Liquidity ratios include the following:

### **2.2.1 Liquidity Ratio**

The current ratio measures the company's ability to pay short-term liabilities such as payable accounts and short-term loans, representing existing assets' ratio to current liabilities. This ratio's magnitude expresses the company's high liquidity, thus a greater capacity to meet the short-term liabilities (Durra et al., 2016). In contrast, a decrease in the ratio to less than one ( $<1$ ) expresses the deficit of liquidity and the part of the fixed assets financed by short-term debt. However, a liquidity deficit could lead to a decline in its ability and affect profitability. If the ratio is equal to 1, current assets equal current liabilities (Robinson et al., 2015).

### **2.2.2 Quick Ratio**

This ratio includes the most liquid of current assets to current liabilities only. The rise in the value of this ratio expresses the company's high liquidity. This ratio excludes prepaid expenses and inventory from existing assets being difficult conversion into cash (Sinha, 2012).

### **2.2.3 Quick Ratio**

This ratio of current assets depends only on short-term marketable investments, plus its cash attributed to current liabilities (Gibson, 2009).

## Profitability Ratio

Profitability is the net profit arising from business activities and decisions; it reflects the effectiveness of operations and shows the effects of liquidity on asset management and liabilities in the company results. Profitability can be calculated through performance measures, such as sales margins, return on assets, and net worth, among others (Brigham and Houston, 2008). Indicators like ROA, ROE, and asset turnover have been used as a proxy to the profitability of companies when related to levels of corporate governance, ownership concentration, or even to make forecasts about future share prices, among other applications (Gordon and Iyengar, 1996; Li, 2004; Jiang et al., 2011; Anna, 2015).

The return on assets (ROA) is one of the most widely used profitability measures; it is well known in the accounting literature, represents the operational returns provided by all the company's assets, and shows the return on investment for the whole company. It is also a key benchmark for comparing third-party capital cost estimates (Weygandt et al., 2009). Apart from the indicators for profitability calculated by accounting measures, some indicators use market values to measure a company's profitability. Tobin's q coefficient is recommended in financial literature as a criterion that can allow companies' performance to be measured (Wenderfelt and Montgomery, 1988; Bharadwaj et al., 1999). Robinson et al. (2015) reveal that profitability ratios reflect the company's success or failure. Profitability ratios include the following:

### 2.3.1 The Return on Assets

It refers to a relationship between net profit and assets. The rise in the ratio relates to the effectiveness of the company's employment of assets (Robinson et al., 2015). The return on assets indicator would be used to measure the profitability of companies over some time. The ROA shows the company's total assets' profitability, calculated annually for each company by dividing operating results by average total assets (Shin & Stulz, 2000; Anna, 2015).

### 2.3.2 Net Profit Margin

After taxes, the net profit margin equals the net profit (i.e., net income) minus extraordinary items divided by total revenues (Iyiola O. et al., 2012).

### 2.3.3 Operating Cash Flow Margin

This ratio assesses the cash generated by the regular company's operations per unit in cash from sales. Cash flows can be found from the statement of cash flows, while revenue from the income statement. The rise in this ratio could refer to the company taking effective policies to turn sales into cash. It may also refer to a high quality of profits (Sinha, 2012).

## Hypotheses Development

Many researchers have conducted on the relationship between liquidity and profitability ratios. For instance, Lartey et al. (2013) investigated the relationship between the banks' liquidity and profitability listed on the Ghana stock exchange between 2005 and 2010. The results revealed a decrease in liquidity and profitability ratios of listed banks. The result further shows a weak positive relationship between liquidity and profitability. In contrast, Ajanthan (2013) has found a significant relationship between liquidity and profitability in commercial companies listed in the Sri Lanka stock market from 2008 to 2012. Also explained Zygmunt (2013) influential role of liquidity ratios in the company's performance, have pointed to the existence of a significant effect of the liquidity ratios on profitability in the Polish companies listed in information technology.

Ruziqa (2013) and Vayanos and Wang (2012) found that liquidity ratios significantly affect the return on assets. Bolek and Wilinski (2012) asserted that a quick ratio and asset return have a positive relationship. In comparison, Akter and Mahmud (2014) conclude no significant relationship between the current balance and return on assets. Priya and Nimalathasan (2013) found that the current and cash ratios are significantly associated with return on assets. Thus, based on the above findings, the following hypotheses were developed:

*Hypothesis 1a: There is a positive relationship between the current ratio and return on assets.*

*Hypothesis 1b: There is a positive relationship between the quick ratio and return on assets.*

*Hypothesis 1c: There is a positive relationship between cash ratio and return on assets.*

The study conducted on listed firms of the London stock exchange for four years by Lyroudi et al. (1999) revealed that the current ratio and the quick ratio negatively affect the net profit margin. Niresh (2012) found a positive correlation between the quick ratio and net profit margin in listed manufacturing firms in Sri Lanka for 5-year from 2007 to 2011. Similarly, Niresh (2012) recommended that manufacturing companies in Sri Lanka

concentrate on maximizing profit while preserving liquidity. Based on the review above, the following hypotheses are formulated:

*Hypothesis 2a: There is a positive relationship between the current ratio and net profit margin.*

*Hypothesis 2b: There is a positive relationship between the quick ratio and net profit margin.*

*Hypothesis 2c: There is a positive relationship between cash ratio and net profit margin.*

The study conducted by Kirkham (2012) on Australia's telecommunications sector revealed that differences existed between the traditional liquidity ratios and the cash flow ratios, such as operating cash flow margin, where point out that current ratio and cash ratio influence significantly in operating cash flow margin. Furthermore, the study indicates this (Zeller and Stanko, 1994). Based on the review, as mentioned earlier, the following hypotheses are formulated:

*Hypothesis 3a: There is a positive relationship between the current ratio and operating cash flow margin.*

*Hypothesis 3b: There is a positive relationship between the quick ratio and operating cash flow margin.*

*Hypothesis 3c: There is a positive relationship between cash ratio and operating cash flow margin.*

### 3. METHODOLOGY

#### 3.1 Research Design

The purpose of this research is to assess the relationship between financial statement ratios on investment decisions. The study depends on the descriptive method to evaluate the liquidity ratios and financial statement performance indicators (i.e., profitability ratios) of Telecommunication companies listed in the Nigerian stock exchange from the 2016 to 2017 fiscal year.

#### 3.2 Population and Sample Size

The population of this study consists of telecommunication companies listed on the Nigerian stock exchange. The study samples were selected from mobile service providers for 2016-to-2017, consisting of twenty-two (22) companies. However, due to the non-availability of some sample companies' critical data, only twelve (12) were selected. Table 1 shows the sample companies.

**Table 1: Sample Composition**

S/N	Company Symbol	Company Name
1.	ATN	Airtel Nigeria
2.	CiS	Ciscos System
3.	EtN	Etisalat Nigeria
4.	GLO	Globacom Limited
5.	ipNX	ipNX Nigeria
6.	Mob	Mobitel
7.	Mot	Motorola
8.	MTN	MTN Nigeria
9.	NetC	Netcom
10.	NITEL	Nigerian Telecoms Limited
11.	STARC	Star comms Limited
12.	SwiftN	Swift Networks Limited

*Source: Nigerian Stock Exchange*

#### 3.3 Variable Measurement

The study variables measurements were determined on liquidity ratio and profitability ratios, as shown in Table 2:

**Table 2: Measures of Liquidity Ratios and Profitability Ratios**

Variables	Symbol	Ratio Name	Measures
Liquidity Ratio	CR	Current Ratio	Current Assets/Current Liabilities
	QR	Quick Ratio	Cash + short-term marketable securities + Receivables/Current Liabilities
	Ch R	Cash Ratio	Cash + short-term marketable securities + Receivables/Daily cash expenditures

Profitability Ratio	ROA	Return on Assets		Net Income/Average Total Asset
	NPM	Net Profit Margin		Net Income/Total revenue
	OCFM	Operating Cash flow	Margin	Cash Flows from Operating Activities/Total Revenue

Sources: (Durra et al., 2016; Robinson et al., 2015; Mohammed et al., 2008)

### 3.4 Statistical Analysis Methods

The study used Statistical Package for Social Sciences (SPSS) version 20 to test the hypotheses based on the following statistical methods: Mean, Standard deviations, and Simple Regression Analysis.

## 4. METHODOLOGY

### 4.1 Descriptive Statistics for Liquidity Ratio

Table 3 Panel 'A' shows a total observation of 12 companies with the mean, standard deviations, minimum rate, and maximum rate for the ratios of liquidity, which comprises the current ratio, quick ratio, and cash ratio to identify the liquidity rate during 2016 in the Nigerian Telecom companies listed on the Nigerian Stock Exchange. The table shows the following:

- The total observation of 10 companies with a mean of 1.3021 and a standard deviation of 1.1411 for the telecom companies' liquidity rates. The liquidity ranged from 0.7630 minimum with a maximum of 0.7943.
- The mean and standard deviation of the cash ratio shows 0.7940 with 0.8911, respectively, with a minimum of 0.2377 and a maximum of 0.4731.
- The sample companies' quick ratio shows a mean and standard deviation of 1.0722 and 1.0355, respectively, with a minimum of 1.3650 and a maximum of 1.4790.
- The cash ratio of the sample companies shows a 1.3258 mean and a standard deviation of 1.1514. It further indicates 1.5420 and 2.3546 minimum and maximum cash ratios, respectively.

Table 3 Panel 'B' shows a total observation of 10 companies with the mean, standard deviations, minimum rate, and maximum rate for the ratios of liquidity, which comprises the current ratio, quick ratio, and cash ratio to identify the liquidity rate during 2017 in the Nigerian Telecom companies listed on the Nigerian Stock Exchange. The table shows the following:

- The table shows a mean of 1.2351 and a standard deviation of 1.0311 for the telecom companies' liquidity rates. The table also shows the liquidity rate, ranging from 0.8227 and 0.8902 as minimum and maximum speeds.
- The mean and standard deviation of the cash ratio shows 0.9210 and 0.9570, respectively, with a minimum rate of 0.3364 and a maximum of 0.5347.
- The sample companies' quick ratio shows a mean and standard deviation of 2.0321 and 1.4255, respectively, with a minimum of 1.3820 and a maximum rate of 1.6472.
- The cash ratio further shows a 1.3340 mean with a 1.1550 standard deviation. The result also indicates 1.7310 and 2.3546 minimum and maximum cash ratios.

### 4.2 Descriptive Statistics for Profitability Ratio

Table 4 Panel 'A' shows the number of observations, means, standard deviations, minimum rate, and maximum rate of the ratios of profitability, comprising of return on assets, net profit margin, and operating cash flow margin to identify the profitability rate during the period 2016 in the Nigerian telecom companies listed on the stock exchange. The table shows the following:

- The profitability rates for the companies studied show a 0.0701 mean with a 0.2648 standard deviation. The minimum rate of profitability ratio shows 0.0674, with a maximum rate of 0.0982.
- Return on Assets (ROA) of the companies studied shows 0.1338 mean and 0.3658 standard deviations. The minimum and maximum rate for ROA shows 0.1275 and 0.2759, respectively.
- Net Profit Margin (NPM) shows 0.1795 mean and 0.4237 standard deviations. The minimum rate is 0.2361, with a maximum of 0.4365.
- Operating Cash Flow Margin (OCFM) mean shows 2.8592 with 1.6909 standard deviations. The minimum rate shows 1.0868 and 1.2749 maximum rates.

Table 4 Panel 'B' shows the number of observations, means, standard deviations, minimum rate, and maximum rate of the ratios of profitability, comprising of return on assets, net profit margin, and operating cash flow margin

to identify the profitability rate during the period 2017 in the Nigerian telecom companies listed on the stock exchange. The table shows the following:

- The profitability rates for the companies studied show a 0.0731 mean with a 0.2704 standard deviation. The minimum rate of profitability ratio shows 0.0970 with a maximum rate of 0.1193.
- Return on Assets (ROA) of the companies studied shows 0.1465 mean and 0.3828 standard deviations. The minimum and maximum rate for ROA are 0.1314 and 0.1710, respectively.
- Net Profit Margin (NPM) shows 0.1760 mean and 0.4195 standard deviations. The minimum rate shows 0.0572, with a maximum of 0.2164.
- Operating Cash Flow Margin (OCFM) mean shows 3.0253 with 1.7393 standard deviations. The minimum rate shows 1.1501 and 1.3126 maximum rates.

### 4.3 Regression Analysis

Table 5 presents the regression result between the liquidity and profitability ratios for 2016. The result shows a significant positive association with 0.3870 coefficients at 0.05 significance levels between the asset's current ratio and returns. This indicates that telecom companies' liquidity position helps the companies to earn positive profits. While the current ratio and net profit margin reveal a negative relationship at 0.1 significance levels with -0.0210 coefficients, the companies experience difficulties from working capital. They are not earning a positive return on their net income total revenue. The relationship between the current ratio and operating cash flow margin shows 0.0310 coefficients.

Similarly, the regression results between quick ratio and return on assets, net profit margin, and operating cash flow margin are positive with 0.2840, 0.0920, and 0.0521 at significance levels of 0.05 0.10, respectively. However, the cash ratio and return on assets show a positive relationship with 0.1420 coefficients at 0.10 significance levels. In contrast, the cash ratio with net profit margin and operating cash flow margin presents a positive relationship with 0.0615 and 0.03620 regression coefficients at 0.10 significance levels, respectively.

Table 6 provides the regression results between liquidity and profitability measures for 2017. The result reveals a positive and significant association between the current ratio and returns on assets with 0.4760 coefficients at 0.01 significance levels. This result indicates an increase in the companies' liquidity and profitability levels compared with 2016. This means that investment in assets and working capital of companies in the telecom industry has significantly increased. While the regression between the current ratio with net profit margin and operating cash flow margin is positive at 0.10 significance levels with 0.0570 and 0.0450 coefficients. This also indicates a significant increase in their working capital, net income, and operating cash flow.

Similarly, the quick ratio and return on assets show a significant positive relationship with 0.2950 at 0.05 significance levels. This reveals an increase in the companies' cash sales and their short-term marketable securities with daily expenditures. While the association between quick ratio and net profit margin shows -0.0932 coefficient at 0.10 significance levels, this reveals that the companies' cash and short-term marketable securities on current liabilities had not generated the expected revenue during that time. While the relationship between quick ratios and operating cash flow margin is positive, with 0.0620 coefficients at 0.10 significance levels, the companies can cover their liabilities with relative liquid assets. Therefore, these results indicate that the telecom industry companies were not facing a low quick liquidity ratio that may find itself with a sudden increase in liabilities, which will, in turn, force them to sell off long-term assets or borrow money to cover their liabilities.

The regression result between cash ratio and return on asset is positive, with 0.1641 coefficients at 0.05 significance levels. This reveals an increase in the companies' cash position with their assets compared to the preceding year. It is further indicated that companies earn more net income from investment in assets than the average company, which is a sign of efficiency. Similarly, the result further reveals that the relations between the cash ratio and net profit margin are positive at 0.10 significance levels with 0.0871 coefficients, which increases the previous year. This means the companies' cash and short-term marketable securities can be easily converted to generate income. The regression result between the cash and operating cash flow margins is positive at 0.05 significance levels with a correlation of 0.0145 coefficients. These positive relations show the companies' can easily convert their sales into cash, which they can cover their short term liabilities within the operating cycle.

**Table 5: Regression Coefficients  
Liquidity and Profitability Ratio Variables for 2016**

Variables	ROA	NPM	OCFM
CR	0.3870**	-0.0210*	0.0310
QR	0.2840**	0.0920*	0.0521
ChR	0.1420*	0.0615*	-0.3620*

Note: \*\*\*significant at the 0.01 level, \*\*significant at 0.05 and \*significant at 0.1(2-tailed)

**Table 6: Regression Coefficients  
Liquidity and Profitability Ratio Variables for 2017**

Variables	ROA	NPM	OCFM
CR	0.4760***	0.0570*	0.0450*
QR	0.2950**	-0.0932	0.0620
ChR	0.1641**	0.0871*	0.0145*

Note: \*\*\*significant at the 0.01 level, \*\*significant at 0.05 and \*significant at 0.1(2-tailed)

**Table 3: Descriptive Statistics for Liquidity Ratio for the Year 2016**

Variables	Obs	Mean	Std Dev.	Min	Max	Variables	Obs	Mean	Std Dev.	Min	Max
<b>Panel A: Descriptive for 2016</b>						<b>Panel B: Descriptive for 2017</b>					
Liquid.	12	1.3021	1.1411	0.7630	0.7943	Liquid.	12	1.2351	1.0376	0.8227	0.8902
CR	12	0.7940	0.8911	0.2377	0.4731	CR	12	0.9210	0.9570	0.3364	0.5347
QR	12	1.0722	1.0355	1.3650	1.4790	QR	12	2.0321	1.8022	1.3820	1.6472
ChR	12	1.3258	1.1514	1.5420	2.3546	ChR	12	1.3340	1.1550	1.7310	2.5702

**Table 4: Descriptive Statistics for Profitability Ratio**

Variables	Obs.	Mean	Std Dev.	Min	Max	Variables	Obs.	Mean	Std Dev.	Min	Max
<b>Panel A: Descriptive for 2016</b>						<b>Panel B: Descriptive for 2017</b>					
PROFIT.	12	0.0701	0.2648	0.0674	0.0982	PROFIT.	12	0.0731	0.2704	0.0970	0.1193
ROA	12	0.1338	0.3658	0.1275	0.2759	ROA	12	0.1465	0.3828	0.1314	0.1710
NPM	12	0.1795	0.4237	0.2361	0.4365	NPM	12	0.1760	0.4195	0.0572	0.2164
OCFM	12	2.8592	1.6909	1.0868	1.2749	OCFM	12	3.0253	1.7393	1.1501	1.3126

## 5. CONCLUSION

This paper has determined the liquidity and profitability ratios of Nigerian telecom companies. The study's central issue was to assess the relationship between financial (liquidity and profitability) ratios. These were because the impact of financial ratios on investment decisions has yet to be resolved.

Using a comprehensive data set of 12 listed firms in the Nigerian Telecom Industry, from 2016 to 2017, the study has performed a regression analysis using liquidity ratio measures as dependent variables in determining its relationship with profitability ratio measures as independent variables. The study documented that the coefficients of the current ratio and return on assets are positive in 2016, which means an increase in the companies' liquidity would generate additional income on their asset. Similarly, an increase in liquidity increases companies' sales. The current ratio and operating cash flow margin coefficients reveal a positive result. While the study found a negative relationship between the current ratio and companies' net profit margin, which means an increase in the liquidity makes the companies incur losses.

The 2017 fiscal year results reveal a positive relationship between liquidity ratio measures and profitability except for the quick ratio measure and net profit margin, which found a negative association. This means that the relationship between liquidity ratios and profitability is positive. An increase in the companies' liquidity had equally increased the sales and, in turn, return on shareholders' investment.

Thus, the study reveals that companies' liquidity rates in the Nigerian stock exchange fluctuate from year to year. The profitability rate grows from one year to another. The study shows no relationship between the liquidity ratios (current ratio, quick ratio, cash ratio) and net profit margin. In contrast, there is a weak positive relationship between the quick ratio and each net profit margin in 2017.

Generally, the study's findings provide valuable information and insights to academic researchers and existing and potential investors of Telecom companies and other various sectors of the economy. Therefore, policymakers, regulators, government, and professionals need to look at the new relationship among financial ratios to convince investors further to increase investment in the sector since it contributes immensely to the nation's GDP.

The study suggests that future research should be conducted in different sectors for an extended period to see a significant statistical relationship between financial ratios.

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# Financial Development and Liberalization, Trade Openness and Continue Economic Growth in Nigeria using Combined Cointegration Analysis

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## Abstract

The study investigates the impact of financial development and liberalisation by integrating trade openness, using Bayer and Hanck combined cointegration approach. The results revealed there is cointegration among the variable and their determinants. The impact of capital openness on the economy's growth is positive and significant, but that of financial development on the economy's growth is negative. Thus, policymakers must fine-tune financial reform policies and programs to effect positive changes in the growth of the Nigerian economy in order to merge up with the fourth industrial revolution.

**Keywords:** Financial liberalisation, development, trade openness, Nigeria combined cointegration

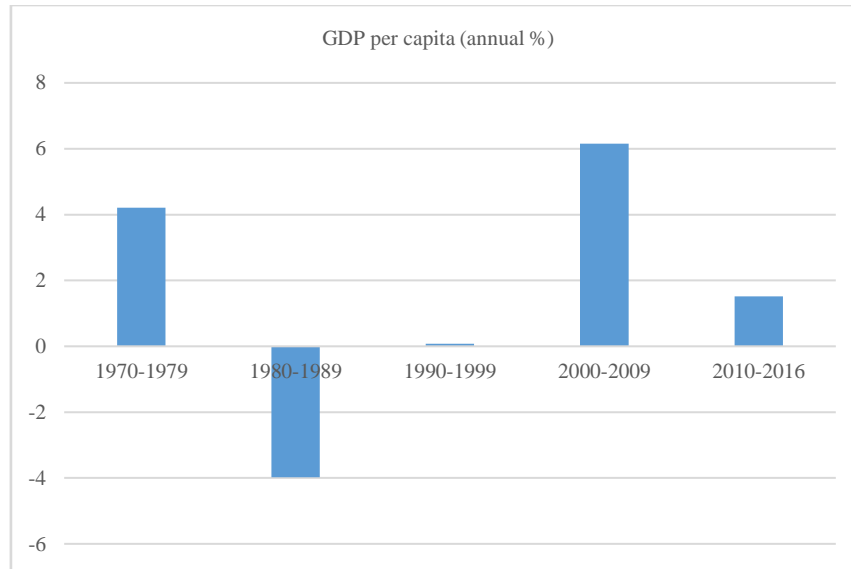
## 1. INTRODUCTION

The distinguishing feature of a prosperous economy is to achieve rapid economic growth. This is because such an economy that proliferates stands a chance to enjoy a higher standard of living than others that grow slowly or experience a variable growth rate. Therefore, the gain from minor increases in the economic growth rate can be significant. The economy of Nigeria has experienced mixed growth in GDP per capita from the period 1970 to 2016. This indicates that welfare gained had suffered within the period, as seen in figure 1.1. Finance is argued to be a good determinant of economic growth by Schumpeter (1921), McKinnon (1973), and (Shaw (1973). However, some economists believe that finance is not relevant to economic growth that it merely follows the direction of the real sector (Robison, 1952). There are two ways relationship between finance and economic growth such as supply leading and demand following phenomena. The supply leading is that financial development leads to development in the real sector, while demand following is that real sector development leads to financial development Ono (, 2017).

Few studies in Nigeria capture the impact of finance on economic growth. The current literature indicated that many developed and developing economies had explored the two channels of finance-growth nexus, such as money and capital markets. On the contrary, it is not the case in Nigeria. The emphasis has been on the money market with less concern for the capital market. Additionally, none of the past studies focused on the effect of polity on growth. Therefore, the study at hand dwells on the analysis of sustainable growth on real GDP per capita of Nigeria concerning financial development, capital openness, trade openness, government expenditure and political stability. It is crucial to determine the effects of these factors on growth to formulate better policies to ensure better growth in per capita gross domestic product in Nigeria, more so, as the country is facing election this year in order to stand up with the fourth industrial revolutions in the comity of nation.

The paper is organized as follows: the next section covers the literature review that is important to the analysis of this study. The following section gives the data set and empirical strategies. The fourth and fifth section describes and discusses the empirical findings, and finally, the conclusion is drawn respectively.

Figure 1: Figure 1.1 GDP per capita (annual growth rate %) from 1970-2016.



Source: World Bank 2017

## 2. LITERATURE REVIEW

In Nigeria, Orji et al. (2015), using time series data from 1981-2012, found that financial liberalization is positively related to economic growth. However, Orji, Anthony-Orji, et al. (2015), in another study for 1986-2011 in Nigeria, found that financial liberalization is negatively related to economic growth, but financial development is positive and significant. This implies that financial liberalization can indirectly influence economic growth through financial development. In a time-series study in Nigeria, Nike (2014) from 1987-2012 found that the degree of openness of the inflow of portfolio investment causes economic growth in Nigeria, but financial development does not.

Onanuga (2016) found in Nigeria that economic growth cause financial development, and financial openness is positively related to financial development. However, trade openness is negatively associated with financial development. He finally argued that trade and finance must be simultaneous openness for the economy to benefit. If one is opened without the other, it would be detrimental to the economy. Trade openness will not benefit the developing countries as they lack enough products to compete in international trade. Capital openness will reduce the negative effect of trade openness. This is because multinational firms will cease the chance to invest in emerging economies due to their excess capacities with the experience of the industrial revolution. In another development, Owusu and Odhiambo (2014), in their study from 1969-2008, found that financial liberalization and financial development are positively related to economic growth in Nigeria. However, still in the opposite Adeniyi, Oyinlola, Omisakin, and Egwaikhide (2015) study revealed the contrary that there is a weak relationship between financial development and economic growth in Nigeria.

Menyah, Nazlioglu, and Wolde-rufael (2014) argue that recent financial developments do not significantly impact economic growth. Bezemer (2016) also agrees that financial development's impact on economic growth is not in theory, as its effect does not spur economic growth. Gossel and Biekpe (2014) found that in South Africa, export, not import, led growth, and economic growth drives foreign direct investment. Mireku et al. (2017) found in Ghana that financial openness and financial development are negative related to output volatility. However, trade openness is positive to output volatility.

Makhetha-kosi et al. (2017) revealed that in South Africa, stock market development and the gross domestic product is positive and significant to the inflow of portfolio and foreign direct investment. Polat et al. (2014) found in South Africa that real gross domestic product per capita, capital stock and trade openness have bidirectional causality. Moyo, Roux, and Roux (2018), on the contrary, in South Africa, found that trade openness has a weak

relationship with gross domestic product growth. Uddin, Sjö, and Shahbaz (2013) findings in Kenya supported the theory that financial development drives economic growth. Keho (2017), in Cote d'Ivoire, indicated that trade openness led to economic growth. Ono (2017) found a bidirectional relationship between financial development and gross domestic product in Russia. In Pakistan, Naveed and Mahmood (2017) revealed that financial liberalization strongly relates to economic growth.

Ahmed (2016), in Sub-Sahara Africa, the study revealed that financial development has a good positive relationship with economic growth in the region. However, financial integration has a negative relationship with economic growth. However, financial development and financial integration have a positive relationship. This means financial integration indirectly impacts economic growth through financial development. The results further revealed that trade openness and financial integration boost financial development, but just one of them cannot. The institutions in property rights, the transparent legal system, investors' friendly laws and education boost growth. Nevertheless, inflation and government expenditure do not. Assefa and Mollick (2017), in Africa, however, found that foreign direct investment and portfolio investment are positively related to economic growth.

Huang and Ji (2017), in a cross-countries study of sixty middle-income countries, found that a democratic system of government is paramount for sustainable economic growth through financial liberalization even though their results revealed that trade openness has a weak relationship with continuous economic growth. In another perspective, Yang and Liu (2016) revealed that trade openness positively affects economic growth. However, financial development, liberalization, and polity have a weak relationship with continuous economic growth in fifty-six emerging and developed economies.

Elkhuizen et al. (2017), in a study of eighty-two countries, revealed that financial liberalization policies do not influence economic growth where there are weak democracy and poor political constraints. However, social capital can substitute them for effective financial liberalization policies. Karnane & Quinn (2017) indicated that political instability is not suitable for the continuous growth of the economy. Okafor (2017), in a study among ECOWAS countries, discovered that political instability, corruption, lack of voice and lack of government effectiveness which he refers to as poor governance and also group grievance and fractionalized elites, termed as social unrest, are the major's factors that affect sustainable growth in the region. Gong and Rao (2016) supported this view by asserting that coup proxy by political instability is detrimental to real GDP per capita growth.

However, the relationship between financial liberalization policies and economic growth has been widely discussed. However, the effect of political stability is not well captured, especially in Nigeria. The political stability used in this study is the continuity of government policies and programmes. Similarly, the sample size and variables vary, especial the capital account openness to be used in the study is unique. This current study needs to fill the gap by analysing its effect on the sustainable growth of gross domestic product per capita in Nigeria.

### 3. DATA, MODEL SPECIFICATION AND EMPIRICAL STRATEGY

In this study, the researcher explores the relationship between financial development and liberalization on the continuous growth of GDP per capita using time series data from 1970 to 2016. The data are obtained from World Bank (2018), World Development Indicators (WDI), Marshall, Gurr and Jagers (2016) and Lane and Milesi-Ferretti (2014). The detail is in Table 1.

Table1: Data sources and variables descriptions

variables	Descriptions	Data source
RGDP	Represent the nominal GDP divided by GDP deflator multiplied by 100. The product is divided by the total population.	World Development Indicators (2017)
COP	This represents capital account openness measures in US currency is the sum of total foreign assets and total foreign liabilities (% of GDP)	External Wealth of Nations Mark II Database.
FD	It represents financial development index proxy by broad money, domestic credit to the private sector, domestic credit to the private sector by banks, domestic credit provided by financial sector all (% of GDP), using Principal Component Analysis to develop the index	World Development Indicators (2017)
TOP	It measures the countries volume of export and import as measured in US currency (% of GDP).	World Development Indicators (2017)
GEX	It stands for government expenditure on final goods and services excluding military expenditure (% of GDP)	World Development Indicators (2017)
PST	It is a political stability index that measures the durability of government executive leader policies from past regimes	Marshall et al. (2016) polity iv database.

The relationship between real GDP per capita, capital account openness, financial development, trade openness, government expenditure and political stability can be tested by using the following function and linear equation:

$$RGDP=f(COP,FD, TOP,GEX,PST) \tag{1}$$

$$\ln RGDP=\beta_0+\beta_1 \ln COP+\beta_2 \ln FD+\beta_3 \ln TOP+\beta_4 \ln GEX+\beta_5 \ln PST+\pi \tag{2}$$

Where in RGDP is the natural log of real GDP per capita, which is the dependent variable, the independent variables are ln COP, which is the natural log of capital account openness, ln FD that is the natural log of financial development, ln TOP, is the natural log of trade openness, ln GEX is the natural log of government expenditure, and ln PST is the natural log of political stability. The  $\pi$  is the stochastic error term.

Sequentially, the empirical strategy starts with the stationarity test, the cointegration analysis, and the long-run and short-run impacts of the determinants of continuous economic growth. The test of stationarity is done on all variables to ascertain that they are integrated at the order I(0) or I(1) or a mixture of both, but not I(2) (Subramaniam et al. 2016). Dickey and Fuller (1979) test of stationarity, Augmented Dickey-Fuller, is employed. However, to improve the assurance of stationarity of the variables and avoid the limitations of the assumption that the errors term are independent with constant variance in the ADF test, the Phillips and Perron (1988) test of non-augmented DF is also employed. The unit root test robustness is higher with Zivot and Andrews (1992) and Perron (1997) that can detect the existence of an unknown single break in the deterministic trend of the series.

The time series are cointegrated in Econometrics analysis if two or more series are individually integrated. However, some combination of them has a lower order of integration linearly. Engle and Granger (1987) contributed the necessary procedure for the cointegration test; the procedure gives vital tools when the time series data are of limited length as most economic data set are characterized. Another cointegration test is by Johansen (1995) termed Johansen maximum eigenvalue test. This test is more generally applicable because it allows more than one cointegration relationship than Engle and Granger test. Phillips–Ouliaris cointegration test by Phillips and Ouliaris (1990) is another effective approach of cointegration test. Other approaches are the Error Correction Model (ECM) F test based (Boswijk, 1994) and the ECM t test-based (Bannerjee et al., 1998).

The different tests might provide different results. In order to improve on that a particular way of getting a joint test-statistics for the null of no-cointegration according to Engle and Granger, Johansen, Peter Boswijk, and Banerjee test was developed by Bayer and Hanck (2013), this approach allows for a combination of others to provide a conclusive finding. The Bayer and Hanck approach will be applied in this study. The combination of the individually computed p-value following Fisher’ formula as developed by Bayer and Hanck (2013) is as follows:

$$EG-JOH=2[\ln \frac{1}{\hat{f}_0}(\text{PEG})+(\text{PJOH})] \tag{3}$$

$$EG-JOH-BO-BDM=-2[\ln \frac{1}{\hat{f}_0}(\text{peg})+(\text{pjoh})+(\text{PBO})+(\text{PBDM})] \tag{4}$$

Where: PEG, PJOH, PBO and PBDM are the p values of an individual test of cointegration, respectively. The assumption is that if the critical values provided by Bayer and Hanck (2013) is lower than Fisher’s statistics estimated that the null hypothesis will be rejected of no cointegration.

When a mixed lag condition comes up, the Akaike Information Criterion (AIC), the Schwarz Information Criterion (SBC) and the Hannan–Quinn Information Criterion (HQC) will be used by employing the Hatemi-J Criterion (HJC) (2003) for the optimal lag order selection. The Hatemi-J (2003) criterion is according to the lag selection condition of Schwarz (1978) and the HQC by Hannan and Quinn (1979). The condition of this criterion is as follows:

$$HJC = \det \Omega + j \left( \frac{n^2 \ln T + 2n^2 \ln(\ln T)}{2T} \right) \tag{5}$$

Where  $\Omega$  represents the maximum likelihood estimate of the variance and covariance matrix while T is the size of the sample, the HJC will perform well in choosing the lag that will be optimal to estimate VAR. Both SBC and HQC are combined in equation (5). The optimal lag order to estimate the VAR is the minimum HJC.

After the long-run relationship and the lag order selection, the researcher will carry out the test of causality by use of the error correction representation below:

$$(1-L) \begin{bmatrix} \ln RGDP \\ \ln COP \\ \ln FD \\ \ln TOP \\ \ln GEX \\ \ln PST \end{bmatrix} = \begin{bmatrix} \beta_1 \\ \beta_2 \\ \beta_3 \\ \beta_4 \\ \beta_5 \\ \beta_6 \end{bmatrix} + \sum_{i=1}^p (1-L) \begin{bmatrix} \beta_{11i} & \beta_{12i} & \beta_{13i} & \beta_{14i} & \beta_{15i} & \beta_{16i} \\ \beta_{21i} & \beta_{22i} & \beta_{23i} & \beta_{24i} & \beta_{25i} & \beta_{26i} \\ \beta_{31i} & \beta_{32i} & \beta_{33i} & \beta_{34i} & \beta_{35i} & \beta_{36i} \\ \beta_{41i} & \beta_{42i} & \beta_{43i} & \beta_{44i} & \beta_{45i} & \beta_{46i} \\ \beta_{51i} & \beta_{52i} & \beta_{53i} & \beta_{54i} & \beta_{55i} & \beta_{56i} \\ \beta_{61i} & \beta_{62i} & \beta_{63i} & \beta_{64i} & \beta_{65i} & \beta_{66i} \end{bmatrix} * \begin{bmatrix} \ln RGDP_{t-1} \\ \ln COP_{t-1} \\ \ln FD_{t-1} \\ \ln TOP_{t-1} \\ \ln GEX_{t-1} \\ \ln PST_{t-1} \end{bmatrix} + \begin{bmatrix} \beta_1 \\ \beta_2 \\ \beta_3 \\ \beta_4 \\ \beta_5 \\ \beta_6 \end{bmatrix} ECT_{t-1} + \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{1t} \\ \varepsilon_{1t} \\ \varepsilon_{1t} \\ \varepsilon_{1t} \\ \varepsilon_{1t} \end{bmatrix} \quad (6)$$

Where (1 - L) is the lag operator and ECTt-1 stance for the lagged of the residual of the long-run relationship of the ARDL to be obtained. The  $\varepsilon_{1t}$ ,  $\varepsilon_{2t}$ ,  $\varepsilon_{3t}$ ,  $\varepsilon_{4t}$ ,  $\varepsilon_{5t}$ ,  $\varepsilon_{6t}$  and  $\varepsilon_{7t}$  are all error terms with the assumption that they are (N,  $\sigma$ ). Long-run causality requires that the t-statistics be significant on the coefficient of ECTt-1. The short-run causality is when the F-statistics on the variables' first difference is significant. The joint significance of the ECTt-1 and the estimate of lagged independent variables indicate the estimate of joint long-run and short-run causal relationships.

Table 2: Descriptive Statistics

	RGDP	COP	FD	TOP	GEX	PST
Mean	9.6857	4.1543	-4.26E-11	3.7883	2.2942	1.4753
Median	8.3682	4.0134	-0.2060	3.8585	2.3204	1.7918
Maximum	12.865	5.1912	6.3591	4.4044	2.8872	2.7081
Minimum	7.2836	3.3966	-2.5805	2.9766	1.5755	0.0000
Std. dev	2.2023	0.5323	1.6819	0.3841	0.3996	0.9282
Jarque-Bera	6.1786 (0.0455)	3.5074 (0.1731)	52.010 (0.0000)	3.1124 (0.2109)	4.4828 (0.1063)	4.7057 (0.0951)

The figure in parenthesis is the probability values

#### 4. RESULTS AND DISCUSSION

The Jarque-Bera (JB) test results indicated that financial development and real GDP per capita are not normally distributed. However, capital account openness, trade openness, government expenditure and political stability are generally distributed as revealed by the probability values. The test of stationary is paramount to avoid spurious regression.

The ADF and PP test of unit root result is presented in Table 3. The results indicated that the variables are in order of integration with I(0) and I(1) in the case of ADF. In contrast, for PP, they are all in the order I(1). The unit root test with an unknown singular break of ZA and Perron revealed that all the series reject the null hypothesis at I(1). Since all the variables are integrated at I(1), the ARDL can be used for estimation.

Table 3: ADF and PP unit root test

Variable	ADF Unit root test At level	ADF Unit root test At first difference	PP Unit root test level	PP Unit root test At first difference
Lncop	-1.9784 (0.5973)	-5.8521* (0.0001)	-1.9784 (0.5973)	-5.8308* (0.0001)
Fd	-3.3742*** (0.0678)	-6.1434* (0.0000)	-2.5611 (0.2991)	-11.736* (0.0000)
Lntop	-1.5937 (0.7802)	-8.8235* (0.0000)	-1.5168 (0.8093)	-8.7611* (0.0000)
Lngex	-2.8106 (0.2010)	-7.4299* (0.0000)	-2.9627 (0.1536)	-7.4562* (0.0000)
Lnpst	-2.5095 (0.3224)	-6.3419* (0.0000)	-2.7115 (0.2370)	-6.3842* (0.0000)

Table 4: Zivot Andrew and Perron unit root test with an unknown single break

Variables	ZA		P	
	I(0)	I(1)	I(0)	I(1)
Lnrngdp	-3.2223	5.8765*	-3.2800	-5.9988*

	(2004)	(1981)	(2003)	(1993)
Lncop	-4.0130	-6.1469*	-3.9620	-7.2358*
	(1983)	(1990)	(1982)	(1999)
Fd	-3.8312	-6.2419*	-3.9047	-6.6040*
	(1980)	(1997)	(2009)	(2008)
Lntop	-2.1720	-10.4230*	-2.9673	-10.3080*
	(1989)	(1987)	(2009)	(1986)
Lngex	-3.7674	-8.1070*	-3.6303	-9.5489*
	(1994)	(1992)	(1993)	(1994)
Lnpst	*	-6.5831*	-3.0262	-7.1327*
		(1986)	(1977)	(1978)

\*, \*\*, \*\*\*, means 1%, 5% and 10% level of significance respectively, the P-value in parenthesis

Table 5: Lag length selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-275.5056	NA	0.019567	13.09329	13.33903	13.18391
1	-74.56699	336.4554*	9.28e-06*	5.421720*	7.141962*	6.056092*
2	-49.92655	34.38201	1.74e-05	5.950072	9.144807	7.128191
3	-23.73496	29.23711	3.61e-05	6.406277	11.07551	8.128144
4	27.64481	43.01562	3.24e-05	5.690939	11.83466	7.956554

\* Indicates lag order selected by the criterion LR Sequential modified LR test statistic (each test at 5 % level), FPE Final prediction error, AIC Akaike information criterion, SC Schwarz information criterion, HQ Hannan-Quinn information criterion

Table 6: Lag length selection Criteria according to Hatemi J

AIC	SC	HQ	HJC
5.421720(1)	7.141962(1)	6.056092(1)	6.2066(1)

The test for long-run cointegration using Bayer and Hanck combined cointegration test is done in Table 7. It includes EG-JOH and EG-JOH-BO-BDM tests. Nevertheless, in Table 6, the lag length selection indicated that lag (1) should be used as the Hatemi-J criteria for selection choices lag (1).

Table 7: The results of Bayer and Hanck cointegration analysis

Estimated model	EG-JOH	EG-JOH-BO-BDM	Cointegration
$RGDP = f(COP, FD, TOP, GEX, PST)$	9.7441***	10.3010	Yes
$COP = f(RGDP, FD, TOP, GEX, PST)$	9.7543***	11.3927	Yes
$FD = f(COP, RGDP, TOP, GEX, PST)$	10.0194***	10.5601	Yes
$TOP = f(COP, FD, RGDP, GEX, PST)$	9.8365***	14.6198	Yes
$GEX = f(COP, FD, TOP, RGDP, PST)$	10.4759**	20.1651**	yes
$PST = f(COP, FD, TOP, RGDP, GEX)$	10.63684**	20.984962**	Yes
Significance level	Critical values	Critical values	
1 %	15.701	29.85	
5%	10.419	19.888	
10%	8.242	15.804	

\*, \*\*, and \*\*\* represent significant at 1%, 5% and 10% respectively.

The combined cointegration results reveal that Fisher-statistics for EG-JOH tests for the RGDP, COP, FD and TOP are greater than 10% critical values indicating the rejection of the null hypothesis of no cointegration between variables. However, for GEX and PST, both EG-JOH and EG-JOH-BO-BDM is greater than 10% critical values indicating the rejection of the null hypothesis of no cointegration between variables. The findings revealed cointegration between RGDP, COP, FD, TOP and GEX, and PST and their determinants. This implies a long-run relationship between financial development, capital and trade openness, government expenditure, political stability, and economic growth throughout 1970–2016. The long-run and short-run results are presented in Table 8. It revealed that all the determinants of economic growth are not significant in the long run.

Similarly, only capital openness and government expenditure positively relate to real GDP per capita. They are significant at the 5% level. Financial development, trade openness and political stability are negatively related to real GDP per capita. The coefficient of determination is 61%. It implies that only 39% of the real GDP per capita variation is determined by other variables outside the model, all in the long run.

In the short run, capital openness, financial development, government expenditure and political stability are negatively related to economic growth. However, only trade openness is positive but not significant. The estimated

lagged error term, that is, ECMt-1 is statistically significant at 10% level. However, the speed of adjustment to long-run equilibrium in case of any shock in the short run is minimal at merely 5%.

Table 8 Long-run estimates, Dependent variable: ln RGDP

Variables	Coefficient	T-statistics	Probability
ln COP	1.1152**	2.0400	0.0478
ln FD	-0.3921*	-3.0529	0.0040
ln TOP	-1.5089**	-2.5614	0.0142
ln GEX	3.9482*	5.6477	0.0000
ln PST	-0.2127	-0.2127	0.3889
Constant	7.1678*	2.4822	0.0172
R <sup>2</sup>	61%		
F-stat	12.62		
Short-run analysis			
Variables	Coefficient	T-statistics	Probability
Constant	-0.0174	-0.2195	0.8275
dln COP	-0.0737	-0.6112	0.5446
dln FD	-0.0120	0.3753	0.7096
dln TOP	0.0034	1.1063	0.2759
dln GEX	-0.2635	-1.4728	0.1495
dln PST	-0.0196	-0.4409	0.6620
ECT <sub>t-1</sub>	-0.0504*	-1.6964	0.0984
Trend	-0.0022	-0.7380	0.4653
R <sup>2</sup>	30%		
F-stat	1.97		

\*, \*\*, \*\*\* represents 1, 5, and 10% respectively

## 5. CONCLUDING REMARKS AND POLICY IMPLICATIONS

This paper examines the relationship between financial development and liberalization and economic growth by adding trade openness in the case of Nigeria over the period 1970-2016. The stationarity properties were examined by applying the structural break unit root test. The combined cointegration test of Bayer and Hanck was used to investigate the presence of cointegration. The empirical evidence confirms a long-run relationship between capital account openness, financial development, trade openness and economic growth in Nigeria.

The findings revealed that capital account openness stimulate economic growth, but financial development does not. This means that policymakers in Nigeria can formulate policies and programs that will ensure that capital account openness continues to influence economic growth positively while adopting policies measures to improve financial development for sustainable growth. If financial development is not adequately done, it merely increases the accessibility of credit to the wealthy people in the country. Thus, affecting the continuous growth of the economy. Ensuring overall financial development that reduces income inequality is good for Nigeria. Because the importance of financial inclusiveness can improve continuous economic growth

Trade openness is negative in the long run and significant. However, it is positive but not significant in the short run, with a very negligible coefficient. The fourth industrial revolution is causing massive cost reduction in production and exploring innovative ideas in the process.

Nigeria must improve innovation and cost reduction techniques in producing goods and services to avert the negative impact of trade openness to real GDP per capita. The more advanced economies are already operating at excess capacity due to the industrial revolution in the home countries. The positive relationship of capital account openness to real GDP per capita needs to be supported with that of financial development for trade openness to effect positive changes in Nigeria. The sustainability of capital openness will yield a result with the help of political stability. Therefore, political institutions should be stable in Nigeria. This is because capital inflow will not be sustained with the negative relationship of political stability with real GDP per capita. All efforts should be on the ground to ensure that regimes change do not affect foreign investment.

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# The Mediating Effect of Financial Performance on Intellectual Capital Performance and Intellectual Capital Disclosure in the Indonesian Islamic Banking

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## Abstract

This study aims to post a viewpoint on intellectual capital performance and intellectual capital disclosure based on Indonesian Islamic banking. This paper adds financial performance (measured with profitability ratio) to mediate the relationship between intellectual capital performance and disclosure. A four-way numerical coding system was used to conduct the content analysis. The sample was drawn from Indonesian Islamic banking for five years of observation, 2011-2015. The results from WarpPLS 3.0 showed that intellectual capital performance (measured with modified value-added intellectual coefficient/MVAIC) has a significant effect on the level of intellectual capital disclosure. Contrasting with our hypothesis, the financial performance of Indonesian Islamic banking did not mediate the relationship between intellectual capital performance and intellectual capital disclosure.

**Keywords:** Financial performance, intellectual capital disclosure, intellectual capital performance

## 1. INTRODUCTION

The business world has evolved with a mindset that businesses' ability to compete favourably depends not only on the ownership of tangible assets alone but also on innovation, information systems, organisational management, and organisational resources. An increase in the company's market value indicates the agent's success (capital manager) to run the business on behalf of the capital provider (principal). The difference between the market value and the company's book value is the company Intellectual Capital (IC) value (Edvinsson & Malone, 1997). The statement of Financial Accounting Standard (IAS)\_19 (revised 2010) on intangible assets recognised and addressed the treatment and disclosure of Intellectual Capital (IC) assets in the financial statement.

In the standard, the IC is not discussed widely. However, their accounting treatment has been discussed the IC component (goodwill). This standard also does not address all components of the IC. Moreover, the goodwill generated should be from the votes of external parties (appraiser). Further, IAS 22 (revised 2010) provides the treatment of goodwill arising from the business combination. According to the provision of the standard, goodwill arising from the acquisition of new business will not be amortised. Each year, it will be subject to an impairment test using the test described in IAS 48 (Revised 2009) on the impairment of assets.

Several studies have examined the relationship between Intellectual Capital Disclosure (ICD) and Intellectual Capital Performance (ICP). For instance, William (2001) studied the relationship between IC disclosure and IC performance. He found that intellectual capital performance negatively influences the intensity of intellectual capital disclosure. Recent studies Ulum, Kharismawati, and Syam (2017); Ulum, Rizqiyah, and Jati (2016) also

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argue that companies reduce disclosure when ICP reaches a certain point threshold because of the fear of losing their competitive advantage. However, to the best of the researchers' knowledge, studies examine the moderating effect of firm performance on the relationship between ICP and ICD. Therefore, the lack of studies provides the opportunity to conduct further studies. The objective of this study is to examine the direct effect of ICP (measured with Modified value-added intellectual coefficient/MVAIC) to the level of ICD and the indirect effect using firm performance (measured by profitability) as a mediator variable.

## 2. LITERATURE REVIEW

Voluntary disclosure of intellectual capital allows investors and other stakeholders to provide a proper means for investors and other stakeholders to assess the ability of the company to operate into the future and reduce risk perception (Williams 2001). Companies disclose information about intellectual capital in their financial statement to meet the information needs of investors and increase the firm's value (Miller & Whiting, 2005). Proper intellectual capital disclosure serves as an excellent signal to the market participant. It provides disclosing companies with a competitive advantage in attracting investors. Extant studies investigate the relationship between ICD and ICP. For instance, Williams (2001) investigated ICD and ICP using the sample of 30 listed companies in the FTSE 100 group. Their analysis revealed that ICP is negatively related to the practice of IC disclosure in the company's annual report. Using the top fifty (50) companies listed on the Indonesia stock exchange based on market capitalisation, Ulum (2012) examined the relationship between intellectual capital performance and the disclosure practices of public companies. The results showed that ICP is negatively related to ICD.

Hermawan and Mardiyanti (2016) examined the relationship between ICP and the financial performance of manufacturing companies using VAIC as ICP measure and financial performance measured by ROA, ROE and EPS. The result revealed that ICP affects financial performance (ROA, ROE and EPS). Naovila and Wahyudin (2015) examined the relationship between IC and ICD moderated by firm performance using a sample of listed companies operating in the banking sector. The measures of IC adopted in the study are capital employed efficiency, human capital efficiency and structural capital efficiency. The result showed that capital employed efficiency, human capital efficiency and structural capital efficiency, have no direct effect on ICD. However, after moderating the effect of firm performance on the relationship, the result reversed itself. It indicated that capital employed efficiency significantly affect ICD. Setyaningrum, Barokah, and Com (2015) examined the relationship between ICP and ICD on the performance and value of 87 companies listed on the Indonesian Stock Exchange. The result obtained using multiple linear regression revealed that ICP and ICD significantly affect firm performance measured by ROA, though not significant using Tobin's q as a measure of firm performance.

The present study concludes that empirical studies that examine the direct relationship between ICP with ICD are still rare from the reviewed literature. Ulum (2015b) observed that empirical studies on ICD mainly considered determinants of ICD considering firm characteristics. Though, Williams (2001) found that ICP is negatively related to ICD, as confirmed by recent studies like Ulum (2012); Ulum (2015c). The results of the three studies (i.e. Williams, 2001; Ulum 2012; Ulum 2015c) contradicts the theory of Resource-Based Theory (RBT) and Signaling Theory. According to the signalling theory, sound ICP improves ICD. At the same time, the RBT view IC as a resource that gives a company a competitive advantage and consequently results in high ICP. Thus, the first hypothesis of the study states:

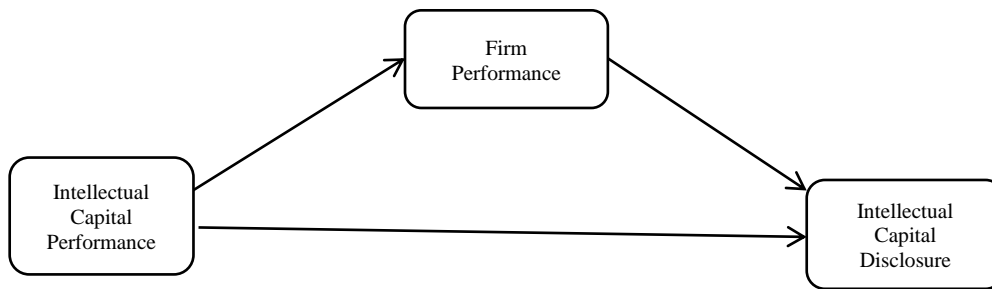
*Hypothesis 1: Intellectual Capital Performance (ICP) has a Positive Effect on Intellectual Capital Disclosure (ICD)*

The direct effect of ICP on ICD has been proved empirically by some researchers, such as Ulum (2012, 2015b); Williams (2001), and the findings of their studies revealed a negative and significant relationship. The present study predicts a result reversal when firm performance measured by ROA moderates the relationship. According to stakeholder theory, "Stakeholders have the power to influence the management in the process of realising all the organisation potentials". In this context, the management must retain and utilise important strategic assets (tangible and intangible assets) in the company.

Based on RBT, the ability of the management to manage, control and utilise resources (both tangible and intangible) gives companies a competitive edge to achieve their potential. A strong competitive advantage will position the company as a market leader. It will undoubtedly affect the wellbeing of the company as a society will accept the product of the company. The acceptability of the company's product will inevitably increase the company's revenue; hence, the company's financial performance. Based on the preceding argument, managers will voluntarily disclose IC in the financial statement to signal the market. Thus, the second hypothesis states:

*Hypothesis 2: Financial performance Mediates the Relationship between Intellectual Capital Performance with Intellectual Capital Disclosure.*

Figure 1. Theoretical Framework



### 3. METHODOLOGY

The study adopts purposive sampling by selecting Companies Listed on the Indonesia Stock Exchange but operating in the Banking sector and have presented an annual report for the periods 2011-2015. Also, the companies must not incur a loss in any of these periods to be included in the sample. Model Specification:

$$ICD = \partial + \beta_1 MVAIC + \beta_2 FP + \beta_3 MVAIC * FP$$

Where:

**ICD** is the dependent variable, i.e. Intellectual Capital Disclosure obtained from the framework developed by Ulum (2015b) and using the four-way numerical coding system developed by Guthrie, Petty, Ferrier, and Wells (1999). According to Ulum (2015a), this method captures the quantity of ICD and the quality of IC disclosure. ICD was calculated by comparing the total components of the ICD- compared with the overall total of components (36 items), i.e. total disclosure by the firm in the annual report/total number of expected disclosures.

**MVAIC** is the independent variable, which is the ICP. ICP is measured by MVAIC using the following procedures:

Stage I: Calculating a Value Added (VA)

$$VA = OP + EC + D + A$$

Stage II: Calculating the efficiency of the IC (ICE)

$$ICE = HCE + SCE + RCE$$

$$HCE = VA/HC$$

$$SCE = SC/VA$$

$$RCE = RC/VA$$

Stage III: Calculating the efficiency of capital employed (CEE)

$$CEE = VA/CE$$

Stage IV; Resulting MVAIC

$$MVAIC = ICE + CEE$$

$$MVAIC = (HCE+SCE+RCE) + CEE$$

**FP** is the mediator and stands for financial performance. The measure of financial performance is ROA (Net Income / Total Assets). It reflects the business benefits and efficiency in utilising total assets (Brigham & Houston, 2011).

The data analysis technique is done by (1) Content analysis and (2) WarpPLS 3.0. PLS is a method of settling the structural equation modelling (SEM), which in this case (according to research purposes) gives an idea of testing illustration or indirect influence corresponding to this research is more precise than the other SEM techniques. The selection of the PLS method is also based on the consideration that three latent variables are formed with formative indicators in this study and not reflexive.

Furthermore, Ghozali (2011) stated that the formative model assumes that the indicators affect the construct, where the causality direction of indicators to construct. Because the testing of each variable using a sample of

more than one year, then to test the independent variable ICD will be given control to every year by providing a dummy score, which is a value of 1 for the analysis of data to the year under study and the value 0 for data other than the year studied. It aims to control the influence of variables ICP-ICD to obtain maximum results in this study later.

Researchers use a four-way numerical coding system developed by Guthrie et al. (1999) to identify the extent and quality of ICD in the company's annual report. ICD in the annual report is weighted according to the projections. Numeric codes used are:

- 0: item is not disclosed in the annual report.
- 1: item is disclosed in narrative form.
- 2: item is disclosed in numerical form.
- 3: item is disclosed in monetary value.

In addition to seeing the value of r-square, the pls model was also evaluated with viewing full co-linearity VIF and q-square predictive relevance to every latent variable used in this study. Full co-linearity VIF is full of co-linearity test results, which include vertical multi co-linearity, lateral and joint method bias. At the same time, the q-square predictive relevance is used to measure how to fit the observed values generated by the model and parameter estimation. Full co-linearity VIF value should be below 3.3 (Sholihin & Ratmono, 2013) for each latent variable that no matter vertical multi co-linearity, lateral and common method bias. Q-square predictive value relevance over 0 indicates that the model has predictive relevance value. In contrast, the value of the q-square predictive relevance of less than 0 indicates that the model lacks predictive relevance (Ghozali, 2011).

The last stage is the hypothesis-testing procedure of financial performance as a mediator variable for the relationship between ICP and ICD using the regression phase (Baron & Kenny, 1986):

- Step 1: estimating the direct effect of ICP toward ICD.
- Step 2: estimating the indirect effect simultaneously with the SEM PLS triangle model, ICP-ICP, ICP-profitability, and profitability-ICD.

#### 4. EMPIRICAL RESULTS AND DISCUSSION

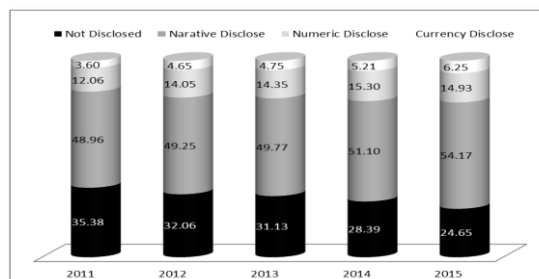
##### 4.1 Content Analysis

Identification results of content analysis are presented in figure 2; a content analysis is done by identifying the components of ICD-in disclosed in the annual financial statements of Islamic banks and sharia business unit with the observation period from 2011 to 2015. Each disclosure was scored using a four-way numerical coding system.

Based on the results of content analysis, as presented in figure 2, the general ic information disclosed in narrative form dominating type of disclosure, which is in the range of 48.96% to 54.71%. This figure is above the percentage should be, that is 36.11%. In comparison, the ic information disclosed in numerical form in the range of 12:06% to 14.93% should reach 50%. In comparison, the ic information is presented in the form of the currency was far enough away from the supposed (13.89%), i.e. Between 3.60% to 6:25% (Ulum, 2015a).

The percentage of intellectual capital items that were not disclosed (score = 0) is seen in figure 2 has continuously decreased from year to year, which amounted to 35.38% in 2011 to 24.65% by 2015. This condition shows that awareness of the importance of intellectual capital disclosure in Islamic banks and sharia business units is already becoming visible. This means that the manager believes that more information is disclosed regarding intellectual capital (ICD) will have a more positive influence on the company or, in other words, will benefit the company.

Figure 2. Content analysis results



## 4.2 Hypothesis Testing

In testing the hypothesis with WarpPLs, two steps are to be followed, including the assessment and evaluation of the model and the outer, inner models or so-called structural models. After these two conditions are met, hypothesis testing can be done. The test result with WarpPLs 3.0 is presented in figure 3, Table 1. Based on the output 'model fit indices and p-value' in the table it is known that the value of  $apc=0.293$ ,  $p<0.001$ ,  $ars=0.333$ ,  $p<0.001$  and  $avif=1.457$ , good if  $< 3.3$ . Warppls provision states that the p-value for the APC and ars should be less than 0.05 (significant). Also, avif as an indicator of multi co-linearity must be smaller than 3.3. Referring to these provisions, it can be concluded that this research model is fit. So that the testing process by WarpPLs can be continued by testing inner models because the criteria the model fit in the assessment of model outer has been fulfilled. No problems do not fit from the model of the three formative latent variables.

Figure 2. Output WarpPLS 3.0- full model

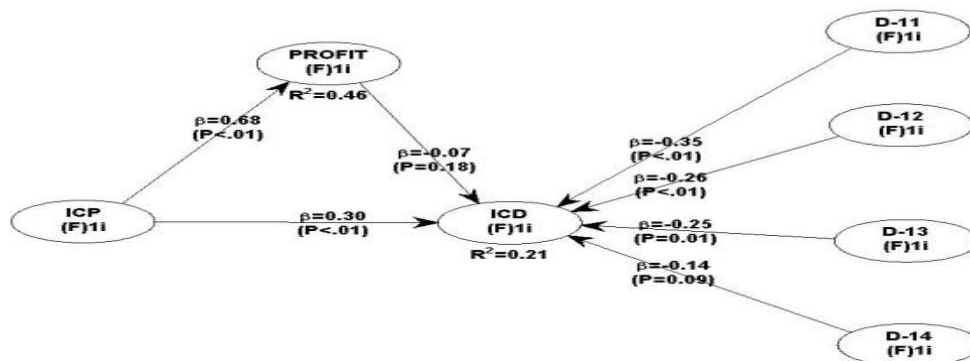


Figure 2 and Table 3 show the path coefficients and a P-value of any direct relation (direct effect) in the study's model, as well as any control year for the independent variables (ICD). Path of ICP-ICD shows 0.303 coefficient was significant at  $P < 0.001$  (\*\*\*) , the path of ICP-PROFIT coefficient value of 0.676 indicates significance at  $P < 0.01$  (\*\*\*) . In contrast, the path of PROFIT-ICD shows the value of the coefficient -0.072 and is not significant. Controls of year for each year of the independent variables, namely: D11-ICD -0.346 is significant at  $< 0.001$  (\*\*\*) , D12-ICD -0.264 to be significant at  $p=0.005$  (\*\*\*) , D13-ICD -0.250 to be significant at  $p=0.12$  (\*\*\*) , D14-ICD -0.138 to be significant at  $p=0.088$  (\*\*).

Table 2. model fit indices, Path coefficients and P-value

Table 2. model fit indices, Path coefficients and P-value		
<i>Model fit indices and P values</i>		
	APC=0.293, P<0.001	
	ARS=0.333, P<0.001	
	AVIF=1.457, Good if < 5	
<i>Path coefficients and P Values</i>		
	ICP-ICD	0.303, P<0.001
	ICP-ROA	0.676, P<0.001
	ROA-ICD	-0.072, P=0.179
	D11-ICD	-0.346, P<0.001
	D12-ICD	-0.264, P=0.005
	D13-ICD	-0.250, P=0.12
	D14-ICD	-0.138, P=0.088

Table 3 presents the output value of the coefficient of indirect effects and total effect completed with significance value (P). It is one of the advantages of WarpPLS 3.0. Researchers do not need to calculate manually to determine the coefficient of indirect relationships as a formula proposed by (Baron & Kenny, 1986) and (Preacher & Hayes, 2004).

Table 3. Indirect effect, total effects, effect size

	Path	Coefficients and P-value
<b>Indirect effect</b>	ICP-ICD	-0.049, P=0.179
	ICP-PROFIT	0.676, P<0.001
<b>Total effect</b>	ICP-ICD	0.254, P=0.018
	PROFIT-ICD	-0.072, P=0.179
<b>Effect size</b>	ICP-ICD	0.087
	ICP-PROFIT	0.457
	PROFIT-ICD	0.012

Based on Table 3 can be seen that the indirect effect of ICP-ICD is -0049. This result is multiplication by using his formula Sobel (1986), namely multiplying the between path coefficient ICP to PROFIT (0.676) and PROFIT to ICD (-0.072). As described above, by using WarpPLS, researchers do not need to manually calculate the value of the indirect effect of ICP-ICD (-0.049) because this program has produced output calculations for the mediation.

### Inner Assessment Model or Structural Model

Table 4 presents data R-squared, Q-squared and Full co-linearity of VIF. R-squared shows how an exogenous construct can explain the percentage of endogenous variance construct. Q-squared (usually called Stoner-Geisse coefficient) is analogous to the R-squared, but can only be obtained through re-sampling (Sholihin & Ratmono, 2013), while Full co-linearity of VIF is full co-linearity test result, which includes multi co-linearity in vertical, lateral and common method bias. Criteria for the full vertical test is that the value should be lower than 3.3 (Kock, 2015).

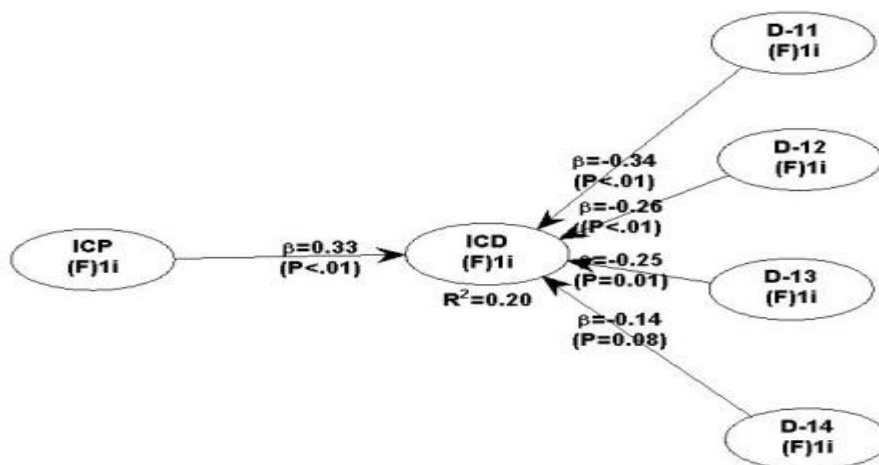
Table 4. R-Squared, Q-Squared, and Full collinearity VIF

R-squared	Q-squared	Full collinearity VIFs
PROFIT= 0.457 ICD= 0.209	PROFIT= 0.461 ICD= 0.212	ICP= 1.966 PROFIT= 1.914 ICD = 1.202

The test results showed that the model is not multi-vertical, both vertical and lateral multi-vertical and common method bias. It can be seen from the full vertical of VIF that it was below 3.3 for all variables. Q-Square predictive relevance value is greater than 0 indicates that the model has a great relevance predictive value so that this research model is accepted by the assessment criteria of the Inner Model. Hypothesis testing can be done since both terms have been done. There is no problem with the Outer assessment and Inner Model.

Notably, Hypothesis 1 tested the direct effect between ICP and ICD without entering a mediator variable. This stage is also a requirement (step) in the first assessment of the effects mediated by the three stages of the regression (Baron & Kenny, 1986). The test results of direct effect are presented in Figure 4 and Table 5.

Figure 4. Output WarpPLS 3.0- Direct Effect



Based on figure 4 is known that the path coefficient of direct relation (Direct Effect) of ICP-ICD showed a significant coefficient value as 0329 with a value of P = 0.010. For more details, the following will be presented in detail WarpPLS output for testing directly in Table 5.

Table 5. Output WarpPls 3.0 – Direct Effect

Model fit indices and P-value	Path coefficients and P-value	R <sup>2</sup>	Effect size
APC= 0.264, P<0.001 ARS= 0.205, P=0.041 AVIF=1.487, Good if<5	0.329, P<0.010	0.20	0.113

Based on WarpPLS output as shown in table 5 is known that criteria about the model fit have been met, where the P-value of APC (<0.001) and ARS (0041) were <0.005 and AVIF value <5. The path coefficients resulting from

this test are equal to 0.329 with a  $p < 0.010$ . Thus, it can be concluded that hypothesis 1 is accepted; this means that ICP has a positive effect on the ICD. The amount of ICP's ability to explain the variability of ICD is 20% means that there are 80% who are influenced by other variables not examined in this study.

The results of this study are consistent, unidirectional, and support the perspective of RBT theory (resources based theory) and the theory of signalling (signalling theory). In RBT theory, IC is a resource that can help companies achieve a competitive advantage. So, according to signalling theory, IC good performance is a positive signal for the market. The better performance of IC-owned company, the managers will certainly disclose more information about its IC (e.g., through annual reports and voluntary disclosure), which aims to lure and attract the attention of stakeholders.

### **Mediation Effect of PROFIT**

Testing for the effect of mediation was carried out in three stages regression (Baron & Kenny, 1986). The procedure in this context is as follows:

- Estimating ICP direct effect on the ICD is by giving control to the independent variable (ICD) each year, without entering the mediator variable. The direct effect of this should be significant. This stage has been conducted when testing hypothesis 1 (H1) and shows a significant direct effect,  $P > 0.05$ .
- They estimate the indirect effect simultaneously with the triangle SEM PLS models for each mediator, namely ICP-ICD, ICP-PROFIT and PROFIT-ICD (for a mediator for PROFIT). The mediating effect that must be met is that the path ICP-PROFIT and PROFIT-ICD should be significant (Sholihin & Ratmono, 2013).

Using the data in Table 4, the coefficient of direct effect ICP-ICD is significant at  $p = 0.329 < 0.010$  (\*\*\*). When testing the indirect effect (Table 3), it is known that the path coefficient value of ICP-ICD fell to 0.303 with  $p < 0.001$  (\*\*\*). However, the PROFIT-ICD path indicates the direction of a negative relationship and is not significant. Although ICP-PROFIT path showed a significant result, a condition for determining that the PROFIT into mediator factor in the relationship between ICP-ICD are not met because one of the paths is not unidirectional and is also not significant. Thus, the second hypothesis is not supported. PROFIT is not a mediator factor in the relationship between ICP with ICD.

The relationship between ROA-ICD that in this study becomes the cause of non-fulfilment of the criteria for the relationship ROA as mediator ICP-ICD can be seen from the output WarpPLS as presented in Table 4.3, which shows the path coefficient is -0.072. The value of  $p > 0.05$  (not significant) showed that actual financial performance (profitability) is measured using the formula ROA does not affect the broad disclosure of intellectual capital (ICD) that they were measured using components ICD-in, so in this study, ROA cannot be a mediator of relationship ICP and ICD because the relationship ROA-ICD-offs are even insignificant.

These results are consistent with Ulum (2015b) research, which has reviewed this relationship with a sample of public companies included in the category of banks. The result is PROFIT, not affecting the ICD. In this case, Ulum (2015b), explaining that there is a tendency of companies that have high profitability was not necessary anymore made another attempt to influence the market through disclosure in the annual report because, of course, the high ROA is enough weeks to appeal to the stakeholders (investors and the Customer).

## **5. CONCLUSION**

From this study can be taken an assumption that the good ICP is a positive signal for companies both Islamic Banks and Sharia Business Unit, so that it is the manager will reveal information about the IC owned through the disclosure of intellectual capital when the company has a good performance IC (ICP) as well managed with maximum.

Different things happen when companies have felt to have high profitability. After all, they will feel less critical again to make another attempt to affect the market for one of them by disclosing intellectual capital in the annual report because ROA is high enough to appeal to stakeholders. In this case, the manager is not too concerned about whether disclosure of intellectual capital (ICD) will do it or not. Thus, ROA cannot mediate the relationship between ICP with ICD.

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# Factors Influencing Corporate Governance Disclosures: Evidence From Saudi Listed Companies

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## Abstract

The purpose of this paper is to assess the level of Corporate Governance Disclosure (CGD) among publicly listed companies in Saudi Arabia and to identify the determinants of the CGD. The following corporate governance mechanisms, namely: board size, board independence, board meeting frequency, board qualification and managerial ownership, were regressed against the disclosure index developed by this study consistent with previous studies. Relevant data were extracted from the 2016 annual reports of sampled Eighty (80) non-financial publicly listed companies on the Saudi Securities Market (SSM). Using multiple regression analysis, the result obtained from the study's analysis revealed that none of the independent variables is significantly related to the disclosure index. The study's finding has important regulatory and managerial implications. It revealed a weakness in corporate governance compliance among Saudi listed companies.

**Keywords:** Saudi Arabia, corporate governance disclosure, the board size, board independence, managerial ownership

## 1. INTRODUCTION

The agency theory remains the most relevant theory to explain the corporate governance framework. According to the agency theory, agency cost arises due to the divergence of interest arising from the separation of ownership from control. (Jensen & Meckling, 1976). The shareholders, referred to as the principal, appoints the manager (i.e. the agent) to manage their affairs on their behalf. In this regard, managers may decide operating decisions to maximise their utility instead of increasing shareholders' welfare (Jensen & Meckling, 1976).

Consequently, there is information asymmetry whereby managers tend to withhold information from shareholders to maximise their utility and reduce the bonding cost. To ensure that managers act consistently with the interest of the shareholders, companies establish strong and effective corporate governance mechanisms. Corporate governance explains the procedures established to ensure that capital suppliers to corporations ensure a return on their investment.

Gillan and Starks (1998) defined "Corporate governance as the system of laws, rules, and factors that control the company's operations". It involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. It provides a framework to establish its objective and realise the set objectives through monitoring. This study aims to identify the extent of Corporate Governance Disclosure (CGD) and identify those corporate governance mechanisms that determine the CGD among non-financial publicly listed companies on the Saudi Security Market.

The background of corporate governance and disclosure reforms in Saudi Arabia is informed using the country's data. Moreover, Saudi Arabia has the largest market economy among the countries in the Middle East (Alsaed, 2006). At the end of the twentieth century, economic development and reform had become Saudi Arabia's primary

goal. Saudi Arabia has witnessed several reforms in governance. In the year 2000, the internal control system received special regulatory attention. The regulation issued in 2000 required all listed companies to design their internal control system based on these internal control standards (Al-Thuneibat et al., 2015).

Similarly, the year 2006 witnessed the issuance of a new code of corporate governance, which compliance was mandatory for all Saudi listed companies in 2010 (Alzahrani, 2013). According to reporting reforms, one of the earlier accounting standards issued in Saudi Arabia was the standard of disclosure and transparency. The Ministry of Commerce and Industry issued this in 1985. The standard was updated by the Saudi Organization for Certified Public Accountants (SOCPA) in 2002. Another disclosure reform is the country's commitment to fully adopting International Financial Reporting Standards (IFRS) by 2017. IFRS adoption intends to ensure transparent and high-quality reporting practices.

In summary, governance and disclosure reforms in Saudi Arabia have been good to a certain extent. However, non-financial disclosure requirements in Saudi Arabia rules are still weak due to some critical aspects of information, such as CG - related information (World Bank, 2009). The paper is organised as follows. The following section briefly considers CG disclosure policy reforms in Saudi Arabia. The following sections present the theoretical framework, review the empirical literature, develop hypotheses, outline the research methodology, and discuss the paper's findings. The concluding remarks of the article are provided in the final section.

## **2. LITERATURE REVIEW**

### **2.1 Corporate governance, disclosure policy reforms and the Saudi Arabia corporate**

Saudi Arabia is the largest country in the Arabian Peninsula and the most significant market economy among the Arabian countries, holding 25 per cent of the total Arab gross domestic product (Alsaeed, 2006). The abundant oil reserve has enormously contributed to the gross national product and allowed the Saudi government to increase investment activity. At the end of the twentieth century, economic development and reform were of significant concern to the Saudi Arabian government. These are prominent among government organisations' recent privatisation changes, such as Saudi Telecom Company and National Company for Cooperation Insurance, and Saudi Basic Industries (SABIC) (Alsaeed 2006). This started with particular attention being given to internal control systems. Thus, Saudi standard-setters issued internal control standards in 2000. Saudi companies must design their internal control system based on these internal control standards (Al-Thuneibat et al., 2015). CG codes were also issued in 2006, which became compulsory for all Saudi-listed companies in 2010 (Alzahrani, 2013). Previous studies have changed how board characteristics, audit committees, and managerial ownership influence corporate governance disclosure. This depends on the legal and regulatory environment levels aimed at protecting investors and other stakeholders in the firm and other factors such as sample variation and methodology. Here, we can distinguish between two trends in previous studies.

### **2.2 Board Size and Corporate Governance Disclosure**

Board size plays a significant role in making internal governance mechanisms more effective. According to agency theory, the board of directors is an essential monitoring mechanism that monitors the reporting behaviour of management by ensuring a high level of disclosure ((Allegrini & Greco, 2013; Davidson, Nemeč & Worrell, 1996), and the size of the board is the essential element in monitoring management behaviour. Past literature argued that large boards are more effective because of diversity in their expertise, backgrounds, and abilities, which can help the board provide adequate and transparent disclosure of information (Pearce & Zahra, 1992). Larger board size is recognised as showing variations in terms of the backgrounds, skills, and expertise that can generate ideas in providing high levels of disclosure (Brown, Beekes & Verhoeven, 2011).

The Saudi Code of Corporate Governance (SCCG) stipulates that the board should consist of a minimum of three directors and a maximum of eleven members. The board size requirement, as enshrined in SCCG provides flexibility to listed companies to decide the number of directors suitable for their operation size. Board size affects the overall capacity of the firm to operate efficiently. Smaller boards are commonly less efficient in obtaining vital resources, such as external funding (Goodstein, Gautam & Boeker, 1994). The companies may gain the flexibility to include productive directors as board members and suitable size as the best corporate governance practices. Consistent with previous studies (Byard, Lin & Weintrop, 2006), the study set the following hypothesis:

*Hypothesis 1: There is a positive relationship between board size and the level of corporate governance disclosure.*

### **2.3 Board of Independence and Corporate Governance Disclosure**

The concept and criteria of independent directors have become more stringent with time. The SCCG (2006) Part four, Article 12, Paragraphs (C) and (E) centre on board independence, with Paragraph (C) stating that “The majority of the members of the Board of Directors shall be non-executive members”. Furthermore, Paragraph (E) also noted that “The independent members of the Board of Directors shall not be less than two members or one-third of the members, whichever is greater”. Accordingly, the board’s non-independent directors could constitute two-thirds of the members (Al-Abbas, 2008; Combined Code, 2003). In recent times, boards independent have received much scrutiny regarding corporate governance regulations and academic research (Chen, Sun, Tang and Wu., 2011).

Prior empirical research has established a link between corporate disclosure and board independence. Forker (1992) examined and found a positive relationship between the number of outside directors and financial disclosure. In another paper, Laksamana (2008) reported a result similar to Forker (1992). Klein (2002) found that corporate managers were less likely to manage earnings and commit fraud if many non-executive directors were on boards. Also Chen and Jaggi (2000); Gul and Leung (2004) argued that a high number of independent directors on boards leads to more effective board monitoring and higher levels of corporate transparency.

On the other hand, some empirical research established a negative relationship between outside directors on boards and levels of disclosure. Studies that reported this result include Eng and Mak (2003), Barako, Hancock, and Izan (2006) and Hoitash, Hoitash and Bedard (2009). Others found an insignificant association between the two variables (see, for example, Ho and Wong, 2001 and Haniffa and Cooke, 2002). Based on the above-mixed results, we aim to re-examine the relationship between corporate governance disclosure and board independence in Saudi Arabia. The study hypothesis:

*Hypothesis 2: There is a negative relationship between board independence and the level of corporate governance disclosure.*

### **2.4 Audit Committee Meetings and Corporate Governance Disclosure**

Another essential board monitoring mechanism is the audit committee meeting frequency (Laksmana, 2008; Vafeas, 1999). Several Previous studies have commonly depended on audit committee meetings per year as a metric for the perseverance of the audit committee because different measures of effort are not publicly observable (DeZoort et al., 2002). High meeting frequency is an indication that the directors efficiently utilised their skills and time to the benefit of their company (Laksmana, 2008 and Vafeas, 1999). Regulators, commissions, and committees have recommended more frequent audit committee meetings in a year. For instance, for an influential audit committee, the Blue-Ribbon Committee (1999) and PwC (1993) suggested at least four meetings per year; similarly, KPMG (1999) proposed between three and four meetings per year. The result aligned with the Saudi Arabia Code of Corporate Governance (2006) that recommended an audit committee to hold a minimum of four meetings per year (Yin et al., 2012).

Various research and governance best practices reach a consensus on the effectiveness of audit committee proficiency in carrying out their task and mitigating agency problems (Jensen & Meckling 1976). The audit committee can influence management decisions when the choices are inconsistent with the board of directors (Al-Moataz, 2003). Kent et al. (2010); Kent and Stewart (2008) recognised that applying better corporate governance encourage high disclosure quality.

However, an opposite linkage might develop amid the audit committee's activities and the number of board meetings. Similarly, more frequent board meetings would prompt more audit committee actions (Adelopo et al., 2012). Hence from the above discussion, the following hypothesis is posited:

*Hypothesis 3: There is a negative relationship between the number of the audit committee meeting and the level of corporate governance disclosure.*

### **2.5 Audit Committee Qualification and Corporate Governance Disclosure**

Corporate governance literature suggested that age, work experiences and educational qualifications are essential factors that impact the director's performance (Adawi & Rwegasira, 2011). Bushman et al. (2004) focused on specific attributes of directors, such as work experiences, educational qualifications, and marital status. Bushman et al. (2004) claimed that all these attributes affect board efficiency and effectiveness. Shehata (2016), Ball (2009) and Kothari (2001) also argued that work experiences and educational qualifications are among the most important determinants of board efficiency. For instance, the choice of the quality audit was found in previous literature as being dictated by the level of qualification and the professional experience of an audit committee member. A study conducted by Steel (1976) mentioned the strong relationship between the level of scientific and professional qualification and fees of the auditing process due to a relative increase in salaries of the highly qualified auditors compared to those of low qualification. Increase in the cost of the audit process due to continuous training for auditing teamwork (Al-sharari, 2009).

This code comprised six primary principals, and the selection of qualified directors was one of them (Shehata, 2015). Albassam (2014) and Soobaroyen and Mahadeo (2012) have argued that amendments in the Saudi code have stressed that companies should include qualified and professional members on board. Albassam (2014) continued that, in Saudi Arabia, size, culture, and the family ownership structure have significant impacts on the board's composition. However, they concluded that many companies adopt code provisions and add qualified professional directors. According to Casey et al. (1988), a large company is more likely to obtain qualified members because of a broader public vision. Hence, from the above discussion, the following hypothesis is posited:

*Hypothesis 4: There is a negative relationship between board qualification and the level of corporate governance disclosure.*

## 2.6 Managerial Ownership and Corporate Governance Disclosure

Managerial ownership is measured as the ratio of shares held by executive directors at the end of the fiscal year. The separation of ownership and management in modern corporations has led to a divergence in the interests of internal and external stakeholders. In this regard, debt and managerial ownership are argued to be effective governance mechanisms to converge these interests (Wahba, 2014). Managerial ownership is defined as the ratio of shares held by the executive directors to total authorised, issued capital. Arguments have been given in support and against. Shares ownership by executive directors can mitigate agency problems as it reconciles the interest of the management and that of the shareholders because the management sees themselves as one of the owners of the company (Jensen & Meckling, 1976). If managerial ownership falls, external shareholders will more frequently check the behaviour of managers (Jensen & Meckling, 1976). This is because managers are more aware than external stakeholders. Hence, managerial ownership is considered a strong signal about the company's quality, which, in turn, reduces information asymmetries (Leland & Pyle, 1977; Wahba et al., 2014). The opposing argument is supposed to raise agency problems due to the entrenchment effect.

The managerial ownership in Saudi listed companies has 45%. However, little or no attention has been given to the impact of managerial ownership on corporate disclosure practices in Saudi listed companies. This study extends the study of Al-Moataz and Lakhali (2012) by looking at managerial ownership other than other ownership. Based on the positive relationship established from prior literature, the following hypothesis is posited:

*Hypothesis 5: There is a negative relationship between managerial ownership and the level of corporate governance disclosure.*

## 3. METHODOLOGY

### 3.1 Data and Methods

The sample of this study consists of 80 companies listed on the Saudi Stock Exchange in the year 2016. Corporate governance data and companies' characteristics were collected from the annual reports and Tadawul database. This led to a sample of 80 companies' observations for the period under consideration. The following model is estimated to examine the factors influencing corporate governance disclosure among Saudi listed companies.

$$CGD = \beta_0 + \beta_1 BOARDSIZE + \beta_2 BODIND + \beta_3 ACMEET + \beta_4 ACQUALIFICATION + \beta_5 MANGOWSH + 5$$

Table 1 Variable Definition

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**Variable Definition**

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CGD	Corporate Governance (CG), Compliance and Disclosure Index, consisting of 138 Provisions from The SCGC, which takes the value of 1 for each corporate governance provision disclosed, and 0 Otherwise. The total expected disclosure multiply scales the total number of disclosure by 100. Therefore, the disclosure index ranges between 0% And 100%.
BOARD SIZE	The total number of directors serving on the board of directors.
BODIND	The number of independent non-executive directors on the board is scaled by board size.
ACMEET	The number of meetings organised by the audit committee.
AcQualification	. Measured by the number of directors in the audit committee with an academic qualification, professional qualification and work experience.
MANGOWSH	Percentage of shares owned by non-executive directors to the total number of shares issued.

## 4. RESULTS AND DISCUSSION

### 4.1 Descriptive Analysis

In table 1, the corporate governance disclosure level in Saudi companies was 56 per cent, which is high. However, it can be said that Saudi companies have a proper level of disclosure compared to companies in other developing and developed countries, such as Hong Kong, where the level of corporate governance disclosure was reported as 29 per cent (Ho & Wong, 2001), Malaysia as 31 per cent (Ghazali & Weetman, 2006) and Singapore as 29 per cent (Cheng & Courtenay, 2006). As shown in Table 2, the average number of directors on board is eight, consistent with the Saudi code of CG requirement, which requires boards of directors to have more than three members but not more than 11. Also, Table 2 reveals that most of the directors on board are independent directors with an average of 4 per cent. The result indicates that Saudi listed firms comply with the requirement of the SCCG, which requires that the majority of audit committee members should be independent directors and that the size of the audit committee should consist of at least three members. On average, the audit committee meets at least five times a year, which is above the SCCG requirement that audit committee members should meet at least three times a year. Concerning audit committee qualification, just 1 per cent of the audit committee member have a postgraduate degree. Finally, the average managerial ownership is 1.89 per cent. The average of managerial ownership revealed in Table 2 is consistent with the Saudi Arabia code of CG requirement.

Table 2 Summary Statistics

VARIABLE	OBS	MEAN	STD	MIN	MAX
CGD	80	56.73	2.35	51	62
BOARDSIZE	80	8.25	1.45	5	12
BODIND	80	4.19	1.35	2	8
ACMEET	80	5.47	1.62	2	9
ACQUALIFICATION	80	0.70	6.60	0	2
MANGOWSH	80	1.89	5.53	0	30.99

BoardSize = Board Size, BODIND = Board Independence,  
ACMEET = Audit Committee Meeting,  
AuditQualification= TOTALM+ PhD, MANGOWSH = Managerial Ownership

### 4.2 Correlation Analysis

The relationship between the present study's variables was tested using Pearson Correlation analysis. The analysis revealed the absence of severe multicollinearity issues, with all of the variables a significant relationship not exceeding 40%. Moreover, the variance inflation factors (VIF) obtained did not exceed 10. Meanwhile, heteroscedasticity was tested for the variance behaviour using the Breusch-Pagan/Cook-Weisberg test. The results showed the absence of heteroscedasticity in data ( $\chi^2(1) = 2.03$ ,  $\text{prob} > \chi^2(2) = 0.1542$ ). To mitigate the extreme values bias, the entire variables were winsorized at 1% from top to bottom.

Table 3 Pearson correlation matrix

	1	2	3	4	5	5
1 CGD	1					
2 BOARDSIZE	0.17	1				
3 BODIND	-0.06	0.41	1			
4 ACMEET	0.13	0.06	-0.03	1		
5 ACQUALIFICATION	-0.04	-0.04	0.10	-0.08	1	
6 MANGOWSH	-0.12	0.03	-0.18	-0.01	0.12	1

BoardSize = Board Size, BODIND = Board Independence,  
ACMEET = Audit Committee Meeting,  
AuditQualification= TOTALM+ PhD, MANGOWSH = Managerial Ownership

### 4.3 Multivariate Regression Result

The results displayed in Table 4 provides evidence that board size is significantly positively related to CGD, consistent with the Saudi code of CG requirement, which requires boards of directors to have more than three members but no more than 11. The result is also consistent with the argument that a large board size can accommodate more directors with the required expertise and skill to improve their monitoring responsibility. Furthermore, as shown in Table 4, board independence indicates that board audit committee independence is significantly negative with CGD. The result is contrary to the expectation that the independent director's presence in the audit committee should improve the committee's monitoring responsibility and lead to more CGD. However, the study found no significant relationship between audit committee meetings and the CGD of the company.

Similarly, the result of the present study showed a positive but insignificant relationship between audit committee qualification and CGD. In contrast, the result for managerial ownership displayed in Table 4 is negative but insignificantly related to CGD. Most of the literature since Berle and Means (1932) argued that boards choose managerial ownership to help align managerially and shareholder interests' results reveal the interaction between managerial ownership and CGD is negative and insignificant. Due to managerial ownership diminishes board activity and specifically that managerial ownership negatively affects CGD.

Table:4 Summary Results of the Regression (N = 80)

Disclosure	Coef	Std	t	P> t
Board Size	0.370	0.167	2.22	0.30
BODIND	-0.330	0.172	-1.92	0.059
ACMEET	134.958	1271.687	0.106	0.292
Total MPHD	0.104	0.366	0.28	0.778
MangOwsh	-0.064	0.077	-0.83	0.411
_cons	54.342	1.549	35.09	0.000

## 6. SUMMARY AND CONCLUSION

The aim was to examine the relationship between corporate governance characteristics and disclosure level of corporate governance practice in Saudi Arabian's listed companies. The sample was 80 non-financial Saudi listed companies. The current review identified five key variables that were likely to influence disclosure by Saudi listed companies. This study has important implications for governments to be more effective in implementing best corporate governance practices. Additionally, findings board size and audit committee positively affect the disclosure, which indicates that corporate governance disclosure plays a role in disclosure effectiveness.

Furthermore, the study also found that board independence significantly and negatively affects corporate governance disclosure. At the same time, it audits committee qualification, and managerial ownership does not affect corporate governance disclosure. Hence board size and the audit committee are better than companies with the disclosure in applying the best practices of corporate governance to provide sufficient and high-quality disclosure. Finally, it is expected that future empirical studies with the non-conceptual framework can enhance corporate governance disclosure for users of financial and non-financial statements such as investors, creditors, shareholders and other stakeholders in Saudi and beyond.

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# Corporate Governance and Non-Financial Performance of Medium-Sized Firms in Nigeria: A CB-Sem Approach

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## Abstract

This study investigates the perceptions of firm executives concerning the extent of the influence of corporate governance practices on the non-financial performance of medium-sized firms in Nigeria. The theoretical support for the research is from the stakeholder and the agency theories. The cross-sectional survey and the cluster and stratified probability proportionate sampling methods are adopted. The data collection is through a structured questionnaire covering four corporate governance indicators: board size, director's qualification, ownership structure, and board audit committee. The co-variance based structural equation modelling (CB-SEM) technique ensures the collective analysis. The result indicates that corporate governance has a significant positive effect on firms' non-financial performance. This outcome supports the urgent need to develop and execute the corporate governance code of ethics for the non-listed firms alongside a regulatory agency for ensuring monitoring and compliance. The drawbacks include measuring variables on a linear relationship basis and the non-adoption of the longitudinal approach for the study. Future studies need to look at the usage of the intervening variables, which can further aid the evaluation of the relationships of the research variables and their indirect and total effects.

**Keywords:** Corporate governance, non-financial performance, medium-sized firms, structural equation model, Nigeria

## 1. INTRODUCTION

In the recent past, corporate scandals about Megan Media Holdings Berhad in Malaysia and Enron and WorldCom in the USA (Tan, Ong, Adedeji and Chong, 2016). Likewise, Cadbury Plc was also in the news in Nigeria for overstating the profits through overvaluing stock (Olaoye, Nwaoba and Oshadiya, 2016). Hence, Corporate Governance (CG) issues have received significant consideration worldwide from academia and practitioners (Hilb, 2012). However, CG is a measure for mitigating the agency cost that evolves due to the magnitude of divergences of interests between the owners of the business and their managers (Adonu, 2016). Again, CG is now an institutional arrangement central to effecting decisions and harmonising the relationships among the different interested parties to facilitate the focus and performances of medium-sized firms (Jaswadi, Igbal and Sumiadji, 2015). Therefore, the configuration of a concrete CG code can ensure better financial arrangement and justification required in the rewarding systems of shareholders and the various stakeholders on a general basis (Manolescu et al., 2011).

Consequently, Peters and Bagshaw (2014) and Olaoye et al. (2016) opined that the regulatory authorities in many nations such as Nigeria, Malaysia, and the USA had embraced corporate governance codes of ethics to protect stakeholders and ensure that they were protected better returns to them. The regulatory authority, such as the

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Securities and Exchange Commission in Nigeria, developed a governance code for the listed companies in the first instance as far back as 2003 with reviews done in 2009, 2011 and 2016. Other regulatory bodies in Nigeria that have followed suit are the Central Bank of Nigeria (CBN), National Insurance Commission (NAICOM), and Pension Commission (PENCOM) for the banks, insurance and pension companies in Nigeria, respectively. However, the study and corporate governance practices have excluded medium scale enterprises (Adonu, 2016). The differences among firms and the nationwide configurations and arrangements for corporate governance have not generated enough scope for achieving the acceptable practices longed for in terms of consistency, limpidity and accountability in the various dimensions of management (Teh, Ong, Adedeji and Ng, 2016). Again, about Nigeria, the regulation and compliance systems are weak in enforcing compliance with the governance code of ethics and matching them to attain the standardisation of business operation (Aina, 2013; Adedeji, Rahman, Khairddin, Uddin and Rahaman, 2017). Therefore, good corporate governance practice by medium-scale firms is of great significance in their contribution to GDP, provision of employment opportunities for unemployed youth and contribution to export in Nigeria (FGN, 2017).

Even though Lo and Sheu (2007) and Beaver, McNichols, and Rhie (2005) assert that many empirical studies examined the relationship between CG and firm financial performance, however, Titko and Shina (2017) opine that financial performance can be enhanced through non-financial measures such as enhanced employees' achievement and customer fulfilment, improved the firm's reputation and sustainability (Mühlbacher, Siebenaler & Würflingsdobler, 2016). Bello (2016) observed that there is no significant emphasis in Nigeria on the formal and concrete evaluations of the occurrence of CG even though the latter is consciously recognised in the emerging and developed climes based on the reformations made in their societies. Most of the significant research in the last two decades concerns North American, European, South American nations and currently the Asian countries like China, Japan, Taiwan, Hong Kong, Singapore, Malaysia(Siyanbola et al., 2014).

Therefore, the present study aims to evaluate the effect of CG on the non-financial performance of medium-sized firms in the context of developing and less developed African countries.

## 2. LITERATURE REVIEW

### 2.1 Corporate governance, disclosure policy reforms and the Saudi Arabia corporate

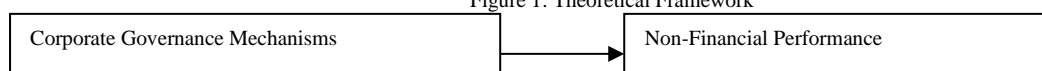
For this study, the theoretical foundations are from the stakeholder theory and agency theory perspectives to lay the basis for the conceptual framework required in this research.

The viewpoint of the stakeholder theory is that the duty of a firm is not only that of the proprietors. Instead, it is to other interested parties who can control or be affected by the firm's decision making. In Jensen and Meckling (1976), the stakeholder theory focuses on matters that align with the firm's stability, which addresses their activities and performance about their capabilities in upholding the decisions reached with many of their associates in the business domains. However, Jizi et al. (2014) hold a different view. A firm is in business to guarantee the wealth maximisation of just the shareholders. Besides, this theory aids the evaluation of the differences between earlier performance conditions and consequences, despite the availability of alternative means of meeting the needs of the various other groups. Thus, this theory is relevant in a study area of this nature, which entails the need for accountability for all associated with a firm.

On the other hand, the agency theory exhibits evidence in terms of the relationships among the principals and their agents in the business environments. Conflict of interests arises among various groups about the enhancement of rewards to the owners of commercial entities, maintenance of steady interactions with the regulatory agencies, the well-being of the agents, reduction of transaction and administrative expenses. Furthermore, the agency theory is of immeasurable benefits to corporate governance, most notably where the firm's ownership is considerably confined to the directors and shareholders responsible for the firms' daily endeavours (Jensen &Meckling (1976). Andreou, Louca and Panayides (2014); Gupta and Sharma (2014) affirm that the agency theory is the primary theory used in explaining the relationships between corporate governance and firm performance

Consequently, premised on the theories highlighted above, the relationship between corporate governance (CG) and the firm's non-financial performance (NFP) is as shown in the framework in Figure 1.

Figure 1: Theoretical Framework



## 2.2 Corporate Governance and Non-Financial Performance

A significant number of research efforts are already dispensed within evaluating the relationship between CG and the firm's financial performance to showcase the level to which the character has informed shareholders' wealth (Lo & Sheu, 2007; Beaver, McNichols, & Rhie, 2005). Titko and Shina (2017) have shown that financial performance can be improved through non-financial performance measured by enhanced employees' achievement, customer fulfilment, and improved reputation and sustainability. Likewise, Larsen and Tan (2015) and Sledzik (2013) confirm that a firm's reputation, employee satisfaction and turnover, staff know-how, customer devotion, and novel potentials are the non-financial performance indicators of a firm. Besides, Cronqvist, Makhija and Yonker (2012) opine that a significant positive economic relationship exists between corporate performance and the personal influence of CEOs. Therefore, based on the above positions, the formulated hypothesis is:

*Hypothesis 1: Corporate governance has a positive relationship with the non-financial performance of medium-sized companies in Nigeria.*

## 3. METHODOLOGY

### 3.1 Sample and Procedures

The data collection for this study is via a structured close-ended questionnaire developed and adopted to draw information from medium-sized firms. The latter's choice is due to their high contribution to the country's GDP, the largest employer of labour and export earners (FGN, 2017). Besides the advantages above, the medium-sized firms have a wider spread and more in number than the listed firms that are just 113 as of 2018 (NSE, 2018). Additionally, according to the World Bank (2014), these sectors created enormous employment opportunities for labour, enhanced export activities and contributed to the GDP. The cluster and stratified probability proportionate sampling methods guarantee the distribution of 1,000 questionnaires to the firms' respondents to fulfil the data collection procedures. The firms served with the questionnaire were arrived at after the population of 4,341 firms SMEDAN, (2013) is clustered based on the six geo-political zones (North-West, South-West, South-South, South-East, North-East and North-Central). However, the South-West zone (Ekiti, Lagos, Ogun, Osun, Oyo, and Ondo) with a total of 1,562 firms is preferred due to the non-prevalence of insurgency matters alongside the operations of firms in the manufacturing, oil and gas, services, agriculture, construction and estate valuers, ICT, and healthcare located in their urban centres (FGN, 2017). However, because of the few firms in Ekiti (126), Osun (25), and Ondo (104) states, no consideration is accorded them for the study. Therefore, the sampling frame is 1,307 firms. Subsequently, the number of questionnaires returned is 219. Because of missing data (06) and outliers (04) by the firm respondents, 10 filled up questionnaires are not useable. In sum, the sample size consists of 209 firm respondents, which translate to 21%. Hair, Ringle, and Sarstedt (2013) argue for the CB-SEM to be used when there is a minimum of 200 respondents.

### 3.2 Participants

In this study, the respondents are the Board members, CEOs, Chief Accountants, Chief Internal Auditors, and Human Resources Managers of medium-size firms in Nigeria. Of the respondents, 75% were males, while 25% were females. The responses from the firms are manufacturing 55 (26.32%), services 16 (7.66%), agriculture 29 (13.87%), ICT 28 (13.40%), construction and real estate 18 (8.61%), oil and gas 40 (19.14%) and healthcare 23 (11%). Based on their positions in the firms, the respondents are board members 20, CEOs 30, Chief Accountants 85, Chief Internal Auditors 50, Human Resources Managers 15 and others 9.

### 3.3 Measures of Reliability, Validity and Measurement Model

The CG, as the independent variable, has four (4) indicators, which are the board size, director's qualification, ownership structure, and board audit committee. Every indicator comprises 6 items sourced from (Basyith 2016; CLSA, 2001), i.e. "Shareholder's approval is required to change the board size". "Board members have varying educational backgrounds". "Foreign nationals are on the board". "The law fixes audit committee membership".

Meanwhile, the dependent variable NFP was measured by 14 items based on the scales adapted from (Choongo, 2017), i.e. "Our company is recognised due to excellent leadership traits". Response options for the independent variable range from (1) "strongly disagree" to (7) "strongly agree". In contrast, those for the dependent variable is from (1) "meagre extent" to (7) "huge extent". A pilot study aided the determination of the research items based on the responses received from 40 firm respondents. However, the reliability was below .50, hence rejected.

Subsequently, the co-authors fine-tuned the questionnaire by rewording the contents that, as a result, provided better reliability outcomes of more than .70, as depicted in Table 1 below.

Moreover, the unidimensionality tests are through the Confirmatory Factor Analysis (CFA) of the specific variables of the research. The unidimensionality tests have been adopted to evaluate the CG and NFP in line with the factor loading circumstance of above 0.6 (Awang, 2012). Therefore, in this study, the factor loading of (0.6) and above for each item was accepted as appropriate due to the usage of the previously established item for each of the constructs. All the same, three types of validity measures (convergent, construct and discriminant validity) hold in this study.

Table -1. Measures of Reliability and Validity

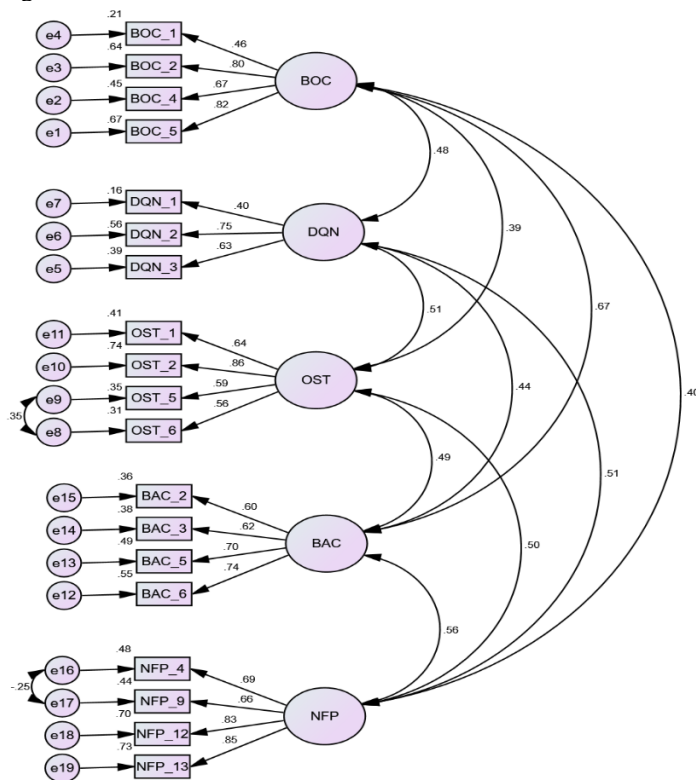
	OI	$\alpha$	UI	CR	AVE	RMSEA	GFI	AGFI	CFI	X <sup>2</sup> /df	Discriminant Validity $r < .90$
BOC	6	.784	4	.780	.50	.046	.993	.967	.996	1.44	Correlation between a pair of the latent exogenous construct was less than 0.90
DON	6	.746	3	.620	.41	Minimum was not achieved					
OST	6	.773	4	.771	.57	.000	.998	.981	1.000	.80	
BAC	6	.737	4	.761	.45	.100	.986	.931	.978	3.09	
NFP	14	.913	4	.835	.58	.112	.991	.915	.993	3.61	
Measurement						.08	.840	.783	.876	2.67	

OI= Observed Items, UI= Un-observed Items CR = Construct Reliability, AVE = Average Variance Extracted, RMSEA = Root Mean Square Error of Approximation, GFI = Goodness-of-fit Index, AGFI= Adjusted Goodness of Fit, CFI= Comparative Fit Index, X<sup>2</sup>/df = Chi Square/Degree of Freedom.

### 3.4 Plan for Analysis

The AMOS and SPSS 23.0 software packages aid the data analysis. The computation of the mean, standard deviation (SD), reliability, and correlation analysis through the SPSS made the descriptive statistics possible (Table 2). The correlation analysis allows for examining the relationship between CG and NFP. However, a model fit (measurement model) test was involved in the final analysis and hypotheses testing for determining the structural model. The measurement model in (Fig. 2) shows a good fit since the whole measurement model has generated a good fit based on the data where  $\chi^2/df= 2.67$ , RMSEA=0.08, CFI=0.876, GFI=0.840 and AGFI=.783.

Figure 2: Measurement Model



### 3.5 Ethical Considerations

At the commencement of this research, approval was sought and obtained from the supervisory committee and the doctoral committee of the Faculty of Economics and Management of the Universiti Putra Malaysia. The institution above is where the lead author of this paper is presently undergoing the PhD research program. In the letter of introduction, the respondents had the assurance that the confidentiality of their identities and those of their organisations will not be jeopardised and that any information given is for the objective of this study alone.

## 4. DATA ANALYSIS AND FINDINGS

The correlation analysis shows the strength of the relationship between the research variables. At the same time, the structural model reflects the direct effect of CG on NFP.

### 4.1 Results and Findings

Table 2: Descriptive and Correlation Analysis of Each Research Construct

	Mean	SD	CG	NFP
CG	5.26	.83	1	
NFP	5.74	1.00	.522**	1

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

Table 2 shows the descriptive statistics, including mean, standard deviation and correlation of the research variables. The results indicated that NFP (m= 5.74, SD= ± 1.00), is high. However, the correlation analysis showed that CG is significantly and positively related to firm performance NFP (r= .52, p<0.00).

Figure 3: Structural Model

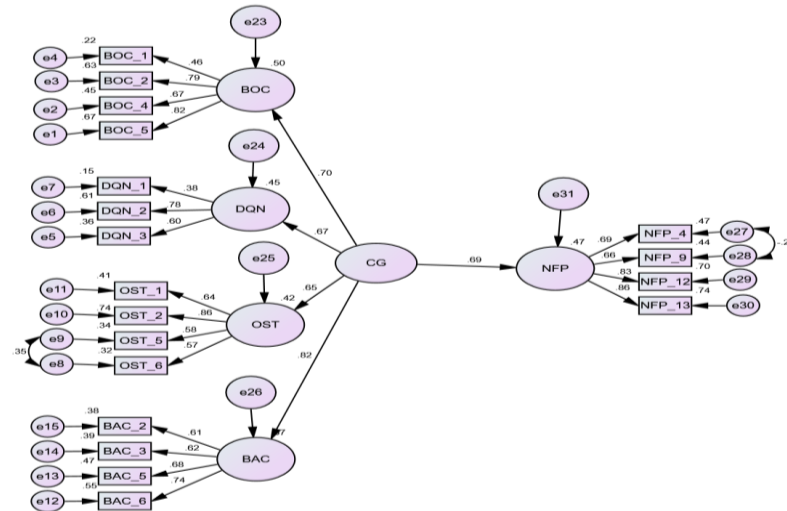


Table 3: Results of the Direct Standardized Effect

Variables	Variables	Estimate	S.E.	C.R.	P
CG	NFP	.69	.111	5.98	.000*

Figure 3 and Table 3 indicate the direct effect of CG on NFP, which is 69% (R<sup>2</sup>=0.47) explained, thus, indicating a better result. In sum, the result indicates that CG has a significant positive effect on firm performance (β= .69, p<0.000).

## 5. DISCUSSIONS

### 5.1 General

In this study, the only hypothesis is to examine the relationship between corporate governance and firm non-financial performance of medium-sized companies in Nigeria. From the result of this study, CG has a significant positive effect on the firm's performance as it explains 68% of the non-financial performances. The non-financial

indicators are the reputational and employee satisfaction perspectives. From the reputational standpoint, the result falls within the outcome of the study of Darmadi (2011), who determines the relationship between the educational qualifications of directors and the value of the firm. He opines that the educational qualifications of directors play an essential role in increasing the performance of firms. Also, he argues that a board that engages qualified members is likely to receive attention from stakeholders, especially those affiliated with exceptionally rated institutions. Thus, the business executives' perceptions are in line with the literature. Again, Adonu (2016) opines that CG is a corporate instrument or mechanism for sustaining the quality of life for firms based on the needs of the stakeholders such as shareholders, management, employees, suppliers, creditors, government and their agencies, consumers, and the public. These views have further confirmed the assumptions of the agency theory and stakeholder theories' assumptions. In sum, medium-size firms have the benefits of gaining a better reputation and the loyalty of their employees through the practical implementations of the CG codes supported by a reliable regulatory agency.

## **5.2 Contributions and Implications**

From the previous studies, the emphasis has been on the listed firms with less attention to the medium-sized firms in both the developed and developing countries. However, if there have been research efforts in the case of the latter, they are insignificant (Adonu, 2016). In the meantime, non-financial indicators are also required to improve further the firm performance of the medium-sized companies and the listed entities. Hence, by implication, the financial indicators are no longer sufficient for performance evaluation. Therefore, the non-financial measures also aid firms in meeting up with their strategic actions.

This study further confirms the need to develop and ensure the operations of corporate governance codes for medium-size firms in Nigeria and other emerging and developing nations all over the globe. Therefore, the regulatory mechanisms are required to go to the drawing board and put heads together as to the implementation, apart from the design of the governance codes for medium-sized companies. Besides, because the International Financial Reporting Standards (IFRS) are for medium-sized firms, the governance codes must have critical attention. The medium-sized firms will eventually grow to become big and listed firms. Furthermore, such codes will aid the attraction of genuine investors, employees and customers and indirectly cause an increase in the revenue base of the firms and the government in the respective nations. In sum, the various types of corporate scandals experienced all over are avoidable if timely attention is also devoted to the issue of corporate governance codes for medium-sized firms.

## **5.3 Limitations and Areas for Further Studies**

The linear relationship between the variables was undertaken, apart from the adoption of the cross-sectional. Also, the period of the survey was three months. Therefore, alongside a longitudinal approach, the intervening variables' involvement will further boost future research about the medium-size firms in the developing and emerging nations, as against the firm level and single country used in the current study. Furthermore, the effects of CG on the combined elements of firm performance (financial and non-financial) to determine which one of them is influenced by the former will further enhance the body of knowledge and the literature and practical implications for managers.

## **6. Conclusion**

The awareness generally is that CG dimensions have only focused on large and quoted or listed firms, with no consideration for the medium-sized firms. Therefore, CG practices and their influences on the medium-sized firms' performances for employment provision increased the GDP of nations. A rise in the size of exports concerning other developing and emerging nations require some form of sustainability. The outcome of this research shows that CG has a significant favourable influence on firm performance (non-financial) of medium-sized firms. Consequently, developing CG codes and ensuring their operations by the various regulatory bodies will project their character and future of the medium-sized firms. Furthermore, a longitudinal approach can enhance future studies alongside the adoption of intervening variables to further check the direct and indirect impacts of the other research variables in this area of study.

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