



Munich Personal RePEc Archive

**IMPACTS OF FIRM-SPECIFIC
FACTORS AND MACROECONOMIC
FACTORS AGAINST MICROSOFT'S
PERFORMANCE**

Kah Chon, Ooi

Universiti Utara Malaysia

31 October 2019

Online at <https://mpra.ub.uni-muenchen.de/97254/>

MPRA Paper No. 97254, posted 02 Dec 2019 09:30 UTC

IMPACTS OF FIRM-SPECIFIC FACTORS AND MACROECONOMIC FACTORS AGAINST MICROSOFT'S PERFORMANCE

Ooi Kah Chon

Universiti Utara Malaysia

ABSTRACT

The purpose of this study is to identify the relationship of firm-specific factors and macroeconomics factors towards the Microsoft's performance, return on assets (ROA) of Microsoft Corporation in United States over the five years. The company that chosen by the researcher is Microsoft Corporation which is in software industry. The analysis is based on the sample of data in Microsoft from 2014 to 2018. This study has conducted a trend analysis towards return on assets (ROA), credit ratio, average collection period, operating margin, macroeconomic environment, price changes and corporate governance index to figure out the variables that influence the performance of the company. Researcher has used Statistical Package for Social Sciences (SPSS) tool to identify the relationship between return of assets (ROA) with internal and external variables which include SPSS output of descriptive analysis, correlation, coefficient, modal summary and ANOVA table. The finding showed that Microsoft's performance can be influenced by the internal and external environment. The study showed that Microsoft' performance is significantly influenced by current ratio and operating margin. However, for the external variables, interest rate and gross domestic product (GDP) are influencing Microsoft's return on assets (ROA).

Keywords: *Firm-specific factors, Macroeconomics factors, Microsoft's performance, Significantly influence*

1.0 INTRODUCTION

1.1 Microsoft's Background

Microsoft Corporation is created by Bill Gates and Paul G. Allen, a global technology company headquartered in Redmond, Washington, and a leading provider of personal computer application products and services. The "Microsoft" term was registered from the word "software" and "microcomputer". Gates served as Microsoft's president and board member, while Allen served as executive vice president. Besides, Microsoft is the biggest technology company in the world with yearly sales of more than \$32 billion (Mary, 2019). In 1980, during the established cooperation with IBM, Microsoft made a major breakthrough, enabling Microsoft to provide a vital DOS operating system (DSP, 2016).

Microsoft also offers email services, produces mobile hybrid computers, publishes books, sells media players and game systems. The first software launched by Microsoft's operating system in 1980 was Xenix's Unix version, which was Multi-Tool Word, the foundation for Microsoft's first word processor. In 1990, Microsoft has deepened the graphical user interface for Windows operating systems. For digital dictionary of Encarta, Microsoft expanded its electronic publishing unit and its popularity in 1985. Microsoft was a publicly traded company in 1986 and has earned 25% revenue from every transaction to become valuable businesses in American history. Microsoft also set up its own browser, Internet Explorer, and convinced manufacturers of computers and internet service providers to offer this product solely. In 1993, with more Microsoft Windows versions being released, Microsoft had about 90% of the global market share for PCs (Gregg & Mark, n.d.).

As well as joining the mobile and gaming market, Microsoft has been able to achieve huge market share. Microsoft released the Xbox in 2001, a computer game system which ranked second in the video gaming industry. In 2008, Microsoft also started to use the Windows Azure platform to enter cloud computing. The platform allows consumers to build and make available to users a computing infrastructure in the "cloud." The cloud version of the Office Business Software Suite, which includes programs like Word and Excel, was launched in 2011. In competition with Apple's Facetime and Google's Voice, Microsoft has bought Skype for \$8.5 billion, the biggest investment in Microsoft's record (DSP, 2016).

1.2 Corporate Governance Issues & Risks against Microsoft's Performance

However, there were some issues on corporate governance that existed in Microsoft Corporation. It can be shown in terms of transparency issue where Microsoft released Windows 10 version 1809 in October 2018, but later suspended due to data loss problems for some users. As a result, on Windows 10 services and related quality issues, Microsoft is committed to being more transparent. Microsoft follows "data-driven management process" for Windows 10 "product testing" and relies more on customer engagement and telemetry reports to track Windows 10 reliability. Microsoft moves from using dedicated quality assurance (QA) testers to learning machines to prioritize which devices should be updated to Windows 10 (Kurt, 2018).

In addition, Microsoft also has accountability issue where internet trolls taught Microsoft's Tay chatbot to return language offensive to ethnic and religious groups and women. Microsoft launched the Microsoft's Tay chatbot in U.S. and attacked it on the Twitter channel, so it started learning from the attack and making unacceptable comments. It was therefore immediately closed within 24 hours of release by Microsoft. Microsoft will relaunch it with the ability to anticipate these attacks by people, but the main thing is that this AI's behaviour correctly represents the responsibility of Microsoft (Charlie, 2017).

On the other hand, in 2013, Microsoft faced operational risk, which declining in PC market, and supporting Windows user base is facing obstacles. Windows 8 product line which released about few years, but its adoption rate lower than expected, partially due to decline in PC market. While this considered subject of internal controversy, it causes Microsoft to become more aligned with the model of equipment and service. In this area, Microsoft has also seen rising of competitors targeting Office empire with its Google of Chrome OS and Web-based Docs suite. Approximately 25% of Microsoft's income gain from Windows, and Microsoft would face immense risks when it comes to abnormal operating systems (Keith, 2014).

Moreover, Microsoft has invested heavily in new things that not capable of generating cash, leading to liquidity risk. Microsoft will continue invest in new software and hardware technologies, particularly the June 2012 announcement where Microsoft designed and created Surface line of products. The market share of smartphone operating system will increase if success on Windows Phone is achieved. If customers don't believe that the latest products from Microsoft offer significant new features, they may decrease purchase of upgraded products that can affect Microsoft's significant revenue. While new things may not be competitive, the Microsoft's operating margins may not be as large as historical (Sean, 2012).

1.3 Problem Statement

The U.S. has been leading in the global software industry throughout its existence and currently represents half of the world's total revenue, valued at 75% of the software product business. The software industry in United States is a major exporter. In 2000, the top 500 U.S. software companies had a total revenue of \$259 billion (Encyclopedia, 2019).

Microsoft can be considered as the most powerful companies in the business of computer software and hardware. Imitation of certain items is a vulnerability of internal danger because it decreases the intensity of the Microsoft name. In addition, the product portfolio of Microsoft is primarily based on software products, which erodes the company's business alliance with its rivals (Edward, 2017). Microsoft is fragile when Microsoft is over-exposed to the PC market and PC shipments fall due to higher supplier prices and fluctuations in exchange rates (Parker, 2019).

However, for the external risks, products from Microsoft are vulnerable against cybercrime, and the Windows operating system is still the subject of many cyber-crime threats worldwide. This will restrict Microsoft products ' appeal. Besides, cyber-attacks can weaken the organizational processes of Microsoft or harm clients. Nonetheless, fierce competition has created market power, which is threatening Microsoft's dominance as one of the largest companies on market (Edward, 2017). Microsoft is facing criticism among its employees, and the 2018 workforce diversity figures from Microsoft reveal that its hiring team are unbalanced. There are few women and minorities working in the workforce that have led to severe criticism and controversy about the human resources policies of Microsoft (Parker, 2019).

As a company, risk management is essential to ensuring the stability and consistent performance of a business. Microsoft Corporation should be have ability to deal the internal and external challenges in order to maintain the competitiveness of the organization and gain the respect of shareholders and stakeholders. This research will measure how other independent variables affect the performance of Microsoft Corporation. Independent variables can be separated into two parts that are internal variables or firm-specific factors and external or macroeconomic factors. The internal variables including the current ratio, average collection period, operating margin and corporate governance index, while the external variables which include standard deviation, exchange rate, inflation rate, gross domestic product (GDP) and interest rate.

1.4 Research Objective

The objectives of this research are mentioned below:

- i) To investigate the impacts of firm specific factors on Microsoft's performance.
- ii) To identify the influences of external variables on Microsoft's performance.
- iii) To identify the impacts of internal and external variables on Microsoft's performance.

1.5 Research Questions

In this research, there are two research questions which are:

- i) What are the impacts of firm specific factors on Microsoft's performance?
- ii) Do the external variables have influences on Microsoft's performance?
- iii) What are the impacts of internal and external variables on Microsoft's performance?

1.6 Organization of the Study

This research consists of five key chapters. Chapter one consists of the Microsoft's background, corporate governance issues, performance risk, problem statement, research goals, research questions, and study organization. Chapter two discusses the literature, the subject discussed in this chapter is about the return of assets (ROA) for businesses, and the internal and external influences on the return of assets. The proposed methodology, variables, research framework and statistical techniques are detailed in Chapter three. Chapter four discusses the study results and findings, including trend analysis for internal and external variables, descriptive statistical analysis, correlation, coefficient, modal summary and ANOVA testing. Eventually, Chapter 5 contains a review of the research, analysis of the results and recommendations for future work as well.

2.0 LITERATURE REVIEW

2.1 Corporate Governance

Corporate governance normally referred to as a system related to how their organizational operations are controlled and directed by their owners to achieve the goal of organization. Corporate governance is also defined as the response to various types of relationships between investors, creditors and the Board of Directors. Corporate governance has been seen as a main element of the financial system to enhance investor confidence in transparency in corporate transactions and promote economic growth, especially after the company's scandals. Good corporate governance facilitates the best use of internal corporate capital and reduces organizational agency problems (Khan, 2011).

Investment capital flows into businesses that can invest in the most profitable and efficient way by active corporate governance to produce high value and return goods and services. Effective corporate governance also helps reduce corruption and capital costs in business transactions by increasing investor confidence that their assets will be used for agreed purposes. Good corporate governance should allow executives to focus on improving company performance and to be substituted if they struggle (Mohamad, 2004).

Investors willing to pay more for well-managed companies that respect shareholder rights, financial transparency and good practice (Aydemir, 2012). Fine corporate governance can be achieved within the organization by balancing ownership, interests and control among stakeholders. This is primarily intended to protect investors from unexpected losses and to make compelling investment situations in order to gain a better position on the financial markets (Khan, 2011).

In term of corporate governance index, there are basic elements which are accountability, transparency, independence, fairness and sustainability disclosure. Accountability is a result of the conflict between the stakeholder and the company and is also a tool for controlling the expenses of the organization. Besides, transparency ensures that management does not take unlawful action, as their actions will be reviewed (Fung, 2014). Independence means avoiding undue influence on the vested interests and lifting certain limitations that prevent them from taking corrective action. In fact, justice means treating investors and partners fairly in all operations and preventing potential conflicts of interest that may occur. Sustainability, defined as corporate social responsibility, takes into account the interests of society in the implementation of projects (Burak et al., 2017).

2.2 Credit Risk

Credit risk known as the potential risk of loss that the borrower or the counterparty fails to fulfil its obligations under the terms of the agreement. These obligations are primarily related to lending activities, derivative trading, investment activities and negotiation. Besides, credit risk is simply the loss risk incurred by the lender by the creditor due to failure to pay, which may result in a raise in collection costs and a decline of cash flows. Credit risk is also the costliest risk associated with financial institutions, as its effect is very severe and potentially endangers the solvency of the organization, which can lead to high losses in borrowing and to the collapse of the financial institution (Ahmed & Malik, 2015).

Credit risk occurs in every financial industry, but primarily through off-balance sheet practices and default operations. Credit risk is monitored and controlled by the company, but could be mitigated through risk-based assessment, credit protection and tightening. The calculation of credit risk is important to estimate the potential losses of the credit process. Actively minimizing credit risk is vital to the health of the company and optimizing risk-adjusted market returns by increasing credit risk exposure (Spuchl'áková, Valáškova, & Adamko, 2015). A well-managed credit risk rating system improves company safety and robustness by facilitating informed decision-making (Getahun et al., 2015). Nevertheless, the poor control of credit risk by monetary authorities can lead to financial instability and may lead to a collapse of commercial banks. (Ahmed & Malik, 2015).

Based on previous study, credit risk has significant negative relationship with company performance (Muriithi et al., 2016). In order to figure out credit risk, researcher will use average-collection period to measure it. The average collection period is the outcome of company that sells its products or services on credit. The average collection period (ACP) includes handling the credit available to the clients of the business, as well as storing, sorting and accepting it. Companies should develop credit standards to manage credit and receivable processes effectively. Relaxing credit standards usually increases sales and profits, while strict credit standards reduce investment in receivable accounts, thereby reducing sales and profits (Kumaraswamy, 2016).

$$\text{Average-Collection Period} = \frac{\text{Account Receivable}}{\text{Revenue} / 365}$$

2.3 Operational Risk

Operational risk is usually known as risk of loss because insufficient internal systems and processes, misconduct by personnel or externalities. Operational risk involves high level of uncertainty in business activities, and overall unforeseeable cost of financial impact is higher. Operational risk is also an integral part of corporate governance, technical infrastructure or internal processes that are part of complex network of employees, products, customers, systems and regulations (Nastase & Unchiasu, 2013). In addition, operational risk is also expense of carrying out business activities that may inflict more harm to credibility. Operational risks include tail events, reflecting abnormal conditions rather than normal conditions. The predictability of operational risk is therefore poor and difficult to model (Jobst, 2007).

Operational risk involves legal risk, the risk of loss due to company legal defects, the ambiguity of the specifications and consequences of the regulation itself and the inefficiency of the national system of law. Operational risk does not involve the direct deployment of capital with an investment income opportunity. There is no demand or counterparty at operational risk, the cost cannot be re-negotiated and the transaction date prolonged. Typically, organizational threats are difficult to identify once they have arisen, are only detected when problems arise, or subsequent issues are also found. Operational uncertainty is rooted in the way the company works and is driven by people and IT processes that produce failure (Walker, 2015).

The past study concluded that there happens inverse relationship between operational risk and company performance (Muriithi & Waweru, 2017). In order to identify operational risk, researcher will use operating margin to measure it. The operating margin refers to the ability for revenue to produce gross profits. The stronger the operating margin rate, the higher the selling prices and lower the cost of output. High selling rates indicate that the goods of the business have a competitive benefit relative to others. If a brand has a market advantage in terms of price and performance, it will potentially help the company to increase productivity (Durrah et al., 2016).

$$\text{Operating Margin} = \frac{\text{Earning Before Income Tax (EBIT)}}{\text{Revenue}}$$

2.4 Liquidity Risk

Liquidity risk is known as the risk that the financial position of a company will suddenly require resources. Liquidity risk arises when a business unable to comply with its financial obligations at maturity without causing further losses (Yaacob et al., 2016). Liquidity risk is usually associated with financial intermediation, the conversion of maturity and the transfer of resources from the lender to the borrower. Liquidity risk is the result of the failure of a company to strike a balance between liabilities and assets, mainly because of the imbalance between the financing provided and the investment collected (Abdul-Rahman et al., 2017).

Liquidity risk is split into trading threat and borrowing hazard to help identify key components of liquidity danger such as asset and liability imbalance and financial market volatility. Liquidity risk shall not be protected by bonds, but shall be compensated by a sufficient number of liquid assets securities. Liquidity ratios are calculated by contrasting the liquid fund with the total assets and taking into account the cash flows produced by the assets and liabilities of the business. Liquidity uncertainty depends on the maturity of the assets and liabilities and on each intermediate cash flow (Scannella, 2016).

According to Chen et al. (2018), past study showed liquidity risk is negatively relationship with company performance. To identify liquidity risk, researcher will use current ratio in term of ability to pay off short-term obligations such as accounts payable with current asset of the company, representing proportion of current assets to current liabilities. The current ratio (CR) is not sufficient to determine the company's future revenue growth. The rise in the current ratio showed that business is highly liquid and therefore has a greater ability to repay short-term liabilities. Conversely, a drop in the current ratio below 1 indicates that the liquidity deficit and certain fixed assets are covered by some short-term debt (Durrah et al., 2016).

$$\text{Current Ratio} = \frac{\text{current assets}}{\text{current liabilities}}$$

2.5 Market Risk

Market risk known as the risk of losses on the financial condition of the company in the balance sheet and off-balance sheet because of adverse market prices changes. Market risk is recorded in the book of transactions. The market risk assessment method should include regular scenario analyses based on historical data and statistical simulations of adjustments in market risk factors and stress tests. The significance of risk analysis of market risk is essential for economists and analysts (Mirkovic et al., 2013).

Market risk is due to changing global factors. It is therefore necessary to reassess the strategy of managing market risks on a periodic basis. The market risk control system to assess and track hazard in a consistent manner. It includes the Value-at-Risk (VAR) principle to quantify market risk for all assets and options in the company's trading record (Frain & Meegan, 1996). From previous study, it showed market risk have significant negative relationship with company performance (Muriithi et al., 2016). The main factors which use by researchers to measure market risk are interest rates, Gross Domestic Product (GDP), foreign exchange rate, inflation and standard deviation.

Interest rate is the cost of interest as a portion of the principal to an individual who borrows or uses a property. The interest rate is essentially calculated on an annual basis known as the annual percentage rate (APR). Interest rates control the flow of money to the economy by influencing the rate of inflation. If interest rates in the economy are strong, inflation will be regulated, but economic activity will also be slowed down. Although low interest rates boost economic performance, but could lead to inflation (Kanwal et al., 2014). Company may generally use risk techniques or interest rate derivatives to protect their balance sheet against changes in interest rates (Ekinici, 2016).

Gross domestic product (GDP) is the value of goods and services produced by the economy of the country minus the value of the goods and services used. There are several ways to measure GDP using the expenditure method or the income method. GDP is also equivalent to the spending process, which is the cumulative expenditure on personal consumption, government expenditure, net exports and private domestic investment. GDP can also be calculated by income method, which adds up to all income earned from output, and the income from the national accounts contains all types of income from GDP (Dyran & Sheiner, 2018).

Exchange rate is known as a currency in a nation that can be translated to other currencies. The exchange rate is because it can translate domestic currency into another currency that can facilitate foreign trade in goods and services and transfer of funds between nations, as well as equate commodity prices in different countries (Abdoh et al., 2016).

Inflation can be described as a continuous increase in the general price rate or a continuous decrease in the value of money. Inflation often applies to increases in the overall price cost for goods and services, not to fluctuations in one value compared to other costs. The increase in price levels must be substantial and last for a while (Labonte & Makinen, 2008).

Standard deviation is defined as a measure of the risk that an investment will not be able to achieve its expected return over a specified period of time. The standard deviation in price returns is one of the most common ways to measure stock volatility. The practical way to measure market movement on the basis of knowledge is to track historical data at regular intervals, such as the average closing price. The greater the standard deviation of the portfolio, the better the risk. The greater the standard deviation, the more dispersed the benefits, the greater the investment risk (Dmouj, 2006).

2.6 Company Performance

There are many ways that can be used to assess company performance using financial ratios derived from financial data. Accounting-based performance indicators such as return on assets (ROA) are widely used ratios by investors and it will also use by researcher in order to measure company performance. In general, return on assets (ROA) is the financial ratio that indicates how the company uses its assets to generate profits (Samiloglu et al., 2017).

A better return on investment (ROA) suggests that the potential of the organization to generate high-level corporate profits from high-value capital has given the business a good reputation. The higher the return on assets (ROA), the better the company's performance, the higher the return on investment (Khadafi et al., 2014).

$$\text{ROA} = \frac{\text{Net profits after taxes}}{\text{Total assets}}$$

3.0 METHODOLOGY

Methodology is defined as the methods and means used by researcher which includes the techniques of collection, analysis and evaluation data (Collins, 2018). In this chapter, it will describe the procedure and tools that researchers used in conducting this study on the Microsoft Corporation. Researchers will analyse the data collected by using the Statistical Package for the Social Sciences (SPSS) tool to measure the effect of risks towards Microsoft's performance.

3.1 Sampling Method

Sampling technique is used by the researchers when the population is too large, and the researchers are unable to test every element in the population. In general, sample is a subset of the population, whereby it must be able to represent the population and must have good size to warrant statistical analysis. There are two types of the sampling method which include probability and nonprobability techniques. In this field of study, the sampling technique that researchers use is probability sampling technique. It is a sampling technique in which every element from the large population are being selected by using the method based on the theory of probability (Singh, 2018). In this study, researcher has chosen Microsoft Corporation as the unit of analysis among the software industry.

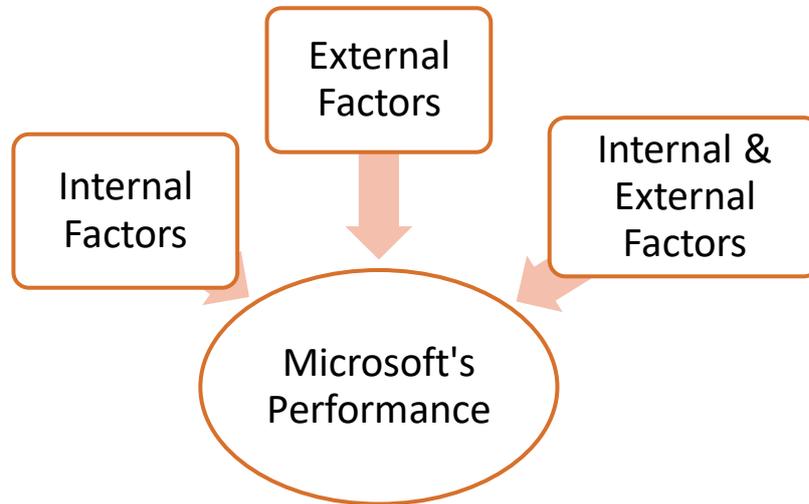
3.2 Variables

In this study, researchers use Microsoft Corporation internal variables and some external variables which is United States's environment. The dependent variable in this study is the Microsoft's profitability indicators which is determine by the return on assets (ROA) ratio. Besides, the independent variables for this study are average collection period for credit risk, operating margin for operational risk, current ratio for liquidity risk, and also market risk indicators which are interest rate, gross domestic product (GDP), exchange rates, inflation rates and standard deviation. Besides analysing the data, regression analysis and correlation will also use to identify the relationship between the independent variables and dependent variables. The formula for some independent and dependent variables will be showed in below :

Variables	Formulas
Average Collection Period	$\text{Account Receivable} / (\text{Revenue} / 365 \text{ days})$
Operating Margin	$\text{Earnings Before Income Tax (EBIT)} / \text{Revenue}$
Current Ratio	$\text{Current Assets} / \text{Current Liabilities}$
Return on Assets (ROA)	$\text{Net Income} / \text{Total Assets}$

3.3 Research Framework

In accordance to the conceptual framework of research in the future, the researchers will identify the dependent variable and independent variables in this study. The research framework is as follow:



3.4 Ordinary Least Squares (OLS) method

The ordinary least squares (OLS) method is a statistical method for identifying the relationship between independent and dependent variables. The method can evaluate the relationship by minimizing the sum of the squares of the differences between the observed and predicted quantities. In this research, researchers will use OLS method to examine the relationship between internal and external variables with return on assets (ROA) (Encyclopedia, 2016). There is formula for those three models:

Equation 1: Internal Model

$$ROA = a + a_1CR + a_2OM + a_3ACP + a_4INDXS + e$$

Equation 2: External Model

$$ROA = a + a_1GDP + a_2IFT + a_3IR + a_4ER + a_5STDV + e$$

Equation 3: Internal & External Model

$$ROA = a + a_1CR + a_2OM + a_3ACP + a_4INDXS + a_5GDP + a_6IFT + a_7IR + a_8ER + a_9STDV + e$$

Variable	Notation	Measurement
Current Ratio	CR	Liquidity Risk
Operating Margin	OM	Operational Risk
Average Collection Period	ACP	Credit Risk
Index Score	INDXS	Corporate Governance Elements
Growth Domestic Product	GDP	Productivity of Country
Inflation	IFT	Price Increase
Interest Rate	IR	Cost of Debt
Exchange Rate	ER	Value of Dollars
Standard Deviation	STDV	Fluctuation of Share Prices

3.5 Statistical Techniques

In this study, researchers have chosen one of the countries which is United States and specific the software industry. Microsoft Corporation is the company that have choose in the software industry. Researchers have collected Microsoft's official annual report from the year 2014 to 2018. The data from income statement and balance sheet will be used to measure the return on assets (ROA), credit risk, operational risk, liquidity risk, market risks and corporate governance index. For non-financial elements, researchers focus in the Microsoft's corporate governance which is regarding the information about board of directors in the aspect of qualifications, board size, audit committee, experience, gender diversity, and remuneration committee to get the index score. In order to measure market risk, researchers obtain data of interest rate, gross domestic product (GDP), exchange rates, inflation rates from Focus Economy website, International Monetary Fund website or World Bank website.

3.6 Statistical Package for Social Sciences (SPSS)

In this study, Statistical Package for Social Sciences (SPSS) tool basically was used to analyse the data collected. SPSS is defined as a powerful software used in conduct descriptive statistics, bivariate statistic, and numeral outcome prediction. This SPSS software is famous applied in the activity of data mining, marketing and market research (Foley, 2018). In this study, researcher is going to use SPSS to analyse data using linear regression and correlation between the variables based on the quantitative data obtained. Researcher also analyse the internal and external factors that influence return on assets of Microsoft Corporation.

4.0 ANALYSIS AND FINDINGS

In this chapter 4, researchers will be going to analyse the data from the financial report of Microsoft Corporation between 2014 to 2018 as the materials to access the Statistical Package for Social Sciences (SPSS). The researcher has used trend analysis for each risk components and SPSS output results to measure the relationship, and which is the most influence independent variables of internal and external factors to the dependent variable which is return on assets (ROA).

4.1 Descriptive Analysis for Internal and External Variables

Descriptive Statistics			
	Mean	Std. Deviation	N
ROA	0.0873	0.0250	5
CURRENT RATIO	2.5417	0.2091	5
AVERAGE-COLLECTION PERIOD	79.6169	6.4772	5
OPERATING MARGIN	0.2675	0.0571	5
GDP	2.4200	0.5450	5
Inflation	1.5000	0.8916	5
Interest Rate	2.0400	0.4393	5
Exchange Rate	0.2576	0.0313	5
Standard Deviation	0.7783	0.4512	5
CORPORATE GOVERNANCE INDEX	0.8000	0.0000	5

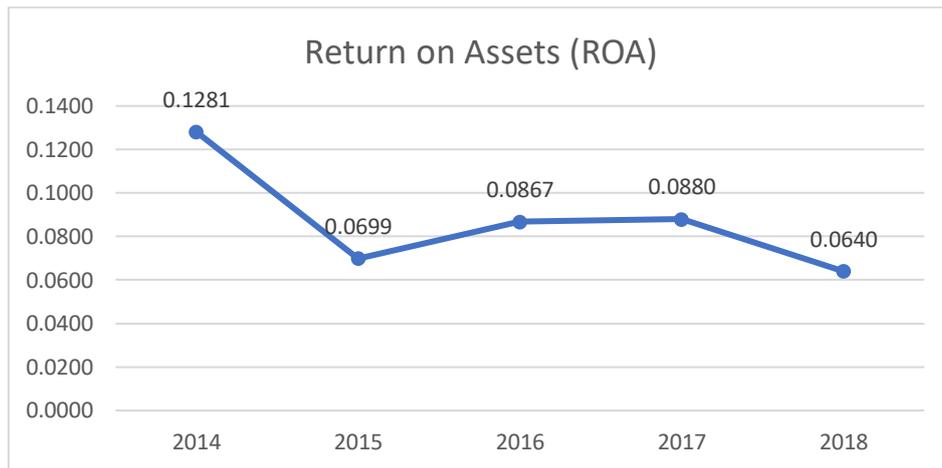
Table 1: Descriptive Statistics

The mean of return on assets (ROA) from 2014 to 2018 (N=5) of the Microsoft Corporation is 0.0873 or 8.73%. It is the average profit of Microsoft earned from their assets whereas the standard deviation of ROA showed the smallest variation in terms of profitability with 0.0250 or 2.5%. Since the standard deviation was closer to zero, it proved that data points are near to the mean and was less volatile. The most significant variable to the Microsoft's performance is average collection period which its average is 79.6169 during 2014 to 2018 as its standard deviation was the highest among the other variables with 6.4772. Besides, inflation rate was the highest standard deviation to return on assets (ROA) with 0.8916 among the others market risk indicator of GDP, interest rate, exchange rate and standard deviation. Besides ROA was the lowest standard deviation, exchange rate was considered the second lower with 0.0313 and average value of 0.2576. However, corporate governance index has 0.8 of mean value and zero value in standard deviation as Microsoft had consistent performance in term of accountability, transparency, fairness and sustainability but unable to fit the independence disclosure from 2014 to 2018.

4.2 Trend Analysis

In the trend analysis, researchers will conduct line graph and bar graph analysis towards the return on assets (ROA), current ratio, average-collection period, operating margin, standard deviation, gross domestic product (GDP), exchange rate, inflation rate and interest rate from 2014 to 2018.

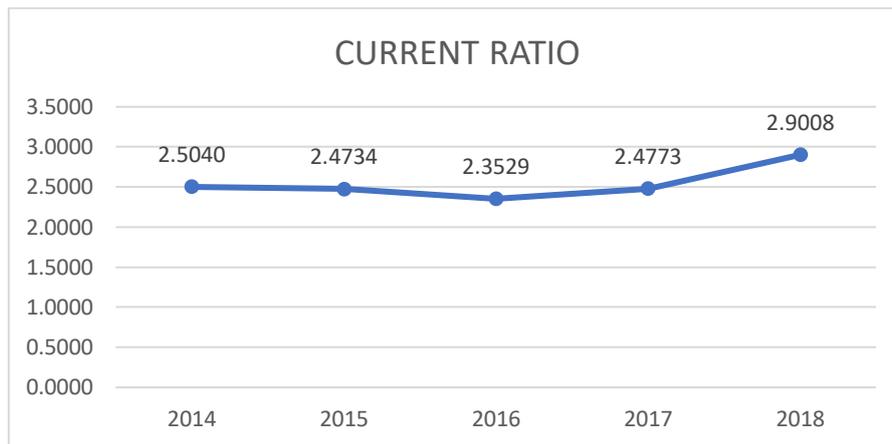
4.2.1 Microsoft's Performance



Graph 1: Return on Assets (ROA) from 2014 to 2018

Profitability ratio like return on asset (ROA) is one of the ways to measure Microsoft's performance in a certain year. Return on Assets (ROA) provides the information about management efficiency in generating income by using Microsoft's assets. Based on the graph above, it showed that the overall five years Microsoft's return on asset (ROA) was faced declining trend from 2014 to 2018. Throughout the five years, the highest value of ROA was 0.1281 in 2014 while the lowest was 0.0640 in year 2018. There was a dramatic drop from 0.1281 to 0.0699 from year 2014 to 2015 due to Microsoft's net income decrease almost half from \$ 22074 million to \$ 12193 million which was drop 81.04%. Microsoft point out that its net profit decline in financial performance which was due to the \$190 million in integration and restructuring charges from Nokia phone business transactions. Even the decline in net profits, both Surface and Lumia are more powerful with Microsoft and cloud computing growth (Tom, 2015).

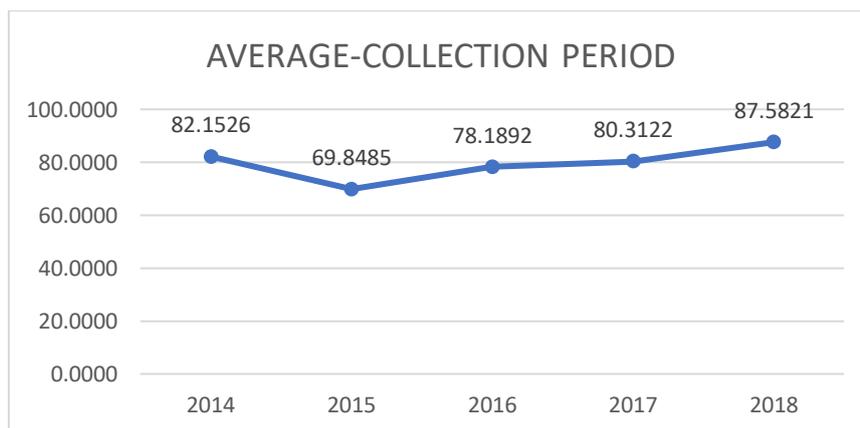
4.2.2 Liquidity Risk



Graph 2: Current Ratio from 2014 to 2018

To measure liquidity risk, current ratio was used to identify the ability of Microsoft to cover its debt obligation by using their current assets. From the graph above, the current ratio of Microsoft was fluctuated from 2014 to 2018. In 2014, Microsoft's current ratio was 2.5040, but then it decreased to 2.3529 in 2016 because of the increased portion in current liabilities more than current assets increased. After that, Microsoft's current ratio was increased to the highest point 2.9008 in 2018 among the five years considered as a good sign due to current liabilities drop 10.33% from \$64527 million (2017) to \$58488 million (2018). This showed that Microsoft took lesser short-term debt to cover its operation transaction which can prevent Microsoft keep on paying debt payment and interest expense in the short-term period.

4.2.3 Credit Risk

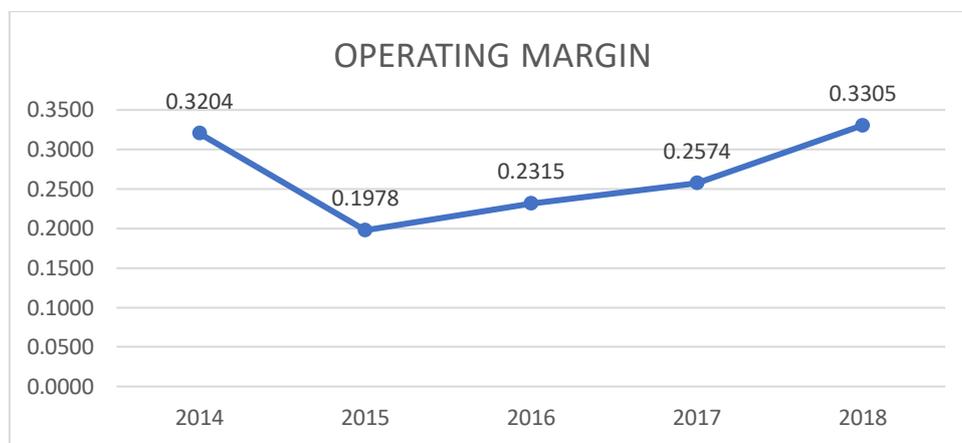


Graph 3: Average Collection Period from 2014 to 2018

The performance of credit risks in this assessment was determined by average collection period which is based on account receivable and credit sales. Based on the graph 3 above, the average collection period of Microsoft was unstable among five years and

considered as having increasing credit risk for Microsoft. Basically, the average collection period showed constant increase from 69 days in 2015 to 87 days in 2018, indicating credit risk raise as Microsoft took longer time to get back the money to run its operation. This also because of the huge raising amount of account receivables from \$17908 million in 2015 to \$26481 million in 2018 which was increase 47.87%. When there are many customers were going to make transaction on credit, this will cause Microsoft hardly to collect back in the short period and incur collection cost in the Microsoft.

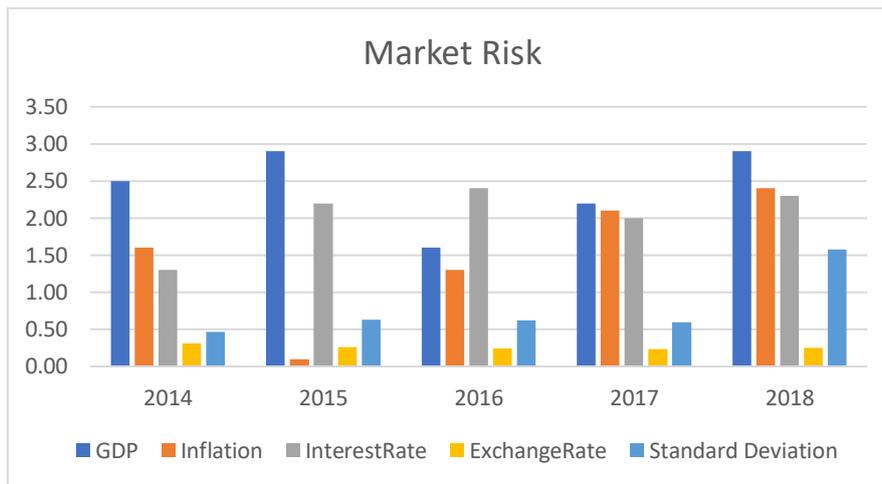
4.2.4 Operational Risk



Graph 4: Operating Margin from 2014 to 2018

Operating margin is a measure of overall operating efficiency which includes all costs associated with daily business activities. In this part, the Microsoft's operating margin has reached the highest in 2018 with 0.3305 as earnings before income tax (EBIT) was the highest amount of \$36474 million among the five years. Even the revenue had increased 29.35% from \$85320 million in 2016 to \$110360 million in 2018, but the earnings before income tax (EBIT) also increased 84.67% from \$19751 million (2016) to \$36474 million (2018) which was more than portion of revenue increase, thus operating margin increase. From this graph, it showed Microsoft will earn more for every dollar it sells when the operating margin increases. The earnings before income tax (EBIT) keep on increased from 2016 to 2018 due to growth across each of our segments and a reduction in restructuring expenses, while revenue increased driven by Windows Commercial and Windows OEM revenue growth which Windows Commercial revenue improved 23% due to increased multi-year agreements and higher quarterly revenue recognition portfolios (Microsoft, 2018).

4.2.5 Market Risk

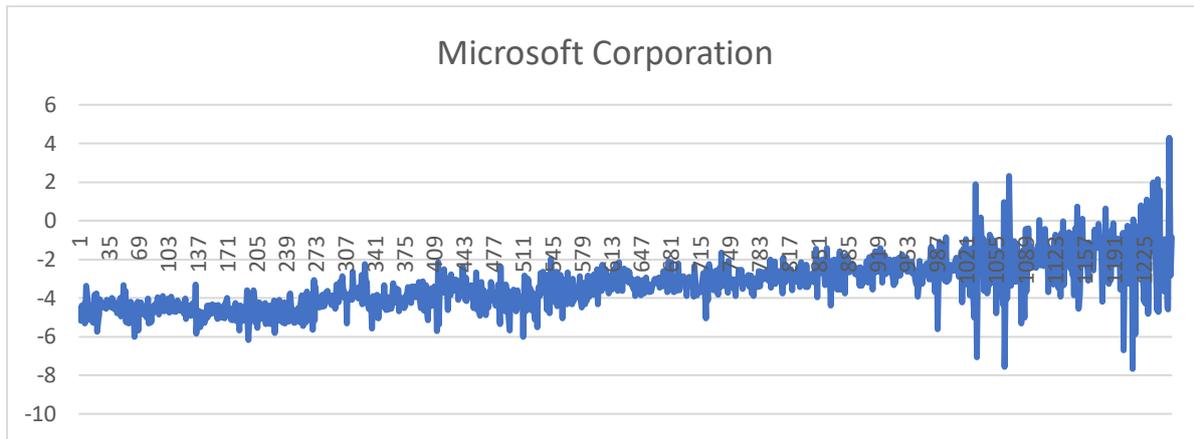


Graph 5: Market Risk Analysis from 2014 to 2018

The above bar chart showed the economic factor movements that influence Microsoft's performance from 2014 to 2018 which including growth domestic product (GDP), inflation rate, interest rate, exchange rate and standard deviation. In 2015, it showed the highest 2.9% GDP and the lowest inflation rate of 0.1% among the five years which considered lowest market risk in 2015. However, the highest market risk can be said in 2018 due to its inflation rate was the highest with 2.4% and standard deviation was also the highest with 1.5766. The interest rate was increased from 1.3% (2014) to 2.4% (2016), but then it decreased slightly to 2% (2017) and then increased back to 2.3% (2018).

From 2015 to 2016, inflation does rise faster than the Fed expects which was 0.1% to 1.3%, it would force to increase interest rates from 2.2% to 2.4%. This will have adverse effects on financial markets and potentially on the broader economy which can be showed in term of growth domestic product (GDP) that it declined rapidly from 2.9% in 2015 to 1.6% in 2016 (Martin, 2015). In 2018, it can be seen that the standard deviation which is the Microsoft's share price fluctuation was the highest with 1.5766. This was basically because Microsoft uses blockchain as a way to store and process digital identity data. Besides, Microsoft is working with Decentralized Identity Foundation (DIF) to address the issues encountered when managing personal data. To improve Cortana's ability to talk, Microsoft bought an AI start-up called Semantic Machines to help robots talk to humans naturally. In addition, in order to keep up with Amazon's cashier-less stores, Microsoft was going to cooperating with Walmart (Rebecca, 2018).

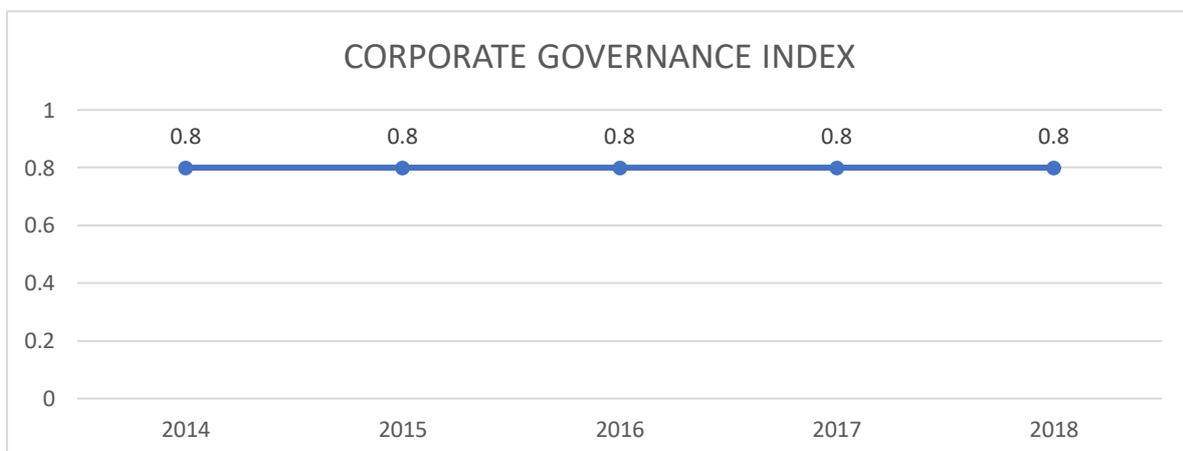
4.2.6 Price Changes



Graph 6: Price Changes from 2014 to 2018

Price change refers to the difference between the daily opening price and the closing price of the stock. Since price changes are a central part of financial analysis and can be used as indicators to estimate changes in the value of future stocks, it is worthy of attention. Price changes fluctuate daily because it depends on the needs and supply of current investors in the stock market. Based on the graph above, it showed the historical price changes of Microsoft Corporation from 2014 to 2018. From the analysis, there was an increasing trend for the price changes of Microsoft from 2014 to 2018. Microsoft experienced the worst loss of 7.67 dollars on 24th of October 2018, while the best changes on 26th of December 2018 with the earning of 4.29 dollars. Obviously, stock prices are changing every day due to fluctuations caused by market forces. In this way, it can be said that stock price changes are affected by market supply and demand.

4.2.7 Corporate Governance Index



Graph 7: Corporate Governance Index from 2014 to 2018

In terms of corporate governance, corporate governance index was used to measure to what extent the Microsoft practiced corporate governance in term of disclosure. The corporate governance index score was 80% throughout five years from 2014 to 2018, encompassing the elements of accountability, transparency, fairness and sustainability, but not fulfil the disclosure of independence.

In Microsoft Corporation, the index showed a consistent score of 0.8 for every variable. In terms of accountability, the Microsoft's board holds scheduled meetings annually and individual attendance is recorded. Besides, based on Microsoft's annual report, it can be known that Microsoft had audit committee to prove their transparency disclosure. In addition, Microsoft included female in their board of directors which showed fairness towards all others. Microsoft also having their corporate social responsibility (CSR) programs throughout their operations in between 2014 to 2018 which indicated their disclosure on sustainability.

4.3 Correlations for Internal and External Variables

Correlations

		ROA	Average- Current ratio	Average- collection period	Operating margin	GDP	Inflation	Interest Rate	Exchange Rate	STDV	CG Index
Pearson	ROA	1.000	-.413	.138	.335	-.292	.090	-.892	.738	-.637	.
Correlation	Current ratio	-.413	1.000	.675	.688	.670	.555	.122	-.021	.926	.
	Average- collection period	.138	.675	1.000	.921	.025	.944	-.168	.046	.607	.
	Operating margin	.335	.688	.921	1.000	.263	.790	-.463	.406	.500	.
	GDP	-.292	.670	.025	.263	1.000	-.103	-.150	.310	.463	.
	Inflation	.090	.555	.944	.790	-.103	1.000	-.102	-.179	.506	.
	Interest Rate	-.892	.122	-.168	-.463	-.150	-.102	1.000	-.839	.463	.
	Exchange Rate	.738	-.021	.046	.406	.310	-.179	-.839	1.000	-.297	.
	Standard Deviation	-.637	.926	.607	.500	.463	.506	.463	-.297	1.000	.
	CG INDEX	.	.	.	.	.	.	.	.	.	1.000
Sig. (1-tailed)	ROA	.	.245	.413	.291	.317	.443	.021	.077	.124	.000
	Current ratio	.245	.	.106	.099	.108	.166	.422	.486	.012	.000
	Average- collection period	.413	.106	.	.013	.484	.008	.394	.471	.139	.000
	Operating margin	.291	.099	.013	.	.334	.056	.216	.249	.196	.000
	GDP	.317	.108	.484	.334	.	.435	.405	.306	.216	.000
	Inflation	.443	.166	.008	.056	.435	.	.435	.387	.192	.000
	Interest Rate	.021	.422	.394	.216	.405	.435	.	.038	.216	.000
	Exchange Rate	.077	.486	.471	.249	.306	.387	.038	.	.314	.000
	Standard Deviation	.124	.012	.139	.196	.216	.192	.216	.314	.	.000
	CG INDEX	.000	.000	.000	.000	.000	.000	.000	.000	.000	.

N	ROA	5	5	5	5	5	5	5	5	5	5
	Current ratio	5	5	5	5	5	5	5	5	5	5
	Average-collection period	5	5	5	5	5	5	5	5	5	5
	Operating margin	5	5	5	5	5	5	5	5	5	5
	GDP	5	5	5	5	5	5	5	5	5	5
	Inflation	5	5	5	5	5	5	5	5	5	5
	Interest Rate	5	5	5	5	5	5	5	5	5	5
	Exchange Rate	5	5	5	5	5	5	5	5	5	5
	Standard Deviation	5	5	5	5	5	5	5	5	5	5
	CG INDEX	5	5	5	5	5	5	5	5	5	5

Table 2: Correlations for Internal and External Variables

Size of correlation	Interpretation
0.90 to 1.00 (-0.90 to -1.00)	Very high positive (negative) correlation
0.70 to 0.90 (-0.70 to -0.90)	High positive (negative) correlation
0.50 to 0.70 (-0.50 to -0.70)	Moderate positive (negative) correlation
0.30 to 0.50 (-0.30 to -0.50)	Low positive (negative) correlation
0.00 to 0.30 (0.00 to -0.30)	Negligible correlation

Source: Hinkle, Wiersma, & Jurs as cited in Mukaka (2012)

The table above showed the correlation among return on assets (ROA) with internal and external variables which are current ratio, average collection period, operating margin, corporate governance index, growth domestic product (GDP), inflation rate, interest rate, exchange rate and standard deviation. The significance of internal and external variables can be determined by using P value which must not more than 0.1 ($P < 0.1$) to prove its level of significance. Based on the table, it can be known that interest rate, exchange rate and corporate governance index are significant towards return on assets (ROA). This is because the significant value of interest rate and exchange rate are 0.021 and 0.077 respectively which are less than 0.1. For the significant, interest rate has high negative correlated with return on assets (ROA) with the value of -0.892, while the exchange rate has high positive correlated with return

on assets (ROA) with the value of 0.738. Since corporate governance index was consistent performance of 0.8 from 2014 to 2018, it will not have any influence on return on assets (ROA) even it had significant relationship with ROA.

However, all the internal variables showed their P-value are greater than 0.1 which means that current ratio (0.245), average collection period (0.413) and operating margin (0.291) are not significant to the return on assets (ROA). Besides, for those not significant external variables which are growth domestic product (GDP), inflation rate and standard deviation are also has correlation with return on assets (ROA). Growth domestic product (-0.292) and standard deviation (-0.637) are negligible correlated and moderate negative correlated respectively with ROA, while inflation rate (0.090) has negligible correlation relationship with return on assets (ROA).

Although all internal variables are not significant to return on assets (ROA), it can see that average collection period (0.138) and operating margin (0.335) are negligible correlation and low positive correlated respectively with return to assets (ROA), while only current ratio (-0.413) is low negative correlated with return to assets (ROA). Current ratio negative correlated with ROA is consider logical as assets amount is numerator for current ratio but is denominator for ROA. For instance, when current assets increase, current ratio will increase while ROA basically will reduce unless their profit also increase. For the average collection period, account receivables are taken into concern. Hence, when account receivables raise due to unpaid sales, ROA will increase as well. Besides, since operating margin positive correlated with ROA which means when operating margin increases, Microsoft makes profits after paying for production costs. It will have direct relationship with ROA as the resources to make profits is the Microsoft's assets.

4.4 Return on Assets (ROA) and Internal Variables

In this section, the analysis on Microsoft's performance which is return on assets (ROA) with the internal variables will be conducted. The internal variables that involve are current ratio, average collection period, operating margin and corporate governance index.

4.4.1 Coefficient between ROA and Internal Variables

Coefficients ^a										
Model		Unstandardized		Standardized		95.0% Confidence		Collinearity		
		Coefficients		Coefficients		Interval for B		Statistics		
		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	.469	.032		14.647	.043	.062	.875		
	CURRENT RATIO	-.139	.009	-1.159	-14.973	.042	-.257	-.021	.515	1.941
	AVERAGE-COLLECTION PERIOD	-.003	.001	-.809	-5.624	.112	-.010	.004	.149	6.713
	OPERATING MARGIN	.824	.064	1.878	12.833	.050	.008	1.640	.144	6.942

a. Dependent Variable: ROA

Table 3: Coefficients between ROA and internal variables

Based on the table 3 above, current ratio and operating margin are the significant predictor of return on assets (ROA). This is mainly due to the significant value of current ratio and operating margin are 0.042 and 0.50 respectively which is less than the significant value of $p < 0.1$. However, the internal variables of average collection period are not predictors of return on assets (ROA) which its significance level is 0.112 that more than 0.1. Since all variables of variance inflation factor (VIF) in collinearity statistics were not more than 10, it considered all variables were free of bias.

According to the table 3 above, the standardized coefficient beta of operating margin is the largest with 1.878, indicating that it has the biggest and positive influence on Microsoft's return on assets (ROA) among others significant internal variables. This showed that when operating margin increase, Microsoft was well managed its operation which indirectly improve return on assets (ROA). Besides, the standardized coefficient beta of current ratio is -1.159 which shows a negative and indirect influence on Microsoft's return on assets (ROA). Negative beta value of -1.159 indicates negative relationship which means when current ratio decreases 1 point, the return on assets will be increase by 1.159. This proved that by having more short

term debt, it would let Microsoft to expand their business to wider scope in term of product and services renovation which indirectly improve Microsoft performance. This is consistent with previous study done by Chen et al. (2018) where it showed liquidity risk is negatively related to company performance.

4.4.2 Modal Summary & ANOVA Table between ROA and Internal Variables

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.998 ^a	.997	.988	.0028	3.146

a. Predictors: (Constant), OPERATING MARGIN, CURRENT RATIO, AVERAGE-COLLECTION PERIOD

b. Dependent Variable: ROA

Table 4: Modal Summary between ROA and Internal Variables

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.002	3	.001	107.677	.071 ^b
	Residual	.000	1	.000		
	Total	.003	4			

a. Dependent Variable: ROA

b. Predictors: (Constant), OPERATING MARGIN, CURRENT RATIO, AVERAGE-COLLECTION PERIOD

Table 5: ANOVA table between ROA and Internal Variables

In this section of table 4, R-square will be identify and interpreted as it measures on how close the data are fitted to the regression line. It is also called as the coefficient of multiple determination for multiple regression. According to the analysis conducted, the R square value is 0.997 which equivalent to 99.7%. This showed that 99.7% of variance in return on assets (ROA) is explained by all the predictors which are operating margin, current ratio and average collection period. Therefore, the model is considered good. The value is nearer to 1, meaning the selected predictors which are operating margin, current ratio and average collection period are extremely relevant to the dependent variable of return on assets (ROA).

The Durbin Watson in table 5 is 3.146 which is considered in a right track in between of 0 to 4. The value of Durbin Watson is 3.146 indicate negative autocorrelation when in between value 2 to 4. The results on ANOVA table 5 indicates that variance explained in Model 1 between ROA and Internal Variables is significant when $p = 0.071$ is less than significance value at $p < 0.1$. Therefore, it can be said that Model 1 between ROA and Internal Variables is supported to explain variance in return on assets (ROA).

4.5 Return on Assets (ROA) and External Variables

In this section, the analysis on Microsoft's performance which is return on assets (ROA) with the external variables will be conducted. The external variables that involve are growth domestic product (GDP), inflation rate, interest rate, exchange rate and standard deviation.

4.5.1 Coefficient between ROA and External Variables

Coefficients ^a									
Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta	t		Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	.247	.017		14.466	.005	.174	.321		
Interest Rate	-.055	.006	-.957	-9.747	.010	-.079	-.030	.977	1.023
GDP	-.020	.005	-.436	-4.441	.047	-.039	-.001	.977	1.023

a. Dependent Variable: ROA

Table 6: Coefficients between ROA and External Variables

Table 6 above shows the coefficients of Microsoft Corporation's dependent variable which is return on assets (ROA) and external variables. In analysing external variables, stepwise method is used to find out the most relevant predictor automatically. Hence, those irrelevant variables include inflation rate, exchange rate, and standard deviation are excluded from the model 1. From here, we can see that only interest rate and gross domestic product (GDP) are relevant. There were all variables of variance inflation factor (VIF) in collinearity statistics less than 10 which indicated free of bias.

For the Model 1, both interest rate and gross domestic product (GDP) are significant predictors of Microsoft's return on assets (ROA) as both significant values are 0.01 and 0.047 respectively which less than 0.1. The standard coefficient beta of interest rate (-0.957) is higher than gross domestic product (-0.436) indicates interest rate has larger affects and influence on ROA. Furthermore, both variables have negative sign standard coefficient beta value indicating that both variables have a negative and indirect relationship with ROA. Each one unit decrease in interest rate and gross domestic product (GDP), return on assets (ROA) will increase. This showed that when interest rates decrease, cost of borrowing will decline which indirectly makes profit raise. Moreover, it also proved that when gross domestic product (GDP) decrease, low production level where less competitors compete with Microsoft, this will indirectly improve Microsoft's performance. This is consistent with previous study of Muriithi et al. (2016) where market risk has significant negative relationship with company performance.

From here, we can say that Microsoft Corporation should focus more on interest rate and gross domestic product (GDP) compared to other variables as stepwise analysis suggests that interest rate and gross domestic product (GDP) are the most relevant variable to influence ROA. However, interest rate and gross domestic product (GDP) are systematic risk which unable diversified by the Microsoft Corporation. Hence, Microsoft should align with their country policy in order to maximize their return of assets (ROA).

4.5.2 Modal Summary & ANOVA Table between ROA and External Variables

Model Summary ^c						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
1	.991 ^b	.981	.962	.0049	2.521	

a. Predictors: (Constant), Interest Rate, GDP

b. Dependent Variable: ROA

Table 7: Modal Summary between ROA and External Variables

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.002	2	.001	52.029	.019 ^c
	Residual	.000	2	.000		
	Total	.003	4			

a. Dependent Variable: ROA

b. Predictors: (Constant), Interest Rate, GDP

Table 8: ANOVA table between ROA and External Variables

Based on the table 7, R-square will be used to measure of how close the data to the fitted regression line or known as coefficient of determination for multiple regression. According to the analysis conducted, the R square value for Model 1 is 0.981 which showed that 98.1% of variance in return on assets (ROA) is explained by the predictors which are interest rate and gross domestic product (GDP). The Model 1 value is closer to 1, indicating the model 1 explains all the variability of the response data around its mean and has better regression fit line. Furthermore, it means that the predictors in this study which are interest rate and gross domestic product (GDP) are more relevant to the dependent variable which is ROA.

The Durbin Watson for model 1 external factors is 2.521 consider as good which is between 0 to 4 and known as negative autocorrelation. The results on ANOVA table 9 indicates that variance explained in Model 1 are significant when the Model 1 significant value is 0.019 which are less than significance value at $p < 0.1$. Therefore, it can be said that Model 1 of interest rates and gross domestic product (GDP) are supported to explain variance in return on assets (ROA).

4.6 Return on Assets (ROA) & Internal and External Variables

In this section, the analysis on Microsoft's performance which is return on assets (ROA) with the internal and external variables will be conducted. The internal and external variables that involves are current ratio, average collection period, operating margin, corporate governance index, growth domestic product (GDP), inflation rate, interest rate, exchange rate and standard deviation.

Excluded Variables^a

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	Inflation	-.054 ^c	-.424	.745	-.390	.975
	Exchange Rate	.268 ^c	9.922	.064	.995	.261
	Standard Deviation	.015 ^c	.077	.951	.077	.496
	CURRENT RATIO	-.006 ^c	-.033	.979	-.033	.500
	AVERAGE-COLLECTION PERIOD	-.012 ^c	-.089	.943	-.089	.972
	OPERATING MARGIN	.009 ^c	.056	.964	.056	.747

a. Dependent Variable: ROA

b. Predictors in the Model: (Constant), Interest Rate, GDP

Table 9: Excluded Variables between ROA & Internal and External Variables

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients		t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta				Lower Bound	Upper Bound	Tolerance	VIF
1 (Constant)	.247	.017			14.466	.005	.174	.321		
Interest Rate	-.055	.006	-.957		-9.747	.010	-.079	-.030	.977	1.023
GDP	-.020	.005	-.436		-4.441	.047	-.039	-.001	.977	1.023

a. Dependent Variable: ROA

Table 10: Coefficient between ROA & Internal and External Variables

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.991 ^b	.981	.962	.0049	2.521

a. Predictors: (Constant), Interest Rate

b. Predictors: (Constant), Interest Rate, GDP

c. Dependent Variable: ROA

Table 11: Model Summary between ROA & Internal and External Variables

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.002	2	.001	52.029	.019 ^c
	Residual	.000	2	.000		
	Total	.003	4			

a. Dependent Variable: ROA

b. Predictors: (Constant), Interest Rate, GDP

Table 12: ANOVA Table between ROA & Internal and External Variables

In analysing internal and external variables, stepwise method will also use to find out the most relevant predictor automatically. Hence, those irrelevant variables include inflation rate, exchange rate, standard deviation, current ratio, average collection period and operating margin are also excluded from the model 1 which showed in table 9. From here, we can see that only interest rate and gross domestic product (GDP) are more relevant based on table 10. For the Model 1, both interest rate and gross domestic product (GDP) are significant predictors of Microsoft's return on assets (ROA) as both significant values are 0.01 and 0.047 respectively which less than 0.1. This is consistent with previous study of Muriithi et al. (2016) where market risk has significant negative relationship with company performance.

It can be concluded that the analysis conduct on ROA & internal and external variables is same output results with ROA and external variables analysis in term of correlation, coefficient, modal summary and ANOVA table based on table 10, table 11 and table 12. This have been proved that Microsoft Corporation's performance which is return on assets (ROA) is more easily influence by external variables especially interest rate and gross domestic product (GDP) compared with those internal variables.

The United States is known for its technologically advanced goods and its companies have a global influence. As a consequence, the regional sense lets Microsoft Corporation gain a competitive advantage in the corporate environment (Essays, 2018). Political stability in markets around the world allows Microsoft Company the opportunity to increase its output by increasing its sales and marketing resources in Europe in order to achieve a corresponding increase in revenues. Moreover, United States is increasing international trade agreements to establish a macro-environment that promotes Microsoft's global sales. This would enable Microsoft Corporation to profit from smoother business transactions in overseas markets (Edward, 2017).

5.0 CONCLUSION & RECOMMENDATION

In conclusion, based on the research objectives mentioned in 1.3, this research has implemented to figure out the relationship of firm specific factors and macroeconomic factors affect the performance of Microsoft Corporation's return on assets (ROA). The independent variables used to determine the influence of internal factors to return on assets (ROA) are liquidity risk, credit risk, operational risk and corporate governance index. Meanwhile, the independent variables used to determine the influence of macroeconomic factors towards ROA are standard deviation, growth domestic product (GDP), inflation rate, exchange rate and interest rate. The data collected through the annual report of Microsoft Corporation in the latest 5 years from 2014 to 2018. In this part, researcher will make conclusion about the result of analysis and also the overall study.

Besides, corporate governance is also a corporate control system which affects Microsoft's decision-making. All these actions will therefore have an effect on the competitiveness of the business. Corporate governance should therefore be a priority of Microsoft to handle liquidity risk, credit risk, operational risk and market risk in order to maximize Microsoft's worth. This has shown that, in addition to caring for stakeholders, Microsoft is also working towards the goal of maximizing shareholder value.

5.1 Discussion of Result

Through the research result, researcher found that the return on assets (ROA) of Microsoft Corporation has influence by the firm specific factors and macroeconomic factors. For the firm specific factors in coefficient table 3, the most significant influence has existed between return on assets (ROA) with internal variables of current ratio and operating margin. Operating margin showed the positive influence on the return on assets (ROA) in the Microsoft, while current ratio showed negative influence on return on assets (ROA).

Basically, the increase in operating margin should bring to the increase of return on assets (ROA), where Microsoft has higher selling prices and low production costs indirectly raise the profit earn from each asset. Besides, Microsoft has performed a reverse influence where the decrease in current ratio, the return on assets (ROA) increase simultaneously. Based on the annual report of Microsoft in 2016, this occurred because of the increased portion in current liabilities more than current assets increased which showed Microsoft willing to take short-term debt to make transaction and generate profitable project.

However, for the external factors, interest rate and gross domestic product (GDP) are the most significant market risks that influence return on assets (ROA) which Microsoft should address because they are systemic risks that cannot be decentralized. For the external factors and return on assets (ROA) of Microsoft, both interest rate and gross domestic product (GDP) have showed that the negative influence on the Microsoft's return on assets (ROA). When interest rate and gross domestic product (GDP) decline, the return on assets (ROA) increase simultaneously.

It can be showed in 2017 to 2018 where interest rate increase, the return on assets (ROA) decrease which mainly because of Microsoft has to pay more interest expense that directly cause Microsoft's net income drop, then return on assets (ROA) decrease too. Furthermore, the decreasing in gross domestic product (GDP) caused the return on assets (ROA) of Microsoft increase. Therefore, the United States' gross domestic product (GDP) decline will lead to the total assets that generate by company decrease which also include Microsoft Corporation which indirectly cause Microsoft's return on assets (ROA) increase.

In the combined model of internal and external factors, it proved that the macroeconomic factors have more significant influence on the Microsoft's return on assets (ROA) compare to firm specific factors. This statement can be showed in the result of SPSS analysis table 12 where the interest rate is the most significant influenced the Microsoft's return on assets (ROA) as same as the SPSS output result for external variables.

5.2 Recommendations

Although the research has showed the most significant influence factors to the Microsoft's return on assets (ROA) is interest rate, but the trend of the interest rate does not control by the Microsoft and Microsoft only can be make flexible changes according to the market interest rate. This fact is proved that Microsoft is more relied on the external environment conditions. Microsoft should realize the effective way of using their assets to prevent the improper use and maximize net profit. Microsoft's return on assets (ROA) positive indicate that the used of assets generate the profit well. Hence, Microsoft should rectify the usage of their assets to make sure ROA continue improving. Microsoft should establish a risk committee on the boards to assessing different types of risks from 2014 to 2018, such as liquidity risk, credit risk, operational risk and market risk exposures. In setting up a risk panel to enforce the framework of risk management and track the performance of Microsoft, the ROA for Microsoft will be done consistently well.

In addition, Microsoft should also improve the ability in paying short term obligations. This is because increase in current ratio amount from 2014 to 2016 and liquidity risk may exist which may indirectly reduce Microsoft's profit after taxes. Microsoft can effectively manage the finances by establishing specific liquidity guidelines specifying the conditions of the current liabilities amount and its backup current assets. This will allow Microsoft keep track of its operation stability, which will improve stakeholder's confidence. This is important for Microsoft to ensure that current liabilities is well handled, and financial costs are eliminated. When Microsoft is unable to cover the current liabilities from the current assets, this will result in Microsoft not operating properly due to a lack of enough financial resources to fund the operation.

In order to reduce the market risk that has the greatest impact on Microsoft's profitability, it is advised that Microsoft utilize different types of derivative instruments to defend against interest rate risk. Microsoft should therefore use hedge tools to protect against interest rate fluctuations, such as forward contracts and future contracts, to reduce potential losses. Regarding currency exposure to foreign currency financial liabilities, it is advised that Microsoft utilize cross-currency interest rate swap arrangements to hedge against interest rate volatility in foreign currency loans at the end of the loan term.

Lastly, Microsoft must control its output and improve its skills from time to time to contend with other rivals to handle it efficiently and effectively in the financial asset in order to further enhance its performance. The internal and external factors of Microsoft must also be taken into account to understand where the environment and technology are constantly changing. Microsoft Corporation may develop managed approaches and procedures to handle the environment through a robust risk management approach.

6.0 REFERENCES

- Abdoh, W. M. Y. M., Yusuf, N. H. M., Zulkifli, S. A. M., Bulot, N., & Ibrahim, N. J. (2016). Macroeconomic Factors That Influence Exchange Rate Fluctuation in ASEAN Countries. *International Academic Research Journal of Social Science*, 2(1), 89-94.
- Abdul-Rahman, A., Said, N. L. H. M., & Sulaiman, A. A. (2017). Financing Structure and Liquidity Risk: Lesson from Malaysian Experience. *Journal of Central Banking Theory and Practice*, 6(2), 125-148.
- Ahmed, S. F., & Malik, Q. A. (2015). Credit Risk Management and Loan Performance: Empirical Investigation of Micro Finance Banks of Pakistan. *International Journal of Economics and Financial Issues*, 5(2), 574-579.
- Aydemir, B. (2012). *Corporate Governance: An Empirical Analysis of the Relationship between SAHA's Corporate Governance Rating Scores and Firm Performance at Istanbul Stock Exchange*.
- Burak, E., Erdil, O., & Altindag, E. (2017). Effect of corporate governance principles on business performance. *Australian Journal of Business and Management Research*, 5(7), 8-21.
- Chen, Y. K., Shen, C. H., Kao, L., & Yeh, C. Y. (2018). Bank liquidity risk and performance. *Review of Pacific Basin Financial Markets and Policies*, 21(01), 1850007.
- Charlie, M. (2017). "We really need to take accountability," Microsoft CEO on the 'Tay' chatbot. Retrieved from <https://chatbotsmagazine.com/we-really-need-to-take-accountability-microsoft-ceo-on-the-tay-chatbot-2383ee83a6ba>
- Collins. (2018). *Definition of 'methodology'*. Retrieved from Collins: <https://www.collinsdictionary.com/dictionary/english/methodology>
- Dmouj, A. (2006). Stock price modelling: Theory and Practice. *Masters Degree Thesis, Vrije Universiteit*.
- DSP (2016). *A Brief History of Microsoft - The World's Biggest Software Company*. Retrieved from <https://www.dsp.co.uk/a-brief-history-of-microsoft-the-worlds-biggest-software-company/>
- Durrah, O., Rahman, A. A. A., Jamil, S. A., & Ghafeer, N. A. (2016). Exploring the relationship between liquidity ratios and indicators of financial performance: An analytical study on food

industrial companies listed in Amman Bursa. *International Journal of Economics and Financial Issues*, 6(2), 435-441.

Dynan, K. & Sheiner, L. (2018). *GDP as a Measure of Economic Well-being*. Hutchins Center Working Paper.

Edward, F. (2017). *Microsoft Corporation's PESTEL/PESTLE Analysis & Recommendations*. Retrieved from <http://panmore.com/microsoft-corporation-pestel-pestle-analysis-recommendations>

Edward, F. (2017). *Microsoft Corporation's SWOT Analysis & Recommendations*. Retrieved from <http://panmore.com/microsoft-corporation-swot-analysis-recommendations>

Ekinci, A. (2016). The effect of credit and market risk on bank performance: Evidence from Turkey. *International Journal of Economics and Financial Issues*, 6(2), 427-434.

Encyclopedia (2016). *Ordinary Least Squares Regression*. Retrieved from <https://www.encyclopedia.com/social-sciences/applied-and-social-sciences-magazines/ordinary-least-squares-regression>

Encyclopedia (2019). *Software Industry*. Retrieved from <https://www.encyclopedia.com/history/dictionaries-thesauruses-pictures-and-press-releases/software-industry>

Essays, UK. (2018). *Internal and external analysis of Microsoft*. Retrieved from <https://www.ukessays.com/essays/marketing/internal-and-external-analysis-of-microsoft-marketing-essay.php?vref=1>

Frain, J., & Meegan, C. (1996). *Market Risk: An introduction to the concept & analytics of Value-at-risk*. Economic Analysis, Research & Publications Department, Central bank of Ireland.

Foley, B. (2018). *What is SPSS and How Does it Benefit Survey Data Analysis?* Retrieved from surveygizmo: <https://www.surveygizmo.com/resources/blog/what-is-spss/>

Fung, B. (2014). The demand and need for transparency and disclosure in corporate governance. *Universal Journal of Management*, 2(2), 72-80.

Getahun, T., Anwen, L. & Bari, M. S. (2015). Credit Risk Management and Its Impact on Performance of Commercial Banks: In of Case Ethiopia. *Research Journal of Finance and Accounting*, 6(24), 53-64.

Gregg, P. Z. & Mark, H. (n.d.). *Microsoft Corporation*. Retrieved from <https://www.britannica.com/topic/Microsoft-Corporation>

Jobst, A. (2007). Operational Risk: The Sting is Still in the Tail But the Poison Dependson the Dose (No. 7-239). *International Monetary Fund*.

Kanwal, K., Ahmed, M., Burney, I., & Mubeen, M. (2014). Determinants of Interest Rate: Empirical Evidence from Pakistan. *Journal of Economics and Sustainable Development*, 5(13), 25-30.

Keith, N. (2014). *3 Huge Risks Microsoft Corporation Investors Should Consider*. Retrieved from <https://www.fool.com/investing/general/2014/07/07/3-huge-risks-microsoft-corporation-investors-shoul.aspx>

Khadafi, M., Heikal, M., & Ummah, A. (2014). Influence analysis of return on assets (ROA), return on equity (ROE), net profit margin (NPM), debt to equity ratio (DER), and current ratio (CR), against corporate profit growth in automotive in Indonesia Stock Exchange. *International Journal of Academic Research in Business and Social Sciences*, 4(12).

Khan, H. (2011). A literature review of corporate governance. *In International Conference on E-business, Management and Economics* (Vol. 25, pp. 1-5).

Kumaraswamy, S. (2016). Impact of working capital on financial performance of gulf cooperation council firms. *International Journal of Economics and Financial Issues*, 6(3), 1136-1143.

Kurt, M. (2018). *Microsoft Promises Greater Transparency on Windows 10 Update Quality Issues*. Retrieved from <https://redmondmag.com/articles/2018/11/14/microsoft-transparency-windows-10-update.aspx>

Labonte, M., & Makinen, G. E. (2008). *Inflation: causes, costs, and current status*. Congressional Research Service, Library of Congress.

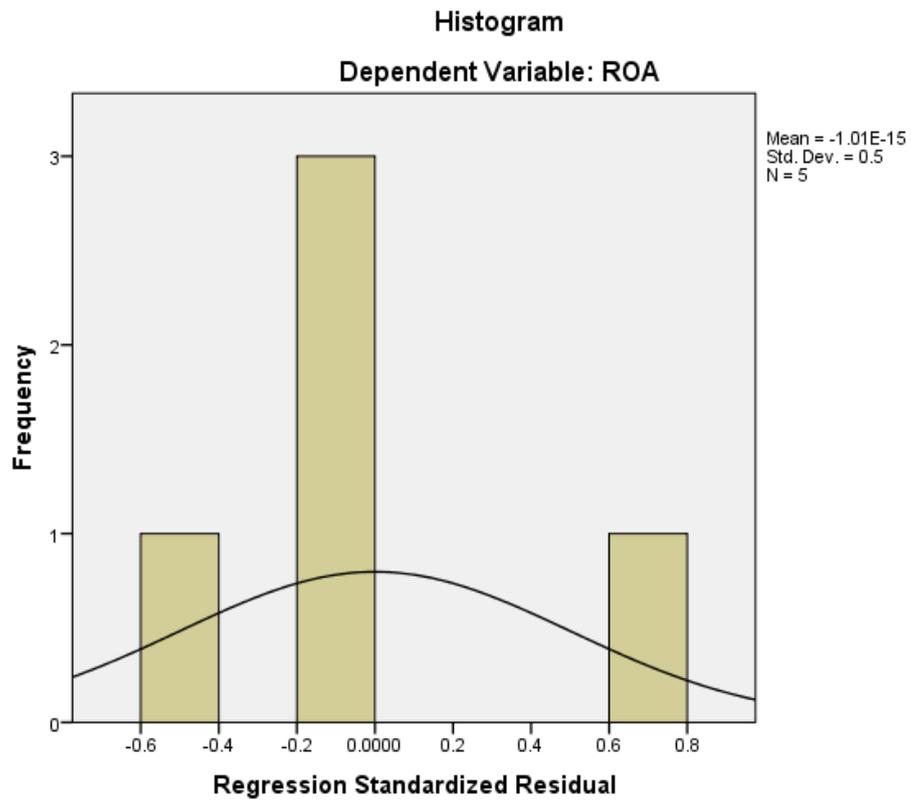
Martin, F. (2015). *What's causing America's low inflation?* Retrieved from <https://www.weforum.org/agenda/2015/05/whats-causing-americas-low-inflation/>

- Mary, B. (2019). *A Short History of Microsoft*. Retrieved from <https://www.thoughtco.com/microsoft-history-of-a-computing-giant-1991140>
- Microsoft (2018). *Earnings Release FY18 Q4*. Retrieved from <https://www.microsoft.com/en-us/Investor/earnings/FY-2018-Q4/press-release-webcast>
- Mirkovic, V., Dasic, B. & Siljkovic, B. (2013). MARKET RISK MANAGEMENT IN BANKS. *13th International Conference "Research and Development in Mechanical Industry"*, 441-446
- Mohamad, S. (2004). The Importance of Effective Corporate Governance. *SSRN Electronic Journal*.
- Muriithi, J. G., Muturi, W. M., & Waweru, K. M. (2016). The Effect of Market Risk on Financial Performance of Commercial Banks in Kenya. *Journal of Finance and Accounting*, 4(4), 225-233.
- Muriithi, J. G., Waweru, K. M., & Muturi, W. M. (2016). Effect of credit risk on financial performance of commercial banks in Kenya. *IOSR Journal of Economics and Finance*, 7(4), 72-83.
- Muriithi, J. G., & Waweru, K. M. (2017). Operational Risk, Bank Size and the Financial Performance of Commercial Banks in Kenya. *International Journal of Finance & Banking Studies*, 6(3), 39-50.
- Nastase, P., & Unchiasu, S. F. (2013). Implications of the operational risk practices applied in the banking sector on the information systems area. *Accounting and Management Information Systems*, 12(1), 101.
- Parker, B. (2019). *Microsoft SWOT Analysis 2019 | SWOT Analysis of Microsoft*. Retrieved from <https://bstrategyhub.com/swot-analysis-of-microsoft/>
- Rebecca, C. (2018). *End of year stock roundup: How did Microsoft perform in 2018?* Retrieved from <https://thenextweb.com/investing-2-0/2018/12/27/end-of-year-stock-roundup-how-did-microsoft-perform-in-2018/>
- Samiloglu, F., Oztop, A. O., & Kahraman, Y. E. (2017). The Determinants of Firm Financial Performance: Evidence From Istanbul Stock Exchange (BIST). *IOSR Journal of Economics and Finance (IOSR-JEF) Volume*, 8, 62-67.

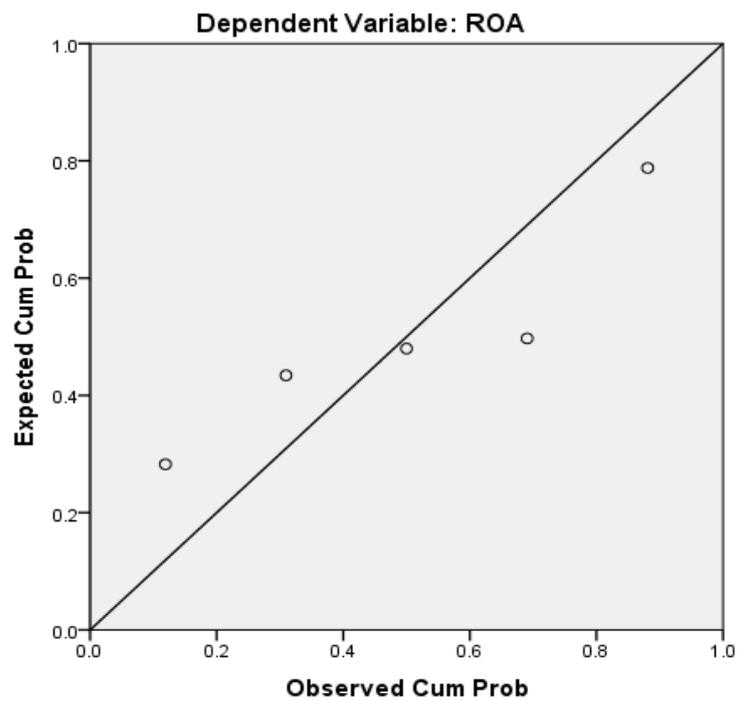
- Scannella, E. (2016). Theory and regulation of liquidity risk management in banking. *International Journal of Risk Assessment and Management*, 19(1-2), 4-21.
- Sean, L. (2012). *Microsoft's big risks: building Surface, people ditching Windows, lawsuits, & more*. Retrieved from <https://venturebeat.com/2012/07/27/microsoft-risk-factors/>
- Singh, S., & Singh, S. (2018). *Sampling Techniques*. Retrieved from <https://towardsdatascience.com/sampling-techniques-a4e34111d808>
- Spuchl'áková, E., Valášková, K., & Adamko, P. (2015). The credit risk and its measurement, hedging and monitoring. *Procedia Economics and Finance*, 24, 675-681.
- Tom, W. (2015). *Microsoft's Q3 2015: Surface and Lumia up, but profit down*. Retrieved from <https://www.theverge.com/2015/4/23/8484267/microsoft-earnings-report-q3-2015>
- Walker, R. (2015). The Increasing Importance of Operational Risk in Enterprise Risk Management. *Enterprise Risk Management*, 82.
- Yaacob, A. K., Abdul Rahman, A., & Abdul Karim, Z. (2016). The determinants of liquidity risk: a panel study of Islamic banks in Malaysia. *Journal of Contemporary Issues and Thought*, 6(1), 73-82.

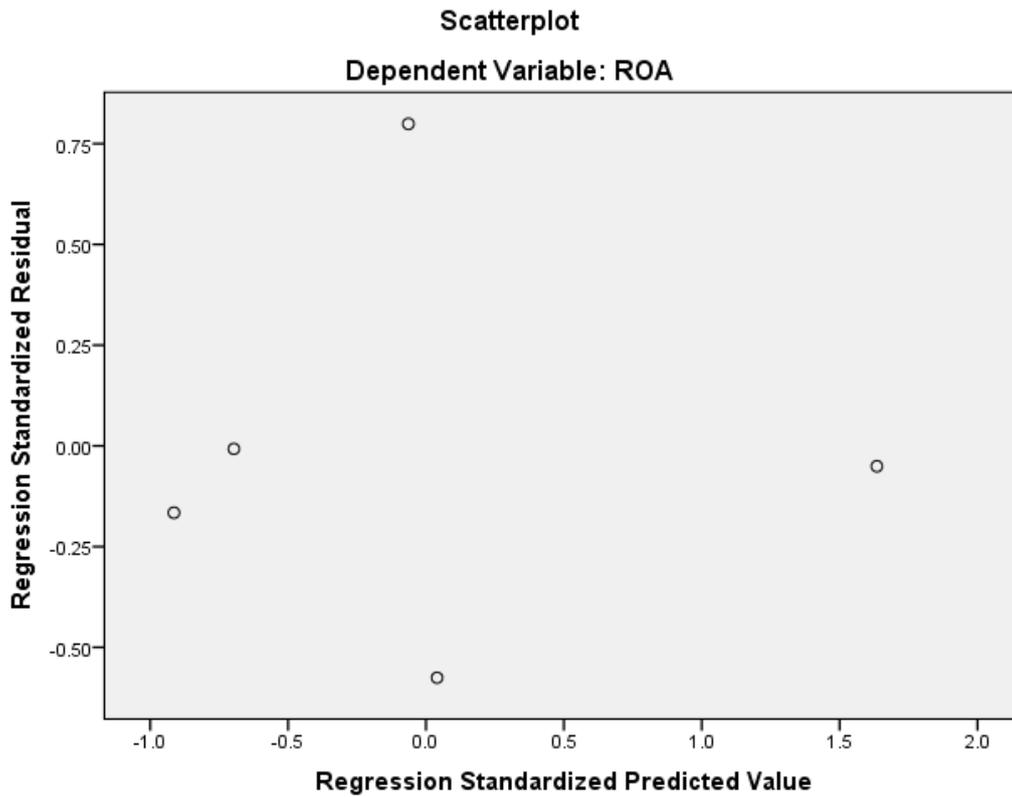
7.0 APPENDIX

7.1 Return on Assets (ROA) and Internal Variables

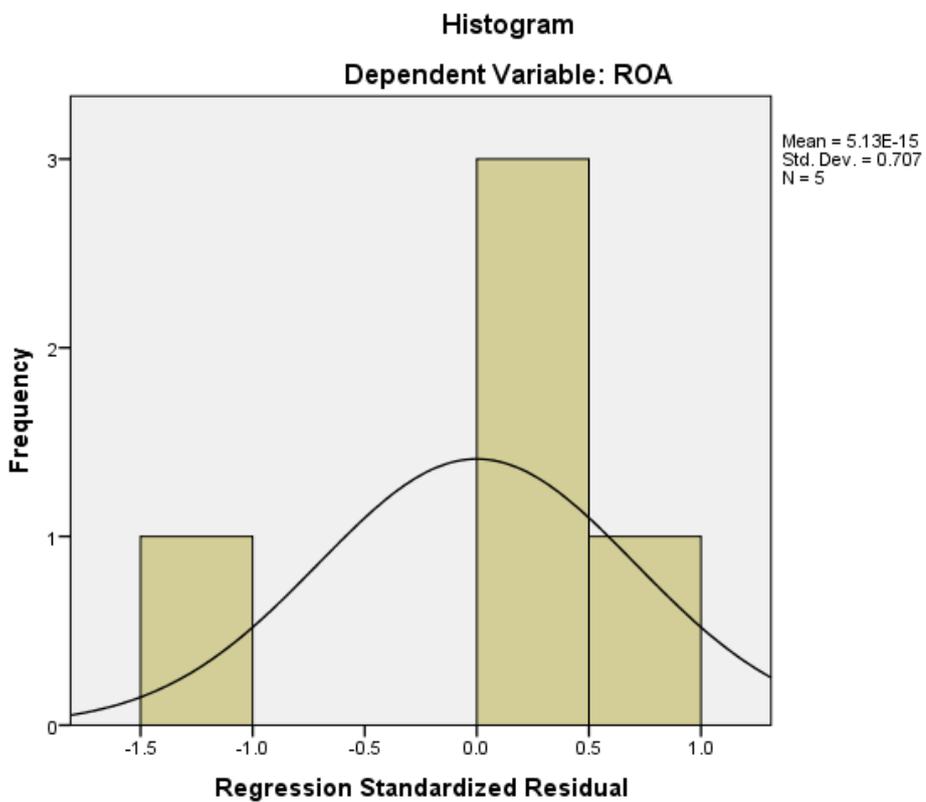


Normal P-P Plot of Regression Standardized Residual

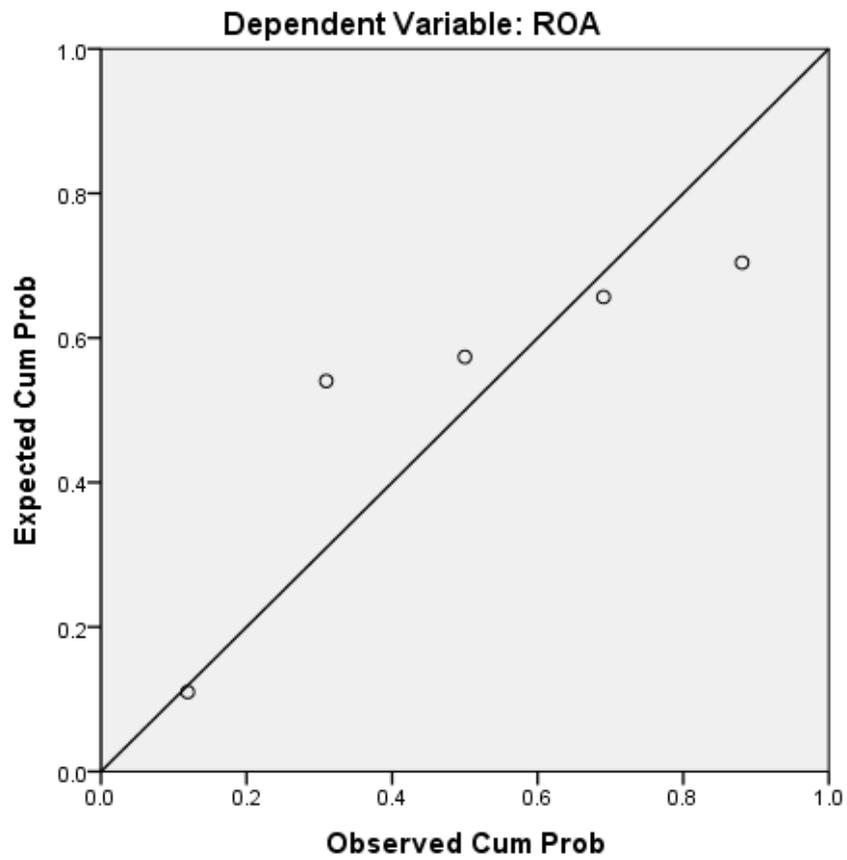




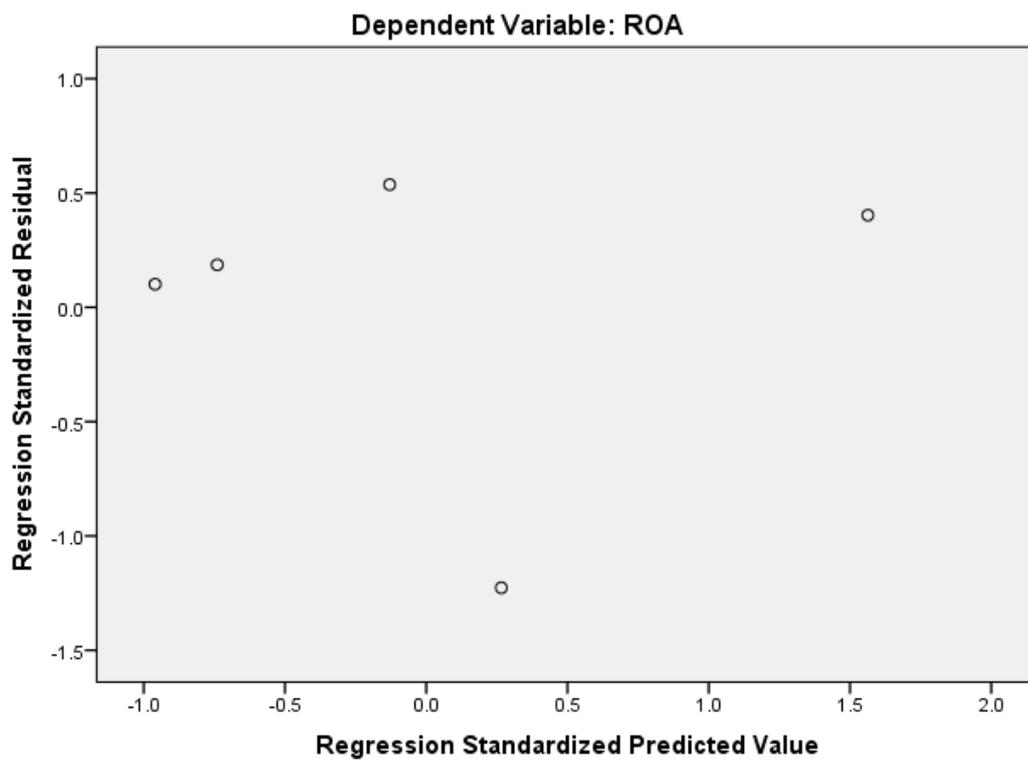
7.2 Return on Assets (ROA) and External Variables



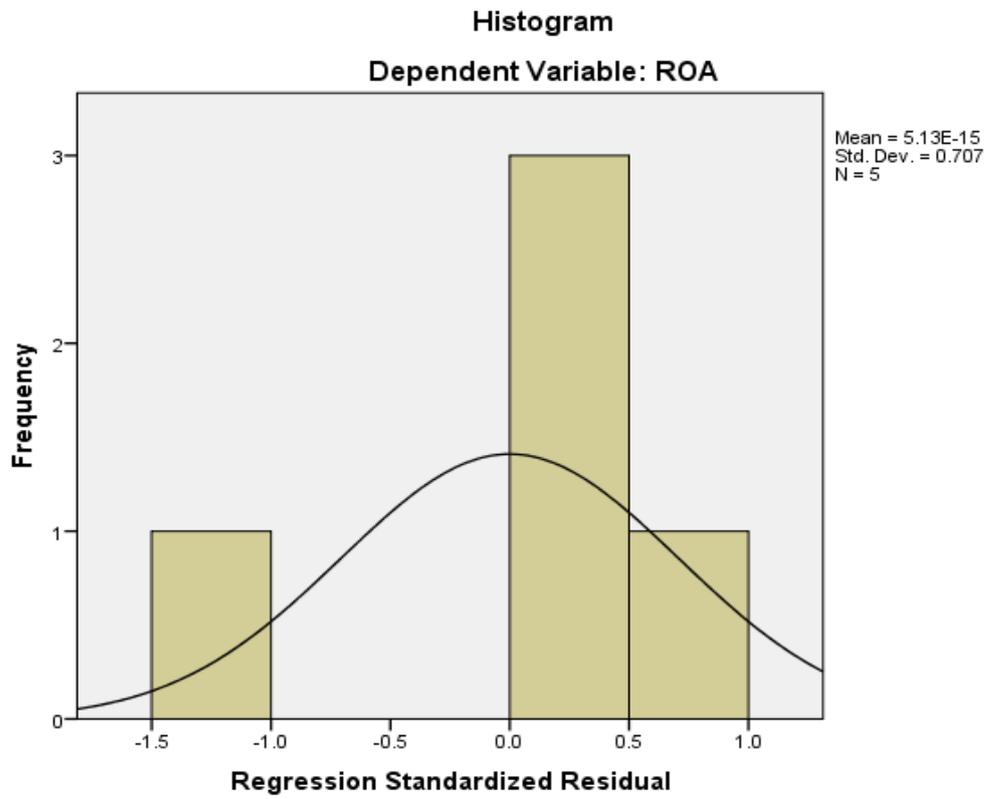
Normal P-P Plot of Regression Standardized Residual



Scatterplot



7.3 Return on Assets (ROA) & Internal and External Variables



Normal P-P Plot of Regression Standardized Residual

