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# **“Effect OF ROA towards Internal Factors and External Factors for MMC Corporation Berhad”**

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“EFFECT OF ROA TOWARDS INTERNAL FACTORS AND EXTERNAL FACTORS  
FOR MMC CORPORATION BERHAD”

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ABSTRAK

*The purpose of this research is to examine whether the internal factors and external factors have the effect of ROA of the MMC Corporation Berhad. The internal factors that will include in this study are current ratio, quick ratio, average-collection period, debt-to-income, operating ratio, and operating margin that signifies the details of liquidity risk, credit risk, and also an operational risk. Furthermore, there also have external factors that will involve the Gross Domestic Product (GDP), inflation rate, interest rate, exchange rate, and standard deviation of the company. Thus, data that will be used on this research which in the annual report of the company for five years from 2014 till 2018. While the data that already have that compute through linear regression for five years report of the company. Lastly, will use the SPSS to examine the relationship between an independent variable and a dependent variable.*

*Keywords: ROA, Liquidity Risk, Credit Risk, Operational Risk*

## **1.0 INTRODUCTION**

### **1.1 Background of study**

This topic will be started with an overview of the company that I have been chosen which is MMC Corporation Berhad (MMC). This part will be followed by the problem statement, research objective and also research questions.

### **1.2 Overview of MMC Corporation Berhad (MMC)**

MMC Corporation Berhad (MMC) is based on investment holding, construction, mining and mineral exploration company in Malaysia. Their company also operates through three segments; energy and utilities, ports and logistics, engineering and construction. The engineering and construction segments are involved in infrastructure and construction project, while the other segment is involved in investment holding, airport operations, and water treatment operations. However, through this the subsidiaries of the company also involved in the port operations; engineering and management services, undertaking and constructing, and managing/executing various Light Rail Transit (LRT) project in Malaysia, among others. The company under businesses in their ports and logistics segment include the operations of Pelabuhan Tanjung Pelepas, Johor Port, and Northport in Port Klang. Other than that, through this, the associate stake in Red Sea Gateway Terminal Company Limited, MMC has its operations in container port terminals at the Jeddah Islamic Port in Saudi Arabia.

A certain company will face any risk that will occur, whether big companies or small companies including the Group's of MMC Corporation Berhad also involved with several financial risks in 2018 such as foreign currency exchange risk, interest rate risk, market risk, credit risk, liquidity, and cash flow risk. This is to focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the financial performance of the group. However, consider the ROA as the company performance to determine whether its effect on both factors which is internal factors and external factors.

### **1.3 Problem Statement**

Firms that involve in logistics company needs to make a loan, factoring including credit-related to forms, when a company wants to rent or leasing infrastructure, transportation equipment, and other specialized facilities and facilities in the short and medium-term. Restricted access to pledged financial also the credit terms, the availability of proper debtors that can be exchanged in the method of factoring or continuous

improvement in the cost of such financing instruments that will involve the significant risk for liquidity and income. Certain companies will face liquidity and income risks because these two things are the largest problem that the company will adapt in the future.

#### **1.4 Research Objectives**

This research objective to examine the determinants that will affect the company performance of MMC Corporation Berhad in Malaysia from 2014 to 2018. The objectives of this study are stated as below:

- a) To analyze the effect of ROA and internal factors.
- b) To analyze the effect of ROA and external factors.
- c) To analyze the effect of ROA with firm internal factors and external factors.

#### **1.5 Research Questions**

- a) Does the internal factor influence the ROA of MMC Berhad?
- b) Does the external factor influence the ROA of MMC Berhad?
- c) Does ROA of MMC Berhad influence by internal factors and external factors?

## 2.0 LITERATURE REVIEW

### 2.0 Introduction

This topic is committed to the review of the findings related to the topic such as credit risk, liquidity risk, market risk, and operational risk.

### 2.1 Credit risk

Bedendo, M., & Bruno, B. (2012), through this article, we examine that the credit insurance only for assurance customers, since we are engaged in institutions that involving in actions whose aim, at least in principle which is to assign credit risk. Formally the model to determinants the loan of sales/securitization activity is:

1.

$$\Delta LsSec/TA_t = c_1 + \sum_{i=1}^{11} \beta_i \cdot \Delta X_{it-1} + \sum_{j=1}^3 \gamma_j \cdot \Delta M_{j,t} + \alpha \cdot \Delta LsSec/TA_{t-1} + \epsilon_{1t}$$

while the model for the credit activity of assurance customers can be addressed as:

2.

$$\Delta CDnet/TA_t = c_2 + \sum_{i=1}^{\zeta_i} \Delta X_{it-1} + \sum_{j=1} \phi_j \cdot \Delta M_{j,t} + \delta \cdot \Delta CDnet/TA_{t-1} + \epsilon_{2t}$$

Furthermore, Bhansali, V., Gingrich, R., & Longstaff, F. A. (2008), which has several implications in credit risk. Firstly, credit risk premiums in financial markets that will remain at high levels, which will directly significant at the highest cost. Secondly, slipping the trend such as credit risk that will involve in traditional risk management tactics. Lastly, a few credit modeling tools that are generally applied in a system may severely minimize the actual risk appearance of credit holdings.

### 2.2 Liquidity risk

According to Diamond, D. W. (1991), stated that the liquidity risk is the risk that a borrower will suffer the nonassignable rents due to unreasonable liquidation incentives of lenders. Borrowers with great credit ratings will prefer short-term debt, and some borrowers with slightly lower ratings prefer long-term debt. Other than that, the liquidity risk also the risk that a catalyst but the illiquid borrower is helpless to obtain refinancing.

Other articles by Brandon, R. G., & Wang, S. (2013), which tell us about systematic risk which is the risk that cannot control and predict. It also shows the main role and an ineligible section of equity hedge funds' that will benefit the systematic risk exposures to the company. However, the liquidity provision has different from the systematic risk premium which is to examine whether all or a few equities will hedge funds to collect the fee from providing liquidity and to free the fee for liquidity provision.

Last article which is by Cornett, M. M., McNutt, J. J., Strahan, P. E., & Tehranian, H. (2011), stated that have several recommendation for four key operators of liquidity risk management for banks: (1) the structure of the asset portfolio (i.e., the market liquidity of assets), (2) core deposits as a part of total financial structure, (3) equity capital as a division of financial structure, and (4) funding liquidity disclosure arising from loan commitments (i.e., new loan originations via drawdowns). Also, we note that banks more revealed to this liquidity risk which is to raise their holdings of liquid assets, which in turn to decrease their capacity to create new loans.

### **2.3 Market risk**

According to L'HABITANT, F. (2001), stated that the traditional investments, the main source of risk for hedge funds is market risk—that is, the danger that the value of a fund's assets can decrease because of adverse moves in market variables such as interest rates, exchange rates, or security prices. This risk can be developed by leverage or decreased by hedging approaches.

In addition, Parmeggiani, F. (2013), the market risk of debt agreements can reduce the cost of a company's debt by replacing a portion of the interest charged by debt holders for a more pervasive control right over the company's risk such as disclosure elements could enhance the information available to investors by discouraging potential unprotected lenders / bond holders from joining into financial agreements with borrowers / issuers that are influenced by an unreasonable number of rating triggers, thus lessening overall market risk. However, when the global market risk was higher, triggers were used in a way to control their harmful consequences.

### **2.4 Operational risk**

The first article by Power, M. (2005), which is to recommend that operational risk has been 'created' is not merely symbolic or imaginary. However, in some naturalist sense

businesses in common and banks in distinct have been conscious for many years of hazards, possibilities arising from incomplete information technology and infrastructure from fraud, business interruption, and legal responsibility. Furthermore, Basel 2 has the links within the supervision of operational risk and vigorous corporate governance in such a way to view these 'old' risks in a new space of regulatory, political and social expectations.

Second article by Chavez-Demoulin, V., Embrechts, P., & Nešlehová, J. (2006), stated that in the Basel framework, operational risk is described as the risk of loss ensuing from inadequate or failed internal processes, forms, and operations or external events.

The last article by Coleman, R. (2011), which is stated the operational risk can happen everywhere, not just in a business environment; for example, damages sustained from a plan failing in playground or booth equipment, or engineering lacks can result in a mass recall of motor cars. Also, the risk was in the lack of due diligence: the lenders in refusing to check of their mortgage applicants, the buyers of the debt in respect of the mortgages supporting it, and the insurers in taking on the default risk. Lastly, transferring operational risk through insurance; for example, the blanket cover would not be prepared, leaving unforeseen events uncovered, and the absence of satisfactory and relevant data would make the pricing of the risk hard.

### 3.0 METHODOLOGY

#### 3.0 Data Source

This topic is to implements based on the ratio analysis of another source of data such as review the annual report of MMC Corporation Berhad from 2014 till 2018. The financial statement of the company will consist of the income statement and balance sheet that need to analyze to get all the amount of the ratio and to know the performance of the company.

#### 3.1 Variables

This topic will use 6 internal factors and 5 external factors. The internal factors that will include on this topic to run the date which is the current ratio, quick ratio, average-collection period, debt to income, operational ratio, and operating margin. However, the external factors that will measure whether it is significant or not in Model 3 which is to combine with internal factors. The elements that will include external factors which are the growth of domestic profit (GDP), inflation rate, interest rate, exchange rate, and standard deviation. Thus, the company performance will be using the ROA as the dependent variable which is to know how well the company uses its assets and how profitable a company will be. Furthermore, we will run the date and to make sure it is significant or not which is SPSS (IBM Statistical Package for the Social Science) Statistics version 25.

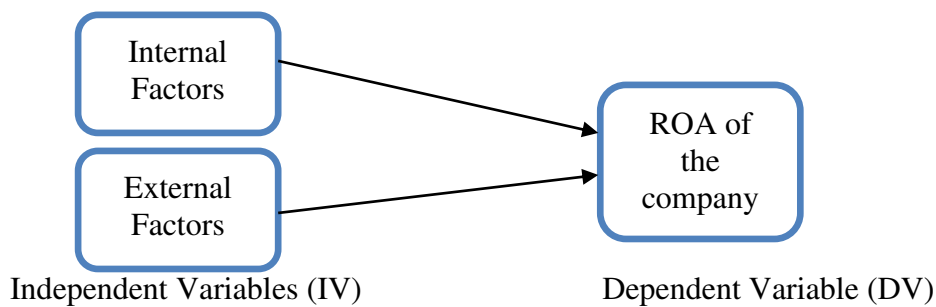


Figure 1: Theoretical Framework

The following linear regression model:

**Model 1: Linear Regression Model of Return on Assets(ROA) with internal factors.**

$$ROA_{\text{Internal Factors}} = \alpha + \alpha_1 CR + \alpha_2 QR + \alpha_3 ACP + \alpha_4 DTI + \alpha_5 OR + \alpha_6 OM + \varepsilon$$

**Model 3: Linear Regression Model of Return on Assets(ROA) with internal and external factors.**

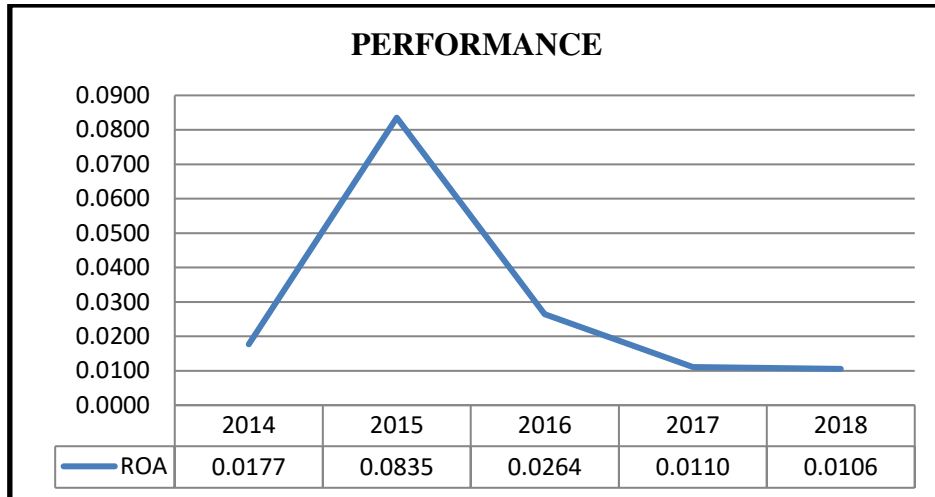
$$ROA_{\text{Internal + External}} = \alpha + \alpha_1 CR + \alpha_2 QR + \alpha_3 ACP + \alpha_4 DTI + \alpha_5 OR + \alpha_6 OM + \alpha_7 GDP + \alpha_8 \text{Inflation} + \alpha_9 \text{Interest Rate} + \alpha_{10} \text{Exchange Rate} + \alpha_{11} SD + \varepsilon$$



## 4.0 ANALYSIS AND FINDINGS

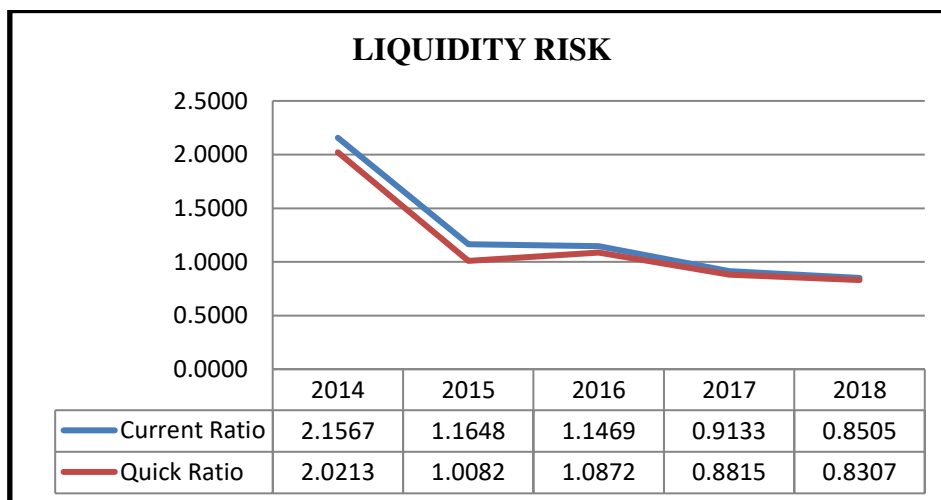
### 4.1 Ratio Analysis (Internal Factors)

#### 4.1.1 Performance - ROA



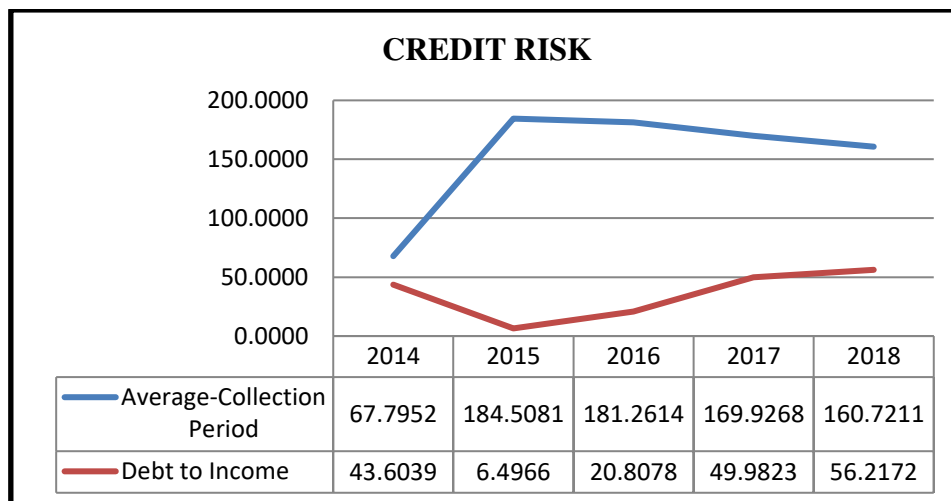
Based on the performance of ROA in the ratio trend above, it shows that the highest ROA of the company in the year 2015 while it slightly declines from 2016 to 2018. It shows the company is efficient in the year 2015 because the company efficiently can convert money used to purchase assets into net income or profit. However, the decline of ROA means it is drive-by slightly drop in accounts receivable turnover which was late payment of service by customers.

#### 4.1.2 Liquidity Risk – Current Ratio & Quick Ratio



This is the liquidity risk that includes the current ratio and quick ratio, the highest current ratio and quick ratio which is in the year 2014 (2.1567 times; 2.0213) amidst all the five years. The current ratio shows that in 2014 have 2.1567 of current assets to meet the current obligations. MMCB has the lower liquidity risk in the year 2014 that's why the company can pay its short-term obligation on time when it is due. However, in the year 2015 until 2018 the company involved with higher liquidity risk which means the company does not have enough assets to cover up the liabilities of the company. MMCB will be sued for bankruptcy by the lenders. Furthermore, the quick ratio of the company in the year 2014 indicates the company that the company can repay their short-term liabilities using their short-term assets when they become due for that year and in another year the company is not able to repay the short-term liabilities using the short-term assets on time.

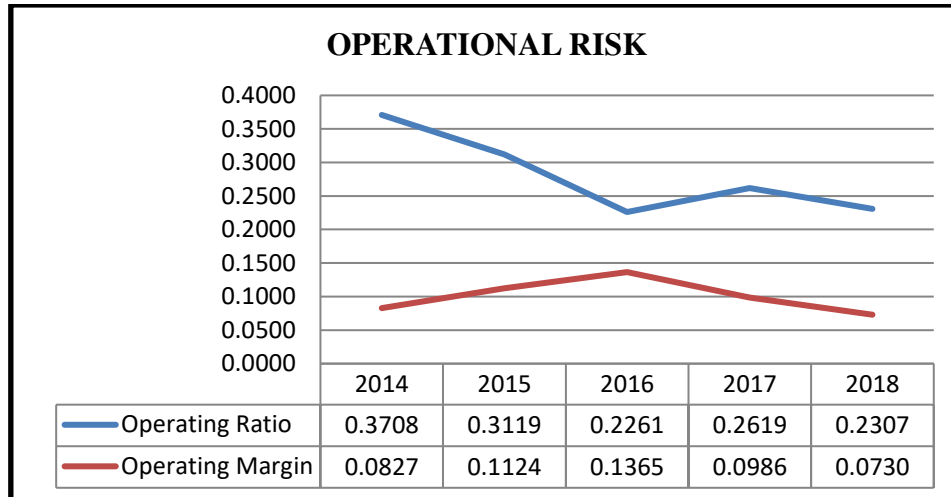
#### 4.1.3 Credit Risk – Average-Collection Period & Debt to Income



Credit risk is the losses that come from the failure of the borrower to pay back the loan on time. This credit risk will be measured by ACP and debt to income for five years of financial statement (2014-2018) of MMCB. It shows that the greatest ACP which is in the year 2015 that is 184 days. The long average collection period shows a higher credit risk. It means the company took more time to collect the money from the customers. However, the MMCB has the lowest average of ACP which is in the year 2014 that is 67 days. That means in 2014 it is very efficient in getting back the money from the customers within a shorter period than the other years. Meanwhile, the debt to income slightly increase from 2016 to 2018 while in 2014 is

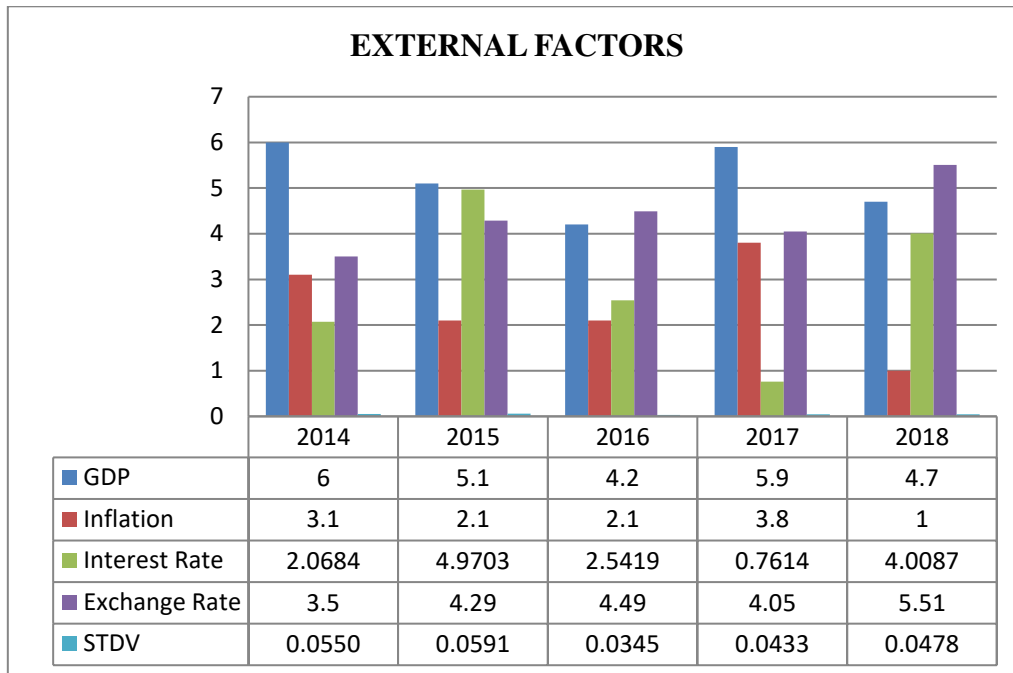
stable but in 2015 the ratio of debt to income is slightly dropping. It is to measure how effective the company to repay the monthly debt of the lenders.

#### 4.1.4 Operational Risk – Operating Ratio & Operating Margin



Operational risk is the factor that the company may face. The operational risk is should be managed or controlled properly, it can be a serious matter and can cause business bankruptcy. The operating ratio determines how effective a company's management is at managing costs low while producing revenue or sales. The operating ratio shows that the highest in 2014 which is 0.3708 but in another year seems like have a higher ratio too because it is not less than one. If the ratio is smaller it means the company is effective in generating revenue as well as expenses. Overall, the company is faced with negative signs of operating ratio because it exposed that their operating expenses are increasing relative to sales or revenue. However, the operating margin shows that the highest in 2016 which is 0.1365. From this matter, the company is not able to manage and control the operating cost of their company. Thus, if the operating margin rate rises, the firm may earn more for every dollar their sell. In 2014, the EBIT is the most leading among the years so it the most affected the operating margin.

#### 4.1.5 Market Risk - External Factors



Market risk also known as systematic risk is an uncontrolled risk. The chart above shows the macroeconomic factors including the Standard deviation of MMC Corporation Berhad, GDP, inflation, interest rate, and exchange rate, over the five periods of years starting from 2014. Based on the GDP shows that it has a volatile trend in 2015 to 2018 but the highest GDP in 2014 while the inflation shows it is also has a volatile trend throughout the year but the most stable in 2014 and 2017. However, the interest rate has the highest in 2015 and 2018. Meanwhile, the exchange rate slightly rises from 2017 to 2018. Furthermore, the standard deviation of the company also has a volatile stock it means the company has a high standard deviation.

## 4.2 Descriptive Statistics

**Table 4.1: Descriptive Statistics for Model 1 and Model 3.**

	Mean	Std. Deviation	N
ROA	0.0299	0.0307	5
CURRENT RATIO	1.2464	0.5275	5
QUICK RATIO	1.1658	0.4889	5
AVERAGE-COLLECTION PERIOD	152.8425	48.4699	5
DEBT TO INCOME	35.4216	20.9860	5
OPERATING RATIO	0.2803	0.0611	5
OPERATING MARGIN	0.1006	0.0251	5
GDP	5.1800	0.7727	5
INFLATION	2.4200	1.0710	5
INTEREST RATE	2.8702	1.6511	5
EXCHANGE RATE	4.3680	0.7382	5
STDV	0.0479	0.0097	5

The table above shows the result of descriptive statistics for Model 3 of MMC Corporation Berhad that including the internal factors and external factors of the company that I have been chosen. Based on the table, ROA shows the mean of 0.0299 which determines that every RM1 of their asset will generate a net income of RM 0.03. It indicates that this company contributed less ROA since the asset of the company was not been used effectively in order to generate the profit with the standard deviation that recorded less volatility with the value of 0.0307. However, the current ratio and quick ratio also show the mean of 1.2464 and 1.1658 respectively which implies that every RM1 of debt will be covered by the current asset to meet the short-term liability. Both of this ratio has different standard deviation which is 0.5275 and 0.4889. The average-collection period shows the highest mean and standard deviation of 152.8425 and 48.4699 respectively. The mean defines that the company takes a longer period to receive the payment from customers and indicates the higher volatility of risk. Debt to income indicates 35.4216 of mean that represents every RM1 of debt will be taken away RM35.42 of net income to cover the debt obligation of the company. The standard deviation of the company is 20.9860 throughout the five years period. Furthermore, the mean of operational ratio and the operating margin is 28.03% and 10.06% while this both ratio shows small volatility of the company for five years. While for the external factors, GDP recorded 5.18% of mean with the less unpredictability of standard deviation 0.7727. Inflation and interest rates stated the mean of 2.4200 and 2.8702 respectively throughout five years of the company. The standard deviation shows 1.0710 and

1.6511. The exchange rate indicates the mean of 4.3680 and the less volatility of 0.7382 of standard deviation for the five years period. Lastly, the standard deviation of the company which is the mean 0.0479 while the standard deviation throughout the five years is 0.0097.

### 4.3 Correlations

**Table 4.2: Correlations for Model 1 and Model 3.**

		ROA	Current Ratio	Quick Ratio	Average-Collection Period	Debt To Income	Operating Ratio	Operating Margin	GDP	Inflation	Interest Rate	Exchange Rate	STDV
Pearson Correlation	ROA	1.000	-.018	-.113	.363	-.884	.278	.422	-.160	-.174	.697	-.112	.545
	Current Ratio	<b>-.018</b>	1.000	.995	-.896	-.041	.861	-.175	.491	.345	-.177	-.733	.414
	Quick Ratio	<b>-.113</b>	.995	1.000	-.923	.039	.825	-.208	.495	.354	-.239	-.715	.354
	Average-Collection Period	.363	-.896	-.923	1.000	-.397	-.755	.548	-.611	-.311	.307	.548	-.377
	Debt To Income	<b>-.884</b>	-.041	.039	-.397	1.000	-.133	-.768	.368	.112	-.502	.202	-.171
	Operating Ratio	.278	.861	.825	-.755	-.133	1.000	-.291	.717	.435	-.015	-.767	.765
	Operating Margin	.422	-.175	-.208	.548	-.768	-.291	1.000	-.503	.084	.001	-.161	-.476
	GDP	-.160	.491	.495	-.611	.368	.717	-.503	1.000	.777	-.503	-.702	.494
	Inflation	-.174	.345	.354	-.311	.112	.435	.084	.777	1.000	-.797	-.843	-.016
	Interest Rate	.697	-.177	-.239	.307	-.502	-.015	.001	-.503	-.797	1.000	.505	.496
	Exchange Rate	-.112	-.733	-.715	.548	.202	-.767	-.161	-.702	-.843	.505	1.000	-.256
	STDV	.545	.414	.354	-.377	-.171	.765	-.476	.494	-.016	.496	-.256	1.000
Sig. (1-tailed)	ROA	.	.488	.428	.274	.023	.325	.239	.399	.390	.095	.429	.171
	Current Ratio	<b>.488</b>	.	.000	.020	.474	.030	.389	.200	.285	.388	.079	.244
	Quick Ratio	<b>.428</b>	.000	.	.013	.475	.043	.369	.198	.280	.349	.087	.279
	Average-Collection Period	.274	.020	.013	.	.254	.070	.169	.137	.305	.308	.170	.266
	Debt To	<b>.023</b>	.474	.475	.254	.	.416	.065	.271	.429	.195	.373	.392

	Income												
	Operating Ratio	.325	.030	.043	.070	.416	.	.317	.086	.232	.490	.065	.066
	Operating Margin	.239	.389	.369	.169	.065	.317	.	.194	.446	.499	.398	.209
	GDP	.399	.200	.198	.137	.271	.086	.194	.	.061	.194	.093	.199
	Inflation	.390	.285	.280	.305	.429	.232	.446	.061	.	.053	.037	.490
	Interest Rate	.095	.388	.349	.308	.195	.490	.499	.194	.053	.	.193	.198
	Exchange Rate	.429	.079	.087	.170	.373	.065	.398	.093	.037	.193	.	.339
	STDV	.171	.244	.279	.266	.392	.066	.209	.199	.490	.198	.339	.
N	ROA	5	5	5	5	5	5	5	5	5	5	5	5
	Current Ratio	5	5	5	5	5	5	5	5	5	5	5	5
	Quick Ratio	5	5	5	5	5	5	5	5	5	5	5	5
	Average-Collection Period	5	5	5	5	5	5	5	5	5	5	5	5
	Debt To Income	5	5	5	5	5	5	5	5	5	5	5	5
	Operating Ratio	5	5	5	5	5	5	5	5	5	5	5	5
	Operating Margin	5	5	5	5	5	5	5	5	5	5	5	5
	GDP	5	5	5	5	5	5	5	5	5	5	5	5
	Inflation	5	5	5	5	5	5	5	5	5	5	5	5
	Interest Rate	5	5	5	5	5	5	5	5	5	5	5	5
	Exchange Rate	5	5	5	5	5	5	5	5	5	5	5	5
	STDV	5	5	5	5	5	5	5	5	5	5	5	5



The table above resulted in the correlation result of Model 3 that was tested from SPSS. The data obtained only internal factors have a correlation with the dependent variable which is ROA. While the data shows that the liquidity ratio which is the current ratio and quick ratio has significant and negatively correlated to ROA with p-value  $< 0.05$ . This means when there has increased in current ratio and quick ratio and it will be decreasing in ROA. However, debt to income also indicates the modest significant and negatively correlated to ROA with p-value  $< 0.01$  that contributed to the increase of debt to income will be followed by the decreasing of ROA. Furthermore, the rest of the variables indicate no statistically significant to the dependent variable which is ROA. It includes the average-collection period, operating ratio, operating margin for internal factors variables and all external factors such as GDP, inflation, interest rate, exchange rate, and STDV.

#### 4.4 Model Summary

**Table 4.3: Model Summary for Model 1 and Model 3.**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.884 <sup>a</sup>	.782	.709	.01656062267 0239	2.873

a. Predictors: (Constant), DEBT TO INCOME

b. Dependent Variable: ROA

Based on the table, it shows that Model Summary was obtained after Model 1 and Model 3 has been tested in SPSS. The result is the same and it indicates for Model 1 and Model 3 which is 70.9% of adjusted R square when internal factors and external factors were tested to ROA. It defines that Model 1 and Model 3 has a high ability to explain the ROA that signifies the performance of the company. Another 29.1% are the other elements to be considered than ROA. The table above indicates that the predictors have a high ability to predict and better fitted to ROA which is the performance of the company.

#### 4.5 ANOVA

**Table 4.3: ANOVA for Model 1 and Model 3.**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.003	1	.003	10.731	.047 <sup>b</sup>
	Residual	.001	3	.000		
	Total	.004	4			

a. Dependent Variable: ROA

b. Predictors: (Constant), DEBT TO INCOME

The table above shows, the ANOVA obtained the data for Model 1 and Model 3 when both of them are tested. Besides, Model 1 and Model 3 have the same result of ANOVA that shows the significant to dependent variable which is ROA. The p-value is 0.047 which p-value < 0.05. However, the company has a significant result in the performance of the company because of getting below that 0.05.

## 4.6 Coefficients

**Table 4.3: Coefficients for Model 1 and Model 3.**

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics		
	B	Std. Error				Lower Bound	Upper Bound	Tolerance	VIF	
1	(Constant)	.076	.016		4.782	.017	.025	.126		
	DEBT TO INCOME	-.001	.000	-.884	-3.276	.047	-.003	.000	1.000	1.000

a. Dependent Variable: ROA

Based on the coefficient table above, the data shows the result for both models which is Model 1 and Model 3 when the internal factors and external factors were examined according to the model. It showed that only debt to income for both Model 1 and Model 3 has a significant value with p-value < 0.05. Debt to income has a modest statistical significant with a p-value of 0.047 and negatively impact the performance of the company. If the debt to income has an increasing trend, it will determine the decreasing in ROA of the company. It shows that the company have a high debt to income which more than 43% and above since 2017 then it means the company not be able to pay the monthly debt payments of the company while when has a lower debt to income can have a good balance between debt and income, and banks and other credit providers want to see the lowest debt to income before the company issuing loans to a potential borrower. But, in this coefficient result, it shows that conversely, the company has a high ratio of debt to income that can impact the company performance which the company has too much debt for the amount of income that the company gained every month.

## **5.0 CONCLUSION AND RECOMMENDATION**

### **5.1 Introduction**

This topic is to analyze the ROA that may affect both factors which are the internal factors and external factors of MMC Corporation Berhad (MMCB) of 2014 to 2018. To maintain the research objective that has been stated early at the introduction which is, internal factors (performance, liquidity risk, credit risk, operational risk) and external factors (GDP, inflation, interest rate, exchange rate, and STDV of the company) that has been used in this research. However, this topic discussed based on the analysis that has been doing in topic four which is analysis and findings. This topic will be concluded and suggest a few recommendations for the company.

### **5.2 Limitations**

This topic is to be followed only to the logistics and transportations industry in Malaysia. The other limitation is just used five years financial statement from 2014 till 2018 of MMC Corporation Berhad. However, the difficult part which is to summarize all the amount that will be involved in the analysis and findings of the company.

### **5.3 Recommendation**

To conclude all of this matter of MMC Corporation Berhad, the most significant relationship with ROA or company performance is the debt to income. Thus, it is the most important for a company to manage its company's financial or debt obligation to increase the performance and to get profit for the company. This company should be able to manage their liabilities in a better way and make sure the income of the company is enough money to cover the debt obligations. However, the debt to income also known as credit risk is the most unexceptional and considered as critical risk especially for the company that can place them into serious problems. Furthermore, this company should have a lower debt to income which is 36% with not more than 28%. So, if the company wants to have a better performance, the debt to income must be a balance between debt and income, and majority lenders want to see the lowest debt to income before the company can issue loans to a potential borrower. According to Diamond, D. W. (1991), stated that the liquidity risk is the risk that a borrower will suffer the nonassignable rents due to unreasonable liquidation incentives of lenders. Borrowers with great credit ratings will prefer short-term debt, and some borrowers with slightly lower ratings prefer long-

term debt. Other than that, the liquidity risk also the risk that a catalyst but the illiquid borrower is helpless to obtain refinancing.

There are several ways to control and manage debt to income of the company. Firstly, the company should not apply or seeking additional loans immediately. Thus, before the company decides to seek a new loan for increasing the income of their company or to meet their daily operations need, the company should be working on to pay off their debt obligations and requirements following the terms that have been agreed and assumed. Also, the company should refer to their risk and performance whether the company in a good performance or otherwise. However, the other way to control and manage debt to income of the company is to increase the income or profit. To generate the profit and income of the company, one of the recommendations is to launch a new product segment or adding some new complimentary services that will create supplementary value to the organization.

## REFERENCES

- MMC Corporation Bhd (MMCB) - Investing.com. (n.d.). Retrieved from <https://www.investing.com/equities/mmc-corporation-bhd>.
- Bedendo, M., & Bruno, B. (2012). *Credit risk transfer in U.S. commercial banks: What changed during the 2007–2009 crisis?* *Journal of Banking & Finance*, 36(12), 3260–3273. doi:10.1016/j.jbankfin.2012.07.011
- Bhansali, V., Gingrich, R., & Longstaff, F. A. (2008). *Systemic Credit Risk: What Is the Market Telling Us?* *Financial Analysts Journal*, 64(4), 16–24. doi:10.2469/faj.v64.n4.2
- Diamond, D. W. (1991). Debt Maturity Structure and Liquidity Risk. *The Quarterly Journal of Economics*, 106(3), 709–737. doi:10.2307/2937924
- Brandon, R. G., & Wang, S. (2013). *Liquidity Risk, Return Predictability, and Hedge Funds' Performance: An Empirical Study.* *Journal of Financial and Quantitative Analysis*, 48(01), 219–244. doi:10.1017/s0022109012000634
- Cornett, M. M., McNutt, J. J., Strahan, P. E., & Tehranian, H. (2011). *Liquidity risk management and credit supply in the financial crisis.* *Journal of Financial Economics*, 101(2), 297–312. doi:10.1016/j.jfineco.2011.03.001
- L'HABITANT, F. (2001). *Assessing Market Risk for Hedge Funds and Hedge Fund Portfolios.* *The Journal of Risk Finance*, 2(4), 16–32. doi:10.1108/eb043472
- Parmeggiani, F. (2013). *Rating Triggers, Market Risk and the Need for More Regulation.* *European Business Organization Law Review*, 14(03), 425–463. doi:10.1017/s1566752912001218
- Power, M. (2005). *The invention of operational risk.* *Review of International Political Economy*, 12(4), 577–599. doi:10.1080/09692290500240271
- Chavez-Demoulin, V., Embrechts, P., & Nešlehová, J. (2006). *Quantitative models for operational risk: Extremes, dependence and aggregation.* *Journal of Banking & Finance*, 30(10), 2635–2658. doi:10.1016/j.jbankfin.2005.11.008
- Coleman, R. (2011). *Operational Risk.* *Wiley Encyclopedia of Operations Research and Management Science.* doi:10.1002/9780470400531.eorms0591

## APPENDIX

### MODEL 1:

#### 1. Descriptive Statistics

	Mean	Std. Deviation	N
ROA	.02985410325 4683	.03068279145 4360	5
CURRENT RATIO	1.2464453851 14172	.52747522980 3585	5
QUICK RATIO	1.1657839172 24933	.48889722501 7715	5
AVERAGE-COLLECTION PERIOD	152.84252314 6471760	48.469917740 581650	5
DEBT TO INCOME	35.421562687 290354	20.985982129 129250	5
OPERATIONAL RATIO	.28027086292 1412	.06111439040 2063	5
OPERATING MARGIN	.10064714249 6564	.02508353228 8023	5

#### 2. Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.884 <sup>a</sup>	.782	.709	.01656062267 0239	2.873

a. Predictors: (Constant), DEBT TO INCOME

b. Dependent Variable: ROA

#### 3. ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F
1	Regression	.003	1	.003	10.731
	Residual	.001	3	.000	
	Total	.004	4		

a. Dependent Variable: ROA

b. Predictors: (Constant), DEBT TO INCOME

## Risk and Performance Calculation

CREDIT RISK					
Account Receivable	Revenue/360 Days	AVERAGE-COLLECTION PERIOD	Total Liability	Total Income	DEBT TO INCOME
597,166,000	8,808,381	67.7952	35,070,713,000	804,302,000	43.6039
1,544,216,000	8,369,367	184.5081	11,828,413,000	1,820,718,000	6.4966
2,329,908,000	12,853,856	181.2614	12,503,986,000	600,929,000	20.8078
1,963,643,000	11,555,819	169.9268	12,587,255,000	251,834,000	49.9823
2,224,992,000	13,843,806	160.7211	15,012,080,000	267,037,000	56.2172

LIQUIDITY RISK					
Current Asset	Current Liability	CURRENT RATIO	Inventory	Prepaid Expenses	QUICK RATIO
8,602,399,000	3,988,657,000	2.1567	540,000,000	0	2.0213
3,474,935,000	2,983,349,000	1.1648	467,000,000	0	1.0082
4,056,342,000	3,536,684,000	1.1469	211,294,000	0	1.0872
3,416,690,000	3,741,092,000	0.9133	119,082,000	0	0.8815
4,493,173,000	5,282,890,000	0.8505	104,673,000	0	0.8307

OPERATIONAL RISK					
Operating Expenses	Net Sale	OPERATIONAL RATIO	EBIT	Revenue	OPERATING MARGIN
1,175,941,000	3,171,017,000	0.3708	262,207,000	3,171,017,000	0.0827
939,755,000	3,012,972,000	0.3119	338,764,000	3,012,972,000	0.1124
1,046,153,000	4,627,388,000	0.2261	631,657,000	4,627,388,000	0.1365
1,089,408,000	4,160,095,000	0.2619	410,302,000	4,160,095,000	0.0986
1,149,564,000	4,983,770,000	0.2307	363,715,000	4,983,770,000	0.0730

PERFORMANCE		
Net Income	Total Assets	ROA
804,302,000	45,404,876,000	0.0177
1,820,718,000	21,798,832,000	0.0835
600,929,000	22,734,504,000	0.0264
251,834,000	22,795,272,000	0.0110
267,037,000	25,304,947,000	0.0106