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The Effect of Working Capital Management on Firm Performance Applied study on Egyptian stock market

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Abstract

The primary purpose of working capital management is to enable the company to maintain sufficient cash flow to meet its short-term operating costs and short-term debt obligations. This is achieved by the effective management of accounts payable, accounts receivable, inventory and cash. The major aim of this study is to examine the effect of working capital management which will be measured by the efficiency of cash management, efficiency of receivables management, and efficiency of inventory management, on firm's performance that will be measured using the growth in total assets, growth in total sales, as well as the growth in net profit. The data was collected from 6 companies that were listed in the Egyptian stock exchange market from year 2016 to 2020. The analysis of this study was done using (EViews 12) for both descriptive statistics and multiple regressions. The study found that there is a negative correlation between the efficiency of receivables management and the inventory management. While the results of this study indicated that there is an overall positive correlation between working capital management and firm's financial performance at the 5% level with a probability of 0.0000.

Keywords: Working Capital Management - Receivables Management - Inventory Management - Cash Management - Firm Performance and profitability.

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Introduction

Management of working capital which aims at maintaining an optimal balance between each of the working capital components, that is, cash, receivables, inventory and payables is a fundamental part of the overall corporate strategy to create value and is an important source of competitive advantage in businesses (Deloof, 2003). In practice, it has become one of the most important issues in organizations with many financial executives struggling to identify the basic working capital drivers and the appropriate level of working capital to hold so as to minimize risk, effectively prepare for uncertainty and improve the overall performance of their businesses (Lamberson, 1995). Efficient WCM increases firms' free cash flow, which in turn increases the firms' growth opportunities and return to shareholders (Ganeshan, 2007) Working capital management is a very important component of corporate finance because it directly affects the liquidity and profitability of the company. A firm may be very profitable if it can transform cash from operations within the same cycle, otherwise the firm would have to borrow, to support its continued working capital needs. Thus, the twin objectives of profitability must be synchronized (Joel F. Houston & Eugene F. Brigham, 2004). The efficient management of working capital is a fundamental part of the overall corporate strategy to create shareholders‟ value (Afza & M.S, 2007) . Major time of the financial managers is consumed in identification of optimal level of current assets and liabilities in accordance with operations (Lamberson, 1995) .

As established by (Padachi, 2006), efficient management of working capital is vital for the success and survival of the SSEs which needs to be embraced to enhance performance and contribution to economic growth. However, as observed by (Atrill P, 2006), there is evidence that many small-scale enterprises are not very good at managing their working capital despite their high investments in current assets in proportion to their total assets and this has been a major cause of their high failure rates as compared to large businesses. According to him, majority of the small-scale enterprises operate without credit control department implying that both the expertise and the information required to make sound judgments concerning terms of sales may not be available.

They also lack proper debt collection procedures; hence, they tend to experience increased risks of late payment and default by debtors who tend to increase where there is an exclusive concern for growth. According to the Economic Survey of 2006, small scale enterprises contributed over 50% of new jobs created in the year 2005 and over 20% to the GDP of the country. Also, a study by (Bowen M et al., 2009) established that up to 50% of the small businesses in operation have a deteriorating performance and are said to stagnate at 'small' level hence do not progressively grow into medium or even large enterprises as envisaged in their

conceptual plans. In a study by (Bowen M et al., 2009), up to 53% of the respondents identified lack of working capital caused by the inability of the owners to manage their working capital efficiently as one of the greatest challenges that SSEs face. As observed by (Mead DC, 1998), the health of the economy has a strong relationship with the health and nature of small enterprise sector and given their importance to a nation's economic growth and the role that they play in poverty reduction, an understanding of the problems negatively affecting small businesses (ILO, 2010) . The overall aim of this research is to furthermore understand the effect of working capital management on a firm's performance.

Research Problems and Question

The role of working capital management cannot be over emphasized in a firm's operations and must be efficiently managed. Maintaining sufficient and appropriate level of working capital is necessary in dealing with liquidity challenges in a firm. (Yakubu et al., 2017) concluded that the impact of working capital management on the performance of non-financial companies in Ghana. The results established that average collection period has a negative significant impact on firm's performance. This implies that for non-financial firms to enhance their performance there is the need to minimize the number of days use in retrieving debts from their customers. The positive and significant relationship between average payment period and firm's performance indicates that non-financial companies will perform better by using longer periods to meet their debt obligations. The study also established a negative and significant impact of cash conversion cycle on firms' performance.
This implies that non-financial firms can enhance their performance if they are able to convert their resources to cash within the shortest possible time. Furthermore, the positive and significant relationship between current ratio and firm performance suggests that maintaining sufficient current assets will aid firms to meet their debt obligations.
In relation, according to (Nadeem et al., 2020) the working capital management and the working capital policies provide significant relationship to the firms' performance. Different results occurred due to the different working capital practices among companies which has been supported by (Weinraub & Visscher, 1998), (Afza & Nazir, 2007) . Most companies found that the working capital components (ACP, APP, ICP and CCC) and the firms' performance are negatively related. This relationship was supported by the previous studies done by (Charitou et al., 2010) , (Deloof, 2003) , (García-Teruel & Martínez-Solano, 2010) , (Karaduman et al., 2011) , (Mansoori & Muhammad, 2012) , (Napompech, 2012) , (Raheel Mumtaz et al., 2013) and (Ukaegbu, 2014) .
In contrast, (Tarek & Rafik, 2020) found from previous studies, using panel data

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regression to assess the effect of managing working capital efficiently on the firm's performance by using the cash ratio, current ratio, quick ratio and the Tobin's Q ratio, that there is positive relation between cash ratio, current ratio with the ROA and quick ratio with the Tobin's Q ratio. These results are in accordance with that of (Perera & Priyashantha, 2018) and (Pambayun & Apriani, 2019), (Emmanuel & Agyapong, 2017), (Bagh et al., 2016) and (Robert et al., 2013) while other researches like that of (Muhammad et al., 2017), (Charles et al., 2014) and (Duru et al., 2014) focused on the relation between profitability and other WCM components like account receivable, cash conversion and cycle inventory turnover. Moreover, (Nyamao et al., 2012) suggested that the small enterprise sector needs effective and dynamic management skills in order to remain successful, they also found out that efficient working capital management practices have a significant influence on the financial performance of SSEs and recommends that SSEs embrace efficient working capital management practices as a strategy to improve their financial performance and gaining competitive advantage over other competitors. The data was analyzed using both descriptive and inferential statistics. Consequently, the findings of the study were that, working capital management practices were low amongst SSEs as majority had not adopted formal working capital management routines and their financial performance was on a low average. By measuring the working capital management using (ECM, ERM, EIM) and firm's performance using (Growth in profits, sales, total assets, and market share), the study also revealed that SSE financial performance was positively related to efficiency of cash management (ECM), efficiency of receivables management (ERM) and efficiency of inventory management (EIM) at 0.01 significance level. The coefficient of determination (R2) indicated that 63.4% of the variations in financial performance (FP) could be explained by changes in ECM, ERM and EIM. Hence, the working capital management practices have influence on the financial performance of SSEs, which required SSE managers to embrace efficient working capital management practices as a strategy to improve their financial performance and survive in the uncertain business environment.

Question: Is there a positive relationship between Working capital management and firm's performance?

Research Hypothesis

Based on the contingency theory, the configurational theory, the risk and return theory, and the asset profitability theory, the study predicts that working capital management positively affects firm's performance. The following hypothesis is:

H1: working capital management has a significant positive affect on the performance of firms listed in the Egyptian Stock Exchange

Literature Review

Working capital management plays an awfully vital role in the tradeoff between firm's performance and risk. A forceful working capital approach can create a higher return on assets. In addition, a company's level of working capital impacts value since changes in working capital impacts cash flow and valuation is intrinsically tied to cash flow. Many studies have been proposed to explain how working capital management affects firm's performance as well as its value. Most of them mainly focused on measuring working capital management using cash conversion cycle, return on assets, and return on equity, while hardly any have taken growth in total sales, growth in total assets, growth in net income, and growth in market share into account.

(M. Zariyawati et al., 2009) examined the relationship between working capital management and firm profitability. Cash conversion cycle is used as measure of working capital management. This study is used panel data of 1628 firm-year for the period of 1996-2006 that consist of six different economic sectors which are listed in Bursa Malaysia. The coefficient results of Pooled OLS regression analysis provide a strong negative significant relationship between cash conversion cycle and firm profitability. (Abdul Raheman et al., 2010) analyzed the impact of working capital management on firm's performance in Pakistan for the period 1998 to 2007. For this purpose, balanced panel data of 204 manufacturing firms is used which are listed on Karachi Stock Exchange. The results indicate that the cash conversion cycle, net trade cycle and inventory turnover in days are significantly affecting the performance of the firms. (Charitou et al., 2010) empirically tested the impact of working capital management on firm's financial performance. They managed to gather a sample of 42 firms which are listed in the Cyprus Stock Exchange, Turkey through the period 1998-2007. Using multivariate regression analysis, the results have shown a positive effect of working capital management on firm's profitability which was measured by ROA. (Mutungi, 2010) studied the relationship between working capital management policies and financial performance of oil marketing firms in Kenya. The Author used a population which focused on the oil marketing firms who are member of the Petroleum Institute of East Africa, which analyzed their financial statement for the period 2006 to 2009 (4 years). Mary also established the working capital management policies among oil marketing firms and examined its relationship with the firms' profitability. A regression model was used with the Net Operating Income as the dependent variable, and the Average Collection Period, Inventory Period, Average Payment Period, Current ratio and debt ratio as the independent variables. The study found that those independent variables affected the performance by 56.7%, which indicated that the working capital presents a large percentage of net operating profit as shown by the regression

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model. (Nyamao et al., 2012) the purpose of this study was to assess the effect of working capital management practices on the financial performance of SSEs in Kisii South District. The study adopted a cross-sectional survey research design which allowed the collection of primary quantitative data through structured questionnaires. The target population was 159 managers of 101 trading and 58 manufacturing SSEs. Stratified random sampling technique was used to obtain a sample of 113 SSEs comprising 72 trading and 41 manufacturing enterprises.
The data was analyzed using both descriptive and inferential statistics. Consequently, the findings of the study were that, working capital management practices were low amongst SSEs as majority had not adopted formal working capital management routines and their financial performance was on a low average. The study also revealed that SSE financial performance was positively related to efficiency of cash management (ECM), efficiency of receivables management (ERM) and efficiency of inventory management (EIM) at 0.01 significance level. (Asad, 2012) the author has tried to find out the impact of working capital management on the performance of textile sector companies. For the above said purpose, the data of 30 textile sector companies listed at Karachi Stock Exchange having maximum market share were analyzed. All the manufacturing firms generally face problems with their collection and payments schedule. The results have indicated that sales growth, receivables turnover, payables turnover, inventory turnover, gross working capital turnover, current assets turnover, and financial debt ratio have a significant impact on the profitability of the textile companies of Pakistan. (Abuzayed, 2012) examined the effect of working capital management on firms' performance for a sample of 52 firms in the Amman Stock Exchange for the period from 2000-2008. She used strong estimation techniques and conceptual as well as empirical analysis to examine if efficient working capital management would improve a firm's accounting profitability and firm's value. Abuzayed used two performance measures in this research; an accounting and a market measure, with the belief that wealth maximization is the shareholders' main concern. In addition, she found that a firm's profitability is positively related to the Cash Conversion Cycle, which means that the more the firm is profitable the less motivated they are to manage their working capital. (Gill & Biger, 2013) investigated the impact of corporate governance on working capital management efficiency, using a co-relation research design with a sample of 180 American manufacturing firms listed in the New York Exchange, from the period 2009 to 2011 (3 years). They found that the efficiency of the working capital management is improved by the corporate governance in the American manufacturing firms. The larger the board size the riskier it is on the firms because it will not improve the working capital management efficiency. It was also found that financial

performance improves the cash conversion efficiency management, which helps reduce the working capital requirements. The findings of the study were generalized to firms similar to those that were used in the research, which may have put some limitations on implementing their findings. (Ogundipe et al., 2012), examined the impact of working capital management on firms' performance and market value of the firms in Nigeria, using a sample of fifty- four non-financial quoted firms in Nigeria listed in the Nigerian stock exchange. They used the sampled firms to collect data from their annual reports for the period 1995-2009. Their results showed there was positive relation between Debt ratio and Market Valuation and firm's performance. In addition, the research showed that the Cash Conversion Cycle is significantly negatively related to Market Valuation and firm's performance. They also confirmed that there is a significant relationship between Market Valuation, profitability and working capital management, agreeing with previous studies. (Vural et al., 2012) inspected the association of working capital management and the performance of the firms as well as liquidity by using panel data analysis. They've gathered a sample of 75 manufacturing firms listed on Istanbul stock exchange market from the period 2002-2009 which was measured by cash conversion cycle and Tobin's Q ratio. To sum up, they concluded that working capital management has an insignificant negative effect on firm's profitability and there is a positive relationship between cash conversion cycle and firm value while there is a negative relationship between leverage and firm value. (Agarwal & Varma, 2013) inspected the association of working capital management on firm's profitability. They gathered a sample of 366 non-financial Indian corporations over a three-year period, from 2007 to 2010 listed in Bombay Stock Exchange. Firm size was measured by logarithm of sales; firm growth rate was measured by change in annual sales and financial leverage as control variable. Which lead to the conclusion the working capital management negatively affects firm's profitability. (Mobeen Ur Rehman & naveed anjum, 2013) investigated the connection between working capital management and profitability of the Pakistani cement sector listed in Karachi Stock Exchange, selecting a sample of 10 Pakistani cement companies during 2003-2008. Their calculations involved ROA, AAI, and working capital turnover to measure liquidity and profitability. All things considered; the review proved that working capital management has a negative relation on firm's profitability. (Sabunwala, 2013) examined the association between working capital management and firm's profitability by taking 100 samples of steel companies listed in Bombay Stock Exchange, India, from 2007-2011 using empirical work. She measured the relationship using by ROA as well as Cash Conversion Cycle and its components and concluded that working capital management negatively impacts firm's profitability. (Wesley et al., 2013) captured

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and analyzed the relationship between Working Capital Management and Corporate Performance of manufacturing firms listed in the Nairobi Securities Exchange with a sample of 20 companies from the period 2007-2011 (5 years). The results showed that the CCC, ACP, CLTA, NSCA, and FATA are significant at a 95% confidence to the performance as measure by the ROE. This meant that the Cash Conversion Cycle and the Average Collection Period are the main determinants of the working capital, which determine the performance of manufacturing firms in the Nairobi Securities Exchange. It was also found that the performance of the firms was affected by the control variables CLTA, NSCA and FATA. (Iqbal & Zhuquan, 2014) analyzed the impact of working capital management on firm performance from Pakistani companies listed in the Karachi Stock Exchange. They used different variables such as the Average Collection Perion, Sales, Cash Conversion Cycle, Inventory Turnover, Average Payment Period, and debts to analyze the effect of working capital management. They analyzed a sample of 253 non-financial firms for a period of 6 years (2008-2013). The study showed both negative and positive relationships of the working capital management and firm performance. They found that working capital management is negatively related with the Average Collection Period, while there was a positive relationship between the Cash Conversion Cycle, Inventory Turnover, Debt, Sales, and the Average Payment Period. The study found the overall there is an inefficiency in the working capital management and the profitability of the Pakistani firms, since the variables and the established models are statistically insignificant. (Mwangi et al., 2014) inspected the connection between working capital management and firm's performance by examining a sample of 42 non-financial companies listed in Nairobi Securities Exchange, Kenya for the period 2006-2012. They've applied panel data models. In summary, the study showed that investing in working capital management policy negatively affects firm's performance measured by ROA and ROE. (Tahir & Anuar, 2016) intended to determine the relationship of working capital management and the firm's profitability in the textile sector. They collected 127 samples of textile firms listed in Karachi stock exchange, Pakistan, for the period 2001-2012. The examination of this study used panel generalized methods to analyze the data. They used AAI and CCC to measure this relationship. After taking a closer look at implementing the WCM in the textile sector, the results showed that some factors such as: Current assets to sales and current assets to operating income had a negative effect on return on assets, while account payable period, inventory turnover and cash conversion cycle had a negative impact on profitability. (Bagh et al., 2016) carried out a study that was used to demonstrate the effect of working capital management on firm's performance in a list of random firms by selecting a sample of 50 Non-financial

corporations in Pakistan's stock market to perform the study on for a specific period from ranging from years 2005-2014. Taking into consideration the (WCM) as an independent variable and the Firm performance (FM) as a dependent variable, in conclusion, the study proved that (APP, ITO and CCC) have negative impact on firms performance, while ACP has a positive impact on firms performance because the results have shown a negative impact on the (ROA, ROE and EPS) by the (APP, CCC & ITO) while a positive impact has been shown on (ROA) by (ACP). (Altaf & Shah, 2017) investigated the impact of working capital management on firm's profitability and value in which they've collected 437 samples of non- financial Indian companies listed in Bombay Stock Exchange from period 2007- 2016. Firm's performance was measured by Return on Assets and Tobin's Q ratio. On the other hand, working capital management was measured by Cash Conversion Cycle and its components. Lastly, they concluded that working capital management negatively affects firm's performance because the lower the level of working capital managers and higher the firm's performance. (Hingurala Arachchi et al., 2017) explored the value effect of working capital management on firm value by collecting 44 samples of companies listed in the Colombo Stock Exchange (CSE) during the period 2011-2015. They've measured the efficiency of working capital management using Cash Conversion Cycle and its components, while the firm value was measured by Tobin's Q ratio. They've used panel data regression methodology until they reached the conclusion that the Cash Conversion Cycle is inversely proportional to Tobin's Q ratio which means that working capital management negatively affects firm value. (Nguyen, 2017) tested the link between working capital management on firm's financial performance and liquidity. This study collected a panel data analysis of 54 listed companies on Vietnam stock exchange market covering the period 2011-2016. As it depends on the sort of investment the company wants to perform thus a measure of the liquidity risk needs to be determined. Taking into consideration the accounts payable and accounts receivables that shall be affected by monitoring the cash flow of a company. So, we need to keep a trace of the cash change meanwhile observing its effect on such factors. By doing so, the author acknowledged that there is a significant negative relation between a firm's profitability and its working capital management measured by cash conversion cycle. (Ramesh et al., 2017) studied the "effect of Working Capital Management on the Financial Performance of Manufacturing Firms in Sultanate of Oman". The study period is 10 years and data have been collected from 19 manufacturing companies listed in MSM. Mean, standard deviation, correlation and regression are used in this research to analyze the effect of working capital in the profitability among the sample firms. The study concludes that the debtor management, inventory management, creditor management and cash

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conversion cycle negatively effects on the financial performance of listed manufacturing firms in Sultanate of Oman over the 10 years period.
(Shajahan & Suganya, 2017) studied the consequences of working capital management on firm's performance. The methodology included an overall research design, sampling procedure, field work done, and analysis procedure by accumulating a sample of 22 manufacturing companies listed in Bombay Stock Exchange from the period 2006-2015. They've measured this study using ROA and CCC, and reached a conclusion that working capital management has a negative significant effect on the profitability of the firms. (Yakubu et al., 2017) examined the impact of working capital management on the performance of non-financial firms in Ghana. Using secondary data of five listed non-financial firms for the period 2010-2015, the Random effect model was employed to establish the relationship that exists between the various components of working capital management and firm performance and whether these WCM components impact significantly on firm performance. The study used Return on Assets and Return of Equity to measure firm's performance. The results showed that the average payment period and current ratio have a positive relationship with firm performance.
(M. A. Zariyawati et al., 2017). The purpose of this study is to investigate the effect of working capital management on performance of small and large firms in Malaysia. Balanced panel data analysis is used to achieve the purpose by using Stata 12 software. The research sample consists of small and large firms in Bursa Malaysia which cover period from 2011 to 2013. Results of random effect model demonstrate that working capital management has a significant effect on firm performance. Besides that, we also found out there are differences in a finding of large firm and small firm. (Rahman et al., 2019) analyzed the relation between working capital management and firm's performance. A random sample of 77 firms has been taken for the period 2011-2015 listed in Pakistan stock exchange. Firm's performance was measured using ROA. They ended up concluding that the effect of working capital on firm performance was negatively affected. (Nadeem et al., 2020) explored the effect of working capital management on firm's performance using the OLS method. They extracted 65 samples of non- financial firms listed in Pakistani Stock Exchange 100-index during the period 2011- 2015. By measuring the firm's profitability and value using ROE, ROA, and Tobin's Q ratio as well as working capital management's components (ACP, APP, AAI, CCC) which tend to have a negative effect on firm's performance. (Tarek & Rafik, 2020) investigated the relationship between firm's profitability and its corporate value by applying panel data analysis on a sample of 16 Companies in the Egyptian stock market during the period from 2013-2017. Tobin's Q (TQ) measured firms' value, Return on Assets (ROA) measured the profitability & Current asset ratio (CAR), Quick

ratio (QR) & Cash ratio (CR) measured the working capital management (WCM). The study concluded that working capital management positively affects firm's performance. After reviewing the past articles, most of them conclude that there's a negative effect between the working capital management and the firm's performance and value but there are only a few articles that conclude that there's a positive relation between both. Articles by (Nadeem et al., 2020) concluded that there's a negative relationship between working capital management and firm's performance while articles by (Tarek & Rafik, 2020) , (Yakubu et al., 2017) concluded that there's a positive relationship between working capital management and firm's performance. The variables used in all the articles are ROA, ROE, CCC except for the article written by (Nyamao et al., 2012) which measured the firm's growth in total sales, growth in total assets, growth in net income, growth in market share. Based on (Nyamao et al., 2012) article we will use the same variables to calculate and examine the relationship between working capital management and firm's performance in our research which will be applied on a company from EGX30 for period from 2015 to 2020.

Data Analysis

This section presents the data analysis part of this research. The analysis of this paper was done using (EViews 12) for both descriptive statistics and multiple regressions.

Descriptive statistics

Some descriptive statistics for the selected variables were calculated and reported in table (1). These statistics are the minimum (Min), maximum (Max), mean (M), standard deviation (SD), and coefficient of variation (CV).

Table (1): Descriptive statistic for the selected variables

Variable	Symb.	Min	Max	Mean	SD	CV
Net profit	Y1	-3.24E+08	6.49E+09	6.61E+08	1.10E+09	166.29%
Total Assets	Y2	1.84E+09	5.49E+10	2.37E+10	1.58E+10	66.81%
Growth in Profit	Y3	-45.680	48.658	0.362	7.966	2201.01%
Growth in Sales	Y4	-0.979	11.178	0.734	1.816	247.42%
Growth in Total Assets	Y5	-0.539	1.492	0.044	0.179	405.68%
A/R Turnover (ERM)	X1	0.022	31.430	2.351	5.062	215.26%
Inventory Turnover (EIM)	X2	0.011	79.255	4.183	10.301	246.25%
ECM	X3	-122.585	409.723	34.917	98.343	281.65%
Financial Performance	Y	2.69E+07	1.16E+10	4.83E+09	3.31E+09	68.61%
Working Capital	X	-38.260	137.060	13.817	32.381	234.35%

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Management						

The basic descriptive statistics for the dimensions of dependent variable were as follows; for "Net profit" we have $(M = 6.61E^{+8}, SD = 1.1E^{+9}, CV = 166.29\%)$, for "Total Assets" we have $(M = 2.37E^{+10}, SD = 1.58E^{+10}, CV = 66.81\%)$, for "Growth in Profit" we have $(M = 0.362, SD = 7.966, CV = 2201\%)$, for "Growth in Sales" we have $(M = 0.734, SD = 1.816, CV = 247.42\%)$, for "Growth in Total Assets" we have $(M = 0.044, SD = 0.179, CV = 405.68\%)$, and for the main construct "Financial Performance" we have $(M = 4.83E^{+9}, SD = 3.31E^{+9}, CV = 68.61\%)$. While for the independent variable were as follows; for "A/R Turnover (ERM)" were $(M = 2.351, SD = 5.062, CV = 215.26\%)$, for "Inventory Turnover (EIM)" were $(M = 4.183, SD = 10.301, CV = 246.25\%)$, for "ECM" were $(M = 34.917, SD = 98.343, CV = 281.65\%)$, and finally for the main construct "Working Capital Management" we have $(M = 13.817, SD = 32.381, CV = 234.35\%)$.

Regression Analysis

Researchers provided guidelines for evaluating and reporting results of hypothesis testing, including regression coefficients and coefficient of determination (R2). Regression coefficients refer to the estimates of the relationships between the model's constructs. Those coefficients range from +1 to -1, where +1 means a strong positive relationship, 0 means a weak or non-existence relationship, and -1 means a strong negative relationship. Coefficient of determination (R^2) refers to the effect of independent variables on the dependent variables which is one of the quality measures of the regression model. R^2 estimates vary from 0 to 1, in which 0 means low explained variance and 1 means high explained variance.

Effect of ERM, EIM, and ECM on Financial Performance

The multiple linear regression analysis was carried out to investigate the effect of ERM (X_1), EIM (X_2), and ECM (X_3) on Financial Performance (Y). The regression equation to be estimated is as follows:

$$\textbf{Financial Performance} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1}\textbf{ERM} + \boldsymbol{\beta_2}\textbf{EIM} + \boldsymbol{\beta_3}\textbf{ECM} + \boldsymbol{u_i}$$

Table (2): Results of the hypotheses

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ARTURNOVER (ERM)	-1.97E+08	49471058	-3.984322	0.0001
Inventory Turnover (EIM)	-85085668	24042227	-3.539009	0.0006
ECM	12095346	2538033.	4.765638	0.0000
C	5.23E+09	3.05E+08	17.12852	0.0000
R-squared	0.367073	Mean dependent var		4.83E+09
Adjusted R-squared	0.350704	S.D. dependent var		3.31E+09
S.E. of regression	2.67E+09	Akaike info criterion		46.28210
Sum squared resid	8.28E+20	Schwarz criterion		46.37501
Log likelihood	-2772.926	Hannan-Quinn criter.		46.31983
F-statistic	22.42517	Durbin-Watson stat		0.809248
Prob (F-statistic)	0.000000			

The value of F-statistic "22.42517", which measures the common importance of the explanatory variables, is statistically significant at the 5% level, according to the corresponding value of probability 0.000000. Results show that the coefficient "ERM" is statistically significant at the 5% level with a probability of 0.0001 and implies a negative correlation between the variables. Keeping all other coefficients constant, an increase of 1 unit in the variable "ERM" will lead to a decrease in the variable "Financial performance" by 1.97E+08 units.

Moreover, the coefficient "EIM" is statistically significant at the 5% level with a probability of 0.0006 and implies a negative correlation between the variables. Keeping all other coefficients constant, an increase of 1 unit in the variable "EIM" will lead to a decrease in the variable "Financial performance" by 85085668 units. Furthermore, the coefficient "ECM" is statistically significant at the 5% level with a probability of 0.0000 and implies a positive correlation between the variables. Keeping all other coefficients constant, an increase of 1 unit in the variable "ECM" will lead to an increase in the variable "Financial performance" by 12095346 units. Adjusted R2 0.350704 (35.07%) suggests that 35% of the total variation in "Financial performance" is explained by the variations in the independent variables. In conclusion the results of the regression analysis show that the correlation between "Financial performance" and both "ERM" and "EIM" is statistically significant, and this correlation is negative. On the contrary, the correlation between "Financial performance" and ECM is statistically significant and this correlation is positive. The estimated regression equations were as follows:

$$\text{Financial Performance} = 5.23E^{+9} - 1.97E^{+8}\,\text{ERM} - 85085668\,\text{EIM} + 12095346\,\text{ECM}$$

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Effect of Working Capital Management on Financial Performance

The linear regression analysis was carried out to investigate the effect of Working Capital Management (X) on Financial Performance (Y). The regression equation to be estimated is as follows:

$$\textbf{Financial Performance} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1}\textbf{Working Capital Management} + \boldsymbol{u_i}$$

Table (3): Results of the main hypotheses

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Working Capital Management	39671428	8687494.	4.566498	0.0000
C	4.28E+09	3.05E+08	14.05402	0.0000
R-squared	0.150180	Mean dependent var		4.83E+09
Adjusted R-squared	0.142978	S.D. dependent var		3.31E+09
S.E. of regression	3.07E+09	Akaike info criterion		46.54343
Sum squared resid	1.11E+21	Schwarz criterion		46.58989
Log likelihood	-2790.606	Hannan-Quinn criter.		46.56230
F-statistic	20.85291	Durbin-Watson stat		0.314543
Prob (F-statistic)	0.000012			

The value of F-statistic "20.85291" is statistically significant at the 5% level, according to the corresponding value of probability 0.000012. Results show that the coefficient "Working Capital Management" is statistically significant at the 5% level with a probability of 0.0000 and implies a positive correlation between the variables. Keeping all other coefficients constant, an increase of 1 unit in the variable "Working Capital Management" will lead to an increase in the variable "Financial performance" by 39671428 units.

Adjusted R2 0.142978 (14.3%) suggests that 14% of the total variation in "Financial performance" is explained by the variations in "Working Capital Management". The estimated regression equations were as follows:

$$\textbf{Financial Performance} = \mathbf{4.28}E^{+9} + \mathbf{39671428}\ \textbf{Working Capital Management}$$

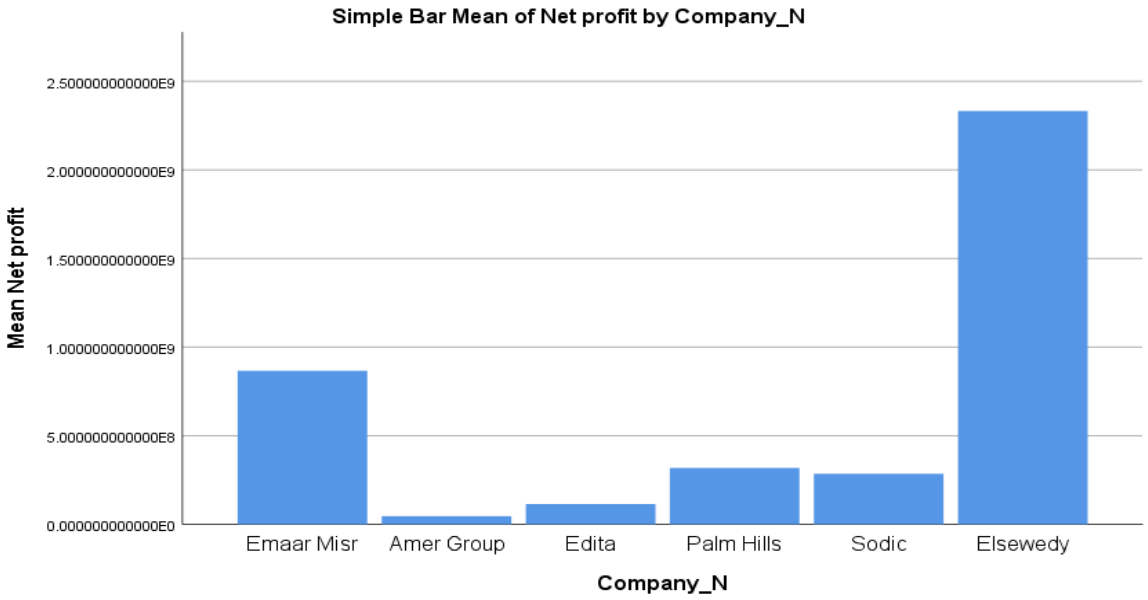

Figure (1): Bar chart for net profit for the selected companies

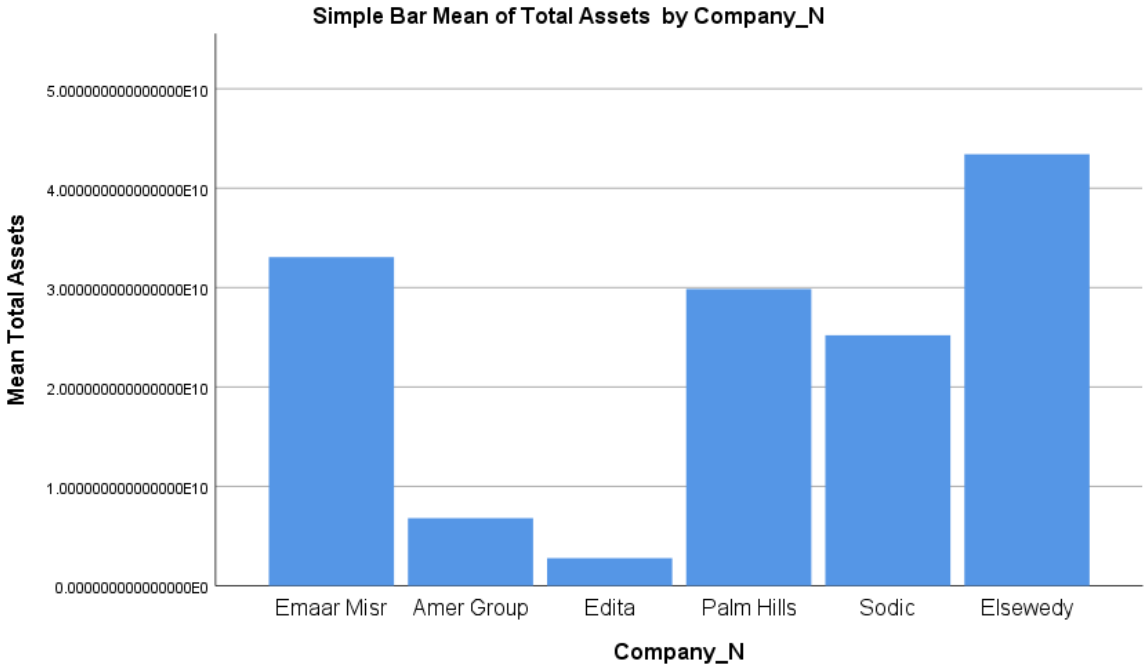

Figure (2): Bar chart for total assets for the selected companies

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Figure (3): Bar chart for growth in profits for the selected companies

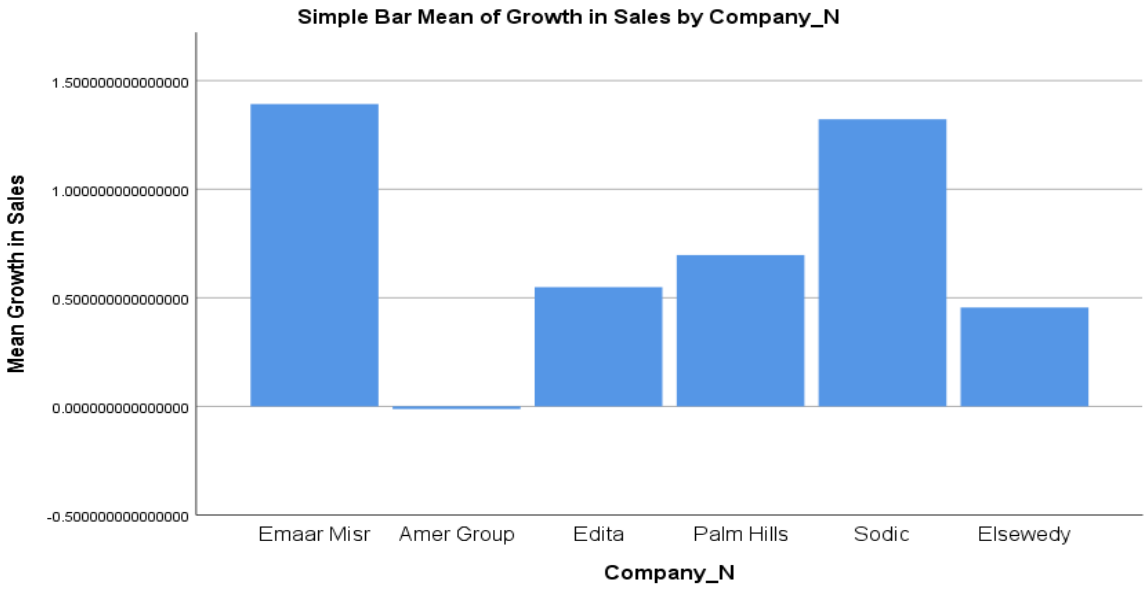

Figure (4): Bar chart for growth in sales for the selected companies

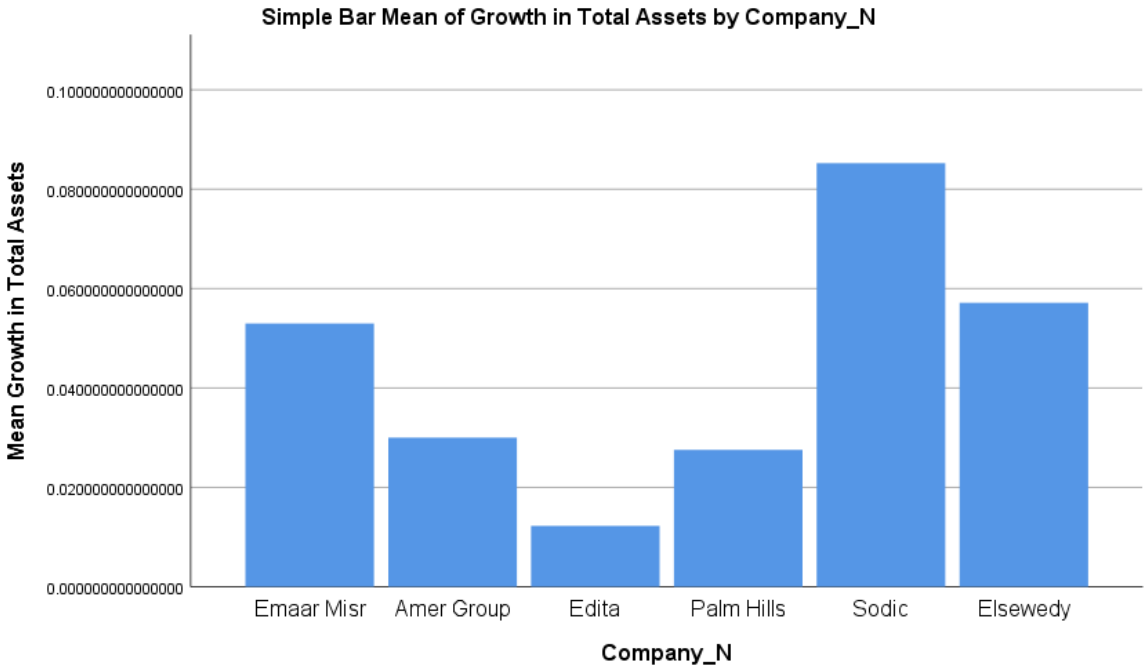

Figure (5): Bar chart for growth in total assets for the selected companies

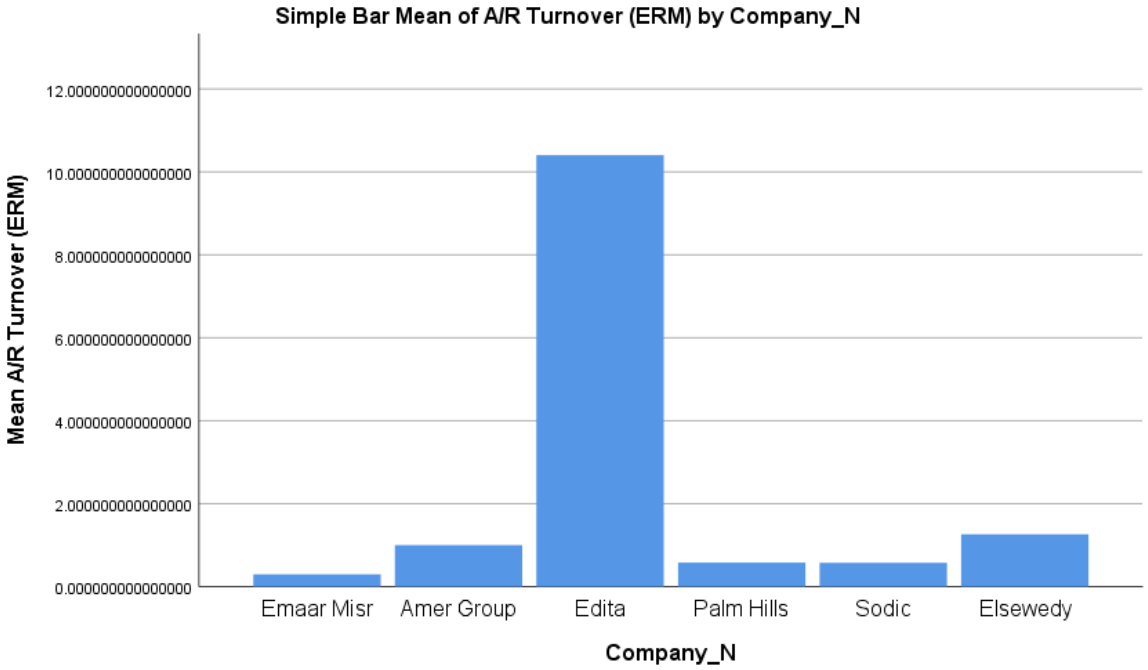

Figure (6): Bar chart for ERM for the selected companies

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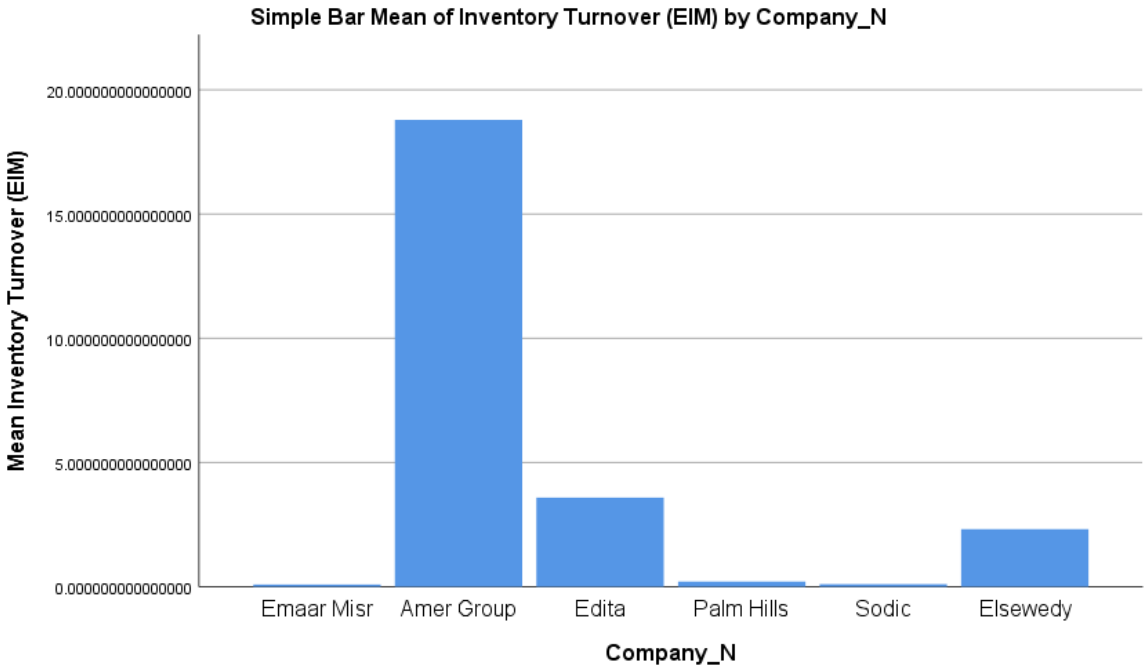

Figure (7): Bar chart for EIM for the selected companies

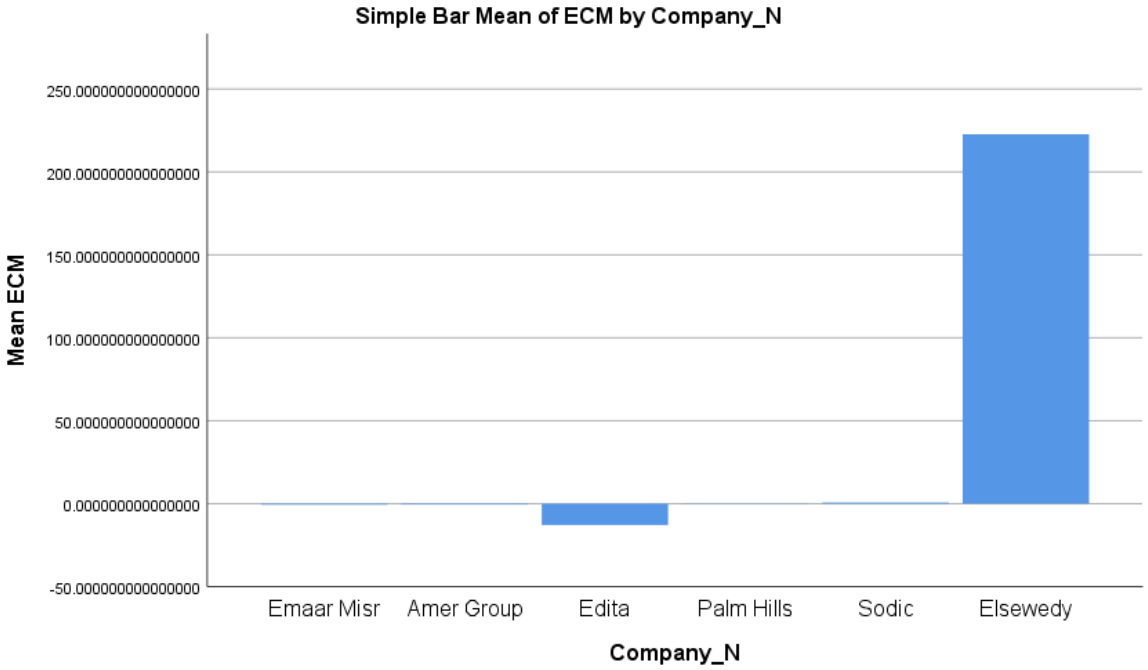

Figure (8): Bar chart for ECM for the selected companies

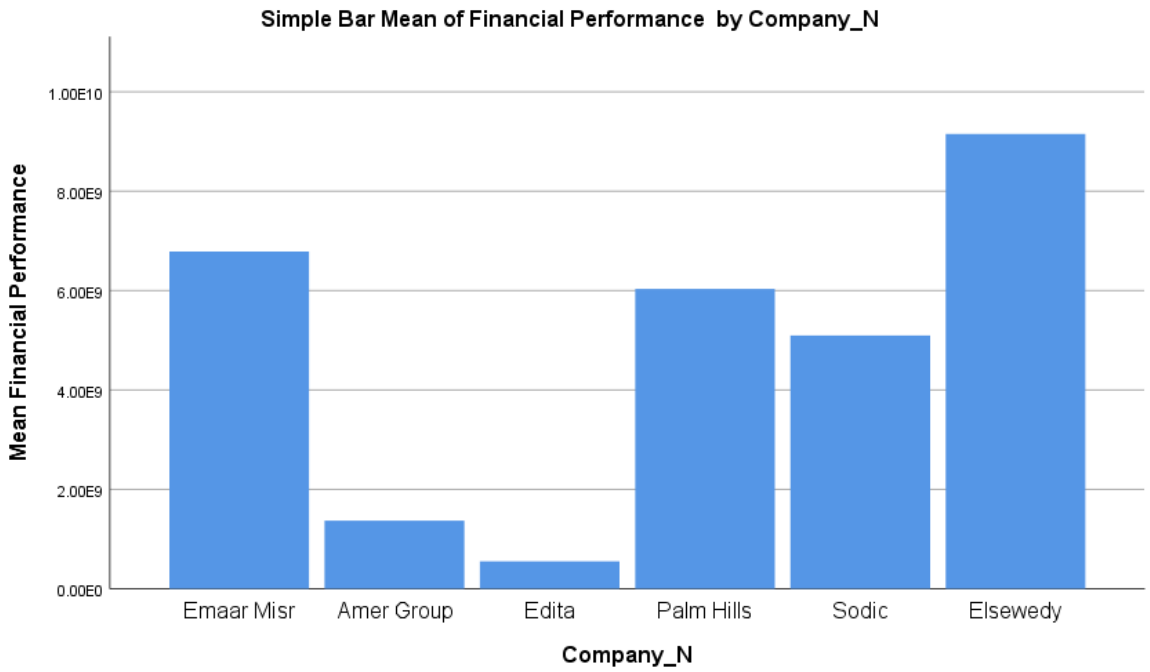

Figure (9): Bar chart for financial performance for the selected companies

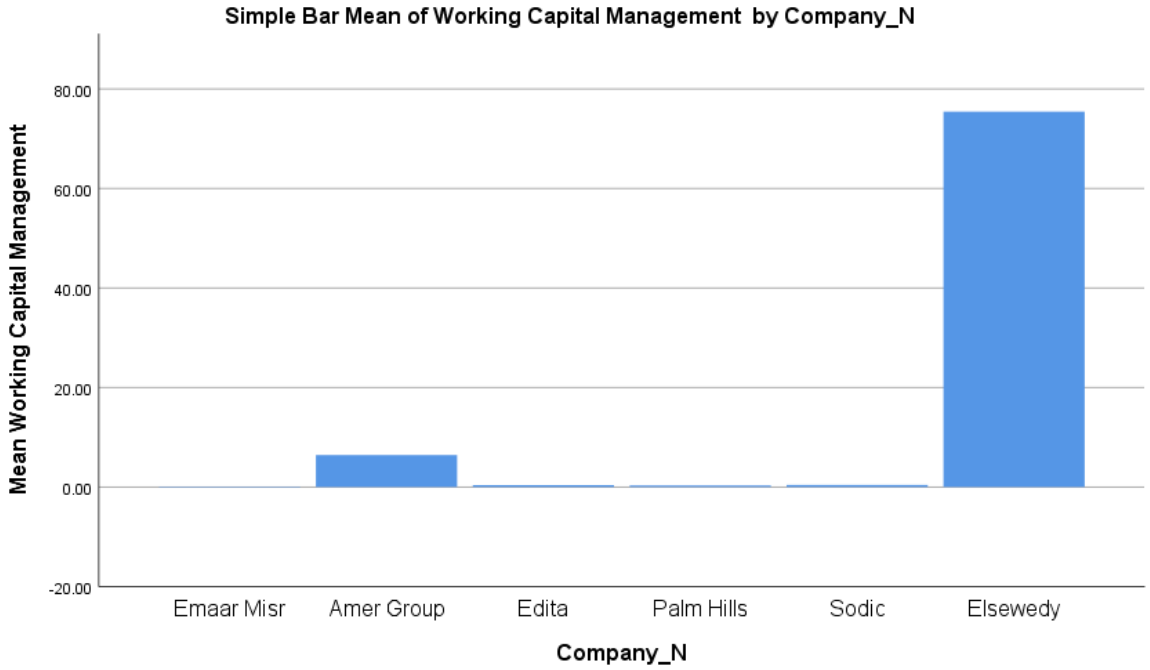

Figure (10): Bar chart for working capital management for the selected companies

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Results:

According to the results of the previous chapter, there was a negative relationship between the efficiency of receivables management (ERM) and efficiency of inventory management (EIM) with firm's overall financial performance: growth in total assets, net profit, and net sales. Oppositely, there was a positive relation between the efficiency of cash management (ECM) and firm's financial performance. But according to our main hypothesis, there is a significant positive relation between the working capital management and firm's financial performance which proves that our hypothesis successfully accomplishes our estimation which were:

H1: working capital management has a significant positive affect on the performance of firms listed in the Egyptian Stock Exchange.

Sighted that we've resulted with positive relations, the answer to our research question "Is there a positive relationship between Working capital management and firm's performance?" is going to be a yes since working capital management which was measure by ERM, EIM, and ECM, has a positive effect on firm's financial performance which was measured by growth in total assets, growth in net profit, and growth in sales.

Conclusion:

In this project we analyzed the effect of working capital management on firm's performance, investigating all dimensions of the data including the research question, the hypothesis, the variables, the research model, literature review and theoretical background. The firm's working capital was measured by efficiency of cash management (ECM), efficiency of inventory management (EIM), efficiency of receivables management (ERM). We calculated firm's performance using growth in total assets, growth in net profit, and growth in sales.

Finally, by analyzing the statistical data using the descriptive and multiple regression models, we found that the regression analysis showed that the ERM and EIM have a negative correlation between variables while the ECM has a positive correlation between variables. The results of the regression analysis show that the correlation between financial performance and both ERM and EIM is statistically significant and this correlation is negative. On the contrary, the correlation between Financial performance and ECM is statistically significant and this correlation is positive. Overall, by instructing this project we reached a level of effectiveness and satisfaction with positive results.

References

Abdul Raheman, Talat Afza, Abdul Qayyum, & Mahmood A Bodla. (2010). Working Capital Management and Corporate Performance of Manufacturing Sector in Pakistan. In International Research Journal of Finance and Economics (Vol. 47). https://www.researchgate.net/publication/50341524_Working_Capital_Management_and_Corporate_Performance_of_Manufacturing_Sector_in_Pakistan

Abuzayed, B. (2012). Working Capital Management and firms' Performance in Emerging Markets: the Case of Jordan. International Journal of Managerial Finance.

Afza, T., & M.S, N. (2007). Working Capital Management Policies of Firms: Empirical Evidence from Pakistan. In 9th South Asian Management Forum (SAMF) on February 24-25. North South University.

Afza, T., & Nazir, M. (2007). Is it Better to be Aggressive or Conservative in Managing Working (P. Ltd, 3(2).

Agarwal, P. K., & Varma, S. K. (2013). Working Capital Management and Corporate Performance: Evidence from a Study of Indian firms. International Journal of Indian Culture and Business Management, 7(4), 552– 571.

Altaf, N., & Shah, F. (2017). Working Capital Management, Firm Performance and Financial Constraints. Asia-Pacific Journal of Business Administration.

Asad, M. (2012). Working capital Management and corporate Performance of Textile Sector in Pakistan. A Research Journal of Commerce, Economics and Social Sciences, 6(1), 100–114.

Atrill P. (2006). Financial Management for Decision Makers. Prentice Hall. , 4th Ed.

Bagh, T., Nazir, M. I., Khan, M. A., Khan, M. A., & Razzaq, S. (2016a). The Impact of Working Capital Management on Firm's Financial Performance: Evidence from Pakistan. International Journal of Economics and Financial Issues, 6(3).

Bagh, T., Nazir, M. I., Khan, M. A., Khan, M. A., & Razzaq, S. (2016b). The Impact of Working Capital Management on Firms Financial Performance: Evidence from Pakistan. International Journal of Economics and Financial Issues, 6(3), 1097–1105. https://www.econjournals.com/index.php/ijefi/article/view/2234

Bowen M, Morara M, & Mureithi S. (2009). Management of Business

Print ISSN 2771-1161
Online ISSN 2771-1153

Challenges Among Small and Micro Enterprises in Nairobi-Kenya. KCA Journal of Business Management (KJBM).

Charitou, M. S., Elfani, M., & Lois, P. (2010). The Effect of Working Capital Management on Firms Profitability: Empirical Evidence from an Emerging market. Journal of Business & Economics Research (JBER, 8(12).

Charles, K. Y., Kirui, J. K., & Chepkutto, W. (2014). Working Capital Management and Corporate Financial Performance: Evidence from Panel Data Analysis of Selected Quoted Tea Companies in Kenya. Research Journal of Finance and Accounting, 5(5), 53–62.

Deloof, M. (2003). Does Working Capital Management Affect Profitability of Belgian Firms? Journal of Business Finance & Accounting, 30(3–4), 573–588.

Duru, A. N., Ekwe, M. C., & Eje, G. C. (2014). Liquidity Positioning and Firm Performance in Industrial/Domestic Product Companies: Evidence from Nigeria. IOSR Journal of Economics and Finance, 5(6), 25–32. https://doi.org/10.9790/5933-05622532

Emmanuel, K. O., & Agyapong, G. (2017). Working Capital Management and Shareholders' Wealth Creation: Evidence from Non-Financial Firms listed on the Johannesburg Stock Exchange. Investment Management and Financial Innovations, 14(1), 80–81.

Ganeshan, V. (2007). An Analysis of Working Capital Management Efficiency in Telecommunication Equipment Industry. Rivier Academic Journal, 3(2).

García-Teruel, P. J., & Martínez-Solano, P. (2010). Determinants of Trade Credit: A Comparative Study of European SMEs. International Small Business Journal, 28(3), 215–233.

Gill, A. S., & Biger, N. (2013). The Impact of Corporate Governance on Working Capital Management Efficiency of American manufacturing firms. Managerial Finance.

Hingurala Arachchi, A., Perera, W., & Vijayakumaran, R. (2017). The Impact of Working Capital Management on Firm Value: Evidence from a Frontier market. Asian Journal of Finance & Accounting, 9(2).

ILO. (2010). Voucher Program for Training and Business Development Services Kenya Micro and Small Enterprise Training and Technology Project.

Iqbal, A., & Zhuquan, W. (2014). Working Capital Management and its Impact on Firm's Performance. International Journal of Business and Social Science, 5(12).

Joel F. Houston, & Eugene F. Brigham. (2004). Fundamentals of Financial Management (10th ed.). Thomson/South-Western.

Karaduman, H. A., Akbas, H. E., Ozsozgun Caliskan, A., & Durer, S. (2011). The Relationship between Working Capital Management and Profitability: Evidence from an Emerging Market. International Research Journal of Finance and Economics, 62, 61–67. https://www.researchgate.net/publication/289159126_The_relationship_between_working_capital_management_and_profitability_Evidence_from_an_emerging_Market

Lamberson, M. (1995). Changes in Working Capital of Small Firms in Relation to Changes in Economic Activity. American Journal of Business, 10(2), 45–50. http://www.sciepub.com/reference/235472

Mansoori, D. E., & Muhammad, J. (2012). Determinants of Working Capital Management: Case of Singapore Firms.

Mead DC. (1998, May 26). Micro and Small Businesses tackle poverty and Growth (but in different proportions). Paper Presented at the Conference on Enterprises in Africa: Between Poverty and Growth.

Mobeen Ur Rehman, & naveed anjum. (2013). Determination of The Impact of Working Capital Management on Profitability: An Empirtcal Study From The Cement Sector In Pakistan. Asian Economic and Financial Review, 3(3), 319–332. https://www.researchgate.net/publication/293794218_DETERMINATION_OF_THE_IMPACT_OF_WORKING_CAPITAL_MANAGEMENT_ON_PROFITABILITY_AN_EMPIRICAL_STUDY_FROM_THE_CEMENT_SECTOR_IN_PAKISTAN

Muhammad, U., Sarfarazah, M., & Shahbaz, K. (2017). Impact of Working Capital Management on Firm Profitability: Evidence from Scandinavians countries. Journal of Business Strategies, 11(1), 99–112.

Mutungi, M. W. (2010). The Relationship between Working Capital Management Policies and Financial Performance of Oil Marketing Firms in Kenya.

Mwangi, L. W., Makau, M. S., & Kosimbei, G. (2014). Effects of Working Capital Management on Performance of Non-Financial Companies listed in NSE, Kenya. European Journal of Business and Management, 6(11), 195–205.

Nadeem, M., Waris, M., Asadullah, M., & Kamran, M. (2020). Impact of Working Capital Policies on Firm's Performance, Evidence from Pakistan. Journal of International Business and Management, 3(1), 01– 20.

Napompech, K. (2012). Effects of Working Capital Management on the

Print ISSN 2771-1161
Online ISSN 2771-1153

Profitability of Thai Listed Firms. International Journal of Trade, Economics and Finance, 3, 227–232.

Nguyen, M. (2017). Effects of working capital management on firm's profitability: Vietnamese evidence. National Economic University.

Nyamao, N. R., Patrick, O., Martin, L., Odondo, A. J., & Simeyo, O. (2012). Effect of Working Capital Management Practices on Financial Performance: A Study of Small Scale Enterprises in Kisii South District, Kenya. African Journal of Business Management, 6(18), 5807–5817.

Ogundipe, S. E., Idowu, A., & Ogundipe, L. O. (2012). Working Capital Management, Firms' Performance and Market Valuation in Nigeria. World Academy of Science, Engineering and Technology, 61(1), 1196.

Padachi, K. (2006). Trends in Working Capital Management and its Impact on Firm's Performance: An Analysis of Mauritian Small Manufacturing Firms. International Review of Business Research, 2(2), 45–58.

Pambayun, K. Y. N., & Apriani, D. R. A. (2019). Working Capital Management and its Influence on Profitability and Sustainable Growth. Business: Theory and Practice, 20, 61–68.

Perera, W., & Priyashantha, P. (2018). The Impact of Working Capital Management on Shareholders Wealth and Profitability: Evidence from Colombo Stock Exchange. SSRN Electronic Journal. https://doi.org/10.2139/SSRN.3178018

Raheel Mumtaz, Shahnaz A. Rauf, Bashir Ahmed, & Umara Noreen. (2013). Capital Structure and Financial Performance: Evidence from Pakistan (Kse 100 Index). Journal of Basic and Applied Scientific Research, 3(4), 113–119.

Rahman, S., Iqbal, K., & Nadeem, A. (2019). Effect of Working Capital Management on Firm Performance: The Role of Ownership Structure. Global Social Sciences Review, 4(1), 108–119.

Ramesh, G., Al-Habsi, H., & Al-Sharji, T. (2017). Effect of Working Capital Management on the Financial Performance of Manufacturing Firms in Sultanate of Oman. Innovative Journal of Business and Management, 6(3), 38–42.

Robert, K., Mark, L., & Rabih, M. (2013). Working Capital Management and Shareholders' Wealth. Review of Finance, 17(5), 1827–1852.

Sabunwala, Z. Z. (2013). Impact of Working Capital Management on Firm's Performance: 2007-2011 Evidence from Steel Industry in India. Indira Management Review, 6(1), 4–16.

Shajahan, U. S., & Suganya, M. (2017). The Impact of Working Capital Management on Firm's Performance of Selected Companies In Bombay

Stock Exchange.

Tahir, M., & Anuar, M. B. A. (2016). The Determinants of Working Capital Management and Firms Performance of Textile Sector in Pakistan. Quality & Quantity, 50(2), 605–618.

Tarek, Y., & Rafik, M. (2020). The Impact of Working Capital Management on Corporate's Performance: Evidence from Egypt. The Impact of Working Capital Management on Corporate's Performance: Evidence from Egypt, 2020(1833–3850), 151–162, 1833–8119.

Ukaegbu, B. (2014). The Significance of Working Capital Management in Determining Firm Profitability : Evidence from Developing Economies in Africa. Research in International Business and Finance.

Vural, G., Sökmen, A. G., & Çetenak, E. H. (2012). Affects of Working Capital Management on Firm's Performance: Evidence from Turkey.

Weinraub, H. J., & Visscher, S. (1998). Industry Practice Relating To Aggressive Conservative Working Capital Policies. Journal of Financial and Strategic Decision, 11(2), 11–18.

Wesley, O. N., Musiega, M. G., Douglas, M., & Atika, M. G. (2013). Working Capital Management and Corporate Performance. Special Reference to Manufacturing firms on Nairobi Securities Exchange. International Journal of Innovative Research and Development, 2(9), 177–183.

Yakubu, I. N., Alhassan, M. M., & Fuseini, A. A. (2017). The Impact of Working Capital Management on Corporate Performance: Evidence from listed non-financial firms in Ghana.

Zariyawati, M. A., Hirnissa, M. T., & Diana-Rose, F. (2017). Working capital management and firm performance of small and large firms in Malaysia. Journal of Global Business and Social Entrepreneurship (GBSE, 3(7).

Zariyawati, M., Annuar, M. N., Taufiq, H., & Abdul Rahim, A. S. (2009). Working Capital Management and Corporate Performance: Case of Malaysia". Journal of Modern Accounting and Auditing, 5(11), 47–54.

Print ISSN 2771-1161
Online ISSN 2771-1153