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The Effect of Working Capital Management with Net Operating Profit of Manufacturing Companies

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Abstract

This study attempts to show the impact of working capital management on operating profit for manufacturing organizations in order to reach profit targets and increase sales. Additionally, it seeks to determine whether working capital management significantly affects a company's operating net profit. Working capital management factors such as average collection period, daily balance turnover, average payment period, cash conversion cycle, and net exchange turnover of the business are considered in this study. In this research, the main independent variable "working capital management" and the dependent variable "operational net profit"; And the location of this research was the companies accepted in the Tehran Stock Exchange in the Islamic Republic of Iran in the period of the year (2010-1382). Then, by estimating the working capital management items, its effect on profitability is adapted to the relevant industry, and at the end, the relationships between the research variables are analyzed by running a regression model. The findings of the research show that working capital management has a relationship with net operating profit and also the company's working capital management has a significant relationship with the operating net profit of manufacturing companies. The results show a strong positive correlation between net operating profit and efficient working capital management, underscoring the critical role that working capital management plays in improving the financial performance of manufacturing firms.

Keywords: Working capital management, net exchange turnover, average collection period, inventory turnover per day, net operating profit.

INTRODUCTION

A key factor in manufacturing organizations' improved performance is working capital management. A company's working capital is a group of funds allocated to current assets. Net working capital is what remains after a company's current assets are subtracted from its current liabilities. Determining the quantity and mix of capital sources and costs is known as working capital management in circulation so as to increase the wealth of the shareholders. In general, the current assets of a company consist of the following items: cash and bank, salable securities, accounts receivable, inventory and other current assets. Many current assets come from current liabilities (such as accounts payable, documents payable and loans short-term) are financed, at the same time, some companies finance part of their current assets from long-term loans or from equity. Working capital must be consumed in order to produce items. In order to produce goods, companies have to first buy raw materials, then transform them into manufactured goods. Then, by selling the inventory of manufactured goods, accounts receivable or receivable documents increase and with the collection of claims, the period of cash circulation ends. Since cash is not paid immediately for the purchase of raw materials

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and the payment of workers' wages, some of the working capital is provided from accounts payable and other payable expenses. Almost all companies have a continuous and permanent activity and working capital is necessary for the production stages. Cash flow begins when the company pays for raw materials and continues until it receives receivables from the sale of goods. In industrial organizations, where current assets make up a large portion of assets, the effectiveness of working capital management is extremely important. It has an immediate impact on businesses' liquidity and profitability. Light-weighting profitability liquidity is important because if working capital management ignores its considerations, then the company is likely to face failure and bankruptcy [1].

There is no denying the significance of productivity in working capital management. Any economic entity's lifeblood is its working capital, and managing it is regarded as the most crucial of all the management tasks performed by the organizations under consideration. Regardless of size or type of business, every organization—for-profit or nonprofit—needs the appropriate level of working capital. The most crucial component of preserving liquidity, survival, solvency, and economic success is working capital [2].

When comparing businesses, one of the most crucial factors in generating liquidity and profitability is working capital management, which involves funding current assets and determining their quantity and makeup. If all else is equal, the danger of running out of cash increases with the relative ratio of liquid assets. Any company's ability to operate depends on all aspects of working capital, which include cash, marketable securities, accounts receivable, and inventory management. Thus, the purpose of this study is to use a regression model to examine the impact of working capital management on the profitability of manufacturing companies listed on the Iranian stock exchange [3].

STATEMENT OF PROBLEM

Working capital management method has an important effect on cash flow and company performance. Shortening the cash conversion cycle will improve the company's profitability because the lengthening of the cash conversion cycle requires the expenditure of costly foreign funds. Therefore, by reducing the duration of the conflict between cash and working capital, the company can have a better performance. Cash conversion cycle by reducing the duration of inventory conversion through faster processing and selling of goods, or by reducing the duration of collection of accounts receivable by accelerating collection operations, or by increasing the maturity period of accounts payable by slowing down the payment process [4].

It will be shorter for sellers. However, cutting the cash conversion cycle too short might negatively impact the business's performance, cash flow, and profitability. When trying to reduce inventory conversion time, the company must be very conscious of avoiding inventory shortages because this will attract customers from competitors; When reducing the period of collection of accounts receivable, he should be careful not to lose his good credit customers; And if the due date of accounts payable increases, be careful of your reputation and reputation. The cash conversion cycle is also a good way to evaluate the company's cash flow because in this way, the time spent on working capital is also determined; This method is much stronger and more complex compared to the traditional methods of measuring liquidity, such as the current rate and the quick rate, which rely only on balance sheet figures. The cash conversion cycle also considers the time dimension of liquidity and evaluates the company's overall liquidity capability. The main issue in working capital management is the short-term financial and operational activities of the company, these short-term activities include the purchase of raw materials, the cash payment of the price of raw materials, the production and sale of products, and the collection of cash from the sale of products [5].

One of the pillars of working capital management is collecting accounts receivable as quickly as possible and delaying debt to vendors as much as possible. This principle of working capital is based on the concept of cash conversion cycle. A company's cash conversion cycle can be described as the period of time between the cash payment of the price of purchased raw materials and the collection of receivables from the sale of finished goods. In the case of manufacturing companies, the situation can be the same. Here, we wish to look into the impact of working capital management on manufacturing firms' profitability. Therefore, in this research, "working capital management indicators" are the independent variable and "profitability" is the dependent variable [6, 7]

IMPORTANCE AND NECESSITY OF RESEARCH

The increasing importance of working capital management has made this issue a specialized field of financial management. In large companies, there are a number of expert executives who devote all their time and energy exclusively to managing the company's working capital. The reasons for the importance of this issue are as follows:

Actual and desired levels of current assets (according to changes in actual and projected sales) are subject to constant changes. This situation makes decisions about the desired or expected level of current assets to be made on a continuous (daily) basis. Perhaps, due to the changes that have occurred in the amount of current assets, managers will have to reconsider the decisions they have already made for financing; For example, if heavy amounts of short-term loans have been used to finance current assets, taking additional loans and extending loans that reach maturity will require spending more time and energy on the company's management [8]. The amount of sources and expenses of funds allocated to working capital should be determined. If the management of working capital is not correct, it is possible that the company's sales and profits will decrease and the company may not be able to pay its debts and obligations on time [9].

DESCRIPTION OF THE WORDS AND TERMS USED IN THE RESEARCH

- *Working capital:* A company's working capital is a group of funds allocated to current assets. Net working capital is what remains after a company's current assets are subtracted from its current liabilities.
- *Working capital management (WCM):* Working capital management consists of determining the volume and combination of working capital sources and expenses in such a way that the shareholders' wealth increases.
- *Average collection period (ACP):* The average collection period is obtained by dividing accounts receivable by net sales multiplied by 365 days.
- *Inventory turnover per day (ITID):* Inventory turnover per day is obtained by dividing the inventory divided by the cost of products sold multiplied by 365 days.
- *Average Payment Period (APP):* The average payment period is obtained by dividing accounts payable by purchase times 365 days.
- *Cash Cycle (CCC):* Cash conversion cycle is a good way to evaluate the company's cash flow, because it also considers the time dimension of liquidity and evaluates the company's overall ability in liquidity.
- *Net operating profit (NOP):* It is a measure for the performance of companies, so that the total profit before interest, tax and depreciation is divided by the assets. According to Article 237 of the law, the definition of the company's profit is defined as the company's net profit in each financial year. It is the income obtained in the same financial year minus all expenses, depreciation and reserves [10].
- *Current ratio (CR):* It is obtained by dividing current assets by current liabilities.

RESEARCH OBJECTIVES

The goal of this study is to better understand how working capital structure affects the profitability of manufacturing firms as shown in figure 1. Specifically, this research will evaluate the relationship between working capital management and the profitability of publicly traded companies by identifying key factors that influence the effectiveness of working capital management [11]. Furthermore, the aim is to encourage investment and offer working capital policies and assistance to manufacturing firms.

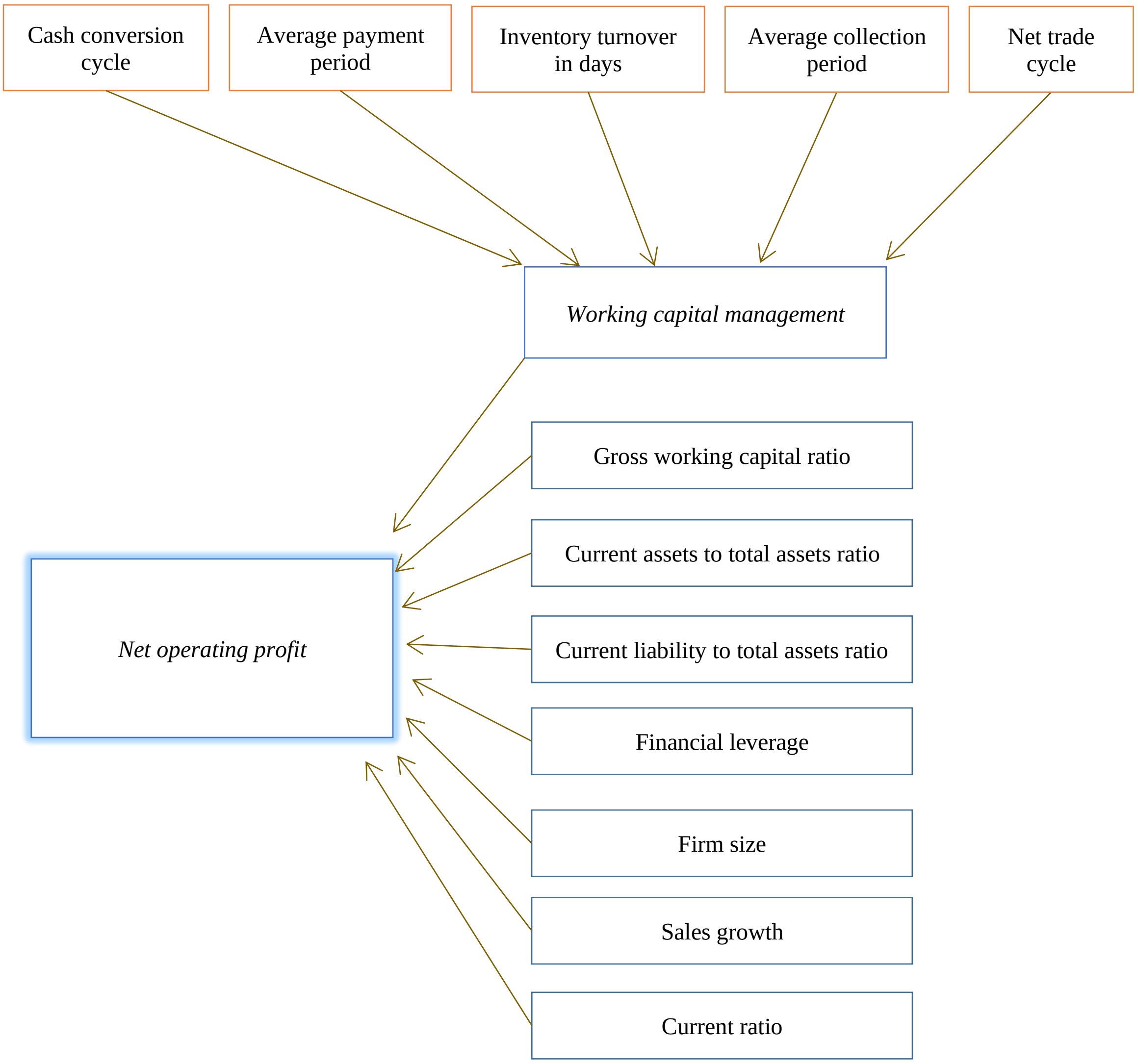

Figure 1. Research analytical model of working capital management.

RESEARCH METHOD, SAMPLING, DATA ANALYSIS, DATA ANALYSIS, SAMPLE SIZE AND POPULATION

This research is an applied research in terms of its purpose. The enterprises that have been admitted to the Tehran Stock Exchange comprise the statistical population of this study. But since the working capital of manufacturing companies is considered an important factor for us, we choose manufacturing companies that are profitable and traded in the stock exchange [12, 13].

In this research, "circulating capital indices" are considered as independent variables and "operating net profit" as dependent variables.

The working capital of a company is a collection of sums that are invested in current assets. If the current liabilities are deducted from the current assets of a company, the net working capital is obtained as shown in Table 1. Regression is utilized in this study to determine the link between the independent and dependent variables, and an equation is created to quantify the impact of the independent variable on the dependent variable [14].

Table 1. Descriptive statistics of variables studied in the research.

Quantity variable name	Average collection period (ACP)	Inventory turnover per day (ITID)	Average payment period (APP)	Cash conversion cycle (CCC)	Net turnover of exchanges (NTC)	Gross working capital ratio (GWCTR)	Ratio of current assets to total assets (CATAR)	Current ratio (CR)	Ratio of current debt to total assets (CLTAR)	Financial debt ratio (FDR)	size of the company (LOS)	Sales growth (SG)	Operating Profit (NOP)
Number	560	560	560	560	560	560	560	560	560	560	560	560	560
Average	13604	2.42	160.18	0.14	141.58	2.06	0.63	10854.66	0.5532	0.638	5.52	0.263	15.92
Middle	117.13	0.62	66.52	0.06	192.6	1.27	0.66	1.11	0.575	0.658	5.57	0.182	14.01
Mod	27.87	0	0	0.02	6415.6-	0.085	0.7	3.16	0.222	0.274	4.55	-0.89	0.74
Standard deviation	130.01	8.33	558.48	0.32	519.91	14.94	0.29	95473.57	0.156	0.143	0.56	0.799	10.66
Domain	2591.78	139.16	7064.85	4.86	8345.24	354.25	5.48	1102193	0.77	0.862	3.32	12.23	70.7
The least	1.8	6.6-	0	0	6415.42-	0.085	0.001	0.003	0.106	0.157	4.36	-0.89	-17.18
The most	2593.58	132.56	7064.85	4.86	1929.82	354.33	5.48	1102193	0.876	1.019	4.68	11.34	53.52

Hypothesis Test

Hypothesis: Company's working capital management has a significant relationship with the net operating profit of manufacturing companies.

Table 2. Test of the zeroness of the coefficients of each variable in the model.

Model	Coefficient	Standardized coefficient	t statistic	The significance level
Fixed	35.56	-	7.55	0
ACP	0.022-	0.294-	4.618-	0
ITID	0.169	0.13	3.651	0
CCC	6.658	0.207	5.308	0
APP	*0.011*	*3.242*	*0.001*	*0.054*
NTC	0.008	0.385	2.258	0.024

In Table 2, it was mentioned to examine the zeroness of the coefficients of each variable in the model. The t statistic related to the variables related to this hypothesis are 4.618, 3.651, 5.308, 2.25, respectively, which are all greater than the t value in the table (or equivalently, the level of significance obtained for these variables is: 0.00, 0.00, 0.00, 0.024 All of which are smaller than the error value of $\alpha = 0.05$) so the null hypothesis of the coefficients of these variables or the statistical null hypothesis is rejected. But the t statistic corresponding to the APP variable is equal to 0.001, which is less than the t value of the table, and therefore the hypothesis of zero coefficient of this variable is confirmed, which shows that it has no relationship with the dependent variable. Among the 5 variables that determine working capital management, 4 had a significant relationship with the dependent variable, and only one of them, APP, had no relationship. Therefore, in general, it can be concluded that working capital management has a significant relationship with the dependent variable, i.e. net operating profit. Therefore, the research hypothesis is confirmed.

CONCLUSION

The role of working capital management in discussing corporate performance, and in particular profit management, is one of the important issues that have been focused on the stock markets for many years. Evidence shows that working capital management plays an active role in managerial decisions and corporate guidance, so extensive studies have been conducted in recent years on various factors that can affect the net operating profit of companies in the world, especially evaluating the role of management. Capital in profit management that has been repeatedly studied by researchers. In order to help investors make the best decisions possible when it comes to working capital management and buying and selling stocks to achieve their objectives, this study looked at the relationship between working capital management and the profitability of companies listed on the Tehran Stock Exchange. Their investment will help. The hypothesis of this study focused on investigating the relationship between effective factors in corporate profit management.

The Tehran Stock Exchange-listed companies' profitability and working capital management were assessed over an extended period of time in this research study. In general, research evidence indicates that working capital management has a significant impact on the profitability of companies and plays a key role in creating value for shareholders.

Research Proposals

1. Considering the role of working capital management on the profitability of manufacturing companies, managers should pay attention to this category and consider its importance.
2. In order to increase their profitability, companies should reduce the ratio of current assets to their total assets.
3. Companies should increase their debt to total asset ratio to increase their profitability.
4. Companies should reduce their financial leverage to increase their profitability.

5. Companies should not forget sales growth as an important factor in profitability and increase it for more profit.

Suggestions for Future Research

In order to further explain the management of working capital in Tehran Stock Exchange, the following subjects are suggested to those interested:

1. Investigating the effect of liquidity management on the performance of companies admitted to the Tehran Stock Exchange
2. Investigating the effect of working capital management indicators on the profitability of service companies admitted to the Tehran Stock Exchange
3. Investigating the impact of short-term investment tools and the criteria for choosing the investment method of companies admitted to the Tehran Stock Exchange.
4. Examining the relationship between the volume and composition of working capital and its effect on the risk and profitability ratios of companies admitted to the Tehran Stock Exchange.

Author Contributions

Conceptualization, HN and MT; methodology, HN and MT; software, MT and HN; validation, HN and MT; formal analysis, HN and MT; investigation, MT and HN; resources, HN and MT; data curation, HN and MT; writing—original draft preparation, HN and MT; writing—review and editing, MT and HN; visualization, MT and HN; supervision, HN and MT; project administration, HN and MT. All authors have read and agreed to the published version of the manuscript.

Conflict of Interest

The authors declare no conflict of interest.

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