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# A STUDY ON WORKING CAPITAL MANAGEMENT IN LARGE SCALE INDUSTRIES

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***Abstract:*** Every organization relies on finance to function. The Working capital analysis is utilized to have a better knowledge and information about the financial statement. "A study on Working capital management in large scale industries" is essential has to make enough money to meet its costs of capital as well as generate surplus to expand. To know the relationship between working capital and financial performance in manufacturing industry, to study the different components affecting working capital, to assess the present working capital management practices in the manufacturing industry and identify areas for improvement to enhance operational efficiency and financial performance. The necessary information was gathered from primary sources. Chi- square analysis is done this helps to compare the two different variables.

**Keywords -** Working capital, Performance, Liquidity, Profitability, Efficiency, Variables.

## INTRODUCTION

Working capital management, which encompasses capital planning and capital structure, is the cornerstone of financing. The productivity of working capital management and the result of capital structure are assessed through an analysis of working capital management. The components of this procedure's working capital management and working capital management. It investigated and organization profitability. The finance director can assess the efficiency of the company and manage its working capital by looking at its current assets and current liabilities. The organization's production and sales are examined using the current assets shown on the balance sheet, which comprise cash, accounts receivable, completed goods, stocks, raw materials, and cash at the bank that is less than a year.

Because of the nature of their business, manufacturing companies in particular have significant difficulties when it comes to managing their working capital. These businesses frequently need to make large investments in labor, raw materials, and production procedures before they start making money from sales. Thus, to preserve cash and continue operations, efficient working capital management is crucial.

The significance of working capital management in manufacturing companies is influenced by several aspects. First and foremost, effective management ensures that the business can fulfill its short-term commitments on time by reducing the risk of financial shortages. Second, it enables businesses to maximize their cash flow by cutting down on needless holding expenses related to extra inventory and unpaid receivables. Thirdly, by freeing up funds that can be utilized to reduce financial risk or invest in expansion prospects, efficient working capital management may increase the firm's profitability.

Numerous studies have been done to examine the various tactics and procedures used by businesses to manage their working capital, given the importance of working capital management in manufacturing enterprises. These studies seek to shed light on industry best practices, point out obstacles that businesses must overcome, and make suggestions for enhancements. To improve financial performance and guarantee long-term sustainability, practitioners and scholars alike must comprehend the dynamics of working capital management in manufacturing companies.

The study of working capital management in manufacturing businesses has important theoretical implications for both operational performance and financial management. Scholars may learn vital information about how companies optimize their short-term assets and liabilities to meet financial obligations, keep up operations, and maximize profitability by researching this topic. The confluence of theoretical frameworks from economics, finance, and operations management sheds light on the intricate linkages between production processes, liquidity management, and overall business success.

Researching working capital management in manufacturing companies has important and varied theoretical ramifications. This field of study explores the tactics and approaches used by manufacturing firms to effectively manage their short-term assets and liabilities in order to guarantee seamless operations and optimize profitability.

## IMPORTANCE OF TOPIC

- Financial Health: An organization's financial health is directly impacted by working capital management. Manufacturing companies may make sure they have enough cash on hand to pay bills, purchase supplies, and meet other obligations without going into financial difficulties by managing their short-term assets and liabilities well.
- Operational Efficiency: Manufacturing companies frequently handle substantial amounts of receivables and inventories. By guaranteeing appropriate inventory levels and timely customer payment collection, effective working capital management facilitates operational efficiency. This maintains the smooth operation of the industrial machinery.
- Profitability may be increased through effective working capital management. Manufacturing companies can increase their bottom line by cutting expenses related to excess inventory or late payments. The additional money might subsequently be utilized to fund expansion prospects or reinvested in the company.
- Business Sustainability: Manufacturing companies need to properly manage their working capital if they want to prosper in the long run. If this isn't done, there may be liquidity issues that make it harder for the business to run and expand. Our understanding of working capital management techniques can contribute to the sustainability of manufacturing companies.

## OBJECTIVES

- To know the relationship between working capital and financial performance in manufacturing industry.
- To study the different components affecting working capital.
- To assess the present working capital management practices in the manufacturing industry and identify areas for improvement to enhance operational efficiency and financial performance.

## REVIEW OF LITERATURE

**Srinivas K T (2017), A Study on Working Capital Management Through Ratio Analysis with Reference to Karnataka Power Corporation Limited -** From this survey it is discovered that organization financial position was seeing light of the fact the organization tried to build its net profit. In this point of view the examination is on working capital management at Karnataka power corporation. By analyzing that how the organization profit was expanding each year, how the organization fixed assets are not completely used. KPCL should use its assets legitimately used and should enhance its monetary position in further years.

**Uday Kumar Jagannathan (2017), Impact of Working Capital Management on Profitability: Indian Telecom Sector** - This study tells that maintaining effective level of working capital is every important not only for telecom industry but suitable for all the industry. The outcome of the study is that there is connection between profitability and working capital. The correlation analysis shows return on assets has negative relationship with average collection period, cash conversion cycle and current ratio.

**Mr Lalith Kumar Joshi (2018), Working capital management of Cipla limited: An empirical study** -The author explains the working capital of Cipla Ltd. The organisation has indicated the critical changes in liquidity position throughout various years of examination. The examination include analysing of different organisations in pharmaceutical industry. All the money related proportions are connected with estimating of working capital, various econometric methods are used to measure the performance. They are utilized to survey to conduct the research.

**Dr Sanjay Kumar Sinha (2018), Working Capital Management and its effectiveness on the Profitability of Cipla Ltd** - The paper signifies the study of working capital components and effect of working capital management on productivity. The paper deeply describes the method of correlation between liquidity and profit before tax (PBT). The primary part played in expansion are Trade receivables, Loans and advances. He also examines the commitment of long-term source in working capital.

**Peter Lawer Angmor (2019), Working capital management and profitability: Evidence from Ghanaian listed manufacturing firms -** Working capital management plays an important part in organisation decision making process. The objective behind the study is to explore working capital management profitability and effectiveness. The sustained profitability of organisation is achieved with the capacity of working capital division. The effect of working capital management differs from organisation to organisation. The indication of this study is that there is no huge effect of working capital management on profitability.

**Harish (2019), Efficient Management of Working Capital: A Study of Healthcare Sector in India** - The paper endeavours the adequacy of working capital management of different firms in health care sector in India. It revels that the greater part of organisation of this division has productively dealt with the available resource with the end goal. Every organisation objective level is utilizing industry with level of proficiency, and the speed of accomplishing the objective level is assessed. This analysis would help in enhancing the efficiency of working capital management.

**Mr. N. Suresh Babu (2019), Study on the Working Capital Management Efficiency in Indian Leather Industry -** The relationship between return on assets and other research variables affect the firms profitability. By a regression test by author found that there is a positive and inefficient relationship between inventory conversion period and profitability and average collection period has positive relationship between leverage and will affect working capital.

**Ani, Wilson Uchenna (2019), Effects of working capital management on profitability: Evidence from the top five beer brewery firms in the world -** The report is concentrated on industry process in advance stocks and completed products of various industries situated in different parts of world. The authors demonstrate the connection between cash conversion cycle, its development rate and benefit. The cash conversion cycle and sales growth rate are important determinants of the industry profitability.

**Manjurul Alam Mazumder (2020), Working capital management and profitability: Evidence from the cement industry in Bangladesh -** From the investigation the productivity and working capital management position of Cement business are not satisfactory. It uncovers the relationship between working capital management and profitability. It conveys the working capital management has positive affect on profitability period. It is found that investigation that the working capital management assumes an imperative part in execution of the business.

**Rahul Chaudhary (2020), Effect of Working Capital Management on the Profitability of Indian Firms -** It is seen from the report that an attempt to look at the impact of working capital on profitability of Indian firms. The panel data of 364 organisation listed in Bombay stock exchange over a period of 5 years. The author convey that working capital management will help them to improve productivity and decrease solvency. And it can enable the areas of organisation to be changed for better performance.

# RESEARCH METHODOLOGY

## Research Gap

This provides valuable insights into the relationship between working capital management and profitability across various industries in Bangalore. It lacks a comprehensive analysis of the specific factors driving the varying impacts of working capital management practices on organizational performance. There is a gap in understanding the differences in how different industries and firms within those industries manage their working capital and how these strategies translate into financial outcomes.

## Population

The middle and upper management of the industrial businesses functioning around Bangalore City will make up the majority of the research population.

## Sample Design

The sample size for this research will be 100 people for 10 different manufacturing industry. (Pragatti parimala co, Bisleri, parle, unibic, Neycer, J P Distellery, Sunpure, Shriki chips, R N Mills, Aeon pvt Ltd).

## Sample Unit

The sample unit is chosen based on their experience in the field to provide an overall insight.

## Sample Method

A stratified random sampling methodology will be used for the sampling process. The sample will be selected from various Bangalore city while accounting for the wide range of sizes of manufacturing companies.

## Method of data collection

Primary data is collected through in-depth interviews with the sample respondents.

## Instrument of data collection

The data for primary data is collected through a structured questionnaire which is of close ended questions with multiple choice answer.

## Statistical tools for analysis

Both descriptive and qualitative approaches of analysis will be applied to the material obtained from secondary sources and interviews. The analysis will be based on themes that emerge from the data. Using the themes, conclusions on the study of working capital in manufacturing enterprises will be made. We will use inferential statistics such as the Chi-Square Test to analyze the data from survey-based research. Several actions must be taken during this procedure in order to make reliable judgments regarding the samples. Furthermore, the most effective ways to display our data have been determined to be tables, graphs, and charts.

## Limitation of the study

- Insufficient information about the immediate and long-term effects on working capital.
- Restricted access to manufacturing sector data because to the industry's lack of openness.
- Assessing the effect of working capital on product prices is difficult.
- A challenge in figuring out how working capital affects the industrial sector's profitability.
- Difficulty in obtaining feedback from the consumers due to lack of surveys and questionnaires.
- Difficulty in making comparisons between working capital due to the lack of cross-sectoral data.

## DATA ANALYSIS AND INTERPRETATION

**Null Hypothesis (H0):** There is no impact of efficient working capital management on a manufacturing firm's profitability.

**Alternative Hypothesis (H1**): There is impact of efficient working capital management on a manufacturing firm's profitability.

To test the hypothesis, the data collected from survey is used.

Table - 1

| Response | "Observed Frequency (O)" | "Expected Frequency (E)" | "O-E" | "$(O-E)^2$" | "$(O-E)^2/E$" |
|---|---|---|---|---|---|
| Strongly agree | 45 | 25 | 20 | 400 | 16 |
| Agree | 22 | 25 | -3 | 9 | 0.36 |
| Disagree | 29 | 25 | 4 | 16 | 0.64 |
| Strongly disagree | 4 | 25 | -21 | 441 | 17.64 |
| Total | 100 | 100 | | | 34.64 |

Here O is the "Observed frequency". The actual number of responses in each category, E is the expected number of frequency and let the expected number of frequencies for each of the variables be 25. Expected Frequency = (Total Sample Size* Probability of each category) i.e, 100/4 = 25

There fore the expected frequency for all the variables:

Increase= 100/4= 25

Decrease= 100/4= 25

Has no impact= 100/4= 25

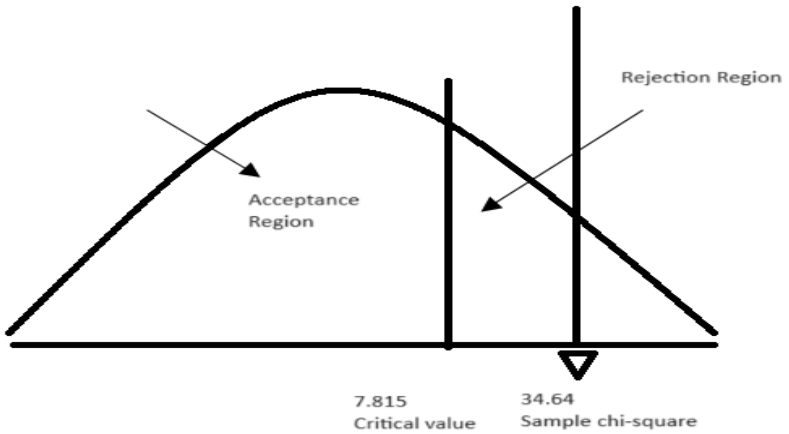
Cannot be determined= 100/4= 25

By calculating we get $\chi^2 = 34.64$

Degree of freedom (dof) for this chi square test 4-1 = 3, and the critical value for this at 5% level of significance is 7.815

Since the chi square test calculated is 34.64 which is more than the critical value of 7.815, we can reject HO and conclude that there is impact of efficient working capital management on a manufacturing firm's profitability.

Chart – 1 Showing he critical value and sample chi- square




**Null Hypothesis (H0):** There is no impact of role in inventory management in working capital management in manufacturing firms.

**Alternative Hypothesis (H1**): There is impact role of inventory management in working capital management in manufacturing firms.

To test the hypothesis, the data collected from survey is used.

Table – 2

| Response | "Observed Frequency (O)" | "Expected Frequency (E)" | "O-E" | "$(O-E)^2$" | "$(O-E)^2/E$" |
|---|---|---|---|---|---|
| Yes | 46 | 33.3 | 12.7 | 161.29 | 4.84 |
| No | 19 | 33.3 | -14.3 | 204.49 | 6.14 |
| May be | 35 | 33.3 | 1.7 | 2.89 | 0.08 |
| Total | 100 | 100 | | | 11.06 |

Here O is the "Observed frequency". The actual number of responses in each category, E is the expected number of frequency and let the expected number of frequencies for each of the variables be 33.3. Expected Frequency = (Total Sample Size* Probability of each category) i.e, 100/3 = 33.3

Therefore the expected frequency for all the variables:

To increase inventory level = 100/3= 33.3

To decrease inventory level = 100/3= 33.3

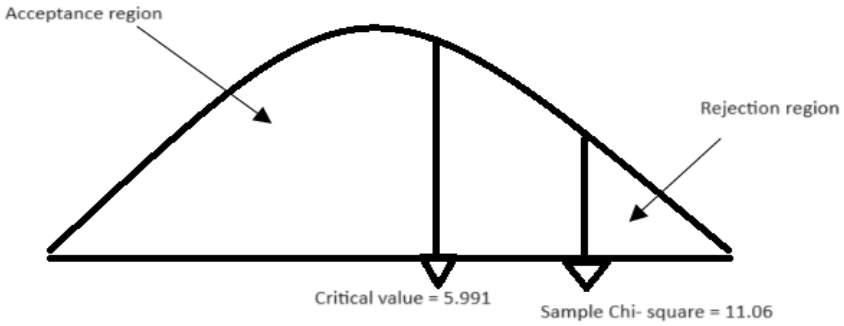
To maintain optimal inventory level = 100/3= 33.3

By calculating we get $\chi^2 = 11.06$

Degree of freedom (dof) for this chi square test 3-1 = 2, and the critical value for this at 5% level of significance is 5.991

Since the chi square test calculated is 11.06 which is more than the critical value of 5.991, we can reject HO and conclude that there is role of inventory management in working capital management.

Chart – 2 Showing he critical value and sample chi- square




**Null Hypothesis (H0):** There is no impact of effective working capital management on manufacturing firm liquidity

**Alternative Hypothesis (H1**): There is impact of effective working capital management on manufacturing firm liquidity

| Response | "Observed Frequency (O)" | "Expected Frequency (E)" | "O-E" | "$(O-E)^2$" | "$(O-E)^2/E$" |
|---|---|---|---|---|---|
| Strongly agree | 48 | 25 | 23 | 529 | 21.16 |
| Agree | 21 | 25 | -4 | 16 | 0.64 |
| Disagree | 23 | 25 | -2 | 4 | 0.16 |
| Strongly disagree | 8 | 25 | -17 | 289 | 11.56 |
| Total | 100 | 100 | | | 33.52 |

Here O is the "Observed frequency". The actual number of responses in each category, E is the expected number of frequency and let the expected number of frequencies for each of the variables be 25. Expected Frequency = (Total Sample Size* Probability of each category) i.e, 100/4 = 25

Therefore the expected frequency for all the variables:

Increases liquidity = 100/4= 25

Decreases liquidity = 100/4= 25

Has no impact on liquidity = 100/4= 25

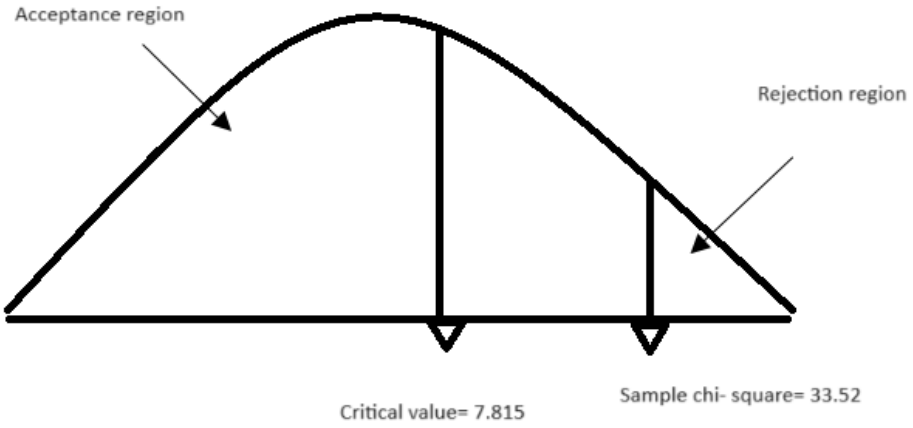
Cannot be determined= 100/4= 25

By calculating we get $\chi^2 = 33.52$

Degree of freedom (dof) for this chi square test 4-1 = 3, and the critical value for this at 5% level of significance is 7.815

Since the chi square test calculated is 33.52 which is more than the critical value of 7.815, we can reject HO and conclude that there is impact of effective working capital management on manufacturing firm liquidity.

Chart – 3 Showing he critical value and sample chi- square



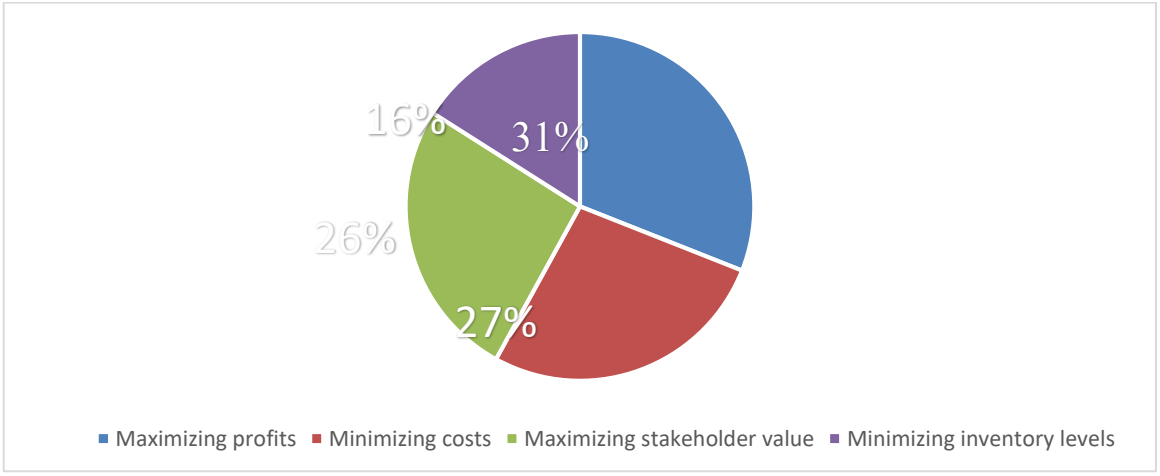

**Q.** What is the primary objective of working capital management in manufacturing firms?

Table – 4 **showing responses of primary objective of working capital management in manufacturing firms.**

| **Responses** | **Frequency** | **% of Frequency** |
|---|---|---|
| Maximizing profits | 31 | 31% |
| Minimizing costs | 27 | 27% |
| Maximizing stakeholders value | 26 | 26% |
| Minimizing inventory levels | 16 | 16% |

From the above table it can be analysed out of 100 respondents. The responses for maximization profit is 31 and lowest is 16 responses for minimizing inventory levels. While maximizing shareholder value came in third at 26 responses. Then minimizing cost is 27 responses. These figures contribute to our knowledge of the main goal of working capital in the modern industrial sector.

Chart – 4 **showing responses of primary objective of working capital management in manufacturing firms.**




Source – Primary data

**Interpretation**

The survey's findings showed that a range of goals are the main focus of working capital management in manufacturing companies. Profit maximization ranked highest among respondents' objectives (31%) and Minimizing cost at (27%). Out of all the organizations polled, lowering inventory levels (16%), while maximizing stakeholder value came in third at (26%). These figures contribute to our knowledge of the main goal of working capital in the modern industrial sector.

The primary goal of working capital management in manufacturing companies is profit maximization. The corporation makes sure it can pay its short-term debts and maximize profits by keeping a close eye on the ratio of current assets to liabilities. Working capital management in manufacturing companies ultimately aims to increase profitability by making sure that the company's short-term assets are used to their maximum capacity and fostering long-term financial success.

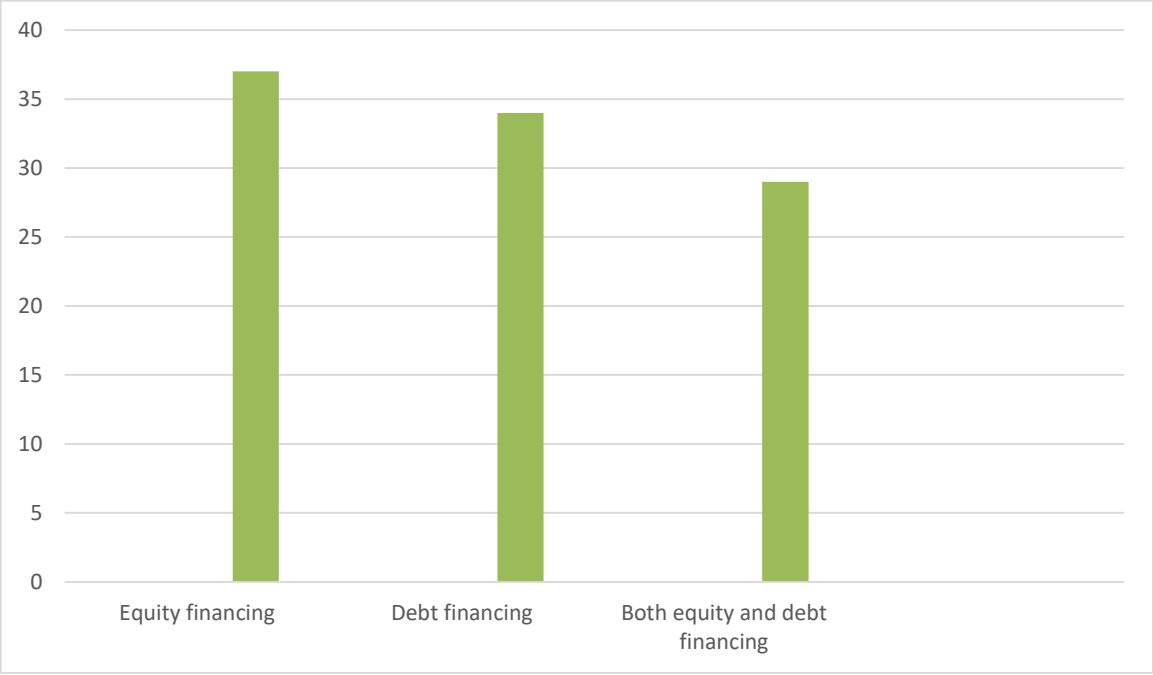
**Q.** Which of the following is a common method of financing working capital in manufacturing firms?

Table – 5 **showing responses of common method of financing working capital in manufacturing firms.**

| **Responses** | **Frequency** | **% of Frequency** |
|---|---|---|
| Equity financing | 37 | 37% |
| Debt financing | 34 | 34% |
| Both equity and debt financing | 29 | 29% |

From the above table it can be analysed that out of 100 respondents. The responses for equity financing is 37. Coming next at 34 to Debt financing formed the second-largest cohort, and Both equity and debt financing were a close third with 29.

Chart – 5 **showing responses of common method of financing working capital in manufacturing firms.**




Source – Primary data

**Interpretation**

The outcomes of the survey conducted indicate that the dominant group of participants (37%) were on equity financing. Coming next at 34%, Debt financing formed the second-largest cohort, and Both equity and debt financing were a close third with 29%.

Businesses can raise money through equity financing by offering investors ownership shares. In lieu of borrowing money or taking out a loan, the business gives capital in exchange for a portion of ownership. As a result, investors get a stake in the company's success by becoming shareholders.

Through debt financing, businesses can raise capital without having to sell ownership shares by borrowing money from lenders. It basically entails taking out loans that include interest and must be repaid over time. Debt financing permits the business to keep complete ownership and control, in contrast to equity financing, which turns investors into part owners.

**Q.** Which of the following strategy is been used in your firm for managing accounts receivable in manufacturing firms?

Table – 9 **showing responses for strategy is been used in your firm for managing accounts receivable in manufacturing firms**

| Responses | Frequency | % of Frequency |
|---|---|---|
| Offering discounts for early payments | 37 | 37% |
| Extending payment terms | 29 | 29% |
| Both offering discount and extending payment terms | 34 | 34% |

From the above table we can analyse out of 100 respondents. Majority of the them 37 people say that offering discount for early payment is the best strategy to recover the receivable account. 29 people says that extending payment terms is strategy for managing accounts receivable. Then lastly both the strategy together is used by 34 of people.

Chart – 9 **showing responses for strategy is been used in your firm for managing accounts receivable in manufacturing firms**


Source – Primary data

**Interpretation**

From the above the outcome is what are the different strategy used for managing accounts receivable. Majority of the people say that offering discount for early payment (37%) is the best strategy to recover the receivable account. Some of the group says that extending payment terms (29%) is also used by some of the people. Then lastly both the strategy together is used by (34%) of people. Moreover, by exhibiting adaptability and generosity, early payment reductions help strengthen bonds with clients. Consumers who consider these savings to offer extra value could be more likely to stick with us going forward. Our goal in extending payment periods is to make transactions easier for our consumers and to efficiently manage our cash flow. This strategy may help our clients feel less financially burdened, strengthening their bonds and maybe generating repeat business.

**FINDINGS**

- As per the survey findings the working capital management will directly impact and has relation on manufacturing firms profitability. Working capital considers current assets and current liability which is very crucial for calculating and measuring it.
- From the above we can say that the primary objective of working capital management in manufacturing firm is maximizing profit. The profit is very crucial to the firm, without which it cannot survive so every firm will depend on maximizing profit.
- We can say that the inventory management plays a increasing role in working capital management in industries.
- As per the survey the impact of efficient working capital management will result in Increase in the firm's profitability.
- Finally, from the above survey this can be said that strong financial performance firms have better management in the company.

**RECOMMENDATIONS**

- Adopt Just-in-Time (JIT) Inventory: Use JIT inventory procedures in place of retaining extra inventory, which requires cash. This entails lowering carrying costs and freeing up cash by ordering goods precisely when needed to fulfill production demands.
- Audit inventories on a regular basis: Examine stock levels often to find out if items are out-of-date or slow-moving. Such goods can be sold or liquidated to free up cash for more important purposes.
- Make Use of Supply Chain Finance: Work with lenders to maximize cash flow across the supply chain. This is taking use of connections with consumers and suppliers to get advantageous financing arrangements.

**CONCLUSION**

This study examined a crucial component of working capital management in manufacturing companies, to conclude. It was discovered via careful investigation and analysis of several financial metrics and tactics that efficient working capital management is critical to the long-term viability and financial stability of manufacturing organizations. The study's conclusions essentially highlight how important it is for manufacturing companies to adopt efficient working capital management techniques as a cornerstone of their financial strategy. By doing this, they may successfully negotiate obstacles, seize chances, and eventually achieve long-term success in the fast-paced corporate world of today.

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