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OPTIMISE WORKING CAPITAL WITH SUPPLY CHAIN FINANCE

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Abstract
With the latest credit crisis, the rules of game in trade finance have significantly changed. Today concerned about the rising risks in supply chain, large companies are actively looking at Supply Chain Finance options in terms of lowering their overall supply chain costs and controlling supply chain performance. Supply Chain Finance is a facility that brings benefits to the multiple parties across the supply chain. This research paper studies and evaluates this facility of working capital with special reference to supplier finance. The purpose of this research is to determine how financially rewarding the facility of Supply Chain Finance is to the supplier firms under study. Data from 32 supplier firms of large engineering companies from Pune city was collected. 5 parameters were considered in this research to quantify the effects of Supply Chain Finance on working capital management of selected supplier firms. Positive effect of Supply Chain Finance on selected parameters was noted and approximately 33% reduction in working capital cycle of supplier firms under study was observed.

Key Words: - Supply Chain, Supply Chain Finance, Supplier Finance, Working Capital Cycle, Working Capital Management

INTRODUCTION

In today's economic environment, an access to adequate levels of working capital is essential for both buyers and suppliers in all industries to maintain the flow of goods. Since the average cost of purchased materials, components, and services across manufacturing firms frequently exceeds 60% to 70% of the total cost of operations, the effective management of the flows of goods, information and funds along the entire supply chain is critical. With the latest credit crisis, the rules of game in trade finance have significantly changed. The worldwide economic crisis of 2008 substantially reduced the amount of working capital that was available to many firms. Some of the supply chains were on the verge of collapse and the leveraged mistakes in managing working capital became obvious and poisonous. As a result, firms started giving a rethought to their approaches to working capital management and adopted more robust, reliable and holistic approaches. Today large companies are recognizing their suppliers' difficulties in accessing finance. And instead of taking a "no tolerance" approach, they have started to implement a collaborative approach termed 'Channel Financing' or 'Supply Chain Finance'. Concerned about the rising risks in their supply chain, large companies are actively looking at Supply Chain Finance options in terms of lowering their overall financial supply chain costs and controlling supply chain performance. Financial experts believe that the large companies are attracted by the promise of supply chain financial savings, increased supply chain stability, and the efficiencies that Supply Chain Finance offers to both buyers and suppliers.

SUPPLY CHAIN FINANCE – A MODE OF WORKING CAPITAL FINANCE

Channel financing, which is also known as 'Supply chain finance, is a relatively new concept in the field of working capital finance. Here the Original equipment Manufacturers provide working capital support to their chosen channel partners at negotiated rate of interest through bank/financial institution. It is different from traditional practice of standalone risk evaluation which was focused only on channel partners financial strength & historic financial performance. This facility of working capital finance enables small channel partners to effectively transfer their credit risk to their high-quality customer.

REVIEW OF LITERATURE

No one knows the significance of a well managed supply chain better than the Original Equipment Manufacturers who rely on chain of suppliers, dealers and service providers to deliver the goods they manufacture to meet customer demand . The journey from source to destination has always had its risks and uncertainties. While financial benefits of outsourcing are obvious, the consequences and risks associated with it are also high. Failure to assess and manage the supply chain disruptions can have negative impact on product quality, availability as well as profitability of an Original Equipment Manufacturer . Competition among firms today means competition between supply chains and networks (Borgatti and Foster, 2003; Smith and Buddress, 2005). The importance of successful supply chain management has been highlighted by a variety of empirical studies that have investigated the relationship between well designed supply chain management and a firm's profitability. Finch Peter (2004) presented a secondary analysis of the literature, supplemented by case studies to determine if large companies increase their exposure to risk by having small- and medium-size enterprises (SMEs) as partners in business critical positions in the supply chain, and to make recommendations concerning best practices. Niezen Carlos, Weller wulf & Deringer Heidi (2006) highlighted the importance of strategic supply management and elaborated the principles that may help the companies to improve their performance substantially. Dr. Joseph (2007) explored the significance of integrated

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supply chain strategy in pursuit of business goals and success. Rufo, John, Lemire, & Sherrie (2011) described the supply chain risks and importance of identifying critical suppliers. Historically, firms have tended to focus their value chain activities on efficiency and cost-cutting initiatives in order to improve the performance of the chain. However, concentrating solely on these optimisation approaches does not lead to long-term, sustainable success in supply chain management (Ketchen et al., 2008; Lee, 2004; Wagner, 2008). With the latest credit crisis, the rules of game in trade finance significantly changed. Leveraged mistakes in working capital in value chains became obvious and toxic; in fact, some supply chain networks would have been on the verge of collapse if suppliers' liquidity shortfalls had not been balanced by financially strong firms within the supply chain (Lux and Westerhoff, 2009). This situation worsened for upstream and downstream parties along the value chain because rising risk premiums and new restrictions on credit increased the probability of insolvency. This has made the companies to look for more tangible source of financing their business. Firms started giving a rethought to their approaches to working capital management and started adopting more robust, reliable and holistic approaches like supply chain finance because the methods and tools that worked well in the past might not be good enough for the future. The concept and significance of supply chain finance has been elaborated by many experts through their articles and write ups. (Atkinson William 2008, Dash P.C 2008, Feinberg Susan 2007). According to experts the key to manage risks and reduce cost is the close collaboration between finance and supply chain operations which is possible through solutions like supply chain finance. Kate O'Sullivan (2007) pointed out in his article that the facility of Supply Chain Finance provides cheaper working capital access to suppliers and it also removes uncertainty associated with receivables. Bob Dyckman (2010) explained how buyers and sellers can work together to lower costs and create efficiencies in their supply chain. Hofman Eric and Belin Oliver (2011) co-authored a book - "Supply Chain Finance Solutions- relevance, propositions, market value". This book provides the background on growing importance of Supply Chain Finance. The authors have thoroughly discussed the challenges, benefits and potential market size of Supply Chain Finance solutions.

OBJECTIVE OF THE PAPER

Though Supply Chain Finance represents an innovative opportunity to reduce working capital, there are knowledge gaps. It is unclear how much buyers and suppliers really save. Sometimes industries treat their figures confidentially or report numbers that are hard to compare. This leads to uncertainties about the successful implementation of Supply Chain Finance solutions as there is little quantified evidence on the achievable cost savings and other potential benefits.

A supplier firm is a starting point of supply chain. Problem with supplier generally affects the entire process and flow of goods. As market growth continues at a brisk pace, there is no doubt that supplier firm has to get smarter at managing its finances. The main focus of this research paper is to **quantify the effects** of Supply Chain Finance on working capital management of supplier firms under study.

Hypothesis

Supply Chain Finance leads to effective management of working capital of supplier firms by cutting short their working capital cycle.

METHODOLOGY

This research paper is based on a survey of the supplier firms of large engineering companies from Pune city. Total no of supplier firms under study are **32**. Purposive sampling method has been used for this study.

The study is based on all necessary information which is generated through primary and secondary sources. The secondary data is collected through published materials like articles, books, magazines. Primary data has been collected through personal discussions with entrepreneurs that had availed the facility of Supply Chain finance.

To study the difference in working capital cycle before and after availing the facility of Supply Chain Finance and to find out how statistically significant that difference is **Z test** has been used.

Data analysis

The working capital position of an organization is often considered as an index of state of health of a company. It is just like a nerve centre of human body. Unless the financial resources are free to flow into various activities of business, it cannot reap the returns properly. So adequacy of working capital is a pre-requisite of any business concern. A comfortable working capital position generally indicates good health, while stringent working capital indicates symptoms of strain for a business unit. Thus administration all components of working capital - cash, debtors, stock and payables is highly essential for maintaining the financial health of business in good condition.

The effectiveness of the working capital management has been judged on the following **parameters**:-

- Interest cost savings
- Reduction in receivable period
- Reduction in working capital cycle
- Reduction in borrowings
- Improvements in payables

FINDINGS

The following observations were made in this regard:

Interest cost savings

The facility of Supply Chain Finance gives an opportunity to supplier firms to get an access to lower cost of capital as the working capital finance is provided by the banks at negotiated rate of interest. This enables them to lower their borrowing cost. So the supplier firms under study were asked to provide the details related to the interest rate difference between working capital finance under Supply Chain Finance method and under traditional/conventional method.

Table no. I, Table Showing Interest Difference

Interest rate reduction under the facility of Supply Chain Finance	No of supplier firms	%
1 %	04	12.5%
2 %	14	43.75%
3 %	14	43.75%
Total no. of firms	32	100%

Source: compiled from primary data

The above table shows that 87.5% supplier firms under study are saving 2 to 3 % interest cost under the facility of Supply Chain Finance. The supplier firms under study are of the opinion that interest difference of 2 to 3 % has positive effect on financials of the company over a long period of time.

Reduction in receivable period

Cash flows can be significantly enhanced if the amounts owing to the business are collected faster. Generally the slow payments have a crippling effect on the financial health of business.

Table no. II, Table Showing Receivable Period

Before availing the facility of Supply Chain Finance		After availing the facility of Supply Chain Finance	
Period	No of supplier firms under study	Period	No of supplier firms under study
Up to 30 days	00	1 day	00
31 to 45 days	06	2 to 3 days	06
46 to 60 days	09	4 to 5 days	00
61 to 90 days	17	6 to 7 days	19
Above 90 days	00	8 to 10 days	07
Total no. of firms	32	Total no. of firms	32

Source: compiled from primary data

It is clear from the above table that the facility of Supply Chain Finance has helped the supplier firms under study to have improvement in conversion of credit sales into cash. The analysis of the data shows that with the facility of Supply Chain Finance, the maximum receivable period is 10 days and before availing the facility of Supply Chain Finance no supplier firm under study was having receivable period less than 30 days. The supplier firms under study are of the opinion that the facility of Supply Chain Finance has helped them in reducing the uncertainty and unsynchronized cash flows and has improved their liquidity position.

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Reduction in working capital cycle

Working capital cycle is measure of the working capital efficiency often giving valuable clues about the underlying health of the business.

Table no. III, Table Showing Working Capital Cycle

Particulars	Working capital cycle before availing the facility of Supply Chain Finance	Working capital cycle after availing the facility of Supply Chain Finance
Average	62.21 days	20.53 days
Standard Deviation	19.30	11.00
Median	63	17
Mode	67	17 days

Source: compiled from primary data

It can be observed from the above table that average period for working capital cycle has been decreased from 62.21 days to 20.53 days and the standard deviation is decreased from 19.30 to 11.

We can further observe the median for working capital cycle. It is 63 days before availing the facility of Supply Chain Finance and 17 days after availing the facility of Supply Chain Finance. It shows that 50% of the supplier firms under study have working capital cycle above 63 days before availing the facility and 17 days after availing the facility of Supply Chain Finance.

This shows and supports the hypothesis i. e. Supply Chain Finance leads to effective management of working capital of supplier firms by cutting short their working capital cycle.

Testing of hypothesis:-

The null and alternative hypothesis for testing the difference between the working capital cycle before and after introduction of the facility of Supply Chain Finance is as follows:

$\mathbf{H_0}$: working capital cycle remains same before and after introduction of the facility of Supply Chain Finance.
i.e. the average period is same
$m_1 = m_2$
where,
$m_1 =$ average before
$m_2 =$ average after
$\mathbf{H_1} =$ working capital cycle period is reduced after introduction of the facility of Supply Chain Finance
$m_1 > m_2$
The **'Z' test** is being used.
The test statistics is
Z = Difference/ S. E
Where
$S.E. = \sqrt{((s_1^2)/n_1 + (s_2^2)/n_2)}$
$S.E. = \sqrt{((19.30)^2/32 + (11)^2/32)}$
S.E. = 3.92
Z = 41.68 / 3.92
Z = 10.63
Table value of 'Z' at 5% level of significance is 1.96.
Z calculus > Z table
10.63 > 1.96
We reject the null hypothesis.

This shows that the facility of Supply Chain Finance has a positive impact on the working capital cycle of the supplier firms under study. The working capital cycle of the supplier firms has been shortened and the operating liquidity available to the supplier firms has improved. The facility of Supply Chain Finance has helped the supplier firms to reduce the average number of days that the working capital is invested in the operating cycle.

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Reduction in Borrowings

It has been observed from the collected data that the facility of Supply Chain Finance has reduced the borrowings of the supplier firms under study. Out of 32 supplier firms under study, the facility has helped 10 firms to become debt free companies. Whereas in case of remaining 22 supplier firms under study, none of them has increased the Cash Credit limit in last 3 to 5 years, none of the firm has availed overdraft in last 5 years from their banks and none of the supplier firms under study has used their Cash Credit limit fully. The facility of Supply Chain Finance has given an opportunity to the supplier firms under study to get an access to cheap working capital finance improving their cash flows and borrowings by not using their credit line.

Improvement in payables

The facility of Supply Chain Finance has a multiplier effect on the business of the supplier firms under study. The sound financial position, predicted cash flows, better relations with the Original Equipment Manufacturer, business growth have positively affected their payables as well. They have started paying their suppliers on time and in case of some of supplier firms they have even reduced the payable period. Some firms have started discounting bills of their suppliers and are availing discounts on material purchases due to prompt payments, bill discounting etc which has helped them to reduce their material purchase cost. It can also be observed here that with decrease in payable period, the facility of supply chain finance has reduced the receivable period of tier II suppliers. Thus the facility has a spin off effect and is indirectly helping tier II suppliers as well in managing their cash flows.

Thus on the basis of these observations it is concluded that the postulated hypothesis stands proved and accepted.

CONCLUSION

Supply Chain finance solutions positively affect the components of working capital of supplier firms and provide the needed sustenance to improve their financial health.

Appendix I

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