VOLUME NO. 3 (2013), ISSUE NO. 01 (JANUARY) ISSN 2231-1009

INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT

IJRCM

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   REVIEW OF LITERATURE

   NEED/IMPORTANCE OF THE STUDY

   STATEMENT OF THE PROBLEM

   OBJECTIVES

   HYPOTHESES

   RESEARCH METHODOLOGY

   RESULTS & DISCUSSION

   FINDINGS

   RECOMMENDATIONS/SUGGESTIONS

   CONCLUSIONS

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   ACKNOWLEDGMENTS

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   APPENDIX/ANNEXURE

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- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

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- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

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IMPACT OF WORKING CAPITAL MANAGEMENT ON PROFITABILITY OF MANUFACTURING COMPANIES OF COLOMBO STOCK EXCHANGE (CSE) IN SRI LANKA

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ABSTRACT
Management of Working capital (WC) is essential as it has a direct impact on profitability and liquidity for the successful working of any business organization. A well designed and implemented working capital management is expected to contribute positively to the creation of a firm's value. This study examines relationship between working capital management and profitability of the manufacturing companies. Primary information and secondary data were collected from CSE. Selected variables are inventory turnover period, cash conversion cycle, debtor's collection period and creditor's payment period. The relation between the efficiency of the working capital management and profitability is examined using Pearson correlation analyses and using a sample of 17 listed manufacturing companies of the emerging market of Colombo Stock Exchange (CSE) in Sri Lanka covering period 2006-2010. The result of study showed that there is statistically significance between working capital management and profitability rates. Outcomes of the study will be useful to the academicians, practitioners, policy makers and investors for making suitable policy formulations for the manufacturing sector.

KEYWORDS
Working capital management, Profitability, Days sales outstanding, Days inventory outstanding, Days payable outstanding, Days working capital

INTRODUCTION
Management of working capital is essential as it has a direct impact on profitability and liquidity for the successful working of any business organization. Fixed and current assets play a vital role. Working Capital refers to a company's Current Assets. Current Assets are Cash and Equivalents, Accounts Receivable, and Inventory. Working Capital Management is applying Investment and Financing Decisions to Current Assets. It is the management of current assets and current liabilities such that would result in the most desirable level of working capital and maximum company profitability. Inadequate working capital leads the company to bankruptcy. On the other hand, too much working capital results in wasting cash and ultimately the decrease in profitability (Chakraborty, 2008).

Working capital management is a very important component of corporate finance because it directly affects the liquidity and profitability of the firm (Rehman & Nasr 2007). Thus, firms with high liquidity of working capital may have low risk then low profitability. Conversely, firm that has low liquidity of working capital, facing high risk results to high profitability. The issue here is in managing working capital, firm must take into consideration all the items in both accounts and try to balance the risk and return. If a company wants to take a greater risk for bigger profits and losses it reduces the size of working capital in relation to its sales. If a company interests in improving its liquidity it increases the level of its working capital. Hence a company should strike a balance between liquidity and profitability. Working capital management focuses on how an organization manages its day-to-day financial activities. Among these, working capital management is a very important component of corporate finance since it affects the liquidity and profitability of a company.

A well designed and implemented working capital management is expected to contribute positively to the creation of a firm's value. Management of these short-term assets and liabilities warrants a careful investigation since the working capital management plays an important role for the firm's profitability and risk as well as its value (Smith 1980). The optimal level of working capital is determined to a large extent by the methods adopted for the management of current assets and liabilities. It requires continuous monitoring to maintain proper level in various components of working capital.

Working capital is the lifeblood of any business. It not only indicates a firm's efficiency, but also its short - term financial health. If it is properly managed and nurtured, the business prospers and grows, if not, the business heads towards sickness leading to all types of operational problems. It is essential for the smooth flow of day – to - day activities of the business. Working capital management is one of the most complex business processes to deal with due to its multi-faceted nature.

A Firm's fixed capital is determined by its scale of production; once committed, the capital remains invested regardless of production levels. Working capital on the other hand is employed only when actual production is undertaken, and the volume requires is generally determined by the level of production. The precise level of investment in working capital is predicated on (1) Management's attitude toward risk and (2) Factors which influence the amount of cash, inventories, receivables, and other current assets require supporting a given volume of output.

The corporate finance literature has traditionally focused on the study of long-term financial decisions, particularly investments, capital structure, dividends or company valuation decisions. However, short-term assets and liabilities are important components of total assets and needs to be carefully analyzed. The current study investigate the relationship between working capital management and profitability of Manufacturing Industry of Colombo Stock Exchange(CSE) by taking a sample of 17 Manufacturing companies for the period of five years from 2006 to 2010. The present study is expected to contribute to better understand firm related factors that shape up the working capital requirements of firms especially in the emerging markets like CSE.

LITERATURE REVIEW
Amalendu Bhuni& Amit Das (2012) examined the relationship between the working capital management (WCM) and profitability of Indian private sector small-medium steel companies. Working capital management indicators and profitability indicators over the period from 2003 to 2010 are moulded as a linear regression system in multiple correlation and regression analysis. The study shows a small relationship between WCM including working capital cycle and profitability. Multiple regression tests confirm a lower degree of association between the working capital management and profitability.

Huynh Phuong Dong & Jyh-tay Su (2010) found that there is a strong negative relationship between profitability, measured through gross operating profit, and the cash conversion cycle. This means that as the cash conversion cycle increases, it will lead to declining of profitability of firm. Therefore, the managers can create a positive value for the shareholders by handling the adequate cash conversion cycle and keeping each different component to an optimum level.

Abdul Raheman & Mohamed Nasr (2007), According to the study of Working Capital Management and Profitability – Case of Pakistani Firms. The results showed that there is a strong negative relationship between variables of the working capital management and profitability of the firm. V. Ganesan (2007) who expressed on his study of the working capital management efficiency of firms from telecommunication equipment industry. The relationship between working capital management efficiency and profitability is examined using correlation and regression analyses. ANOVA analysis is done to study the impact of working capital management on profitability. Using a sample of 443 annual financial statements of 349 telecommunication equipment companies covering the period 2001-2007, this study found evidence that even though "days working capital" is negatively related to the profitability, it is not significantly impacting the profitability of firms in telecommunication equipment industry.

Rehman (2006) investigated the impact of working capital management on the profitability of 94 Pakistani firms listed at Islamabad Stock Exchange (ISE) for a period of 1999-2004. He studied the impact of the different variables of working capital management including Average Collection Period, Inventory Turnover in Days, Average Payment Period and Cash Conversion Cycle on the Net Operating Profitability of firms. He concluded that there is a strong negative relationship between above working capital ratios and profitability of firms. Furthermore, managers can create a positive value for the shareholders by reducing the cash conversion cycle up to an optimal level. Similar studies on working capital and profitability includes Smith and Begemann (1997), Howorth & Westhead (2003), Ghosh & Maji (2004), Eljelly (2004), and Lazaridis & Tryfonidis (2006).

Kesseven Padachi (2006) who revealed on his study of Trends in working capital management and its impact on firm's performance, he designed and implemented working capital management is expected to contribute positively to the creation of firm's value. The trends in working capital needs and profitability of firms are examined to identify the industries. The dependent variable, return on total assets is used as a measure of profitability and the relationship between working capital management and corporate profitability is investigated for a sample of 58 small manufacturing firms, using panel data analysis for the period 1998-2003. The regression results showed that high investment in inventories and receivable is associated with lower profitability.

Filbeck & Krueger (2005) highlighted the importance of efficient working capital management by analyzing the working capital management policies of 32 non-financial industries in USA. According to their findings significant differences exist between industries in working capital practices over time. Moreover, these working capital practices, themselves, change significantly within industries over time. Similar studies are conducted by Gombola & Ketz (1983), Soenen (1993), Maxwell et al. (1998), and Long et al. (1993).

Pandey & Parera (1997) provided an empirical evidence of working capital management policies and practices of the private sector manufacturing companies in Sri Lanka. They found that most companies in Sri Lanka have informal working capital policy and company size has an influence on the overall working capital policy (formal or informal) and approach (conservative, moderate or aggressive). Moreover, company profitability has an influence on the methods of working capital planning and control.

Shin & Soenen (1998) concluded that reducing the level of current assets to a reasonable extent increases firms' profitability. Later on, Deloof (2003) analyzed a sample of large Belgian firms during the period 1992-1996 and the results confirmed that Belgian firms can improve their profitability by reducing the number of days accounts. Receivable are outstanding and reducing inventories. Teruel & Solano (2005) suggested that managers can create value by reducing their firm's number of days accounts receivable and inventories. Similarly, shortening the cash conversion cycle also improves the firm's profitability.

OBJECTIVES

Following objectives are taken for the study.

1. To investigate the relationship between working capital management and profitability over a period of five years for 17 listed manufacturing companies in Colombo stock exchange.
2. To find out the impacts of different components of working capital management on profitability.

HYPOTHESES

The following hypotheses are formulated

H_1:- Working capital management has significant impact on net profit (NP) of manufacturing companies in Sri Lanka.

H_2:- Working capital management has significant impact on return on capital employed (ROCE) of the manufacturing companies in Sri Lanka.

METHODOLOGY

This section is divided into four sub-sections. The first sub-section presents the research approach. The sub-second section discusses the sampling design. In the sub-third section, data source is discussed. The fourth sub-section describes the design of reliability and validity of the data whereas the last sub-section highlights the mode of analyses.

RESEARCH APPROACH

As this study is a finance research, it has a characteristic of positivist and interpretive and also involves in deductive approach as well as inductive approach. Combining these two research approaches in same piece of research is perfectly possible and advantageous for a research.

SAMPLING DESIGN

For the purpose of investigate the relationship between the working capital management and profitability of manufacturing sector listed in Colombo Stock Exchange (CSE). An overall sample 17 (51.5 Percentage) Manufacturing companies listed in the CSE is selected which covers during the period of 2006 to 2010 which were selected by using judgmental sampling. There are 33 (Population) manufacturing companies listed in Colombo stock exchange in 2010. Simple random sampling technique has been used in this report. Reasonable care has been exercised in order to select a large sample to derive more valid findings.

DATA SOURCES

In the present study we used only secondary data which is the CSE's C-D and Annual reports. Amount of Current assets, current liabilities, inventories, cost of sales, sales, annual accounts receivable, annual accounts payable, net profits and capital employed were collected from annual reports of CSE

DESIGN OF EXPERIMENT

The present study carries out the issue of recognizing key variables that influence working capital management. All the variables stated below have been used to test the hypotheses of study. The dependent variable is defined as the profitability of the sample firms. The independent variable is interpreted as the commonly used financial ratios. The study computes variables following manner.

Concept	Variable	Measure
Independent Variables. Working Capital Management	Inventory Turnover Ratio-Days	$\frac{\text{Average Inventory}}{\text{Cost of Goods sold}} X365$
	Current Ratio	$\frac{\text{Current Assets}}{\text{Current Liabilitis}}$
	Debtors Turnover Ratio-Days	$\frac{\text{Average Accounts Receivables}}{\text{Credit sales}} X365$
	Creditors Turnover Ratio-Days	$\frac{\text{Average Accounts Payables}}{\text{Credit Purchase}} X365$
	Working capital cycle-Days	(Debtors Turnover Ratio + Inventory turnover Ratio) - Creditors Turnover Ratio
Dependent Variable Profitability	Return on capital employed	$\frac{\text{Net Profit before interest} Tax}{\text{Capital Employed}}$
	Net profit ratio	$\frac{\text{Net Profit}}{\text{Sale}}$

DATA ANALYSIS AND TECHNIQUES

Data analysis will be accomplished through the several techniques Such as ratio analysis, correlation and regression analysis. Data will be analysis using computer based statistical data analysis packages (SPSS-version 13.0) for validity, reliability and relationship testing.

FINDINGS OF THE STUDY

TABLE – 1: WORKING CAPITAL AND PROFITABILITY RATIOS OF MANUFACTURING INDUSTRY DURING 2006- 2010

Year	Current Ratio	Inventory Turnover Days	Accounts Receivable Days	Accounts Payable Days	Cash conversion Cycle-Days	Net profit (%)	ROCE (%)
2006	1.53	86	68	57	97	8.1	8.3
2007	1.51	87	70	41	116	8.3	9.0
2008	1.35	103	79	74	108	6.3	7.1
2009	1.23	99	74	59	114	4.8	5.9
2010	1.32	116	77	67	126	12.8	9.1

Table 1 gives current ratio, inventory turnover, accounts receivable, accounts payable, cash conversion cycle, net profit, return on capital employed(ROCE) of manufacturing industry in CSE for a period of five years from 2006 to 2010. In 2010, the cash conversion cycle is 126 days. Period for cashing receivables is 77 days, while the companies pay their suppliers to 67days and expect to sell their stocks during a period of 116 days, which means that on average, the companies pay their debts faster than they cash receivables, so they are facing financial difficulties between these periods. During the study period we can see an increase of the deviation from the average cash conversion cycle, which indicates variations in the management of these indicators by companies while the current ratio is minor fluctuation. In table 1 shows that profitability rates of considered sample appreciated (except year 2009) over the study period. Period for 2010, the net profit and ROCE are 12.8% and 9.1% respectively which are highest return in the study period. Figure 1 illustrates that traditional liquidity ratios such as current ratio, liquid ratio, cash position ratio have been understood that have lack in measuring the efficiency of the manufacturing companies' working capital management.

FIGURE: - 1 CASH CONVERSION CYCLE

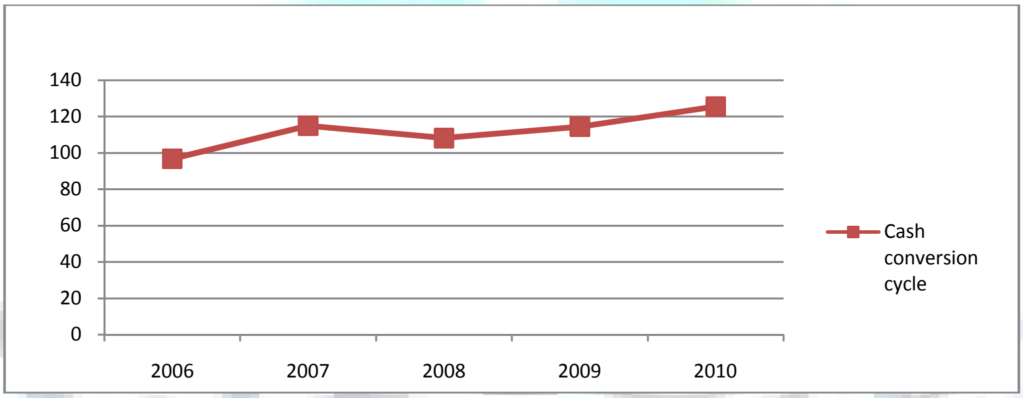

TABLE – 2: DESCRIPTIVE STATISTICS OF 17 MANUFACTURING DURING 2006-2010

Variables	Mean	Median	Standard Deviation	Variance
Current ratio(CR)	1.39	1.35	0.13	0.02
Inventory Turnover in Days(ITID)	98	99	13	156.66
Accounts Payable - Days(CPP)	60	75	12	20.25
Accounts Receivable - Days(DCP)	74	60	5	151.42
Cash conversion cycle - Days(CCC)	112	114	11	110.21
ROCE (%)	7.88	8.06	1.37	9.06
Net profit (%)	8.05	8.27	3.01	1.89

Table 2 gives descriptive statistics for 17 manufacturing firms for a period of five years from 2006 to 2010 and for a total 85 firms- year observations. Looking at this table, we can see that the average value of net profitability is 8.05%, and standard deviation is 3.01%. This figure means that the value of profitability can deviate from mean to both sides by 3.01%. Information from descriptive statistics also indicates that the mean of cash conversion cycle that used as a proxy to check the efficiency in managing working capital is 112days and standard deviation is 11 days. The average of number of days accounts receivable is 74 days with standard deviation 5 days. The average time of paying to suppliers is 60 days and the standard deviation is 12 days. Moreover, it takes an average 98 days in order to sell inventory with standard deviation of 13 days.

TABLE – 3: PEARSON'S CORRELATION COEFFICIENTS OF 17 MANUFACTURING DURING 2006-2010

Working Capital Management	Pearson Correlation	Relationship with ROCE	Pearson correlation	Relationship with Net Profit
CR	0.621	Positive relationship	0.160	Weak positive relationship
ITID	-0.031	Weak negative relationship	0.447	Moderate positive relationship
CPP	-0.346	Moderate negative relationship	0.029	Weak positive relationship
DCP	-0.342	Moderate negative relationship	0.017	Weak positive relationship
CCC	0.222	Weak positive relationship	0.506	Moderate positive relationship

PEARSON'S CORRELATION COEFFICIENTS

Table 3 reveals Pearson correlation results between working capital management and ROCE. It is evident from the table 3 the correlation co efficient between ROCE and CR is (+) 0.621. It indicated that there is an adequate degree of positive association between the ROCE and CR of the company. Similarly, the correlation co efficient between ROCE and ITID is (-) 0.031 which reveals that there is also lower degree of negative correlation. It also indicates that if the firm takes more time in selling inventory, it will adversely affect its profitability. The CPP and DCP are moderate negative relationship with ROCE. It implies that there is a negative correlation between the two variables. There is a low positive correlation (0.222) between the CCC and ROCE. This means that result is support the expectation that a CCC is associated with lower ROCE. However study of the impact of working capital ratios on ROCE viewed both negative and positive impacts.

Table 3 shows that Pearson correlation results between working capital management and Profitability. It is evident from the table the correlation co efficient between NP and CR is (+) 0.160. It indicated that there is a lower degree of positive association between the profitability and the current ratio of the company. Similarly, the correlation co efficient between ITID and NP is (+) 0.447 which reveals that there is moderate level of positive correlation between these two variables. The CPP (0.029) and DCP (0.017) are weak positive relationship with ROCE. The result of correlation coefficient shows a very moderate positive association (0.506) between CCC and profit. This means that result is support the expectation that a CCC is associated with moderate profitability.

TESTING HYPOTHESES

TABLE – 4: MULTIPLE REGRESSION ANALYSIS

Variable in the equation NP = $\beta_0 + \beta_1$ CCC + β_2 CPP+ β_3DCP

Variable	Regression co efficient	Standard error of regression co efficient	"t" Value	Significant
CCC	-1.32	0.044	-29.766	0.021
CPP	-0.31	0.015	-21.175	0.030
DCP	-0.53	0.061	-8.618	0.074
Constant	194.09	6.638	-29.766	0.022
Multiple= 0.68	R^2 = 0.564	AdjR^2= 0.468		

H_1:- Working capital management has significant impact on net profit (NP) of manufacturing companies in Sri Lanka.

Table 4 reveals that relationship between the dependent variable NP and all the independent variables taken together and the impact of these independent variables on the profitability of the company. According to the result of the table 4, when CCC increased by one day, the NP of the company stepped up by -1.318 percent, which has statistically significant at 0.05 level. When CPP increased by one day, net profit of the company decreased by 0.31. As well as when DCP increased by one day, the NP of the company decreased by 0.53 which has insignificant at 0.05 level. The multiple correlation coefficient of NP on CCC, DCP, and CPP is 0.68. It reveals that the net profitability of the company was highly influenced CCC and DCP and CPP. It is evident from the value of R^2 that the independent variables CCC, CPP, and DCP contributed 56 percent of the variations is the net profit of the company. Therefore the working capital has significant impact on net profit of the manufacturing companies in Sri Lanka. Therefore, H_1 is accepted.

TABLE – 5: MULTIPLE REGRESSION ANALYSIS

Variables in the equation ROCE = $\beta_0 + \beta_1$ CCC + β_2 CPP+ β_3 DCP

Variable	Regression co efficient	Standard error of regression co efficient	"t " Value	Significant
CCC	-0.075	0.003	-22.982	0.028
CPP	-0.086	0.12	-7.216	0.88
DCP	-0.004	0.001	-2.960	0.207
Constant	24.843	0.993	25.029	0.025
Multiple R= 0.74	R^2 = 0.68	Adj R^2 = 0.55		

H_2:- Working capital management has significant impact on return on capital employed (ROCE) of the manufacturing companies in Sri Lanka.

The pooled regression result of the model exhibiting the impact of working capital on ROCE of the manufacturing company are presented in table 5.When CCC increased by one day, ROCE decreased by 0.075 percentage which was statistically significant at 5 percent level. When CPP increased by one day, ROCE decreased by 0.086 percentage which was statistically insignificant at 0.05 percent level. When DCP increased by one day, the ROCE of the company stepped up by -0.004 percentages which was statistically insignificant at 0.05 levels. The multiple correlation of ROCE on CCC, CPP and DCP is 0.74. It is also evident from the value of R^2 that the independent variables CCC & CPP& DCP contributed 68 percent of the variation in the return on capital employed of the company. Therefore, H_2 should be accepted.

CONCLUSION

Working capital management is important part in firm financial management decision. When working capital is managed improperly, allocating more than enough of it will render management non-efficient and reduce the benefits of short term investments. The purpose of this study is to investigate the working capital management efficiency and profitability relationship. A descriptive statistics discloses that mean value of net profitability is 8.05 percent, and ROCE is 7.9 percent. Information from descriptive statistics also indicates that the mean of cash conversion cycle that used as a proxy to check the efficiency in managing working capital is 112days and standard deviation is 11 days. Due to the significant statistical results, we accept our hypothesis (H_1&H_2).

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