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Impact of Liquidity Management on Financial Performance of Listed Manufacturing Companies in Sri Lanka

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Abstract

The objective of this research is to examine the liquidity management and its impact on financial performance of listed manufacturing companies in Sri Lanka. Secondary data was used for the purpose of study. Ten years of data were collected from the annual reports of listed manufacturing companies. The data were analyzed by using the software STATA for the descriptive statistics and inferential statistics. The current ratio, quick ratio and interest coverage ratio are engaged as dimension of liquidity and earning per share and net asset value per share as dimension of financial performance. The study confirmed that current ratio and interest coverage ratio has a positive impact on earnings per share while quick ratio has a negative impact on earnings per share of listed manufacturing companies. Further, current ratio and interest coverage ratio has a positive impact on net asset value per share. Therefore, overall empirical results show that liquidity management has an impact on financial performance. The findings suggest that the listed manufacturing companies should try to optimize current assets and interest coverage to boost the financial performance of the companies. The further studies can be directed by adding different segments and countries.

Keywords: Liquidity Management, Financial Performance, Earning Per Share

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1. Introduction

Liquidity management is important in firm corporate financial management decisions. The optimal level of liquidity should be maintained by the financial manager to confirm the tradeoff between liquidity and profitability accurately. An ideal working capital is predictable to contribute positively to create firm value. Corporate finance deals with three decisions like capital budgeting, capital structure, and Working Capital Management (WCM). This focuses on how an organization manages its day-to-day financial activities. Liquidity management is the investment in Current Assets (CA) and Current Liabilities (CL) that liquidate in less than a year and is very critical for a firm's day-to-day operations (Kesimli and Gunay, 2011). Out of these, working capital is a vital component of corporate finance. It can affect the liquidity and profitability of a company. Working capital management is a strategy of management accounting, which focuses on maintaining well-organized levels of components of working capital such as CA and CL. The management of working capital is an efficient manner confirms a company has enough cash flow to meet their short-term debt obligations and operating expenses. Therefore, adopting an effective working capital system enables companies to improve their earnings (Waithaka, 2012).

Liquidity has been identified as one of the most crucial goals of WCM and central pillar of cash management (Lamberg & Vålming, 2009). Without proper management of liquidity, no organization can function properly.

The balance should maintain between profitability and liquidity. It is a difficult task for financial managers to validate that the business function operates in well an organized and advanced manner. In practice, liquidity is the most significant issue in companies with many financial managers stressed to identify the basic working capital drivers and the appropriate level of working capital to minimize risk and effectively prepare for uncertainty and improve the performance of their respective businesses.

Manufacturing sector is an vital sector in the economic growth and requires in depth analysis at industry as well as firm level. Working capital efficiency is vital especially for manufacturing firms, where a major part of assets is composed of current assets and directly affects the profitability and liquidity of firms Raheman & Nasr, (2007). Any organization need necessary amount of working capital irrespective of size and nature of business. Further, life-giving force for any economic unit and its corporate management considered as the most important function of corporate management. Liquidity is the most vital factor for maintaining liquidity, survival, solvency, and profitability of business Mukhopadhyay, (2004).

The production capacity and growth rate in manufacturing sector did not increase promptly due to underutilization and poor financial management in terms of liquidity, solvency, operating efficiency and profitability especially in case of Sri Lankan. Therefore, a vast field for research and enquiry is essential the field of manufacturing. In the present study, an attempt has been made to examine and evaluate the impact of liquidity management on financial performance of the listed manufacturing in Sri Lanka.

2. Literature Review

The review of Literature comprises the previous studies that are connected to this study which is directed to look at the impact of independent variables of liquidity management on dependent variables of profitability. Earlier studies contribute an important role in conducting any type of study. Thus, the researchers by taking guidelines from such studies can make their research more valuable. The few studies that are related to our research are given below:

Ali et al. (2018) confirmed by the analysis of regression, liquidity was a significant and positive predictor of the firms' ROA through his studied industrial and service sector in Jordan. Further, Saripalle (2018) confirmed that liquidity being a significant determinant of the firms' profitability as measured by ROA on the Indian logistics industry with the firm-level data from 201 companies. In addition, Ali and Bilal (2018) confirmed that liquidity was a significantly positive predictor of the firms' return on asset on twenty-three quoted industrial firms in Jordan.

Kanga and Achoki (2017) examined through the pooled ordinary least squares regression analysis and confirmed that liquidity was a significantly positive determinant of the firms' return on asset and return on equity viability of quoted agricultural firms in Kenya. Further, kung (2017) confirmed that liquidity had a significantly satisfactory interaction with the firms' performance viability of manufacturing entities in Kenya with the correlation analysis. In addition, Schulz (2017) conducted a panel study. The findings explained that liquidity was a significantly adverse predictor of the firms' returns on capital employed, but insignificantly negative predictor of the firms' returns on asset on in 3,363 unlisted SMEs in Dutch.

Maqsood, et al. (2016) described that liquidity management had a significant impact on banks profitability. The data that were used in the study was taken from the financial statement of eight different banks from 2004 to 2015. The correlation and regression analysis were used in this research. The current ratio and cash ratio are used as independent variables to determine profitability and the return on assets as dependent variables. Further, Bassy, et al. (2016) presented research to explore connection between liquidity

management and banks performance in Nigeria. The study concluded that efficient and effective management of liquidity is necessary for survival and successful operations of banks.

Ikeora et.al (2016) confirmed the positive relationship between the profitability and liquidity management using time series data spanning (1989-2013). Liquidity management includes the broad money supply and aggregate bank deposits and profitability was measured by return on assets ratio. Ordinary least square econometrics method was used to analysis the hypothesis. In addition, Salim and Bilal (2016) found that there is a significant association between the loans to total assets, loans to short term liabilities further more deposits, bank's loans, customer deposits to total assets and return on assets. The study also confirmed that no significant connection between liquidity position and net interest margin of Omani banks. The data was collected from their financial statement to inspect the connection between liquidity and banks financial performance for the period from 2010 to 2014.

Khan and Ali (2016) described the positive association between banks liquidity and profitability. The current ratio and quick ratio were measured as measures of liquidity and gross profit margin and net profit margin ratios were considered as measures of profitability. The data have been taken from annual reports of Habib Bank Limited of the last five years from 2008 to 2014. Premalatha and Nedunchezhian (2015) narrated that there was no significant relationship between the cash at bank, and return on assets. And also narrated there was no significant relationship between the advance total assets and return on assets. The sample size was taken five banks out of twenty banks in India.

Alshatti (2015) presented a study to find liquidity management impact on profitability of commercial banks in Jordan. The study took liquidity management as an independent variable and return on assets and return on equity to measure the profitability dependent variable. Quantitative approaches and ratio analysis were used to analysis the data. The study explains that impact of investment and quick ratio is a positive connection to profitability when it measures by return on equity and impact of capital ratio was positive when it is measured by return on assets and other independent variable had negative impact on two profitability measures return on assets and return on equity.

Elangkumaran and Nimalathasan (2016) conducted a study of working capital management and corporate profitability of listed manufacturing companies of the CSE in Sri Lanka. A sample of twenty-two listed manufacturing companies selected randomly for the purpose of this study. Data collected from annual reports of the sampled firms for the period 2009-2015. The working capital was determined by the cash conversion cycle and the profitability was measured by return on assets. The study found that there is a significant negative impact of inventory turnover on corporate profitability while debtors turnover insignificant positive affect corporate profitability. In addition, creditors' turnover has a significant positive impact on corporate profitability. The results conclude that WCM impact of profitability of listed manufacturing companies in Sri Lanka.

It would be observed that, while literature is packed with studies relating to liquidity in relationship with financial performance there exist revealing studies in Sri Lanka and did not consider comprehensive financial performance measures like earning per share and net asset value per share. This study is utilized to fulfil the gap.

2. Methodology

This study explains the impact of liquidity management on the financial performance of the listed manufacturing sector of Sri Lanka using different liquidity and profitability ratios. The liquidity management is

considered as independent variables and financial performance as dependent variables. To achieve the aforesaid objectives secondary data is extracted from the income statements, balance sheets, and cash flow statements of annual reports of selected listed manufacturing companies, journals, related other research papers, websites. The twelve listed manufacturing companies are considered as a sample which represents the whole listed manufacturing companies in Sri Lanka. The study covers a period of 10 years from 2010-11 to 2019-20.

The financial performance as measured by earning per share and net asset value per share was regressed against the listed manufacturing companies' liquidity position which was represented by their respective current ratio, quick ratio and interest coverage ratio. Panel data analysis was done using an appropriate statistical package of STATA after confirming that the data strictly met the requirements for panel data analysis.

Table 1. Operationalization

Determinants	Variable	Measures	Notations
Liquidity Management	Current Ratio	Current Assets/Current Liabilities	CR
	Quick Ratio	Quick Assets/Current Liabilities	QR
	Interest Coverage Ratio	Profit before interest and tax / Total interest expenses	ICR
Financial Performance	Earnings Per Share	Profit attributes to the equity holder / Number of shares outstanding	EPS
	Net Asset Value Per Share	Net Assets/ Number of shares outstanding	NAVPS

Descriptive statistics and inferential statistics were used to analysis the data. The correlation and regression techniques applied to examine the nature of relationship between the dependent and independent variable. Particularly linear regression was used to establish the strength of the relationship between liquidity position of the listed manufacturing companies and its financial performance. The general regression equation takes the form $\boldsymbol{\gamma}= \boldsymbol{\alpha}+ \boldsymbol{\beta Xi}+ \boldsymbol{\varepsilon i}$ where y is the dependent variable, a is the autonomous component, b is the rate of change of y with respect to X, Xi is the independent variable and $\boldsymbol{\varepsilon i}$ is the error term, thus the term that captures all other inputs (independent variables) other than x that influence y, which are not currently under investigation.

Model 1

$EPS= \beta_0 + \beta_1 CR + \beta_2 QR + \beta_3 ICR + U_t$

Where U_t is the error term. The liquidity (independent) indicators of the study are current ratio, quick ratio, and the interest coverage ratio, whereas financial performance (dependent) indicator is Earning per share.

Model 2

$NAVPS = \beta_0 + \beta_1 CR + \beta_2 QR + \beta_3 ICR + U_t$

Where U_t is the error term. The liquidity (independent) indicators of the study are current ratio, quick ratio, and the interest coverage ratio, whereas financial performance (dependent) indicator is net asset value per share.

4. Results and Discussion

Key statistics, where the means and standard deviations of both the dependent and independent variable were calculated, show that the data was evenly balanced and met the requirements of panel data analysis. The one hundred and twenty observations represent the 12 listed manufacturing companies chosen as the sample over a period of ten years. In order to study the liquidity position of listed manufacturing companies, the liquid ratios, amount invested in liquid assets and other related ratios were calculated and depicted in the below tables:

Table 2. Descriptive statistics

Variable	Observation	Mean	Std. Dev	Minimum	Maximum
CR	120	2.31	3.33	1.03	6.18
QR	120	2.0	3.29	0.79	5.44
ICR	120	2.28	0.84	0.25	4.46
NAVPS	120	55.60	49.38	3.71	181.76
EPS	120	6.9	7.71	-5.54	27.47

The value of mean is 2.31 for CR and lowest value of observation is 1.03 out of 120 observations. This mean value of CR is 2.31. The mean value of quick ratio is also 2.0. This result explain that the listed manufacturing companies have the ability to meet their short-term liabilities.

Regression Analysis

The below table 03 shows the regression results of the study. Regression results are analyzed at significant level of 05 percent. The values of coefficient and t-statistics are analyzed to see if the relationship is positive or negative. Positive values of coefficient and t-statistics are expressed the relationship are positive and vice versa.

Table 3. Summary of model

Number of obs	120
F (3, 116)	22.75
Prob > F	0.0000
R-squared	0.3705
Adj R- squared	0.3542
Root MSE	6.1973

Table 4. Summary of coefficient

EPS	Coef.	t	P > t
CR	6.763	3.11	0.002
QR	-7.58	-3.46	0.001
ICR	4.419	6.34	0.000
-Cons	-3.618	-2.15	0.034

The summary of table 04 reveals that the regression model can be used to explain the independent and dependent variable. The study confirmed that the group of variables current ratio, quick ratio and interest coverage ratio can be used to reliably predict earning per share. This value indicates that 35.42% of the variance in earning per share scores can be predicted from the variables' current ratio, quick ratio and interest coverage ratio.

The result show that the current ratio has a significant positive relationship with financial performance of listed manufacturing companies when it measures by EPS on the other factors constant. The quick ratio shows negative and significant impact on earning per share with listed manufacturing companies. Finally, the interest coverage ratio and earning per share has significant and positive relationship in listed manufacturing companies.

Table 5. Summary of Model NAVPS

Number of obs	120
F (3, 116)	11.01
Prob > F	0.0000
R-squared	0.2217
Adj-R square	0.2016
Root MSE	44.129

Table 6. Summary of coefficient

NAVPS	Coef.	t	P > t
CR	8.706	5.62	0.000
QR	-8.766	-5.68	0.000
ICR	7.124	1.44	0.154
-cons	-4.834	-4.03	0.000

The table - 05 and 06 shows that the regression results of listed manufacturing companies' financial performance. Regression results are analyzed at a significant level of 05 percent. The study confirmed that the group of variables current ratio, quick ratio and interest coverage ratio can be used to reliably predict net asset value per share. This value indicates that 20.16% of the variance in net asset value per share scores can be predicted from the variables' current ratio, quick ratio and interest coverage ratio. The results show that interest coverage ratio and quick ratio has a significant and positive relationship with net asset value per share of listed manufacturing companies. Current ratio has the positive and significant relationship with the financial performance dimension of net asset value per share. And the quick ratio has a negative and significant relationship with listed manufacturing company's financial performance. Interest coverage ratio has a insignificant impact with financial performance.

Table 7. Hypothesis

S. No	Hypothesis	p-value	Accept/Reject
H1	H1: Liquidity management is significantly impact on financial performance (EPS) in listed manufacturing companies.	0.000	Accepted
H2	H2: Current Ratio is significantly impact on financial performance (EPS) in listed manufacturing companies.	0.002	Accepted
H3	H3: Quick Ratio is significantly impact on financial performance (EPS) in listed manufacturing companies.	0.001	Accepted
H4	H4: Interest Coverage Ratio is significantly impact on financial performance (EPS) in listed manufacturing companies.	0.000	Accepted
H5	H5: Liquidity management is significantly impact on financial performance (NAVPS) of listed manufacturing companies.	0.000	Accepted
H6	H6: Current Ratio is significantly impact on financial performance (NAVPS) of listed manufacturing companies.	0.000	Accepted
H7	H7: Quick Ratio is significantly impact on financial performance (NAVPS) of listed manufacturing companies.	0.000	Accepted
H8	H8: Interest coverage ratio is significantly impact on financial performance of NAVPS listed manufacturing companies.	0.154	Rejected

5. Conclusion

The objective of the paper is to explore liquidity management impact of financial performance of listed manufacturing companies in Sri Lanka. The period of study is ten years from 2010-11 to 2019-20. Data were analyzed by using multiple regression run through STATA.

Liquidity management is important in the corporate financial decision. The companies should manage the liquidity at optimal levels between liquidity and profitability. The purpose of this research is to explore the liquidity management efficiency and liquidity-profitability relationship. The current ratio has a positive and significant relationship with net asset value per share and earnings per share. Moreover, quick ratio has negative and significant relationship when evaluating using net asset value per share and earnings per share. Further, findings of such study confirmed that interest coverage ratio has positive and significant relationship with financial performance of listed manufacturing companies in Sri Lanka. Therefore, the overall results explain that liquidity management has positive relationship with financial performance of listed manufacturing companies. The research results also relate to the previous studies conducted by various scholars. Thus, financial manager should concern on inventory turnover and receivables management in purpose of creation shareholder wealth. Proper inventory management system is to be developed to the listed manufacturing companies and the proper application of inventory control, such as EOQ, JIT, and ABC and implement good sales management practices.

Limitations of the Study

The study endures from certain limitations.

- The study covers the period from 2010-11 to 2019-20. The changes that took place before and after this period were not taken into consideration.

- The data are secondary in nature and any bias in them is reflected in the analysis and the conclusion of the study.
- Inflation could not be taken into contemplation in the present study. It was not possible to convert the relevant financial data into their present values because of non-availability of sufficient information required for the purpose.

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