Relationship Between Liquidity and Profitability: A Study of Listed Telecommunication Firms in Colombo Stock Exchange (CSE), Sri Lanka

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ABSTRACT

This study has analyzed Liquidity and profitability among listed telecommunication firms in Sri Lanka. The data utilized in this study is extracted from the annual reports over a period of past 5 years from 2015 to 2019 of the two telecommunication firms namely Dialog Axiata plc and Sri Lanka telecom plc listed in the Colombo Stock Exchange (CSE) database. This represents 100% of the firms listed under the telecommunication sector in Sri Lanka. The main objective of study was to examine the nexus between liquidity and profitability in telecommunication firms. The study was carried out by analyzing the two firms' profit measured by return on assets and return on equity as the dependent variable and the cash position as liquidity measure in relation to the revenue, total assets and current liabilities as the independent variables. Pearson correlation analysis was used to find out the relationships between these variables and regression analysis was used to find out the impact of liquidity on profitability. SPSS was used to support the analysis and to provide a basis for the conclusions drawn. Based on the descriptive analysis, there is no big fluctuation in the cash position ratios, return on equity and return on assets among Dialog Axiata plc and Sri Lanka telecom plc. Based on the correlation analysis, there is no significant relationship between cash position ratios and return on equity & assets in the Sri Lanka telecom plc and Dialog Axiata plc in the Sri Lankan context. Further, both companies' liquidity ratios not present the significant influence or impact on the profitability measures in the Sri Lankan context.

Keyword: - *Liquidity, Profitability*

1. INTRODUCTION

In any company analysis, the two major parameters for analysis are profitability and liquidity, which are the two important criteria for a company to have creditworthiness and have an increasing market capital and market share.

Profitability refers to the company improvement in margins; margins refer to revenue minus cost the more the margins are increasing; it reflects enhanced profitability in the company for that financial year. Profitability enhances the equity reserves and growth prospects of the company. On the other hand, liquidity refers to the ability of the firm to meet short-term and long-term obligations which the business needs to pay in the long-run and the short-run the current portion of liabilities.

The trade-off between liquidity and profitability has been an important issue in the corporate world. Theoretically, both liquidity and profitability are affected by the working capital decisions of any company. Excess amount of investment in working capital may result in low profitability and lower investment may result in poor liquidity. Therefore, the management needs to trade-off between liquidity and profitability to maximize shareholders' wealth. Every organization, whether it is profit-oriented or not, irrespective of size and nature of business, requires necessary amount of working capital. Working capital is the most critical factor for maintaining liquidity, survival, solvency and profitability of business. It is observed that if a firm wants to take a bigger risk for making profits, it minimizes the amount of its working capital in relation to the revenues it generates. If it intends to improve its

liquidity, that in turn raises the level of its working capital. Nonetheless, this technique might reduce the sales volume and consequently, it would affect the profitability.

The telecommunications business is undergoing a critical revolution, driven by innovative technologies, globalization and deregulation.

the competitive environment of the telecom companies is so tense that any telecom company that aims to survive must be fully aware of the consequences of its liquidity and profitability obligations as both variables can make or destroy its future.

1.1 Research Problem

In order to gain an insight and understand the nexus, if any, between liquidity and profitability in a Telecommunication firm, the following questions are addressed in the course of the study:

I. Is there any relationship between liquidity and profitability?
II. What is the nature and extent of the relationship between liquidity and profitability?

1.2 Objectives of The Study

The present study is envisaged with the following objectives:

I. To identify the nature and extent of the relationship between liquidity and profitability.
II. To identify the impact of liquidity on the profitability

1.3 Review of the literature

Several studies attempted to proper suitable landing ground for business in dealing with liquidity & profitability nexus. In the literature, however, while some have argued that liquidity is more important than profitability, some see profitability to be more important than liquidity, and yet others argue that both are equally important;
Walt (2009) opines that profitability is more important because profit can usually be turned into a liquid asset, and that liquidity is also important but does not mean that the company is profitable. Don (2009), while acknowledging the relative importance of both, submits that liquidity is more important because it has to do with the immediate survival of the company.
Liquidity plays a significant role in the successful functioning of a business firm. A firm should ensure that it does not suffer from lack-of or excess liquidity to meet its short-term compulsions. A study of liquidity is of major importance to both the internal and the external analysts because of its close relationship with day-to-day operations of a business (Bhunia, 2010). Dilemma in liquidity management is to achieve desired tradeoff between liquidity and profitability (Raheman et all, 2007).
The study found (Eljelly, 2004) significant negative relationship between the firm's profitability and liquidity levels as measured by current ratio, and that the relationship is more evident in firms with high current ratios and longer cash conversion cycles. The study also found that at industry level, however, the cash conversion cycle or cash gap is of more importance as a measure of liquidity than current ratio that affects profitability. The size variable is also found to have significant effect on profitability at industry level. Similarly, in his study, Jose et al (1996) showed that day-to-day management of a firm's short-term assets and liabilities plays an important role in the success of the firm. Firms with glowing long-term prospects and healthy bottom lines do not remain solvent without good liquidity management.
Cash conversion cycle shows the relation between liquidity and profitability. It is more important to measured profitability compared to if the company is using current ratio (Eljelly, 2004). The higher the ratio the higher the comfort level. All of the cash flow ratios are not uniform but vary by industry characteristics. The analyst would then adjust his assumptions accordingly to assess the liquidity of a firm.
Bardia (2004) and Sur and Ganguly (2001) in their study on steel giant SAIL and aluminum producing industry believed that, there is a positive relationship between liquidity and profitability and this observation tallies with the observation derived by Narware (2004).
Usama (2012) also investigated the impact of liquidity and profitability on firms in the food sector of Pakistan for the time period of 2006 to 2010. The findings of his study reveal that the management of working capital has a

significant positive influence on profitability as well as liquidity of firms. The study conducted by Malik and Bukhari (2014) on Pakistani firms also shows significant positive association between cash conversion cycle and return on equity.

Chakraborty (2008) studied the relationship between working capital management and profitability of Indian pharmaceutical companies. He concludes a two school of thoughts. The first is that, working capital itself is not a factor of improving profitability, hence there may be a negative relationship between them, the second being that it is the investment in working capital even at minimum level, the sales and output cannot be maintained, and will keep fixed assets inoperative.

Various studied attempted to examine the relationship between working capital management, which embodied liquidity as a component and profitability (Deloof; 2003, Padachi; 2006 and Malik (2013) analyzed the effect of cash conversion cycle on profitability of firms in the manufacturing sector of Pakistan for the year 2007 to 2011. The dependent variables of the study were return on assets and return on equity and cash conversion cycle was used as an independent variable in the study. adachi; 2006, Shin and Soenen 1998, and Raheman & Nasr, 2007).

Anser and Malik (2013) analyzed the effect of cash conversion cycle on profitability of firms in the manufacturing sector of Pakistan for the year 2007 to 2011. The dependent variables of the study were return on assets and return on equity and cash conversion cycle was used as an independent variable in the study. The findings of the study show that there exists an inverse relationship between cash conversion cycle and measures of firm profitability. The authors suggest that lesser cash conversion cycles are favorable for manufacturing sector in Pakistan. In another study, Majeedetal., (2013) also finds a negative relationship between cash conversion cycle and measures of firm performance which includes return on assets, return on equity and EBIT in Pakistan.

1.4 Conceptualization

Fig -1 Conceptual model

1.4 Hypotheses Of The Study

The hypotheses below are operationalized as a basis for analysis and conclusion on the relationship between liquidity and profitability.

H1:- There is a significant association between cash position and Return on Assets in the Sri Lanka telecom.
H2:- There is a significant association between cash position and Return on Assets in the Dialog Axiata PLC.
H3:- There is a significant association between cash position and Return on Equity in the Sri Lanka telecom.
H4:- There is a significant association between cash position and Return on Equity in the Dialog Axiata PLC.
H5:- There is a significant impact of cash position on Return on Assets in the Sri Lanka telecom.
H6:-. There is a significant impact of cash position on Return on Assets in the Dialog Axiata PLC
H7:- There is a significant impact of cash position on Return on Equity in the Sri Lanka telecom.
H8:- There is a significant impact of cash position on Return on Equity in the Dialog Axiata PLC

2. METHODOLOGY

2.1 Data Source

The present study used secondary data for the analysis. The data utilized in this study is extracted from the comprehensive income statements and financial position of the telecommunication companies quoted in Colombo Stock Exchange (CSE) database. In addition to this, scholarly articles from academic journals and relevant textbooks were also used.

2.2 Sampling Design

Sampling design is a definite plan for obtaining a sample from a given population. It refers to the technique or the procedure the researcher would adopt on selecting items for the sample (Kothari, C.R.,2004). The sample of this study is confined to the telecommunication sector consisting of 2 firms listed in the Colombo Stock Exchange (CSE).

This represents 100% of the firms listed under the telecommunication sector.

2.3 Mode of Analysis

The quantitative research approach is employed to arrive at the findings of the research study. Under which, descriptive statistics and inferential statistics were used. Descriptive statistics depict the mean, standard deviation, maximum and the minimum values for the chosen variables. In the present study, correlation analysis is used as a tool to identify the nature and extent of the relationship between the variables under inferential statistics. Regression analysis was used to identify the impact of liquidity on the profitability in the tele communication sectors in the Sri Lanka. A well known statistical package like 'Statistical Package for Social Sciences' (SPSS) 20 Version was used in order to analyze the data

2.4 Research Model

Pearson correlation analysis was carried out to identify the trade-off between cash position as liquidity measure in relation to sales, total assets and current liabilities and profitability in terms of return on assets and return on equity. Here, cash position as liquidity measure in relation to the sales, total assets and current liabilities are the independent variable and profitability is the dependent variable.

Regression models were applied to estimate the influence of independent variables. The present study considered measures such as cash position ratios in relation to sales, total assets and current liabilities as independent variables, whereas return on assets and return on equity as dependent variables. With these variables, the following equations were formulated.

In this study, Return on Assets and Return on Equity are the function of the cash position ratios in relation to current liability, sales and total assets.

$$Yi = \beta o + \beta\ 1X1i + \varepsilon i$$

According to the above model and hypotheses development, we can construct the new research models for the study.

$$ROA = \beta o + \beta 1\ CS/CL + \varepsilon i \text{ ---------- (1)}$$
$$ROA = \beta o + \beta 1\ CS/REV + \varepsilon i \text{ ---------- (2)}$$
$$ROA = \beta o + \beta 1\ CS/TA + \varepsilon i \text{ ---------- (3)}$$
$$ROE = \beta o + \beta 1\ CS/CL + \varepsilon i \text{ ---------- (4)}$$
$$ROE = \beta o + \beta 1\ CS/REV + \varepsilon i \text{ ---------- (5)}$$
$$ROE = \beta o + \beta 1\ CS/TA + \varepsilon i \text{ ---------- (6)}$$

3. RESULTS & ANALYSIS

3.1 Descriptive Statistics

Table -1: Descriptive Statistics of Dialog Axiata Plc

	N	Range	Minimum	Maximum	Sum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
CS/CL	5	.069	.126	.195	.782	.15640	.012011	.026857	.001
CS/REV	5	.030	.065	.095	.435	.08700	.005586	.012490	.000
CS/TA	5	.018	.043	.061	.281	.05620	.003338	.007463	.000
ROA	5	3.030	4.370	7.400	29.160	5.83200	.603435	1.349322	1.821
ROE	5	6.480	10.960	17.440	70.630	14.12600	1.362485	3.046610	9.282
Valid N (listwise)	5								

The descriptive statistics show that over the period under study, the criteria used for measuring profitability including return on assets and return on equity averaged 5.832 and 14.126 respectively. The coefficients of variation (standard deviation/mean) values of profitability measures were found to be higher than those of cash position measures. Thus, reveal the high volatility of profitability measures used in the study. Furthermore, the mean values cash position ratios in relation to current liabilities, revenue and total assets were 0.156, 0.870 and 0.562respectively.

Table -2: Descriptive Statistics of Sri Lanka telecom plc

	N	Range	Minimum	Maximum	Sum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
CS/CL	5	.138	.074	.212	.695	.13900	.024658	.055136	.003
CS/REV	5	.080	.056	.136	.426	.08520	.014119	.031571	.001
CS/TA	5	.035	.026	.061	.204	.04080	.006560	.014670	.000
ROA	5	.880	2.470	3.350	14.520	2.90400	.146445	.327460	.107
ROE	5	2.57	5.52	8.09	32.98	6.5960	.46439	1.03840	1.078
Valid N (listwise)	5								

The descriptive statistics show that over the period under study, the criteria used for measuring profitability including return on assets and return on equity was 2.904 and 6.596 respectively. The coefficients of variation (standard deviation/mean) values of profitability measures were found to be higher than those of cash position measures. Thus, reveal the high volatility of profitability measures used in the study. Furthermore, the mean values cash position ratios in relation to current liabilities, sales and total assets were 0.139, 0.085 and 0.040 respectively.

3.2 Comparison of mean values between Sri lanka telecom plc and Dialog Axiata Plc

Table -3: Descriptive Statistics of Sri Lanka telecom plc

Ratio	Dialog Axiata PLC	Sri Lanka telecom plc
CS/CL	.15640	.13900
CS/REV	.08700	.08520
CS/TA	.05620	.04080
ROA	5.83200	2.90400
ROE	14.12600	6.5960

There is a considerable difference in ROA and ROE between two companies but others have minor differences between two companies

3.3 Correlation Analysis

Table 4: Correlation Analysis of Dialog Axiata Plc

		CSCL	CSREV	CSTA	ROA	ROE
CS/CL	Pearson Correlation	1	.601	.713	-.128	-.111
	Sig. (2-tailed)		.284	.176	.838	.859
CS/REV	Pearson Correlation	.601	1	.987**	-.244	-.188
	Sig. (2-tailed)	.284		.002	.693	.762
CS/TA	Pearson Correlation	.713	.987**	1	-.183	-.132
	Sig. (2-tailed)	.176	.002		.768	.832
ROA	Pearson Correlation	-.128	-.244	-.183	1	.995**
	Sig. (2-tailed)	.838	.693	.768		.000
ROE	Pearson Correlation	-.111	-.188	-.132	.995**	1
	Sig. (2-tailed)	.859	.762	.832	.000	

**. Correlation is significant at the 0.01 level (2-tailed).

b. Listwise N=5

Table 4: Correlation Analysis of Sri Lanka telecom plc

		CSCL	CSREV	CSTA	ROA	ROE
CS/CL	Pearson Correlation	1	.930*	.965**	.224	-.025
	Sig. (2-tailed)		.022	.008	.717	.968
CS/REV	Pearson Correlation	.930*	1	.962**	.101	.082
	Sig. (2-tailed)	.022		.009	.872	.896
CS/TA	Pearson Correlation	.965**	.962**	1	.198	-.077
	Sig. (2-tailed)	.008	.009		.750	.902
ROA	Pearson Correlation	.224	.101	.198	1	.550
	Sig. (2-tailed)	.717	.872	.750		.337
ROE	Pearson Correlation	-.025	.082	-.077	.550	1
	Sig. (2-tailed)	.968	.896	.902	.337	

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

c. Listwise N=5

According to the correlation analysis, Dialog telecom plc and Sri Lanka telecom plc have not the significant association between cash position and profitability.

3.4 Regression Analysis

Table 5: Regression Analysis of Dialog Axiata Plc

Model	Dependent	Independent	R	R^2
1	ROE	CS/CL	0.111	0.012
		CS/REV	0.188	0.035
		CS/TA	0.132	0.017
2	ROA	CS/CL	0.128	0.016
		CS/REV	0.244	0.059
		CS/TA	0.183	0.033

Table 6: Regression Analysis of Sri Lanka telecom plc

Model	Dependent	Independent	R	R^2
1	ROE	CS/CL	0.025	0.001
		CS/REV	0.082	0.007
		CS/TA	0.077	0.006
2	ROA	CS/CL	0.224	0.050
		CS/REV	0.101	0.010
		CS/TA	0.198	0.039

Based on the regression analysis, in the Sri Lanka telecom plc and Dialog Axiata plc, cash position ratios in relation to current liabilities, sales and total assets not present the significant impact on the return on assets and return on equity.

3.5 Hypotheses Testing

Table 7: Results of Hypotheses Testing

Hypotheses	**Tool**	**Results**
H1: - There is a significant association between cash position and Return on Assets in the Sri Lanka telecom.	Correlation	Rejected
H2: - There is a significant association between cash position and Return on Assets in the Dialog Axiata plc.	Correlation	Rejected
H3: - There is a significant association between cash position and Return on Equity in the Sri Lanka telecom.	Correlation	Rejected
H4: - There is a significant association between cash position and Return on Equity in the Dialog Axiata plc.	Correlation	Rejected
H5: - There is a significant impact of cash position on Return on Assets in the Sri Lanka telecom.	Regression	Rejected
H6: -. There is a significant impact of cash position on Return on Assets in the Dialog Axiata plc.	Regression	Rejected
H7: - There is a significant impact of cash position on Return on Equity in the Sri Lanka telecom	Regression	Rejected
H8: - There is a significant impact of cash position on Return on Equity in the Dialog Axiata plc.	Regression	Rejected

4. CONCLUSIONS

Based on the descriptive analysis, there is no big fluctuation in the cash position ratios, return on equity and return on assets among dialog Axiata plc and Sri Lanka telecom plc. According to the correlation analysis, dialog Axiata plc and Sri Lanka telecom plc not present the significant association between cash position and profitability. Further according to regression analysis of Sri Lanka telecom plc and Dialog Axiata plc, cash position ratios in relation to current liabilities, sales and total assets not present the significant impact on the return on assets and return on equity.

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