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A STUDY OF VIETNAM'S LEATHER FOOTWEAR COMPANIES: FOCUS ON CASH CONVERSION CYCLE AND FIRMS' PROFITABILITY

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Abstract

The cash conversion cycle is one of the most generally used measures of management effectiveness. Hence every company pay attention to this ratio to sustain and enhance their profitability. This study examines the effect of cash conversion cycle on profitability in twenty listed leather and footwear companies in Vietnam between 2012 and 2016. Results revealed that there is negative relationship between return on equity and cash conversion cycle. Additionally, Cash conversion cycle also had negative impact on Return on asset. Furthermore, cash conversion cycle had negative impact on net profit. As the result, the effect of cash conversion cycle on total profitability as whole contains significant value.

Key word: *cash conversion cycle, Firms' Profitability*

Introduction

Working capital management is an important tool of enterprise finance because it directly affects the liquidity and profitability of the company. There are two basic ways to assess the working capital management of firms. They are balance sheet and Cash Conversion Cycle (CCC). The cash conversion cycle (CCC) is a metric that expresses the length of time, in days, that it takes for a company to convert resource inputs into cash flows. The cash conversion cycle attempts to measure the amount of time each net input dollar is tied up in the production and sales process before it is converted into cash through sales to customers (investopedia). Every enterprise pay attention on their profitability, therefore they have to find out the factors affecting the profitability. And cash conversion cycle is one of the factors. Every company is trying to promote their profits and they always want to bring their cash conversion cycle at optimum level to raise their profitability.

In Vietnam, leather and footwear is one of the key industries. The industry contributes 10% to Vietnam's GDP and Vietnam is among the top 10 countries producing



footwear in the world. With the aim to maximize their profit, the companies are interested in financial aspects. There are many studies on difference financial aspects. However, no studies have been conducted on the relationship between CCC and profitability in the industry. This study aim to measure the role of cash conversion cycle in explaining the variations in the profitability of Vietnam's leather, footwear Companies.

Theoretical basis and analysis framework

In finance literature the researchers approaches CCC from difference aspects as follow:

Velnampy (2005) stated that, each company has been using a host of money in various projects, and its success is relying on the capability to generate profitability. In addition, both liquidity and profitability are key factors for an organization to do their business activities. Therefore, the effective liquidity management is integral component for all businesses. When a firm does not manage its liquidity well, it will face the cash shortages, leading to the difficulty in paying its obligations. Profitability has an opposite trend with the liquidity, when obligation's profitability rises, liquidity will drop and vice versa. In addition to profitability, the liquidity management is important for ongoing concern. Cash conversion cycle (CCC) is one of the necessary criterions for working capital evaluation. It is the time needed between materials purchasing, production process and funds collection due to selling.

Velnampy & Kajanathan (2013) studied cash position and profitability among listed telecommunication firms in Sri Lanka over a period between 2005 and 2011. Researchers carried out their study by analyzing the two firms' profit based on the measure of return on assets and return on equity that were considered as the dependent variable, and evaluating the cash position as liquiditymeasure in relation to the sales, total assets and current liabilities as the independent variables. On the ground of the correlation analysis, researchers found a remarkable relationship between cash position ratios and return on equity & assets in the Sri Lanka telecom plc. By contrast; there was no significant relationship between cash position ratios and return on equity & assets in the Dialog telecom plc in the Sri Lankan context. Further, Sri Lanka telecomp, cash position ratios have the influence or impact on the profitability measures comparing with Dialog telecom plc in the Sri Lankan context.

Ananthasayan, Raveenthiran and Raveeswaran (2011) analysed the relationship between working capital management and profitability of listed manufacturing companies in Sri Lanka over the 4-year period from 2003 to 2007. They chose thirty manufacturing companies as samples companies to examine the relationship among variables. Their results revealed that, there was a significant relationship between profitability and cash conversion cycle.



Wang chose the data of Japanese and Taiwanese firms from 1985 to 1996 for his study. He found the relation between the shorter CCC and the better corporate performance. Many scholars have measured working capital using the cash conversion cycle. DeLoof (2003) analyzed a sample of Belgian companies and found that firms can increase their performance by shortening the periods for receivables collection and inventory conversion. Researcher also reported that there is an unanticipated negative influence associated with the number of days for accounts payable; poorer organisations often extend the time to pay their debts. Likewise, Lazaridis and Tryfonidis (2006) analyzed a sample of firms listed on the Athens Stock Exchange, Nazir and Afza (2007) examined a sample of firms listed on the Karachi Stock Exchange, and Abuzayed (2012) investigated at a sample of firms listed on the Amman Stock Exchange; all of them agreed that shortening the cash conversion cycle leads to the rise in firm performance. Richards & Laughlin (1980) gave the idea of using cash conversion cycle as a tool for measuring the liquidity management and performance of a company.

According to Gentry et al. (1990), cash conversion cycle impacts the market value of a firm. Uyar (2009) put effort into establishing a relationship between CCC, profitability and size of the firm. Launching an investigation into listed companies on Istanbul Stock exchange, he collected the data for 166 companies from seven different industries for the period of one year (2007). He considered total asset and net sale as a variable to evaluate the size and ROE as a variable to measure profitability. ANOVA and Pearson correlation was run to find out the of CCC with size of the company and CCC with profitability. Not surprisingly there exists a negative relationship between CCC and size of the firm, and CCC and profitability.

Khan, Hijazi, and Kamal (2006) researched listed companies on Pakistani, and concluded that firm's profitability has a negative relation with days inventory outstanding, days payable outstanding and CCC.

Weinraub and Visscher (1998) studies 10 different industry groups over the 10-year period in order to find the relationship between aggressive and conservative working capital practices. They stated that there is a significant difference among industries in term of the aggressiveness of working capital management policies. Furthermore, these researchers found an other interesting result, there is a significant negative correlation among current asset investment and financing policies. Relatively aggressive current assets financing policy is balanced with a relatively conservative working capital financial policy. According to the research of Carpenter and Johnson (1983), Gardner et al. (1986), Weinraub and Visscher (1998), Afza and Nazir (2008), the conservative working capital policies are identified to be associated with lower levels of risk and return and vice versa.



Afza and Nazir (2007), in their study on seventeen industrial groups of Karachi Stock Exchange, concluded that working capital investment and financing policies are significantly different across different industries, and an aggressive investment policy is go together with aggressive financing policy. In addition, a negative relation between degree of aggressiveness of investment and financing policies with firm's profitability was found in that study.

Richards & Laughlin (1980) suggested to use the cash conversion cycle as a tool for measuring the liquidity management and performance of a firm. Gentry et al. (1990) proved that cash conversion cycle impacts the market value of a firm. Lamberson (1991) suggested, during the development in economics, liquidity rises to some extent by working capital management but there is no remarkable change showed in the case of economic slowdown.

Schilling (1996) stated that the growth in cash conversion cycle increases the minimum liquidity requirements of the firms. Likewise, the decline in cash conversion cycle decreases the minimum liquidity requirements of the business organizations. Researcher concluded that the optimal level of liquidity position is achieved at minimized level of liquidity, thus the deployment of available resources in working capital in a way to attain and maintain optimal level of liquidity is necessary. In addition, the study examined the relationship between cash conversion cycle and the required minimal level of liquidity in a way that if at times cash conversion cycle rises, the minimal level required for liquidity gets to upper levels; and if at times the cash conversion cycle falls, the minimal level required for liquidity moves down to lower levels.

Shin & Soenen (1998) found noticeable influence of efficient cash cycle conversion management on profitability and liquidity of companies. Lyroudi & Lazaridis (2000) stated that the firm's profitability relies on working capital management. Filbeck & Krueger (2003) identified that there are other factors that impacts the working capital management such as interest rate. To specify, if the interest rate increases, it will expand the cash cycle period. Deloof (2003) proved that for better performance, the time duration for collection of receivable should be kept short.

Methodology

Measurement of Variables

The study takes return on equity, return on assets and net profit as measures of profitability to represent dependent variables. The studied variables are calculated as follows:

Inventory Holding Period = (Average Inventories/Cost of Goods Sold) x 365

Receivables Collection Period = (Average Accounts Receivables/Sales) x 365



Payables Payment Period = (Average Accounts Payables/Cost of Purchases) x 365

Cash Conversion Cycle = Inventory Holding Period + Receivables Collection Period -
Payables Payment Period

Return on Assets = Net Profit/Average Total Assets

Return on Equity = Net Profit/Average Total Shareholders' Equity

Net Profit=Net Profit/Sale

Research model

Base on the review of the literature the following reseach model are tested as below:

$$ROE = \alpha + \beta CCC + \varepsilon$$

$$ROA = \alpha + \beta CCC + \varepsilon$$

$$NP = \alpha + \beta CCC + \varepsilon$$

ROE = Return on Equity

ROA = Return on Assets

CCC = Cash Conversion Cycle

α = Constant Term

β = Coefficient Term

ε = Error term

Population & Sampling

For the purpose of the study on the impact of cash conversion cycle on profitability, twenty leather and footwear companies are selected. as below:

Table 1: Some leather and footwear companies selected

No	Type of enterprise	The number of enterprise
1	Small and medium sized enterprise	10
2	Large enterprise	10

Period of Study

The study collected 5 years financial statements data starting from 2012 to 2016

Data Collection

Secondary data is collected through five years financial statements data of leather, footwear companies .

Hypotheses

In the light of the above discussion, the present study expects negative relationship between length of CCC and profitability. The main hypotheses to be tested in this study are as follows:

H1: Cash conversion cycle has a significant association with Return on equity

H2: Cash conversion cycle has a significant association with return on Assets

H3: Cash conversion cycle has a significant association with net profit



Data analysis and Discussion

Descriptive statistics

The table 2 shows the mean value of the variable return on asset is around 7.8 percent and return on equity is around 11 percent with standard deviation of 0.096 and 0.356 respectively; the mean value for cash conversion cycle of all the companies together is about 28.7 days.

Table 2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CCC	80	-29.00	200.00	28.7766	29.31813
ROA	80	-.29371	.40061	.0787517	.09617285
ROE	80	-2.79725	.60594	.1100676	.35615474
NP	80	-.11156	.30350	.0587180	.06932342
Valid N (listwise)	80				

Correlation between cash conversion cycle and profitability ratios

Correlation Matrix is used to find the relationship between different variables. The correlation matrix table below shows that there is a negative relationship between cash conversion cycle, ROE, ROA and NP ($r = -.830^{**}$, $r = -.727^{*}$ and $r = -.630^{**}$) at 0.01 significant levels.

Table 3: Correlations between CCC, ROA, ROE and NP

		CCC	ROA	ROE	NP
CCC	Pearson Correlation	1	-.830 ^{**}	-.727 ^{**}	-.630 ^{**}
	Sig. (2-tailed)		.000	.000	.000
	N	80	80	80	80
ROA	Pearson Correlation	-.830 ^{**}	1	.724 ^{**}	.819 ^{**}
	Sig. (2-tailed)	.000		.000	.000
	N	80	80	80	80
ROE	Pearson Correlation	-.727 ^{**}	.724 ^{**}	1	.527 ^{**}
	Sig. (2-tailed)	.000	.000		.000
	N	80	80	80	80
NP	Pearson Correlation	-.630 ^{**}	.819 ^{**}	.527 ^{**}	1
	Sig. (2-tailed)	.000	.000	.000	
	N	80	80	80	80

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



Regression analysis

. Regression analysis between ROE and CCC

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.727 ^a	.528	.522	.24625656

a. Predictors: (Constant), CCC

Table 5: ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	5.291	1	5.291	87.245	.000 ^b
1 Residual	4.730	78	.061		
Total	10.021	79			

a. Dependent Variable: ROE

b. Predictors: (Constant), CCC

Table 6: Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.364	.039		9.408	.000
	CCC	-.009	.001	-.727	-9.341	.000

a. Dependent Variable: ROE

The above results can be expressed as follows:

$$ROE = 0.364 - 0.009ccc + \varepsilon$$

Table 6 shows that cash conversion cycle has a significant negative relationship with return on equity. The negative value of beta (-.009) was significant ($p < .05$). Besides, 52.8% of cash conversion cycle impact on return on equity.

To test the hypothesis, as can be seen from table 6 the p value is less than 5%. Hypothesis 1 stated that CCC has a significant association with ROE. The hypothesis was accepted by regression analysis.

Regression analysis between ROA and CCC

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.830 ^a	.689	.685	.05399937

a. Predictors: (Constant), CCC



Table 8: ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.503	1	.503	172.585	.000 ^b
Residual	.227	78	.003		
Total	.731	79			

a. Dependent Variable: ROA

b. Predictors: (Constant), CCC

Table 9: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.157	.008		18.512	.000
CCC	-.003	.000	-.830	-13.137	.000

a. Dependent Variable: ROA

The above results can be expressed as follows:

$$ROA = 0.157 - 0.003CCC + \varepsilon$$

Above table 9 depicts that there is a negative relationship between cash conversion cycle and return on assets. Moreover, cash conversion cycle. 68.9 percent of variation in return on assets explained by cash conversion cycle. The negative value of β (-0.003) was at significant ($p < .01$).

To test the hypothesis, table ... shows that the p value is less than 1%. Hypothesis 2 stated that there a significant association between CCC and ROA. It was accepted.

Regression analysis between NP and CCC

Table 10: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.630 ^a	.396	.389	.05420445

a. Predictors: (Constant), CCC

Table 11: ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.150	1	.150	51.216	.000 ^b
Residual	.229	78	.003		
Total	.380	79			



- a. Dependent Variable: NP
b. Predictors: (Constant), CCC

Table 12: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.102	.009		11.922	.000
CCC	-.001	.000	-.630	-7.157	.000

- a. Dependent Variable: NP

The above results can be expressed as follows:

$$NP = 0.102 - 0.001ccc + \epsilon$$

As can be seen from the table 12 , there is an empirically significant relationship between net profit and cash conversion cycle. Beta(-.001) was a significant value. Additionally t value (-7.157) indicates that the relationship was empirically reliable. To test the hypothesis, table 12 shows that p value is less than 10% ($p < .01$). Besides, 60.2 percent of variation net profit explained by cash conversion cycle. Hypothesis 3 stated CCC has a significant association with net profit so that the hypothesis was accepted.

Conclusion

This paper studied the impact of cash conversion cycle on profitability in twenty one Vietnam's leather and footwear companies in the period of 2012 to 2016. Results showed that there is negative relationship between return on equity and cash conversion cycle and 52.8 percent variation of ROE explained by CCC. In addition, Cash conversion cycle also had negative impact on Return on asset and 68.9 % explained by CCC. Moreover, cash conversion cycle had 39.6 % negative impact on net profit. Base on the results, we can see that thank to shorter cash conversion cycle, inventory conversion period and receivables period, enterprises will increase their profitability. Therefore, the leather and footwear companies should pay more attention on estimating and evaluating the cash flows of the business to improve their profitability.

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