

Effect of Working Capital Management on Profitability of Bottlers in Nepal (TERAI)

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ABSTRACT

This study aims to investigate the effect of working capital management on Bottlers Nepal Limited (Terai) Nepal. It seeks to identify key factors that impact the choice of financing options, the right quantity of current assets, and how effectively they are used. Employing a quantitative approach, the study uses secondary data from different secondary sources. The study reveals that there is a significant relationship between profitability and RCP (Receivable Conversion Period) and PDP (Payable Deferral Period). It is indicated there is an insignificant relationship between profitability, ICP, and CCP. The study contributes to the working capital management of Bottlers Nepal by examining the impact of various financial metrics and working capital management. This study focuses on how working capital management is applied in Nepal, particularly at Bottlers Nepal (Terai) Limited within the dynamic and competitive bottler industry of Terai. The findings offer practical insights for policymakers, and the bottlers industry and will be able to comprehend in a better way how perception and perceived risk can be used to advance working capital management in Nepal's Terai Region.

Key Words: Bottler's Nepal, Firm's Profitability, Liquidity, Working Capital (WCM), Quantitative Benchmarks.

1. Introduction

Working capital is the life blood for an organization; no business can be run successfully without it. Since there is an inverse relationship between liquidity and profitability, a firm should maintain a delicate balance of working capital so that smooth operations can be conducted without disturbing profitability. There are studies proving both the relevance and irrelevance of working capital management with profitability (Sarwat. S., 2017).

Working capital is a financial measure that represents operating liquidity available in a business. Working capital is the capital of a business used in its daily trading operations. Decisions about working capital and short-term financing are called working capital Management (WCM). WCM ensures a company has sufficient cash flow to meet its short-term debt obligations and operating expenses. These involve managing the relationship between a firm's short-term assets and its short-term liabilities. The goal of working capital management is to ensure that the firm can continue its operations and has sufficient cash flow to satisfy both maturing short-term debt and upcoming operational expenses. (Sujeewa Kodithuwakku, 2015).

Working on capital management is a challenging task since it consists of managing various concepts of current assets, and current liabilities along with managing cash, stock movement, trade receivables, and trade payables.

All these elements are interconnected and affect each other; therefore, there is always a risk to be managed. Managing one component in working capital may affect the other components and hence increase the delicacy of the task; this means that there is always a risk-return trade-off involved with working capital decisions. (Al-Debi's, 2013).

Working Capital management explicitly impacts both the profitability and level of desired liquidity of a business. Hence, it may have both a negative and positive impact on a firm's profitability, which in turn, has a negative and positive impact on the shareholders' wealth (Raheman & Nasr, 2007). If a firm invests heavily in working capital, i.e., more than its needs, the profits that can be generated by investing these resources in fixed or long-term assets diminish. Moreover, the firm must endure the cost of storing inventory for longer periods and handling excessive inventory (Arnold, 2008).

Similarly, Raheman and Nasr (2007) posit that a company must determine the equilibrium between liquidity and profitability because increasing profits at the expense of the liquidity of the firm can be harmful in terms of insolvency and bankruptcy of the firm. Accordingly, the three components of the cash conversion cycle are each managed in diverse ways to improve profitability. This is due to firm-specific (industry-wise) distinctive characteristics. Each of the researchers that have

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conducted case studies in different countries found different results on how the profitability of a firm is related to the cash conversion cycle and its three components. As far as is known, there has been no study on working capital management and its impact on the profitability of multinational manufacturing companies in Nepal. It is in this consideration that the research plan in this paper will be directed to the following research question: "What is the relationship between the working capital management components and profitability of Bottlers Nepal (Terai)?"

2. Literature of Review

Jaworski, & Czerwonka, (2022) identified the relationships between measures of working capital management (cash conversion cycle /CCC/, working capital value /WC/ and the financial liquidity /CR/) and profitability of companies listed on the Warsaw Stock Exchange. The research material consisted of data from 326 companies from 1998-2016. The analysis revealed a significant non-linear relationship between WC, CR, and profitability. When WC and CR values grow, profitability increases, but at a slower pace. However, there is a linear negative relationship between CCC and profitability. The results are influenced by industry and GDP (Gross Domestic Product) growth. This indicates that profit-driven entrepreneurs try to delay payments to suppliers. They pay off bank loans from the funds thus generated. This study contributes to the verification of theories linking profitability with working capital management with an emphasis on the influence of the industry. The results have practical implications: companies with growing profitability should not lose sight of the shortening CCC when paying off short-term loans; in some industries decreasing profitability while CR values grow may mean problems with the efficient use of current assets.

Sensini, & Vazquez, (2021) evaluated the influence of working capital management policies on Argentine agro-industrial firms' profitability. To test our hypotheses, we analyzed a sample of 326 companies selected with a stratified random method based on an economic criterion. The data was collected through a structured questionnaire. From a methodological perspective, we used the individual determinants of working capital (DSO, DSI, DPO and CCC) as independent variables, while EBITDA represented the dependent variable. Additionally, we used leverage as a control variable. To assess the impact of individual determinants on corporate profitability, we used the dynamic panel data methodology. This approach has the advantage of controlling the unobservable effects that can influence profitability and endogeneity problems. We also checked the robustness of our results. The results offer several interesting insights. In particular, the results of the variables

(DSI, DPO and CCC) showed a negative relationship with firms' profitability, suggesting that investing in inventory and requesting greater extensions from suppliers leads to additional costs that cannot offset the resulting benefits.

Hossain, (2021) analyzed the impact of efficient working capital management on the profitability of the manufacturing firm in Bangladesh. Fifty-two manufacturing companies listed with Dhaka Stock Exchange (DSE) have been selected randomly from 2012 to 2017. Return on Assets (ROA) and Return on Equity (ROE) are used as indicators of profitability, while the inventory conversion period (ICP), the average collection period (ACP), the average payment period (APP), and the Cash Conversion Cycle (CCC) are used as the independent variables which are used as a measurement of working capital management of the firm. Ordinary Least Squares regression models and Pearson's Correlation are used to establish the relationship between working capital management and profitability. The results revealed a significant negative relation between ROA and CCC, ACP; a significant negative relationship exists between ROE and CCC, APP. Manufacturing companies can increase profitability by decreasing the cash conversion cycle, average payment period, and average collection period. It also revealed that ICP is also positively related to ROA and ROE. Therefore, this research concludes that efficiently and effectively managing working capital is especially important for increasing manufacturing companies' profitability.

Basyith, Djazuli, & Fauzi, (2020) attempted to examine the impact of working capital management (WCM) on profitability and examine the working capital conditions of several companies listed on the Indonesia Stock Exchange (IDX). The sample used is 135 listed firms and were selected from each sector, such as plantation, pharmaceutical, telecommunication, investment, retail, and the cement and metal industries from 2000 to 2019. The variables employed in this study are working capital investment strategy (WCIS), working capital financing strategy (WCFS), cash conversion cycle (CCC), days sales outstanding (DSO), days inventory outstanding (DIO), days payable outstanding (DPO), debt ratio (DR), size, age, and current ratio (CR). The ordinary least squares (OLS) were employed to analyze the data. The results revealed that the working capital investment approach has a positive and significant effect on return on assets (ROA) in all regression models used; the working capital financing approach has a negative effect on ROA but not significant; the working capital investment approach to the gross profit margin in all models shows a negative and significant coefficient; and the working capital financing approach shows a negative and significant sign for all capital used. Based on the type of industry, companies that

use a lot of aggressive working capital investment approaches are the agriculture industry and the infrastructure, utility, and transportation industries. Meanwhile, companies that mostly take a conservative working capital investment approach are the consumer goods industry, the basic chemical industry, and the miscellaneous industry.

Aryawan, & Indriani, (2020) analyzed the relationship between working capital management and profitability (return on assets) as a dependent variable and cash conversion cycle (CCC), inventory conversion period (ICP), average collection period (ACP), and average payment period (APP) as independent variables with leverage, liquidity, and size as the controlling variables. The sample of this study is manufacturing companies in the Indonesian Stock Exchange 2013-2017. The analysis using OLS showed that the ACP has a negative and significant effect on ROA and the APP has a positive and significant effect on ROA, meanwhile, CCC and ICP have a negative and insignificant effect on ROA.

Pham, Nguyen, & Nguyen, (2020) examined the influence of working capital management (WCM) factors on the profitability of steel companies listed on the Stock Exchange of Vietnam. Data was collected from audited financial statements of companies for 10 years, from 2010 to 2019. The number of samples eligible for research is 20 out of 26 companies, which is equivalent to 76.9%. With the help of dedicated software Stata version 14, the impact determination of WCM (through 8 independent variables: DIO, DPO, DSO, CCC, SIZ, CR, LEV, GRO) to the firm's profitability (through the dependent variable) is performed through multivariate regression models. Research results from companies in the steel industry in Vietnam during this period indicate that WCM has a strong impact on the profitability of businesses. Among 8 factors affecting the profitability of steel enterprises, factors DPO, DIO, DSO, CR, SIZ, GRO have a positive impact, boosting profitability; 2 factors CCC and LEV have a negative impact on profitability; in which, the effect of CCC is negligible. This conclusion contrasts with many previously published studies due to the industry's specifics and the distinct stages of economic development associated with the economic management policies of the State.

Go?a?, (2020) examined the causative link between Working Capital Management (WCM) and Return on Assets (ROA) in milk processing companies. Days Sales of Inventory (DSI), Days Sales Outstanding (DSO), Days Payable Outstanding (DPO) and the Cash Conversion Cycle (CCC) were used as WCM metrics. The study was based on micro-data for Polish dairy companies from 2008-2017, retrieved from the Emerging Markets

Information Service (EMIS) database. Based on panel regression models, it was demonstrated that extending the DSI and CCC had an adverse effect on ROA, whereas extending the DSO and DPO had a beneficial impact on ROA in dairy companies. Such relationships were mostly characteristic of SMEs which form the largest group of businesses in Poland.

Fernández? López, Rodeiro? Pazos& Rey?Ares, (2020) conducted research and examined that Working capital management (WCM) is a key question for firms' profitability, especially for small and medium enterprises faced with severe financial restrictions and whose current assets account for significant part of their investments. These features describe most firms in the livestock industry. However, studies on WCM related to these firms are scarce. Using a sample of 444 Spanish cheese-manufacturing companies during the period 2010-2016 and applying a dynamic panel data methodology, this paper analyzes the extent to which the main components defining the WCM policies-days sales outstanding, days inventory outstanding (DIO), days payable outstanding (DPO), and cash conversion cycle (CCC)-affect firms' profitability. Empirical evidence reveals a negative effect of DIO and the CCC on firms' profitability, suggesting the need to reduce the level of inventory of cheese-manufacturing companies. Similarly, the empirical evidence confirms a negative relationship between DPO and firms' profitability.

Fejzullahu, & Govori, (2020) demonstrated that the profitability of the manufacturing companies in Kosovo is impacted by the management practices in the working capital. We use multiple regression analyses to estimate the effect of working capital indicators on profit. The Pearson correlation is used to calculate whether the variables are positively or negatively correlated and to what extent. The sample includes thirty-six manufacturing companies for the period 2012-2013. The data show that the increase in the cash conversion cycle (CCC) and extension in the receivables term positively influenced operating profit and net return on assets. On the contrary, the increase in payables days had a negative effect on the operating profit and the net return on assets. The rise in inventory days led to increased profit. Therefore, the companies' competitiveness is maintained by extending trade credit terms to their customers and keeping the cash engaged longer in operating activities.

Chalmers, Sensini, & Shan, (2020) analyzed the relationship between working capital and company performance, deepening this relationship for each of the elements that make up working capital. The SMEs analyzed are those present in the IPO (Initial Public Offers) index of the Bombay Stock Exchange (BSE) for six years,

from 2012 to 2017 included. Two criteria were used to select companies to be analyzed. Firstly, the companies had to have all the information needed for this study during the reporting period. Secondly, the companies were not part of a group. Based on these criteria, 42 SMEs were analyzed. The analysis highlighted a negative and significant relationship between net working capital (NWC), accounts receivables (AR), and profitability. Conversely, accounts payable (AP) and inventory (INV) are positively related to profitability. The robustness checks confirmed the validity of our outcomes. The results of this study enrich the existing literature, providing further empirical evidence related to the specific context analyzed. In addition, the results can be helpful for Indian SME owners and managers to guide financial decisions on working capital management.

Evcı and ?ak, (2018) Examined that the Findings show the existence of tradeoff working capital management profitability. A negative relationship exists between return on assets and payables deferral period, cash conversion cycle, the ratio of short-term financial debts to short-term debts, and the ratio of fixed assets to total assets while return on assets is positively related to inventory conversion period and sales growth. This study aims to reveal the tradeoff between working capital components and a firm's profitability by using the data of the firms listed on the Borsa Istanbul Industry Index in Turkey. Annual data of 41 firms are used for 2005-2016 in the study. The working capital components and the firm's profitability tradeoff were examined via the fixed effects panel regression model. The dependent variable is defined as return on assets; independent variables are cash conversion cycle, inventory conversion period, and payables deferral period; and control variables are sales growth, the ratio of short-term financial debts to short-term debts, and the ratio of fixed assets to total assets.

Sathyamoorthi (2018) The results showed that only three variables out of the seven independent variables were statistically significant, namely Average Payment Period, Current Ratio, and Quick Ratio. The remaining four variables were found to be statistically insignificant. The above findings have implications for the management of the listed retail store in Botswana. This study focused on the effect of working capital management on the profitability of the listed retail stores in the Botswana Stock Exchange for the period 2012-2016. The financial statements of the listed Retail Stores were used as the main source of data. Return on Assets was used as the dependent variable to measure profitability and the components to measure working capital management comprised of Average Collection Period, Inventory Conversion Period, Average Payment Period, Cash Conversion Cycle, Debt, Current and Quick Ratios. Correlation analysis revealed that a few

variables were significantly correlated with each other. Average Payment Period and Inventory Conversion Period were found to be positively and significantly correlated and the Cash Conversion Cycle was significantly and positively correlated with the Inventory Conversion Period.

Naskar and Guha (2017) Examined that all components of working capital namely Receivable days (RD), Payable days (PD), Inventory holding periods (ID), Current ratio (CR) and Quick ratio (QR) have a strong impact on profitability. The cash conversion cycle (CCC) is negatively related to profitability, Firm size is also linked with working capital. If the firm's size increases, the need for working capital will be greater. It has been found that the firm size also has a significant impact on EBIT but an insignificant impact on ROA and ROE. Finally, the study has established a relation between working capital management and a firm's profitability. This study sought to examine the effect of working capital management on the profitability of select companies listed in BSE. The study used a sample of 53 companies. The study used secondary data for 5 years from 2011 - 2015. The data have been analyzed using the Pearson correlation and the multivariate regression analysis.

Marobhe (2014) has assessed the relationship between working capital management and profitability of twelve manufacturing companies listed in the East African Stock Exchange during the period, 2005-2012. This study used ROA and Operating Margin as dependent variables whereas Current ratio, Quick ratio, Cash Cover Ratio, Inventory holding period, Receivables Collection Period, Payable Deferred Period, and Cash Conversion Cycle are used as independent variables, while Sale growth, Debt ratio, and Company size are used as control variables. It was observed that there exists a notable relationship between cash conversion components and profitability using Pearson correlation and multiple regressions.

Almazari (2013) has examined the relationship between Working Capital Management (WCM) and firm profitability in 13 Saudi cement manufacturing companies from 2008-2012, a period of 5 years. He proposed a model that addressed four hypotheses namely; H1: Liquidity position has a significant impact on profitability, H2: Size has a notable impact on profitability, H3: There is a significant relationship between debt financing and profitability, and H4: Working capital management has a noteworthy impact on profitability. The study results proved that the current ratio affects profitability, and as the size of a firm increases, profitability also increases. Moreover, when debt financing increased, profitability declined. He analyzed that, the linear regression test confirmed a higher degree of association exists between working capital management and profitability.

Mohamad and Saad (2010) analyzed the effect of working capital management on the profitability of 172 firms over a five-year period (2003-2007) listed on Bursa Malaysia. They found a negative relationship between working capital management components (cash conversion cycle, current liabilities to total asset ratio, current assets to current liability ratio, profitability captured by return on equity (ROE), and return on total asset (ROA)). On the other hand, they also concluded that there is a significant positive relationship between the current assets to total assets ratio and firms' profit.

2.1 Conceptual Framework

Below (Figure 1) is a schematic conceptual framework of the relationship between working capital management measures and the profitability of Bottlers Nepal (Terai):

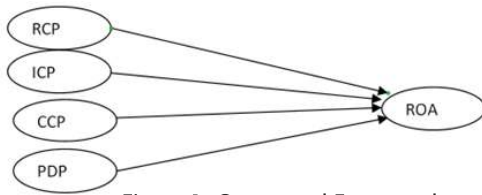


Figure 1: Conceptual Framework

3. Research Methodology

In the study, secondary data were employed. The information was gathered from one (1) listed Nepali multinational manufacturing company. One has been used as a sample size out of the three mentioned multinational manufacturing companies in Nepal. The data gathered from one company was examined using descriptive and causal research techniques. Statistical Package for Service Solution (SPSS) version 21.0 analyzes the data gathered. The influence of independent variables on the dependent variable was investigated and compared using descriptive, correlational, regression analysis, and t-test methods.

4. Data Presentation and Analysis

This study analyzed the working capital management and its impact on the Profitability of Bottlers Nepal (Terai) between the years 2014 to 2023. In the study variables included are Return on Assets (ROA), Inventory conversion period (ICP), Receivable conversion period (RCP), Cash conversion period (CCP), and Payable deferred ratio (PDR). This study analyzes the variables involved and presented in Table 1:

Explained Variables	Description
ROA	Return on Assets
Explanatory Variables	Description
ICP	Inventory conversion period
RCP	Receivable conversion period
CCP	Cash Conversion period
PDP	Payable deferred period

Table 1: Explained and Explanatory Variables

4.1 Data Analysis

The collected data has been analyzed by descriptive statistics and inferential statistics. Firstly, data are analyzed by descriptive statistics. Mean and standard deviation are used in the descriptive statistics.

Descriptive Statistics and Correlation Statistics

The descriptive and correlative statistics of the explanatory

and explained variables in this study are presented in Table 2. It is based on a panel dataset organized from mine Bottlers Nepal Limited (Terai) in the Nepalese financial market during the period from 2014 to 2023. Looking at them the statistics indicators of the impact of working capital management on the profitability of Bottlers Nepal Limited (Terai).

Variables	Mean	S.D.	RCP	ICP	PDP	CCP	ROA
RCP	16.64	12.16	1				
ICP	98.24	12.99	-.519	1			
PDP	84.70	43.85	.213	.658*	1		
CCP	30.18	46.64	-.236	-.541	-.972**	1	
ROA	4.48	2.37	-.719*	-.043*	-.481*	.685*	1

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

Table 2: Descriptive Statistics and Correlation

This shows that positive Cash Conversion Cycle and Inventory Conversion Period will lead to an increase in profitability and vice versa. It can be observed that Return on Equity is negatively correlated with Receivable Conversion Period and Payable Deferral Period. It indicates that any increase in any of these factors will reduce the profitability of the company. It shows that the payment period has a negative significant relationship with profitability, which means if companies delay their payments they will earn less profit. The reason behind this is that firms can take advantage of discounts by paying soon. We can also see that the Cash Conversion Cycle and Inventory Conversion Period are positively correlated with Return on Equity. This shows that a positive Cash Conversion Cycle and Inventory Conversion Period will

lead to an increase in profitability and vice versa.

The above table describes about correlation matrix between variables under investigation. There is a significant negative relationship between ROA and RCP ($r = -0.701, p < 0.05$)

There is a significant positive relationship between ROA and ICP ($r = 0.181, p < 0.05$)

There is a significant negative relationship between ROA and PDP ($r = -0.576, p < 0.05$)

There is a significant positive relationship between ROA and CCP ($r = 0.691, p < 0.05$)

Regression Analysis with ROA Coefficients

Model	Unstandardized coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error				Beta	Tolerance
(Constant)	1.033	.410		2.523	.045		
RCP	-0.10	.004	-.729	-2.43	.041	.354	2.824
ICP	-.002	.003	-.203	-.586	.579	.265	3.768
PDP	.027	.005	.367	3.678	.023	.124	8.070
CCP	.002	.002	.403	1.323	.334	.343	2.916

Dependent variable: ROA

Table 3

Thus, the analysis predicts the average ROA with about 90% explanatory power by the following model:

$$ROA = 1.033 + -0.10RCP + -0.02ICP + 0.027PDP + 0.002CCP + \epsilon$$

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.899 ^a	.809	.713	.145

Predictors: (Constant), RCP, ICP, PDP, CCP

Table 4

The R-square is a measure of the goodness of fit of the working capital management variables in explaining the variations in the profitability of Bottlers Nepal Ltd (Terai). The regression analysis of ROA on working capital management has been separately analyzed above. It includes the major results extracted from the analysis of data to determine the impact of working capital management on the profitability of Bottlers Nepal Ltd. during the period starting from 2014 to 2023.

The results of the analysis are based on a significance level (α) of 0.05, a degree of freedom (df) of 4, and a two-tail test. The impact of all four independent variables is tested together on the dependent variable (ROA). From the model summary, (Table 4) the value of R-square = 0.809. It indicates that the four independent variables can explain approximately 80.90% of the changes in the dependent variable. However, 19.10% of changes are still left to be explained by these independent variables taken into

consideration in this study.

Similarly, the Table 3 shows the coefficients, standard errors, standardized coefficients (betas), t-values, and p-values for the independent variables (CCP, ICP, RCP, and PDP) in relation to the dependent variable (ROA). The Receivable Conversion Period (RCP) has a negative impact on profitability. For each unit increase in RCP, the Return on Assets (ROA) decreases by 0.010. The negative standardized coefficient indicates that RCP is negatively associated with profitability. The p-value (0.041) suggests that the relationship is statistically significant at 5% level of significance.

The Inventory Conversion Period (ICP) has a negative impact on profitability. For each unit increase in ICP, the Return on Assets (ROA) decreases by 0.002. The negative standardized coefficient indicates that ICP is negatively associated with profitability. However, the p-value (0.579) suggests that the relationship is not

statistically significant at a 5% level of significance.

The Payable Deferral Period (PDP) has a positive impact on profitability. For each unit increase in PDP, the Return on Assets (ROA) increases by 0.027. The positive standardized coefficient indicates that PDP is positively associated with profitability. Here, the p-value (0.023) suggests that the relationship is statistically significant at a 5% level of significance.

The Cash Conversion Period (CCP) has a positive impact on profitability. For each unit increase in CCP, the Return on Assets (ROA) increases by 0.002. The positive standardized coefficient indicates that CCP is positively associated with profitability. However, the p-value (0.334) suggests that the relationship is not statistically significant at a 5% level of significance.

5. Conclusion

From the above study, we can draw the following conclusion that there exists a highly negative and significant relationship between the receivable conversion period and profitability. It means any increase in the receivable conversion period will lead to a decrease in profitability while there is a significantly low negative relationship between ROA and ICP. However, there is a positive and significant relationship between ROE and ICP. It signifies that the inventory conversion period directly influences the return on equity whereas any increase in the inventory conversion period will lead to a decrease in profitability. The relationship between the payable deferral period and profitability is moderately negative and significant. It indicates that the shorter the payable deferral period, the greater will be the profitability. Also, there exists a moderate positive and significant relationship between the cash conversion cycle and profitability. It means that the shorter the cash conversion cycle, the greater the profitability.

There is a negative beta coefficient between the Receivable Conversion Period and Profitability, indicating that any increase in RCP will decrease profitability. Similarly, the beta coefficient between the Inventory Conversion Period and Return on Assets is also negative, indicating that any increase in ICP will reduce ROA. However, there is a positive beta coefficient between Inventory Conversion Period and Return on Assets which indicates that their ICP directly influences ROE.

The beta coefficient of the Cash Conversion Cycle and Profitability is positively related. It signifies that the shorter the cash conversion cycle, the greater the profitability will be. There also exists a positive beta coefficient between the Payable Deferral Period and Profitability which indicates that firms can enjoy cash discounts by making timely payments and hence enhance profitability or can extend

payment by enlarging credit days in turn.

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