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DETERMINANTS OF WORKING CAPITAL MANAGEMENT: EVIDENCE FROM FOOD & BEVERAGES COMPANIES – NESTLE INDIA

Dr. Ashish B Joshi
Associate Professor, School of Liberal Studies,
Pandit Deendayal Petroleum University, Raisan, Gandhinagar, Gujarat, India.
Email: ashish.joshi@rediffmail.com

Dr. Ashvin Dave
Professor and Head, Department of Business Administration and Commerce,
School of Liberal Studies,
Pandit Deendayal Petroleum University, Raisan, Gandhinagar, Gujarat, India.
ashvin.dave@sls.pdpu.ac.in

Dr. Tejas Dave
Associate Professor, School of Liberal Studies,
Pandit Deendayal Petroleum University, Raisan, Gandhinagar, Gujarat, India.
tejas.dave@sls.pdpu.ac.in

Ms. Suman Ramapati
Research Scholar, School of Liberal Studies,
Pandit Deendayal Petroleum University, Raisan, Gandhinagar. Gujarat, India.
Email: suman.rphd18@sls.pdpu.ac.in

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ABSTRACT

The aim of present study examines the determinants of working capital management and its impact on firms' net worth of food and beverage company (Nestle India) for ten years. The study based on secondary source and data has been obtained from Capitaline Database for the period from financial year 2009-2010 to 2018-2019. The data has been considered in this study is authenticated and available on the Capitaline Database website. The determinants of working capital evaluated on return on net worth by computing Karl Pearson's Correlation Coefficient, Correlation Analysis and Multiple Regression Analysis. The result of correlation analysis

found negative impact of inventory turnover ratio (ITR), debtors' turnover ratio (DTR) and positive impact of interest coverage ratio (ICR), debt equity ratio (DER), fixed asset turnover (FATR) and current ratio (CR) on return on net worth (RONW). While, the result of multiple regression analysis revealed negative impact of only CR and positive impact of inventory turnover ratio (ITR), debtors' turnover ratio (DTR), interest coverage ratio (ICR), debt equity ratio (DER), fixed asset turnover (FATR) on return on net worth (RONW).

INTRODUCTION

Working capital management is the lifeblood for most of the organization and it needs to manage in a comprehensive, real-time and proactive manner. All finance departments requires to maintain sufficient working capital for their business operations while maintaining agility to support the strategic goal and growth objectives of their business (Dave Fellers, 2019). Working capital management is a key parameter for business policy making and it impacts various factors of business as well as also effect to profitability and liquidity. WCM works as a central business process and paly significant role in financial decision making of the firm and also effect to financial performance (Iman Soukhakian and Mehdi Khodakarami, 2019).

Food and beverages industry is one of the better investment area where investors tend to choose alternatively. It is the reputed sector and investors tend to demand for the largest investments. Food and beverages industry also had big impact for the economy development because of the increasing share price in the Indonesia Stock Exchange (Muhammad Ishlah Idrus, 2017). [7] The sector highly need based called food and beverages companies for the society because some needs and wants like food and drink cannot be produced every day increasing people growth rate due to more increasing their need for food & beverages. The profitability rate has been increased of the food and beverages sector through proper management and effective decision (Kostini, N., & Marliasari, F., 2017). [6] According to *Working Capital Report, 2019* the food and beverages industry play an important role in working capital investment at higher levels than others. The F&B companies are also typically required to manage a range of logistical functions including manufacturing, packaging and distribution. McGrathNicol Advisory Partner Jason Ireland pointed F&B was one of four sectors along with agriculture, healthcare services and retail-that experienced a deterioration in net working capital metrics. Working capital helpful in financing for day-to-day operations of a business. It is also connected and linked with the firms' business model and supply chain. There are two important business models linked with the companies like; retail (selling to consumers) and B2B (business to business). It is also linked with liquidity/cash flow and need sufficient cash reserves to tide through the start-up period (Stanley Tan, 2015).

COMPANY PROFILE – NESTLE INDIA

Nestle S.A. is the largest food and beverage company in the world. With a manufacturing facility or office in nearly every country of the world, nestle often is referred to as "the most multinational of the multinationals". Nestle

India Ltd. operates as a food company engaging in the production of numerous types of foods products such as Milk, beverages, chocolate, confectionery and condiments. It incorporated in 1956, the company started when it set up a production facility in Punjab during the year 1961. Nestlé's brands include Nescafe, Kit Kat, Alpino, POLO, A+ Milk, Maggi, Noodles, Bar One and Munch. The company's registered office is located in the state of Gurgaon.

LITERATURE REVIEW

Nurein, S. A., Din, M. S., & Mohd Rus, R. (2015), conducted their study with the aim to check the relationship between investment in working capital management and financial performance of food & beverages industry. Based on Bursa, Malaysia listed food and beverages firms the study consisted a sample of 73 companies for the period 2009-2013. To measure firms' financial performance, it applied Tobin's Q while cash conversion cycle (CCC), square of cash conversion cycle (CCC^2), inventory period cycle (IPC), accounts receivable cycle (ARC), accounts payable cycle (APC) used as working capital management. On the other hand, firm size (SIZE), leverage (LEVERAGE), growth opportunity (GROWTH) used as control variable and return on assets (ROA) as a dependent variable. The data has been collected from the Data Stream and checked the relationship by using correlation matrix and regression analysis. The study provided U-shaped relationship between working capital management and financial performance as well as investment level that helps in managing the firms' costs and maximize firms' profitability. It recommended for managers to improve the efficient level of working capital management because it effects to overall firm performance. [1]

Zafar, S., Nazam, M., Hanif, A., Almas, I., & Sana, N. (2016), studied with the purpose to investigate the relationship between working capital management and firms' profitability in the food sector of Pakistan firms. Researchers explained WCM play an important role because it affects the financial performance and management decisions. Based on secondary sources, the data has been obtained from the financial balance sheet of the State Bank of Pakistan (SBP) and publication of Karachi Stock Exchange (KSE). The study adopted independent variables; current assets to total assets ratio (CATA), debt to equity ratio (DER), current ratio (CR) and capital size of firm (CSF) return on assets (ROA) used as dependent variable. The study considered 5 major food companies in Pakistan for the period of 2012-2016 and applied correlation and regression analysis to evaluate the relationship between two. The study found strong positive significant relationship between the WCM and firms' profitability of Pakistan's food sector.[2]

Samuel, O. T., & Abdulateef, Y. (2016), conducted study in Nigeria with the aim to examine the relationship between liquidity and profitability management of food and beverages firms. Out of 20 firms 10 firms considered for the study purpose from period 2004-2013. The independent variables

included as cash conversion cycle (CCC), leverage, and growth checked on return on assets (ROA) and return on equity (ROE). The required information has been gathered from the annual reports and accounts of selected firms and

applied descriptive statistics and generalized least square multiple regression techniques. The study found negative impact of CCC on ROA and ROE and recommended for companies to maximize the shareholders' value by shortening the period of CCC. [3]

Duru, A. N., Okpe, I. I., & Ugwu, J. (2017), focused on food and beverages companies with the aim to observe the impact of capital structure and its financial performance of the selected companies. The paper was designed with the specific objectives i.e. to determine the impact of total debt on return on assets and to check whether short-term debt has positive impact on the return on assets or not of selected food and beverages companies in Nigeria. The researcher believed that the every economy of each country should focus on the manufacturing sector. Also pointed that most of the Nigerian companies collected external funds in the forms of debt as a part of capital structure in respect to expand their business as well as taken benefits of tax deductibility especially for interest payment. The study considered three food and beverages company such as Cadbury, Nestle and Unilever Nigeria Plc. respectively. Based on secondary data, it has been collected from the annual reports of the determined companies and data indicates in quantitative nature. To represent the data descriptive, inferential analysis and regression analysis applied. The independent variables were total debt ratio, shot-term debt ratio, long-term debt ratio, debt to equity and dependent variable was return on assets. The study found positive and significant impact of short-term and long-term debt on the performance of selected F & B firms. [4]

Kumar, M. N. (2017), explained working capital require in any business whether is private or public company. The main objective of this study was to examine the impact of working capital management on the firms' profitability. The study focused on automobile, construction, electronics, FMCG, pharmaceutical, steel industries for the period of 1985-2015. The data has been obtained from Moneycontrol.com and Capitaline Database and applied regression model to interpret the data. To evaluate the relationship with the profitability parameters, study used net profit and return on net worth (NP & RONW) as a dependent variable while average collection period (ACP), average payment period (APP), debtors turnover ratio (DTR), inventory turnover period (ITP), current ratio (CR), current assets to fixed assets (CAFA), fixed assets to total assets (FATA) and working capital taken into consideration as an independent variables. The study existed positive as well as negative relationship between working capital determinants and firms' profitability. It also observed that the net profit is the better indicator of profitability as compare to return on net worth in major of the industries. [5]

Onyema, J. I., & Oji, J. U. (2018), examined with the aim to study the relationship between financial leverage and profitability of quoted food and beverage companies in Nigeria. The study observed from 1990-2016 a period of 26 years but considered only 10 firms for the study purpose by using random sampling technique. The study sourced time series data from the selected food and beverages companies and applied Augmented Dickey Fuller Test, Co-integration Test, Granger Causality Test, Vector Error Correction Models. The independent variables were used as debt equity ratio (DER), debt equity (DE), equity ratio (ER), total liability ratio (TLR) and long-term debt ratio (LTDR) while return on assets (ROA) and return on

equity (ROE) used as a dependent variables to check the relationship between them. The study revealed negative relationship of TLR on ROA and ROE whereas positive impact of DER, DE, ER and LTDR on ROA and ROE. It suggested to adopt debt financing mix of debt ratio, equity ratio, and total liability ratio. [8]

Reddy, C. S., Prabhavathi, y., Devi, I. B., & Reddy, B. R. (2019), explained that food processing firms observe as a sunrise industry in the world due to its large potential for growth and socio economic impact. The industry play an important role in India's development and focuses on two pillars of our economy; industry and agriculture. The companies like Britannia industries Ltd., Nestle India Ltd., Glaxo SmithKline Consumer Healthcare Ltd. were selected for the period from 2013-2017. The data has been obtained from the published financial statements and annual reports of the selected companies. Therefore, study examined different financial ratios of the food and beverages companies. The study suggested that the stipulated companies need to improve their liquidity position and tried to high the turnover ratios. [9]

Tabular view of the literatures reviewed

Sr. No.	Researchers	Company/firm	Time period	Impact of working capital on profitability
1.	Nurein, S. A., Din, M. S., & Mohd Rus, R. (2015).	Malaysia food & beverages firms	2009-2013	U-shaped relationship
2.	Zafar, S., Nazam, M., Hanif, A., Almas, I., & Sana, N. (2016).	Pakistan food sector	2012-2016	Strong positive significant
3.	Samuel, O. T., & Abdulateef, Y. (2016).	Nigerian Food & Beverages firms	2004-2013	Negative impact of CCC on ROA and ROE
4.	Duru, A. N., Okpe, I. I., & Ugwu, J. (2017),	Nigerian manufacturing firms	2007-2016	Positive and significant impact
5.	Kumar, M. N. (2017).	6 industries (automobile, construction, electronics, FMCG, pharmaceutical, steel industries)	1985-2015	Both relationship (positive as well as negative)
6.	Onyema, J. I., & Oji, J. U. (2018).	Nigerian food & beverages firms	1990-2016 (considered only 10 firms)	Positive and negative relationship
7.	Reddy, C. S., Prabhavathi, y., Devi, I. B., & Reddy, B. R. (2019),	Indian food processing firms	2013-2107	Suggested to improve financial positions of the 3 companies

METHODOLOGY

The present study analyzed the financial data of food & beverages company (Nestle India) based on NSE. The necessary data has been obtained from secondary sources; annual reports of the Nestle India from the *Capitaline Database* for the period of 2010-2019. The market capitalization of Nestle India as on December, 2019 was stood at $ 317,634.84 million. The

dependent variable was return on net worth (RONW) as a measure of profitability while study used six independent variables. These variables include:

Predicted Variables	Symbols
Dependent variable:	
1) Return on net worth = Net income/ Shareholders' equity	RONW
Independent variables:	
1) Inventory turnover ratio = Cost of goods sold/ Average inventory	ITR
2) Debtors' turnover ratio = Net credit annual sales/ Avg. trade debtors	DTR
3) Interest coverage ratio = EBIT/ Interest expenses	ICR
4) Debt equity ratio = Total liabilities/ Total equity	DER
5) Fixed assets turnover ratio = Net sales/ Fixed asset – (accumulated Depreciation)	FATR
6) Current ratio = Current assets/ current liabilities	CR

Hypothesis:
H0: There is no relationship between working capital management and profitability of Marico Ltd F & B Company.
H1: There is a positive relationship between working capital management and profitability of Marico Ltd F & B Company.

RESULTS AND DISCUSSION

Statistical tools considered for both type of analysis like descriptive and quantitative nature. In the study, descriptive portion analyze the mean value of each set of predicted variables and its standard deviation. On the other hand, correlation analysis used to determine the relationship between working capital management and profitability. While multiple regression analysis applied for more and better understanding about the relationship between two and tried to explore the combined effect of the variables of WCM on firms' profitability.

Table – 1 Descriptive Statistics:

YEAR	Dependent Variable	Independent Variables					
	RONW	ITR	DTR	ICR	DER	FATR	CR
Dec '10	95.7	12.33	98.22	1075.28	0.00	3.49	0.62
Dec '11	75.47	10.49	84.1	272.61	0.76	3.01	0.55
Dec '12	59.38	11.55	82.12	59.37	0.58	1.91	0.54
Dec '13	47.16	12.8	105.92	46.58	0.5	1.88	0.65
Dec '14	41.75	12.06	107.49	125.2	0.01	1.99	0.53
Dec '15	19.38	10.33	92.11	400.53	0.01	1.62	0.5
Dec '16	30.74	10.13	104.61	429.4	0.01	1.77	0.57
Dec '17	35.81	11.29	107.11	21.01	0.01	2.98	0.68
Dec '18	43.74	11.7	105.75	22.7	0.01	3.24	0.67
Dec '19	101.77	9.64	99.38	23.3	0.03	5.22	0.58
Avg. / Mean	55.09	11.232	98.681	247.598	0.192	2.711	0.589

Median	45.45	11.42	101.995	92.285	0.01	2.485	0.575
S.D	26.2135	0.9893	9.0384	313.874	0.282	1.061	0.059
Correlation Coefficient (r)		-0.055	-0.287	0.280	0.194	0.784	0.070

Source: Capitaline Database

$$RONW = \beta0 + \beta1\ (ITR) + \beta2\ (DTR) + \beta3\ (ICR) + \beta4\ (DER) + \beta5\ (FATR) + \beta6\ (CR) + \varepsilon$$

Where,

RONW = Return on net worth
ITR = Inventory turnover ratio
DTR = Debtors' turnover ratio
ICR = Interest coverage ratio
DER = Debt equity ratio
FATR = Fixed assets turnover ratio
CR = Current ratio
ε = the error term

Table -1 shows the relationship between working capital indicators which is called independent variables and dependent variable (RONW). By computing Karl Pearson's Correlation Coefficient between return on net worth and selected ratios related working capital management checked the correlation between them and also calculated mean, median and standard deviation. The above table provides the predicted relationship of RONW with the all selected independent variables of working capital management.

Table – 2 Correlation Matrix between RONW and independent variables

	RONW	*ITR*	*DTR*	*ICR*	*DER*	*FATR*	*CR*
RONW	1						
ITR	-0.05533	1					
DTR	-0.28772	0.288199	1				
ICR	0.28081	0.101202	-0.132041	1			
DER	0.19424	0.125434	-0.658883	-0.22551	1		
FATR	0.78442	-0.307668	0.057631	-0.00669	-0.199256	1	
CR	0.07090	0.430375	0.576093	-0.13417	-0.165670	0.322364	1

Source: Researchers' Computation

In the above table – 2, correlation coefficient examined between return on net worth (RONW) and independent variables; ITR, DTR, ICR, DER, FATR and CR. From the above table, the study shows that two (ITR, DTR) out of six independent variables have negative relationship with the return on net worth. Therefore, the higher FATR ratio shows lower return on net worth and vice versa. As per the above table, we can say that FATR (0.78) has high degree of positive relationship with the RONW. And company should avoid the debt equity to increase the profitability of food and Beverages Company.

Table – 3 Regression Analysis:

Regression Model: $RONW = \beta0 + \beta1\ (ITR) + \beta2\ (DTR) + \beta3\ (ICR) + \beta4\ (DER) + \beta5\ (FATR) + \beta6\ (CR) + \varepsilon$
SUMMARY OUTPUT OF REGRESSION ANALYSIS

Regression Statistics		*Variables*	*Coefficients*	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Multiple R	0.97691	Intercept	-63.4486	59.0905	-1.0737	0.36161	-251.5012	124.6038
R Square	0.95436	ITR	8.0897	4.6691	1.7325	0.18159	-6.7696	22.9491
Adjusted R Square	0.86309	DTR	0.3250	0.7474	0.4348	0.69303	-2.0537	2.7038
Standard Error	10.22376	ICR	0.0274	0.0125	2.1916	0.11607	-0.0124	0.0672
Observations	10	DER	42.7685	21.0170	2.0349	0.13470	-24.1170	109.6541
		FATR	26.6551	3.9455	6.7557	0.00662	14.0986	39.2115
		CR	-155.6323	88.3035	-1.7624	0.17619	-436.6535	125.3888

ANOVA Analysis

	df	*SS*	*MS*	*F*	*Significance F*
Regression	6	6557.87501	1092.979168	10.45659623	0.04035254
Residual	3	313.575989	104.5253297		
Total	9	6871.451			

Source: Researchers' Computation

Table – 3 analyzed multiple regression model in order to study the effects of combined independent variables which is relating to working capital management on return on net worth (RONW) and tested regression coefficient with the help of popular method 't- test'. By using regression model two things were measured; correlation and determination coefficient. The analysis shows that, correlation coefficient (97.69%) and determination of coefficient (95.43%) lies the degree of correlation between working capital management and net worth of the food and beverages company. While standard error value is 10.22 and F- statistics value is 10.45 which is significant at 5% level and also it indicates 100% fitness of the model. The above table indicates positive relationship of ITR, DTR, ICR, DER and FATR on RONW and only CR has negative relationship with the profitability of the F & B Company.

MANAGERIAL IMPLICATIONS

The present study focused on both types of analysis: descriptive statistics and correlation analysis. Descriptive analysis explained by computing mean, median and standard deviation whereas, correlation includes Karl Pearson's correlation matrix and regression analysis to determine the relationship between working capital management and firms' profitability of food and beverage company (Nestle India). The study found that negative impact of ITR, DTR and positive impact of ICR, DER, FATR and CR on return on net worth (RONW). While, the result of multiple regression analysis revealed negative impact of only CR and positive impact of ITR, DTR, ICR, DER, FATR on return on net worth (RONW). The study suggested that the company manager needs to more focus towards financing costs of the company like; interests and other charges which involves in the borrowing of money to build or purchase assets by minimizing the amount of investment.

CONCLUSION

The study aimed to explore the determinants of working capital and its impact on profitability of selected Food and Beverage Company. Based on quantitative nature, the study examined descriptive statistics (mean, median, and standard deviation), correlation coefficient and multiple regression analysis. The result of correlation explained that ICR, DER, FATR, CR variables found positive impact and ITR, DTR has negative impact on RONW of selected food and beverage company. The result of multiple regression analysis revealed only CR has negative impact and other variables like ITR, DTR, ICR, DER and FATR found positive impact on RONW. The study concluded that the company may focus towards financing costs by minimizing the amount of investments with the correlation of current assets.

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