

QUANTOLOGICAL APPROACH TO WORKING CAPITAL MANAGEMENT LINKED WITH PROFITABILITY: EVIDENCES FROM COSMETICS COMPANIES OF INDIA

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Abstract: Working capital is defined as the sum of money required to meet enterprise's running expenses. The article investigates the quantological approach of working capital management on profitability of Indian companies in the area of cosmetics listed on NSE for 10 years from 2012 to 2021. The independent variable taken for the research are inventory ratio, Debtors ratio, interest coverage ratio, debt equity ratio, Fixed assets turnover ratio and current ratio while profitability is a dependent variable. The study finds that DER and CR is a very important variable from view point of the sustainable profitability of the company and should be given more importance by managers of the company.

Keywords : Quantology, Working Capital , Profitability, India

Introduction

Businesses of all sizes operating in developed and developing countries need to manage their working capital, but those in emerging markets require it even more. Most companies in emerging markets are small, which limits their access to long-term capital markets. These enterprises often rely more heavily on owner financing, trade credit, and short-term bank loans to finance their needed investment in cash, accounts receivable, and inventory. Given the significant investment in working capital and how, in the majority of

organisations, working capital policy influences business risk, decisions concerning working capital management policy and practises may have a significant impact on profitability and market performance. In the modern day highly complex business environment quantological approach to working capital management is necessary for optimal utilisation of companies resources. In this paper, we argue that since management performance may be influenced by market value, good working capital management ought to raise shareholder market value. We look into how working capital management techniques affect financial statements and market performance for companies in emerging regions. We will attempt to make a relationship between accounting, market performance, and CCC management as the cash conversion cycle best reflects working capital management.

The portion of a company's capital that is needed to fund short-term or current assets, such as cash, marketable securities, debtors, and inventories, is known as working capital. As a result, money invested in capital assets is constantly being turned into new money and then flowing out again in exchange for other current assets. It is seen as circulating, revolving, or short-term capital as a result.

Working capital is defined as the sum of money required to meet an enterprise's running expenses. (Gupta, 2008). Circulating capital is defined as current assets of a corporation that are converted from one form to another in the normal course of business, such as from cash to inventories, inventory to receivables, and receivables to cash. (2008) Sharma.

INDIAN COSMETICS INDUSTRY

The cosmetics sector in India underwent a considerable development as a result of shifting lifestyles and rising awareness. In terms of producing the most money from the beauty and personal care business in 2021, India is ranked fourth globally. A small number of multinational corporations like Unilever, Procter & Gamble, and L'Oréal dominate the global cosmetics sector. Despite their enormous success in India, homegrown competitors now compete on an equal basis with newer, organic businesses. However, local businesses like MamaEarth, Khadi Essentials Plum, and SoulTree were given the chance to market their home-made cosmetics and personal care products as the foreign brands were unable to meet the demand for items suitable for Indian skintones.

In 2020, the Asia Pacific area held a 43 percent share of the global cosmetics market, making it the largest cosmetics market in the world. Since 2015, when the area accounted for 36.2% of the global cosmetics market, Asia Pacific's market share has continuously climbed.

The Asia Pacific area, well known for its diverse cosmetics business, includes some of the most well-known cosmetics markets in the world. In 2018, the multibillion-yuan Chinese cosmetics sector ranked as the world's second-largest consumer of cosmetics. With South Korean beauty goods, often known as K-beauty, becoming increasingly well-known worldwide, South Korea joins China as one of the leading cosmetics industries in the area.

The largest beauty brands in the world are found in the Asia Pacific area. Amorepacific, a South Korean business, reported revenue in 2019 that was securely over one trillion South Korean won. Japan is a leader in the Asia Pacific for cosmetics, with Shiseido, a major player in the beauty industry, posting enormous net sales in 2019. Penchoin and Chando are two such brands from the Asia Pacific region that have achieved domestic success but not necessarily global recognition. Nevertheless, these names aid the Asia Pacific area in solidifying its place in the global cosmetics market.

In India, the market for cosmetics was estimated to be worth over eleven billion dollars in 2017. The cosmetics sector's market size experienced year-over-year growth and was anticipated to reach \$20 billion in 2025.

Literature Review

Working capital management (WCM) is a measure of liquidity that may be used to determine whether a business can afford to continue running on a regular basis or not. Higher interest rates, more unpredictable political situations, and undeveloped financial markets are characteristics of emerging economies. These characteristics make working capital management susceptible to the growing liberalisation and globalisation. 2018 (Chauhan and Banerjee). In order to gain a competitive advantage over its rivals, the company would be able to swiftly adjust to market changes, such as interest rate and price volatility, with effective working capital management. (Abuzayed, 2012; Kusuma and Bachtiar, 2018) Andriansyah (2017) asserts that liquidity affects the degree of information. As the stock gets more liquid, the price will be more instructive, making it more useful for investment choices. A strong choice to reflect the whole market, the index covers at least 70% of the IDX stock

market capitalisation and transaction values. Larger market capitalization firms have higher market efficiency. From 2004–2005 to 2008–2009, Lalit K. Joshi and S. Ghosh (2012) examined the working capital performance of Cipla Ltd. Working capital efficiency is calculated using financial ratios, and the behaviour of the chosen ratios is examined using mathematical and econometric techniques. The ratios that are considered include the current ratio, quick ratio, absolute liquidity ratio, inventory turnover ratio, debtor turnover ratio, working capital turnover ratio, and current asset turnover ratio. In addition, during the course of the years under review, the corporation's cash situation significantly improved. Additionally, the fact that both the working capital turnover ratio and the existing asset turnover ratio are very low indicates that little use of working capital was made of it throughout the study period. The business's overall liquid ratio efficiency is inadequate. The debtor's ratio and the inventory turnover ratio both indicate positive results. Hoang (2015) examined the effects of the average collecting period (ACP), average inventory period (AIP), average payment period (APP), and the CCC on the profitability of 98 manufacturing enterprises listed on the Ho Chi Minh City Stock Exchange between 2009 and 2014. Pearson's correlation and fixed effects multiple regression analysis were the techniques used. According to the findings, working capital management may raise shareholder equity by boosting a business' profitability and reducing CCC and Net trade cycle (NTC). Mercy Hawa Mbawuni, Joseph Mbawuni, and Simon Gyasi Nimako (2016) investigated Ghana's five petroleum retail businesses from 2008 to 2013. The analysis, which included the use of multiple level mixed-effects linear regression models and correlation, revealed that return on assets (ROA) had a strong relation with average days payable but a nearly zero correlation with mean cash conversion period, as well as average days of stockpile and average days of accounts receivable. Basman Al Dalayeen (2017) studied the impact of working capital management on the profitability of three Jordanian real estate companies over a 15-year period, from 2000 to 2015. The dependent variable is ROCE, whereas the independent variables are CR, ITR, and DTR. According to the data analysis, only the turnover ratio of debtors in the case of Jordan Decapolis Properties and the current ratio in the case of Al-Tajamouat are positively correlated to the turnover ratio of profitability in the case of Jordan Decapolis Properties, and it is also found that their impact is significant. Furthermore, it has been demonstrated that stock turnover rates are generally low across all industries. In the case of Al-Tajamouat for Touristic Ventures, the current ratio is discovered to be significant with

ROCE, and it is favourably correlated at a low level in the other two companies, but it has an insignificant association with the profitability of the chosen firms. Two of Bangladesh's leading pharmaceutical firms, Square Pharmaceuticals Limited (SPL) and Beximco Pharmaceuticals Limited (BPL), are analysed in the 2017 research by Rejaul Karim, Md. Abdullah Al-Mamun, and Md. Tota Miah. The authors use correlation, t-test, and different profitability, liquidity, and solvency ratios to examine the financial performance of these two companies throughout the ten-year period from 2006 to 2015. The research also demonstrates that, under almost all conditions with different ratios and production cycle conversion times, Square Pharmaceuticals Limited's financial stability and operational efficiency are superior to those of Beximco Pharmaceuticals Limited. In order to establish a relationship between the management of working capital and the profitability of the steel industry in India over a 17-year period, Pinku Paul and ParomaMitra (2018) used panel data regression to examine the impact of working capital influence on the profitability of 35 Indian steel producers by using Return on Total Assets as the dependent variable and Current Ratio, Quick Ratio, Debtors Turnover Ratio, and Finished Goods Ratio as the independent variables. Additionally, there is a significant association between profitability and the day of the debtors, although it is less than the more positive correlation between profitability and the days of inventory. The study's conclusions demonstrate that managing working capital has a substantial impact on the profitability of Indian steel businesses. AhmYeaseen Chowdhury, Mohammad ZahedulAlam, Sabiha Sultana, and Md. Kaysher Hamid (2018) looked at nine pharmaceutical businesses that were listed on the Dhaka Stock Exchange for a 15-year period, from 2001 to 2015. Profitability measures were return on investment, return on equity, and earnings per share. The average processing time, average payoffs, stock turnover period, cash conversion cycle, and investment in marketable securities were the independent variables of working capital management. Regression and correlation analysis using statistical techniques revealed a significant positive relationship between the application and return on investment as well as a significant negative relationship between the application and average collection period, inventory turnover ratio, and cycle of cash conversion. However, the majority of factors (80%) have shown meaningful associations with ROA amongst five independent variables, a more reliable variable than ROE and EPS.

Research Methodology

In the current study, financial information from a cosmetics companies based on NSE was evaluated. The required voluminous quantitative information was gathered from secondary sources, including the annual reports of cosmetic companies from the Capita-line Database for the years 2012 to 2021. Return on Net Worth (RONW) was the dependent variable employed in the study as a metric for profitability. 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 2) Debtors' turnover ratio = Net credit annual sales/ Avg. trade debtors 3) Interest coverage ratio = EBIT/ Interest expenses 4) Debt equity ratio = Total liabilities/ Total equity 5) Fixed assets turnover ratio = Net sales/ Fixed asset – (accumulated Depreciation) 6) Current ratio = Current assets/ current liabilities	IR DR ICR DER FATR CR

Hypothesis:

The following hypothesis have been formed:

- (1) H0: IR has no influence on RONW
Ha: IR has influence on RONW
- (2) H0: DR has no influence on RONW
Ha: DR has influence on RONW
- (3) H0: ICR has no influence on RONW
Ha: ICR has influence on RONW
- (4) H0: DER has no influence on RONW
Ha: DER has influence on RONW
- (5) H0: FATR has no influence on RONW
Ha: FATR has influence on RONW
- (6) H0: CR has no influence on RONW
Ha: CR has influence on RONW

Analysis and Interpretation

- (1) The standardized regression co-efficients of the independent variables with their respective direction, values and significance level are stated in the Table- 1. The regression co-efficient of IR is + 0.137 suggesting out that IR has positive relationship with RONW and its significance level of 0.343 suggests insignificant relationship. Hence the hypothesis H_0 (IR) be accepted and the alternate hypothesis H_a (IR) be rejected. It shows that IR has no influence on RONW.
- (2) The regression co-efficient of DR as given in Table -1 is + 0.266 and has significance level of 0.099. This shows that that DR has positive but not significant relationship with RONW. Hence the hypothesis H_0 (DR) be accepted and the alternate hypothesis H_a (DR) be rejected. It shows that DR does not influence RONW.
- (3) The regression co-efficient of ICR as given in Table -1 is - 0.127 and has significance level of 0.231 . This clearly shows that that ICR has negative but very insignificant relationship with RONW. Hence the hypothesis H_0 (DR) be accepted and the alternate hypothesis H_a (DR) be rejected. It shows that ICR has no influence RONW.
- (4) As given in Table -1the regression co-efficient of DER is - 0.330 and has significance level of less than 0.001 . This clearly shows that that DER has strong negative and very significant relationship with RONW. Hence the hypothesis H_0 (DER) be rejected and the alternate hypothesis H_a (DER) be accepted. It shows that DER has considerable influence on RONW.
- (5) Table -1 further shows the regression co-efficient of FATR at +0.150 with significance level of 0.183. This aptly shows that that FATR has negative but insignificant relationship with RONW. Hence the hypothesis H_0 (FATR) be accepted and the alternate hypothesis H_a (FATR) be rejected. It shows that FATR has no influence on RONW.
- (6) The regression co-efficient of CR as given in Table -1 is – 0.346 and has significance level of 0.002. This shows that that CR has negative as well as very significant relationship with RONW. Hence the hypothesis H_0 (CR) be rejected and the alternate hypothesis H_a (CR) be accepted. It shows that CR considerable on influence RONW.
- (7) The analysis of variance in Table – 2, shows $F = 15.210$ at a significance level of less than 0.001 with $df (6, 73)$. This suggests that possibility of all regression co-efficients being zero is remote.

(8) The VIF (Variance Inflation Factor) values in Table-1 suggest that majority of them are closer to 10 and their average being less than 10 multi collinearity does not pose much problem.

The Multiple Regression Model is brought out as under:

$$\text{RONW} = 36.956 + 0.137 (\text{IR}) + 0.266 (\text{DR}) - 0.127 (\text{ICR}) - 0.330 (\text{DER}) + 0.150 (\text{FATR}) - 0.346 (\text{CR})$$

(9) The adjusted R2 i.e. the co-efficient of determination stands at 0.519 meaning thereby that the equation can explain 51.9 % variations in RONW and for the remaining variations some other variables are responsible.

(10) The descriptive statistics given in Table -4 states mean and standard deviation of respective variables and point out that applicability of regression model is better if mean and standard deviation of other company' data are similar.

Conclusion

In light of this Quantological study and interpretation discussed above, DER and CR significantly affect RONW. RONW is somewhat influenced by DR. However, RONW is unaffected by IR. Thus, this research study implies that DER and CR are crucial factors for the company's profitability and that managers should place a greater emphasis on them. DR alone merits fair consideration. The performance assessment metrics and management control systems can be adjusted accordingly.

Table No: 1

Regression Co-efficients , Significance Level & VIF – Cosmetic Companies

	Standardised Regression Co-efficients (Beta)		t	Significance Level	Collinearity Statistics VIF
	Direction	Value			
Constant	+	36.956	3.254	0.002	
IR	+	0.137	0.954	0.343	3.373

DR	+	0.266	1.671	0.099	4.165
ICR	-	0.127	-1.208	0.231	1.818
DER	-	0.330	-3.593	<0.001	1.388
FATR	+	0.150	1.344	0.183	2.045
CR	-	0.346	-3.782	0.002	1.376

Independent variables= IR, DR, ICR, DER, FATR and CR

Dependent variable= RONW N= 80 Adjusted R square= 0.519

Table - 2

ANNOVA – Cosmetic Companies

Model	Sum of Square	df	Mean square	F	Significance
Regression	39097.586	6	6516.264	15.210	<.001^b
Residual	31274.620	73	428.419		
Total	70372.206	79			

Table – 3

Descriptive Statistics – Cosmetic Companies

Parameters	Mean	Standard Deviation
RONW	36.3441	29.84606
IR	10.5839	4.98152
DR	21.8569	19.42534
ICR	213.2255	560.21640
DER	0.2105	0.29883
FATR	3.9951	2.33724
CR	1.4134	0.83511

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