A CASE STUDY ANALYSING THE IMPACT OF VARIOUS WORKING CAPITAL CYCLE PATTERNS ON FIRM PROFITABILITY

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Abstract

Theoretically, the relationship between working capital cycles and profitability is negative, so if a company has excess liquidity and a lengthy cash conversion cycle (CCC), this may have a negative impact on its profitability. Thus, optimal working capital policy is recommended by previous studies. This study empirically analyses impact of practising the various working capital cycle policies and liquidity levels can have on the profitability of a business. For this, the financial data of Britannia Industries Limited (Britannia) over a 32-year period starting from 1889-90 to 2020-21 found most suitable, so it is categorised into three phases, where phase 1 represents a negative CCC policy (GWCC<TPC= - CCC), phase 2 represents a positive CCC policy (GWCC>TPC= + CCC), and phase 3 represents either zero CCC policy or a combination of both of the above (GWCC=TPC). Moreover, to empirically investigate the financial data of all three phases, descriptive statistics and inferential statistics are applied. The findings confirmed that the working capital cycle policy has a positive impact on Britannia's profitability in Phase 1, where the Current Ratio (CR) is at lowest. Britannia's profitability significantly affects negatively in Phase 3, where the CR is at highest. Moreover, the profitability is significantly unaffected in Phase 2, where CCC is positive, and CR is reported 1.10 on average, which means that the current assets are almost entirely financed by current liabilities. Therefore, it can be said that Phase 1 may be good in terms of profitability and Phase 3 may be good in terms of liquidity, but the strategy of Phase 2 is the best because during this phase, the company is able to nullify the impact of liquidity on profitability, implying an optimization of liquidity position and efficient use of funds.

Keywords: Cash Conversion Cycle (CCC), Gross Working Capital Cycle (GWCC), Liquidity, Profitability, Trade Payable Cycle (TPC)

INTRODUCTION

During the normal course of business, many financial decisions have been taken by the financial manager. The decisions regarding current assets and current liabilities have significant importance because they represent a major part of the total assets and liabilities of the business, especially in the case of manufacturing companies. Moreover, maintaining an optimum level of working capital in a way that does not affect profitability negatively and does not cause temporary stoppage in the production process is crucial. It is indeed a challenging task for the financial manager to trade-off between liquidity and profitability (Rajendran, 2019). So, every company must decide their profitability goals and risk tolerance level while managing their working capital (Le, 2019).

As business is a continuous process, it means that when one cycle of production, selling, collecting dues, and paying dues is over, the next cycle of these things starts again. If a business has a longer production and collection cycle, the fund requirement will be greater, whereas if trade payables allow for a longer period to settle the dues, the fund requirement may be lower. A liberal trade collection policy may aid in increasing market share by retaining existing customers and attracting new ones. While a business may miss out the opportunity of trade and cash discounts offered by suppliers on early payments (Nobanee & Alhajjar, 2009).

Due to its inherent characteristics, all the assets that are expected to be sold or used because of standard business operations over the next financial year are current assets. However, current liability is an obligation that is payable within one year. When a company's total current assets are divided by its total current liabilities, the result is a current ratio, which indicates a company's ability to meet its current liabilities with current assets. This is the most widely used indicator for determining a company's liquidity position, but it does not consider time (Richards & Laughlin, 1980). As a result, working capital cycles have been measured alongwith the current ratio to determine the company's overall liquidity position. A metric that expresses the time required for a business to convert its investments in inventory and other resources into cash flows from sales (measured in days). The gross working capital cycle, also known as the operating cycle, is the first of two major working capital cycles. It is made up of the days in the inventory cycle and the days in the trade collection cycle added together. The GWCC shows a firm's efficiency in converting inventory into finished products and then collecting debtors' dues after selling the products. Many companies provide considerable discounts for cash payments or early payments. GWCC does not consider the time allotted by the supplier to make payments. As a result, the second cycle is the net working capital cycle, also known as the cash conversion cycle (CCC). The number of days remaining after deducting the trade payable cycle from GWCC is referred to as the "NWCC." The GWCC may be longer or shorter depending on the manufacturing process, value chain management, seasonal availability, raw material availability, skilled labour availability, nature of the business, product demand, competition, finance availability, the company's pricing policy, selling and distribution system, and so on. If the trade payable cycle is shorter than the GWCC, the firm must inject resources to finance the surplus days. It is a positive NWCC. Sometimes, when trade payables allow for more time to pay or the trade payable cycle is longer than the GWCC, the NWCC will be negative, implying that suppliers finance the company's operations. As a result, less operating capital is required. The third type of NWCC policy may be the matching approach. It means aggressively matching the trade payables cycle with the GWCC.

On observation, it was found that all these three types of CCC policy practiced by Britannia Industries Limited. Hence, for this study, the data has been categorised into three phases.

Chart 1 exhibits the NWCC (CCC), GWCC and TPC from the year 1989-90 to 2020-21.

CHART 1: WORKING CAPITAL CYCLES
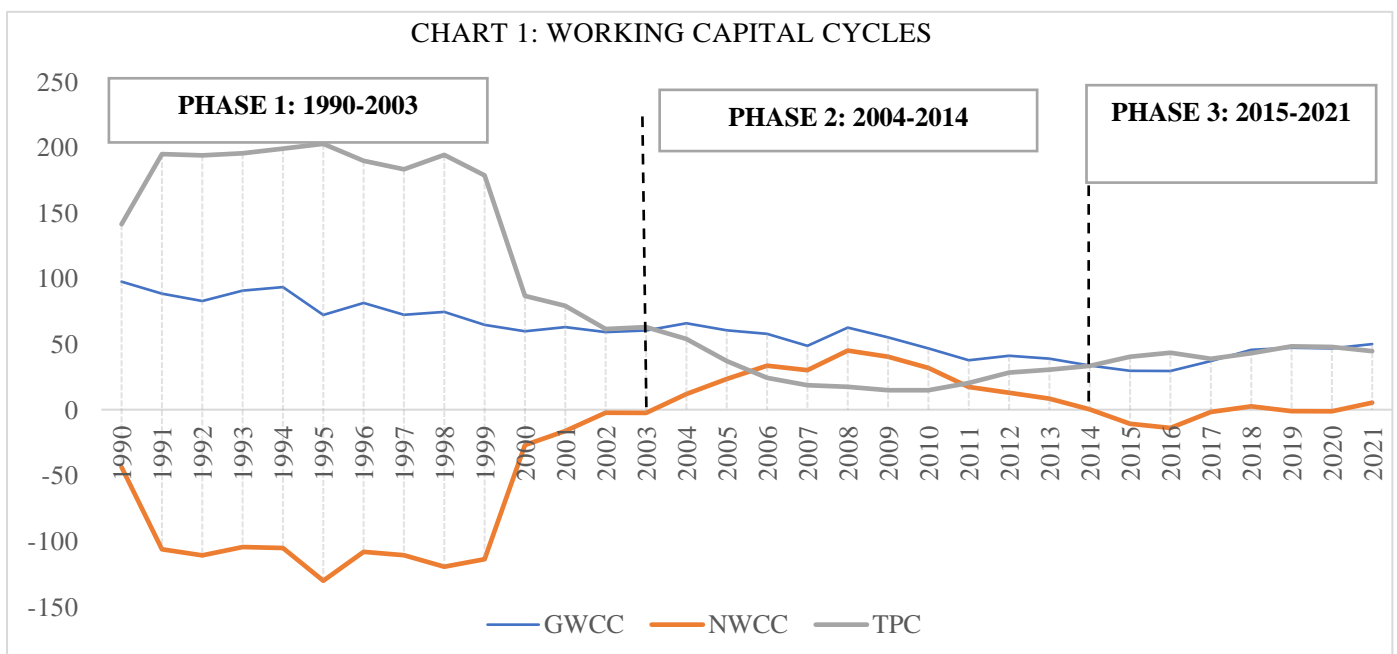
Phase-wise characteristics of financial data:

➢ Phase 1- Britannia had a Gross Working Capital Cycle (GWCC) that was shorter than the Trade Payable Cycle (TPC) in this phase, resulting in a negative NWCC (CCC) policy and the longest trade payable (TPC) cycle of all three phases. (GWCC<TPC= - CCC)

➢ Phase 2- Britannia had a Gross Working Capital Cycle (GWCC) that was longer than the Trade Payable Cycle (TPC) in this phase, resulting in a positive NWCC (CCC) policy and the shortest TPC of all three phases. (GWCC>TPC= + CCC)

➤ Phase 3- During this phase, Britannia attempted to maintain a GWCC with a TPC, resulting in a NWCC in the middle of both positive and negative NWCC as stated above. (GWCC=TPC)

LITERATURE REVIEWS

To identify theoretically the interrelation between working capital cycles and profitability, the available studies from various part of the world has been studied and most relevant literatures are added in this study.

(Lyroudi & Lazaridis, 2000) studied the financial data of major companies in food and beverage industry of Greece. They observed that the average CCC was 28 days and positively correlated to ROA and net profit margin. (Yucel & Kurt, 2002) investigated the data of 167 firms listed on Istanbul stock exchange covering the period of 1995-2000. They found a negative correlation between CCC and ROA and ROE which means that a longer CCC may cause a decrease in ROA and ROE.

(Eljelly, 2004) studied the data of 29 Saudi joint stock companies for the period of 1996-2000 and found that a firm with high current ratio and longer CCC was significantly negatively correlated with firm's profitability. (Nobanee & Alhajjar, 2009) attempted to identify the optimum levels of inventory, receivables, and payables, it was where total holding and opportunities cost was minimized. By using the data of 5,802 companies coving the period of 1990-2004, they found that CCC if managed at optimum points, could provide more complete and accurate insight into the working capital management.

(Dong & Su, 2010) studied the financial data of Vietnam's Firms during the period of 2006-2008. They found a strong negative relationship between profitability, measured through gross operating profit, and the CCC. They recommended that a positive value for the shareholders can be created by handling the adequate CCC and keeping CCC's components to an optimum level.(Sharma & Kumar, 2011) examined the effect of working capital on profitability of 263 non-financial firms from 2000 to 2008. In case of CCC, they found a statistically insignificant but positive relationship between CCC and profitability because of higher level of accounts receivables in case of Indian companies due to generous trade credit policy it would result in longer CCC, which will increase profitability. (Bagchi et al., 2012) investigated the relationship between working capital management and firm profitability of a sample of 10 FMCG companies in India for the period of 10 years staring from 2000-01 to 2009-10. They found that CCC significantly negatively associated with profitability of the firm. They recommended that shareholders value can be increase by reducing CCC to a possible level.

(Anser & Malik, 2013) examined the data of 155 manufacturing companies for the period of 2007-2011. They found that CCC has a significant inverse association with both return on assets and equity which indicated that lesser the CCC greater would be the profitability. They suggested that by reducing the receivable collection period and inventory selling period alongwith the extension of payment period may be helpful in increase the profitability of manufacturing sector organizations. (Oseifuah & Gyekye, 2016) analysed the data of 75 non-financial firms listed on Johannesburg stock exchange for the period of 10 years from 2003 to 2012 and found a significant negative relationship between CCC and profitability, which indicates that shortening the CCC by reducing the time cash is tied up in working capital and by speeding up collections results in high ROA.

(Yakubu et al., 2017) found that the current ratio (CR) has a positive and CCC has a significant negative relationship with profitability. Based on the study of the financial data of five listed non-financial firms in Ghana for the period 2010-2015, they recommended to finance manager to formulate a working capital policy that enable firms to deal with liquidity challenges and enhance their performance. (Shrivastava et al., 2017) analysed Non-Government and Non-Financial Public limited companies, including 1172 firms over period from 2003 to 2012. They found that longer cash conversion period has detrimental influence on profitability for Indian firms during study period across Bayesian regression methodologies. A suitable level of working capital was strongly evidenced across all working capital measures.

(Chang, 2018) explored the global data consists of 31,612 companies from 46 countries for the period of 1994-2011. He found that industry-adjusted CCCs exhibit significantly negative relationships with industry-adjusted ROAs. However, this effect reduces or reverses when firms exist at the lower CCC level. He suggested that firms can shorten their CCC to increase profitability and value. (Jana, 2018) analysed 15 Indian FMCG companies during the period of 2013-17 to examine the efficiency of WCM and its impact on profitability. He found a significant positive impact of current ratio and significant negative impact of CCC on firm Profitability measured by Return on Equity (ROE). Thus, efficiently managing the working capital is suggested.

(NGUYEN et al., 2020) investigated the financial data of 119 non-financial listed companies of Vietnam for 9 years starting from 2010 to 2018. They found that CCC has a significant negative impact on profitability shows that the shorter the CCC, the higher the profitability of a business. (Olorunfemi et al.,2020) examined the data of 10 selected food and beverage companies listed on Nigerian stock exchange during the period of 5 years from 2014-2018. They found a significate negative between CCC and profitability. Moreover, they suggested that by proper inventory management, managers can enhance the profitability.

(Erem Ceylan, 2021) investigated the data of 28 SMEs listed in BIST SMEs industrial index coving the period of 10 years starting from 2010 to 2019. The research found a significantly positive relationship between cash conversion cycle and profitability, which could be due to an increase in sales by lengthening the cash conversion cycle. (Alvarez et al., 2021) analysed the data of 177 Argentine manufacturing SMEs for the period of 3 years starting from 2016 to 2018 to investigate the influence of working capital components on profitability. They found

that both CCC and CR significantly positively affected the profitability, showing that an increase in each variable considered determines an improvement in performance in terms of

ROA and ROE. (Farhan et al., 2021) examined the influence of CCC on performance of 82 Indian pharmaceutical companies from 2008 to 2017. They revealed that CCC negatively affects the profitability of Indian pharmaceutical companies as well as board of directors' composition moderates the association between CCC and firms' profitability.

Based on a review of the literature, it can be clarified that a longer CCC had a negative effect on profitability in the majority of studies, but a few studies found a positive association between CCC and Profitability. Nevertheless, each study acknowledged the significance of optimising the working capital cycle and its components in order to increase shareholder value.

RESEARCH GAP

The current studies considered industry-specific data, which may have been insufficient to comprehend the various patterns of working capital cycles and their effect on profitability. Moreover, each company has its own management styles, objectives, vision, internal environmental characteristics, market reputation, etc. Therefore, a micro-level study based on a company may be more useful than industry-level studies for gaining insight of a policy or analysing the impact of a policy change in the case of working capital management. The ability to make financial decisions based on the available information and the current situation ultimately depends on the efficiency of the company's financial management. Thus, this research will provide a micro-level case study to understand the various patterns of working capital cycles and their effect on profitability.

RESEARCH METHODOLOGY

➢ **Research Question**

Negative or Positive Working Capital Cycles, which one is more profitable for the company?

➢ **Objective of the study**

1. To understand the various styles of working capital cycle policies practiced by the selected firm.
2. To empirically investigate the impact of various working capital cycles policy on profitability of selected company.

➢ **Hypothesis of the study**

	Objective	Supporting Null Hypothesis
H_{01}	1	In case of working capital cycles policy and profitability (ROA), there is no significant difference in means of the three phases.
H_{02}	2	There is no significant relationship between the working capital cycles and profitability in Phase 1
H_{03}	2	There is no significant relationship between the working capital cycles and profitability in Phase 2
H_{04}	2	There is no significant relationship between the working capital cycles and profitability in Phase 3

➢ **Research design**

For this study, the data of 32 years starting from the financial year 1889-90 to 2020-21 has been taken from the database of CMIE ProwessIQ. As per the observation of the Chart 1, the data has been categorised and studies in three different Phases for better understanding of various types working capital cycles such as positive and negative, or between both. Thus, the following variable has been taken into consideration-

A. Gross Working Capital Cycle- It is derived from adding the inventory cycle and trade receivable cycle
B. Net Working Capital Cycle- It is derived from subtracting the trade payable cycle from GWCC. It is also known as cash conversion cycle (CCC).
C. Current Ratio- it is derived from dividing the current assets by current liabilities.
D. Return on Assets (ROA)- It is derived from dividing Net Income by Total Assets and multiplied by 100 to get percent.

The data has been analysed by using descriptive statistics and inferential statistics techniques such as One-Way ANOVA, Correlation and Regression Analysis.

DATA ANALYSIS AND INTERPRETATION

➤ *Analysis of data using descriptive statistics-*

Table 1: Phase-wise descriptive analysis of the financial data of Britannia Industries Limited

Variables		N	Mean	Std. Deviation	Minimum	Maximum
GWCC (In days)	*PHASE 1: 1990-2003*	14	75.74	13.40	59.14	97.57
	PHASE 2: 2004-2014	11	49.88	11.16	33.63	66.00
	PHASE 3: 2015-2021	7	40.79	8.67	29.48	50.04
	Total	32	59.20	19.00	29.48	97.57
NWCC (In days)	*PHASE 1: 1990-2003*	14	-78.74	48.15	-130.34	-2.34
	PHASE 2: 2004-2014	11	23.19	14.20	0.18	45.04
	PHASE 3: 2015-2021	7	-2.96	6.93	-13.89	5.38
	Total	32	-27.12	57.27	-130.34	45.04
CR (In times)	*PHASE 1: 1990-2003*	14	0.79	0.29	0.41	1.18
	PHASE 2: 2004-2014	11	1.10	0.40	0.67	1.78
	PHASE 3: 2015-2021	7	1.54	0.35	1.17	1.96
	Total	32	1.06	0.44	0.41	1.96
ROA (in %)	*PHASE 1: 1990-2003*	14	10.60	6.00	5.91	30.09
	PHASE 2: 2004-2014	11	15.09	4.22	8.89	21.42
	PHASE 3: 2015-2021	7	24.46	2.58	21.51	28.49
	Total	32	15.18	7.15	5.91	30.09

Source: Self Calculated

Table 1 Findings:

Gross Working Capital Cycle (GWCC): From analysis, it is observed that the average GWCC reported longest in case of Phase 1, i.e., 76 days, moderate in case of Phase 2, i.e., 50 days, and lowest in case of Phase 3, i.e., 41 days. When the overall data of 32 years is considered, the average GWCC is reported at 59 days with a standard deviation of 19.00, wherein the shortest cycle is completed in of 29 days and longest cycle in 98 days. Theoretically, a longer GWCC needs more fund to inject in current assets. If a longer time allowed by trade payables, then the cost of fund inject in current assets may be reduced and may not affect the profitability negatively.

Net Working Capital Cycle (NWCC or CCC): From analysis, it is observed that the average NWCC reported longest in case of Phase 2, i.e., 23 days, moderate in case of Phase 3, i.e., -3 days and shortest in case of Phase 1, i.e., -79 days. When the overall data of 32 years is considered, the average NWCC is reported at -27 days with a standard deviation of 57.27, wherein the shortest cycle is completed in -130 days and longest cycle in 45 days. Theoretically, a longer CCC needs more fund to inject in operations, and also it affects negatively the profitability of company.

Current Ratio (CR): it is observed that the average CR reported highest in case of Phase 3, i.e., 1.54, moderate in case of Phase 2, i.e., 1.10 and lowest in case of Phase 1, i.e., 0.79. When the overall data of 32 years is considered, the average CR is reported 1.06 with a standard deviation of 0.44, wherein the maximum CR reported is 1.96 and minimum is 0.41. Theoretically, low level of CR implies an aggressive approach of managing the current assets and liabilities which means that company tried to finance its current assets mostly by current liabilities such as trade credit and short-term borrowings.

Return on Assets (ROA): It is observed that the average ROA reported highest in case of Phase 3, i.e., 24.46%, moderate in case of Phase 2, i.e., 15.09% and lowest in case of Phase 1, i.e., 10.60%. When the overall data of 32 years is considered, the average ROA is reported at 15.18% with a standard deviation of 7.15, wherein the maximum ROA reported is 30.09% and minimum is 5.91%.

➤ *Testing of hypothesis*

The financial data of Britannia is categorised under three Phase based on the policy of NWCC. To justify the classification, statistically significant differences in the means of the variables are required. In addition, non-identical data are required to evaluate the relationship between working capital cycles and ROA during all three phases. Therefore, H_{01} is developed.

H_{01}: In case of working capital cycles policy and profitability (ROA), there is no significant difference in means of the three phases.

Because of the period of study is different in all phases, basic assumptions of data homogeneity is verified by applying the Levene's test of Homogeneity of Variances before applying One-Way ANOVA(Gastwirth et al., 2010). Table 2 exhibits the outcome of test of homogeneity of variances.

Table 2: Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
GWCC	1.318	2	29	**.283**
NWCC	28.644	2	29	.000
CR	1.542	2	29	**.231**
ROA	.489	2	29	**.618**

Source: Self Calculated

If Levene's test is significant (i.e., the value if sig. less than 0.05) then we can conclude that the variances are significantly different.(*Onewayanova.Pdf*, n.d.) Thus, it is found that in case of NWCC, the basic assumption of ANOVA is violated but in case of GWCC, CR and ROA the variances are equal. Hence, One-way ANOVA, Welch Test and Brown-Forsythe Test applied to check the H_{01}. Table 3 exhibits the test results of One-way ANOVA and Table 4 exhibits the results of Robust Tests of Equity of Means.

Table 3: One-Way ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
GWCC	Between Groups	7155.255	2	3577.627	**25.742**	**.000**
	Within Groups	4030.495	29	138.983		
	Total	11185.750	31			
NWCC	Between Groups	69228.568	2	34614.284	30.939	.000
	Within Groups	32445.282	29	1118.803		
	Total	101673.850	31			
CR	Between Groups	2.646	2	1.323	**11.432**	**.000**
	Within Groups	3.356	29	.116		
	Total	6.002	31			
ROA	Between Groups	896.492	2	448.246	**18.932**	**.000**
	Within Groups	686.616	29	23.676		
	Total	1583.108	31			

Source: Self Calculated

Table 4: Robust Tests of Equality of Means

		Statistic[a]	df1	df2	Sig.
GWCC	Welch	26.288	2	17.822	.000
	Brown-Forsythe	29.631	2	28.754	.000
NWCC	Welch	32.570	2	18.916	**.000**
	Brown-Forsythe	46.967	2	16.356	**.000**
CR	Welch	12.058	2	14.746	.001
	Brown-Forsythe	10.894	2	21.938	.001
ROA	Welch	32.942	2	19.124	.000
	Brown-Forsythe	24.121	2	27.743	.000

a. Asymptotically F distributed.

Source: Self Calculated

As per the results of above tests, the sig. or P value is less than 0.05 in case of GWCC, NWCC, CR, and ROA. Thus, H_{01} cannot be accepted. It implies that a significant difference has been found in the means of GWCC, NWCC, CR and ROA between all three Phases. It is also means that all these three phases have different financial characteristics and different style of managing the working capital cycle, but to find the best policy and its association with profitability H_{02}, H_{03}, and H_{04} developed. For testing of H_{02}, H_{03}, and H_{04} correlation and regression technique applied on phase wise data.

H_{02}: There is no significant relationship between the working capital cycles and profitability in Phase 1.

The table 5 exhibits the outcome of Correlation analysis of Phase 1 and table 6 exhibits the coefficients of variable in regression analysis of Phase 1.

Table 5 Correlations of Phase 1

		GWCC_P1	NWCC_P1	CR_P1
NWCC_P1	Pearson Correlation	-.497	1	
	Sig. (2-tailed)	.070		
	N	14	14	

CR_P1	Pearson Correlation	**.728****	-.104	1
	Sig. (2-tailed)	.003	.724	
	N	14	14	14
ROA_P1	Pearson Correlation	-.484	**.669****	-.022
	Sig. (2-tailed)	.079	.009	.941
	N	14	14	14

**. Correlation is significant at the 0.01 level (2-tailed).   *. Correlation is significant at the 0.05 level (2-tailed).

Source: Self Calculated

Table 5 shows a statistically significant positive interrelationship between NWCC and ROA. These findings of Phase 1 are similar to the previous findings (Erem Ceylan, 2021; Lyroudi & Lazaridis, 2000). Moreover, CR is also significantly positively correlated with GWCC in Phase 1.

Regression Analysis: Phase 1

Table 6: Phase 1: Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.753[a]	.567	.437	4.50459	2.502

a. Predictors: (Constant), CR_P1, NWCC_P1, GWCC_P1   b. Dependent Variable: ROA_P1

Coefficients[a]

Model 1	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	28.047	8.163		3.436	.006		
GWCC_P1	-.284	.173	-.633	-1.639	.132	.290	3.444
NWCC_P1	.050	.033	.404	1.518	.160	.611	1.637
CR_P1	10.091	7.068	.481	1.428	.184	.382	2.620

a. Dependent Variable: ROA_P1

Source: Self Calculated

The results of table 6 shows the adjusted R square is 0.437 with Std. error of 4.50459. The VIF and Durbin-Watson values indicate that there was no collinearity and autocorrelation in the data because they did not exceed acceptable levels (Sharma & Kumar, 2011). Moreover, the coefficients indicate that GWCC negatively and both NWCC and CR positively but statistically insignificantly affects the Profitability (ROA) of Britannia. Thus, based on the findings of correlation analysis, H_{02} cannot be accepted in case of interrelation between the NWCC and ROA.

H_{03}: There is no significant relationship between the working capital cycles and profitability in Phase 2.

Table 7: Correlations of Phase 2

		GWCC_P2	NWCC_P2	CR_P2
NWCC_P2	Pearson Correlation	.590	1	
	Sig. (2-tailed)	.056		
	N	11	11	
CR_P2	Pearson Correlation	.145	**.609***	1
	Sig. (2-tailed)	.671	.047	
	N	11	11	11
ROA_P2	Pearson Correlation	.414	-.088	-.368
	Sig. (2-tailed)	.205	.798	.266
	N	11	11	11

**. Correlation is significant at the 0.01 level (2-tailed).   *. Correlation is significant at the 0.05 level (2-tailed).

Source: Self Calculated

Table 7 shows a statistically significant positive corelations between CR and NWCC during Phase 2. In case of profitability, no signification association found.

Regression Analysis: Phase 2

Table 8: Phase 2 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
2	.622[a]	.387	.124	3.95109	1.749

a. Predictors: (Constant), CR_P2, GWCC_P2, NWCC_P2   b. Dependent Variable: ROA_P2

Coefficients[a]

Model 2	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	8.714	7.689		1.133	.294		
GWCC_P2	.234	.147	.619	1.593	.155	.580	1.726
NWCC_P2	-.082	.144	-.276	-.570	.586	.373	2.684
CR_P2	-3.079	4.213	-.289	-.731	.489	.559	1.788

a. Dependent Variable: ROA_P2

Source: Self Calculated

The results of table 8 shows the adjusted R square is 0.124 with Std. error of 3.95109 which is consider very low to ascertain the impact. The VIF and Durbin-Watson values indicate that there was no collinearity and autocorrelation in the data because they did not exceed acceptable levels (Sharma & Kumar, 2011). However, GWCC positively and both NWCC and CR negatively, but statistically insignificantly affected the dependent variable ROA. Thus, H_{03} cannot be rejected.

H_{04}: There is no significant relationship between the working capital cycles and profitability in Phase 3.

Phase 3: Correlation and Regression Analysis

Table 9: Correlations of Phase 3

		GWCC_P3	NWCC_P3	CR_P3
NWCC_P3	Pearson Correlation	.921**	1	
	Sig. (2-tailed)	.003		
	N	7	7	
CR_P3	Pearson Correlation	.360	.404	1
	Sig. (2-tailed)	.428	.369	
	N	7	7	7
ROA_P3	Pearson Correlation	-.911**	-.804*	-.670
	Sig. (2-tailed)	.004	.029	.100
	N	7	7	7

**. Correlation is significant at the 0.01 level (2-tailed).   *. Correlation is significant at the 0.05 level (2-tailed).

Source: Self Calculated

Table 9 shows the correlation between GWCC, NWCC, CR, And ROA in case of Phase 3. ROA is found significantly negatively correlated with both GWCC and NWCC. The findings of correlation in case of Phase 3 are similar to the previous findings (Anser & Malik, 2013; Bagchi et al., 2012; Eljelly, 2004; Olorunfemi & Isaac, 2020; Oseifuah & Gyekye, 2016; Yucel & Kurt, 2002). Moreover, a strong positive and statistically significant association has been found in GWCC and NWCC.

Regression Analysis: Phase 3

Table 10: Phase 3 Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
3	.982[a]	.964	**.946**	.60117	**2.315**

a. Predictors: (Constant), CR_P3, GWCC_P3 b. Dependent Variable: ROA_P3

Coefficients[a]

Model 3	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF

(Constant)	38.314	1.383		27.704	.000		
GWCC_P3	-.229	.030	-.769	-7.542	**.002**	.870	**1.149**
CR_P3	-2.931	.760	-.393	-3.857	**.018**	.870	**1.149**

a. Dependent Variable: ROA_P3

Source: Self Calculated

Table 10 shows the regression model summary where ROA is a dependent variable and GWCC and CR are selected as independent variables. NWCC does not consider in this model because a multicollinearity has been identified in NWCC and GWCC. In this model, Durbin-Watson reported at 2.315 and VIF is 1.149 in both GWCC and CR, it is under the range of acceptance level which means there no autocorrelation and collinearity found in this model. Moreover, adjusted R square reported at 0.946, indicates a significant impact of independent variables on dependent variable. As per the results, both GWCC and CR significantly negatively affect the ROA. Hence, H_{04} cannot be accepted.

FINDINGS

The financial characteristics of three phases are: Phase 1, which had a TPC, i.e., 155 days, which was longer than the GWCC, i.e., 76 days, resulting in a negative CCC, i.e., -79 days on average and a riskier CR, i.e., 0.79, indicating that current liabilities were higher than current assets. When a company has enough time limit to pay back its dues to the suppliers, it needs fewer funds to inject into operations because it is able to covert the current assets into cash even before paying the cost of those current assets. In other words, the supplier's credit was mostly used to finance the operation. Maybe because of the dominant position of Britannia in the FMCG industry and competition between the suppliers, such a long credit period was necessary. Further, it is confirmed by the level of average CR, reported at 0.79 in Phase 1, which was the minimum in comparison to other phases. It indicates that not only the current assets but also some part of the non-current assets of the company were financed by current liabilities. Although statistically this policy of NWCC, is found beneficial because it has a positive relationship with Return on Assets (ROA), whilst it is considered a riskier liquidity position because if trade payables reduce the time limits or if trade receivables fail to meet their obligations within the time limits, then the company needs to find an alternate source of finance to fill the cash gap. Overall, a negative CCC is good for profitability, but at the same time, with a low CR, it is risky for the liquidity position.

Phase 2, which had a GWCC, i.e., 50 days that was longer than the TPC, i.e., 27 days, resulting in a positive CCC, i.e., 23 days on average and a moderate CR, i.e., 1.10, indicating a low investment in working capital. Theoretically, in case of longer CCC, the company needs more fund to inject in operation to fill the time gap. However, the availability of trade credit period is less in comparison to Phase 1, thus, using the alternate source of financing maybe costly. So, to nullify a negative effect on profitability, Britannia reduced its GWCC. As a result, GWCC optimised to mitigate the impact of a reduction in TPC days. It was also justified by the current ratio, which was reported at 1.10. With a longer CCC and less investment in working capital, the effect on profitability may be neutralised. This could be a probable explanation of these findings.

Phase 3, which had a GWCC, i.e., 41 days that was nearer to TPC, i.e., 43 days resulting in zero CCC, i.e., -2 days or middle of both above CCC and high CR, i.e., 1.54, indicating more investment in working capital. In addition, a significant negative impact of GWCC and NWCC has been found in case phase 3. Although, the firm's CR indicates a better liquidity position when compared to other phases, but it is not beneficial in view of the profitability. Thus, it can be said that company is suffering from over liquidity. Theoretically, profitability affected negatively by a longer CCC but in case of phase 3, the CCC was reported at -2 on average, it is not so long when compared to previous data. Still, it has a strong negative impact on profitability.

MANAGERIAL IMPLICATION

It is recommended to the company, to optimise its gross working capital cycle (GWCC) and investment in working capital by maintaining the current assets up to required level only to mitigate the negative impact on profitability. Moreover, the company can negotiate with trade payable for extending the time for making payments.

CONCLUSION

This study empirically analyses impact of practising the various working capital cycle policies and liquidity levels can have on the profitability of a business. The findings confirmed that the working capital cycle policy has a positive effect on Britannia's profitability in Phase 1, where CCC is negative, and the Current Ratio (CR) is at lowest. Britannia's profitability significantly affects negatively In Phase 3, where the CR is at highest, but GWCC and trade payable cycle (TPC) are almost equal in days. Moreover, Britannia's profitability is significantly unaffected in Phase 2, where CCC is positive, but CR is 1.10 means that current assets are almost entirely financed by current liabilities.

Therefore, while addressing the research question of this study, it can be said that Phase 1 may be good in terms of profitability and Phase 3 may be good in terms of liquidity, but the strategy of Phase 2 is the best because during this phase, the company is able to nullify the impact of liquidity on profitability, implying an optimization of liquidity position and efficient use of funds.

FUTURE SCOPE OF THE STUDY

This study is focuses on various level of working capital cycle and liquidity position to analyse the combined impact of both on profitability. Although, more study may be done by considering the impact of external factors such as business cycles, level of economic activity in country, interruption due to Covid-19 as well as a comparative study can be done.

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