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Working Capital Management and Firm Value in Bangladesh: Do Cash Conversion Cycle Components Matter Differently?

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Abstract

This paper studies the impact of working capital management efficiency on the value of manufacturing companies in Bangladesh. It endeavors to specify whether efficient working capital management has a significant positive effect on company value, and whether the effect is greater between some components of working capital management and company value measures than in other cases. Tobin's Q ratio has been used as the proxy for firm value. The key predictor variable is cash conversion cycle (CCC), along with its separate components: days inventory in hand (DIH), days sales outstanding (DSO), and days payable outstanding (DPO). Firm-level data has been collected from the annual reports of 20 manufacturing firms listed in the Dhaka Stock Exchange (DSE) across different sectors, spanning from 2018 to 2022. The results reveal that working capital management efficiency, measured by CCC, has a statistically significant impact on the market value among manufacturing firms in Bangladesh. The aggregate effect of shorter CCC appears to be driven primarily by DIH, as it is the only CCC component to have a significant impact on firm value. The lagged analysis further confirms the negative relationship between inventory days and firm value. According to the findings, firms should prioritize inventory management as a key driver of value creation. The results also highlight the importance of improving supply chain efficiency and operational infrastructure in emerging markets like Bangladesh. Prior studies have often put the cash conversion cycle alongside its individual components within the same empirical framework. This paper distinguishes between the comprehensive measure of working capital efficiency and its individual factors to assess their differential impact on company value.

Keywords: working capital management, panel data analysis, firm value, cash conversion cycle, Bangladesh

1. Introduction

Corporate finance literature has thoroughly researched the role long-term investment and financing decisions have in determining the value of the firm. In contrast, however, the impact of short-term financial decisions, and specifically, working capital management decisions, in driving firm value remains relatively less explored.

Efficient working capital management is recognized as a key determinant of firm performance through its effect on liquidity and profitability. This becomes particularly relevant during periods of economic crises and downturn. In such situations, firms' ability to manage short-term assets and liabilities efficiently can significantly affect their resilience and overall performance. Good working capital practices allow businesses to maintain sound liquidity and help them to better respond to any market uncertainty (Mustafa et al., 2026).

Existing empirical analyses on working capital management have largely focused on accounting-based outcomes like profitability. On the other hand, relatively limited attention has been given to its implication on market-based outcomes like firm value. This gap is especially important to research in emerging markets like Bangladesh. Underdeveloped capital markets and weak banking systems make short-term financial decisions even more crucial for the firms in such economies across the globe (Lee & Islam, 2011).

Moreover, prior studies often examine the cash conversion cycle alongside its individual components within the same empirical framework. Such an approach limits the ability to isolate the distinct effects of inventory, receivables, and payables on firm value. The valuation implications of the cash conversion cycle may not arise uniformly from its individual components (Cumbie & Donnellan, 2017). Inventory holding, customer credit, and supplier payment

represent different managerial decisions and may affect firm value through different mechanisms. A longer inventory holding period ties up funds and may increase storage, deterioration, and obsolescence costs. A longer receivable period can reduce liquidity and increase default exposure, but it may also reflect the strategic extension of trade credit to stimulate sales and strengthen customer relationships. Similarly, a longer payable period preserves internal liquidity, although excessive payment delays may weaken supplier relationships or lead to the loss of early-payment discounts. Consequently, an aggregate CCC measure may conceal offsetting or temporally different valuation effects among DIH, DSO, and DPO.

This study contributes to existing literature in four ways. First, it provides evidence on the relationship between working capital management and market-based firm value in Bangladesh, where most previous studies have focused on accounting profitability. Second, it estimates the aggregate CCC and its individual components in separate models, allowing the value implications of inventory, receivables, and payables management to be distinguished. Third, it supplements the contemporaneous analysis with one-year-lagged specifications to examine whether the relationships persist or emerge with a delay. Finally, the study refines the conventional treatment of CCC as a uniform indicator of working capital efficiency by demonstrating that its components may differ both in the direction and timing of their relationships with firm value.

2. Literature Review

In the literature on working capital management, two prominent perspectives have been employed in analyzing working capital: the static view and the operating cycle view (Richards & Laughlin, 1980). The static view, also referred to as the position measurement, centers around the amounts of current assets and current liabilities portion of the balance sheet. It considers working capital as either the net working capital or as the current ratio. Conversely, the operating cycle view, which is also known as activity measurement, evaluates the efficiency of managing the operational viewpoint of working capital, typically through the analysis of the cash conversion cycle (CCC) (Richards & Laughlin, 1980). CCC can be defined as the net duration between the purchase of inventories and the receipt of cash by selling those. It is derived by subtracting the days payable outstanding from the sum of the days inventory in hand and the days sales outstanding (Oh et al., 2023). CCC has been a widely used metric of efficiency in working capital management (Enqvist et al., 2014).

Most of the past literature has primarily concentrated on examining the determinants of working capital (e.g., Baños-Caballero et al., 2010; Moussa, 2019; Wasiuzzaman & Arumugam, 2013; Mansoori & Muhammad, 2012), policy practices (e.g., Afza & Nazir, 2009; Pestonji & Wichitsathian, 2019; Nabi et al., 2016; Naqi & Siddiqui, 2020), and the nexus between working capital management and the accounting performance of the companies (e.g., Gill et al., 2010; Deloof, 2003; Baños-Caballero et al., 2012).

Whether efficient working capital management impacts the market performance measures of the firms – has been scarcely researched in past literature. Indeed, only a few studies have explored the nexus between efficient working capital management and the value of firms.

Theoretically, working capital management involves a trade-off between operational liquidity and the opportunity cost of funds committed to current assets. Maintaining sufficient inventory and extending customer credit can support uninterrupted production, sales, and customer relationships. However, excessive investment in working capital ties up financial resources, increases financing requirements, and may reduce the funds available for other value-enhancing investments. Aktas et al. (2015), researching on US firms between the period 1982-2011, accordingly suggest that firms have an optimal level of working capital rather than an unlimited benefit from either increasing or reducing it. Importantly, this trade-off may operate differently across the components of CCC. Inventory days mainly reflect funds tied up in physical stock, receivable days reflect both collection efficiency and customer-credit policy, and payable days reflect the use of supplier financing. These distinct mechanisms provide a theoretical basis for examining the components separately rather than assuming that they affect firm value uniformly.

Vijayakumaran (2019) explored how efficient management of working capital impacts the value of Chinese listed firms. The study used metrics like net trade cycle and Tobin's Q ratio, using panel data analysis. A negative link was found between the net trade cycle and company value. The study also found an adverse relationship between firm value and the accounts receivable and inventories days.

Sawarni et al. (2020) in their study analyzed data spanning from 2012 to 2018 of 414 non-financial firms enlisted under Bombay Stock Exchange by employing fixed effects models. The Tobin's Q ratio was considered as dependent variable, while net trade cycle and its individual components were treated as predictors. Several control variables like liquidity, leverage, size, age, and growth were incorporated in the study. The study found a significant influence of

working capital management efficiency on the market performance of these firms. Notably, non-financial Indian firms demonstrated enhanced market value outcome through the maintenance of lower net trade cycle levels.

In a study conducted using a balanced panel dataset from 2004 to 2019 on 31 listed manufacturing firms of Oman, Panigrahi et al. (2022) finds out that measures such as cash conversion cycle and payable deferral period exhibit positive impacts on shareholder wealth.

Taken together, the international evidence does not indicate a uniform relationship between working capital management and firm value. Vijayakumaran (2019) and Sawarni et al. (2020) associate shorter operating cycles with higher firm value, whereas Panigrahi et al. (2022) report positive effects for CCC and the payable deferral period. These differences may arise from variations in market structure, access to external financing, industry composition, measurement choices, and the relative importance of individual CCC components. The conflicting evidence also suggests that an aggregate CCC coefficient may not fully explain which working capital decision is responsible for the observed valuation effect.

In Bangladesh, there has not been much research on the valuation impacts of working capital management. In fact, almost all the studies conducted on the Bangladeshi firms are centered around either finding out the factors determining the working capital levels or the profitability impacts of working capital management. Chowdhury et al., 2018; Asaduzzaman and Chowdhury, 2014; Hossain, 2020 and many more studies investigated the profitability impacts of working capital management.

Akhter (2021) by using a panel dataset from 2014 to 2019 examined how working capital management impacts 40 manufacturing companies in Bangladesh. The study employed fixed effects models and found that metrics like days inventory in hand, days sales outstanding, and cash conversion cycle negatively impact Tobin's Q ratio, indicating their adverse impact on company value.

Bhuyan et al. (2021) explored the effects of efficiency in managing working capital on market value by using data from selected manufacturing firms of Bangladesh. The study evaluated different components of working capital management (representing both the static view and the operating cycle view) and their relationship with firm value indicators such as Tobin's Q. Results indicate a significant connection between working capital management proxies and firm value. Table 1 contains the relevant WCM literature summary in the context of Bangladesh.

Table 1. WCM literature summary in Bangladeshi context

Study	Context	Focus	Key Insight
Bhuyan et al. (2021)	Bangladesh (DSE firms)	WCM → Firm value & profitability	WCM significantly affects firm value and ROA
Hossain (2020)	Bangladesh (manufacturing)	WCM → Profitability	CCC negatively related to ROA and ROE
Akhter (2021)	Bangladesh (manufacturing)	WCM → Firm performance	WCM significantly influences ROA, PM, Tobin's Q
Asaduzzaman and Chowdhury (2014)	Bangladesh (textile)	WCM → Profitability	WCM efficiency affects profitability
Chowdhury et al. (2018)	Bangladesh (pharma)	WCM → Profitability	Significant relationship between WCM and ROA/ROE/EPS

Source: Prepared by the Authors.

Research from Bangladesh has predominantly examined either the determinants of working capital or its effects on accounting profitability. Among the relatively limited studies using market-based outcomes, Akhter (2021) reports negative relationships of CCC, DIH, and DSO with Tobin's Q, while Bhuyan et al. (2021) find significant relationships between broader working capital proxies and firm value. These studies establish that working capital management is relevant to valuation in Bangladesh, but the available evidence leaves two issues insufficiently resolved. First, it remains unclear whether the valuation effect attributed to aggregate CCC is driven primarily by inventory, receivables, or payables management. Second, limited attention has been given to whether these relationships are contemporaneous or persist in subsequent periods. This study addresses these issues by estimating the aggregate CCC and its components in separate panel models and by supplementing the main analysis with one-year lagged specifications.

3. Methodology

3.1 Data Source and Sample

Secondary data has been used in this study. All the required data is collected from the websites and annual reports of the respective manufacturing firms. There are 11 different sectors under the Dhaka Stock Exchange (DSE) that can be categorized as manufacturing industries. These sectors contain 204 different firms within them, the total market capitalization of which is BDT 2,183 billion. Among these firms, based on individual market capitalization and the availability of necessary data from the annual reports, top 20 firms were selected for the study (Table 2). The selected 20 firms for this study cover more than half (54.35%) of the total market capital of the manufacturing sector of Bangladesh as of December 2023.

Table 2. Details of the selected firms for the study

SL.	Firm	Industry	Market Cap (Billion BDT)
1	BATBC	Food & Allied	280.10
2	SQURPHARMA	Pharmaceuticals & Chemicals	186.42
3	RENATA	Pharmaceuticals & Chemicals	139.69
4	BERGERPBL	Miscellaneous	82.27
5	LHBL	Cement	80.48
6	MARICO	Pharmaceuticals & Chemicals	77.51
7	BXPHARMA	Pharmaceuticals & Chemicals	65.22
8	BEACONPHAR	Pharmaceuticals & Chemicals	56.60
9	OLYMPIC	Food & Allied	30.39
10	RECKITTBEN	Pharmaceuticals & Chemicals	22.49
11	LINDEBD	Fuel & Power	21.27
12	GPHISPAT	Engineering	20.66
13	ACI	Pharmaceuticals & Chemicals	19.83
14	ORIONPHARM	Pharmaceuticals & Chemicals	18.63
15	RAKCERAMIC	Ceramic	18.36
16	SINGERBD	Engineering	15.14
17	HEIDELBCEM	Cement	13.53
18	SQUARETEXT	Textile	13.31
19	BATASHOE	Tannery	13.23
20	CROWNCEMNT	Cement	11.24
	Total		**1,186**

Source: DSE Website & Authors' Calculation.

The research uses data from 2018 to 2022 for all the 20 firms leading to a total observation of 100. Although data have been collected for as early as 2014 and as late as 2023, not all the firms had available, extractable, or comparable data for all the years. Also, to make the categories balanced, only the common to all portions of the dataset have been used for the analysis in this research.

3.2 Variables

The outcome variable used in this research is Tobin's Q. It is used as a proxy to measure the firm's value and indicates how the market value of the firm compares to its accounting value (Park & Byun, 2022). It is a key metric for assessing a company's value based on investor perceptions.

The cash conversion cycle (CCC) has been used as proxy for measuring working capital management efficiency in the studied manufacturing firms. It is the key predictor variable in this study. It combines the time to collect cash from the receivables with the time to repay suppliers in one measure. It is calculated as days inventory in hand (DIH) plus days sales outstanding (DSO) minus days payable outstanding (DPO). A few control variables have been used as well. A summary of all the outcome and predictor variables that have been used in this study is portrayed in Table 3 below.

Table 3. Variable matrix

Variable Type	Factor	Proxy	Measured as	Label	Studies used in
Dependent Variable	Firm Value	Tobin's Q	*(Market Value of Equity + Book Value of Debt)/ Book Value of Assets*	*tobinsq*	Aktas et al. (2015); Vijayakumaran (2019); Moussa (2018)
Key Independent Variable(s)	Working Capital Management Efficiency	CCC	*DIH + DSO -DPO*	*ccc*	Vijayakumaran (2019); Moussa (2018); Ren et al. (2019)
		DIH	*(Inventory/ COGS) × 365*	*dih*	Perera and Priyashantha (2018); Panigrahi et al. (2022); Ren et al. (2019)
		DSO	*(Accounts Receivable/ Sales) × 365*	*dso*	
		DPO	*(Accounts Payable/ COGS) × 365*	*dpo*	
Control Variables	Leverage	Debt Ratio	*Total Liabilities/ Total Assets*	*tdta*	Arachchi et al. (2017); Perera and Priyashantha (2018); Moussa (2018); Sawarni et al. (2020)
	Firm Size	Asset Size	*Natural Logarithm of Total Assets*	*lnta*	Arachchi et al. (2017); Le (2019); Moussa (2018); Perera and Priyashantha (2018); Sawarni et al. (2020)
	Growth	Sales Growth	*(Current Year Sales – Past Year Sales)/ Past Year Sales*	*dsales*	Arachchi et al. (2017); Aktas et al. (2015); Panigrahi et al. (2022); Sawarni et al. (2020)
	Investments	CAPEX	*CAPEX/ Total Assets*	*capexta*	Aktas et al. (2015); Le (2019); Panigrahi et al. (2022)
	Earnings	P/E ratio	*Price Per Share/ Earnings Per Share*	*pe*	Perera and Priyashantha (2018)
	Earnings Quality	Earnings Quality Ratio	*Net Cash Flow from Operations/ Net Income*	*cfoni*	Panigrahi et al. (2022)

Source: Constructed by the Authors.

3.3 Hypotheses and Preliminary Research Framework

This study endeavors to specify the legitimacy of two hypotheses:

Hypothesis One: Efficiency in working capital management has a significant positive impact on the value of the manufacturing companies in Bangladesh.

Hypothesis Two: The effects will be greater between some components of efficient working capital management and the company value measure than in other cases.

This study initially uses the following elaborate firm value equations to run a regression model:

$$V = \alpha + \beta_1 (ccc) + \beta_2 (tdta) + \beta_3 (lnta) + \beta_4 (dsales) + \beta_5 (capexta) + \beta_6 (pe) + \beta_7 (cfoni) + \varepsilon \quad (1)$$

$$V = \alpha + \beta_1 (dih) + \beta_2 (dso) + \beta_3 (dpo) + \beta_4 (tdta) + \beta_5 (lnta) + \beta_6 (dsales) + \beta_7 (capexta) + \beta_8 (pe) + \beta_9 (cfoni) + \varepsilon \quad (2)$$

Figure 1 shows a simplified research framework of the study incorporating the three different types of variables.

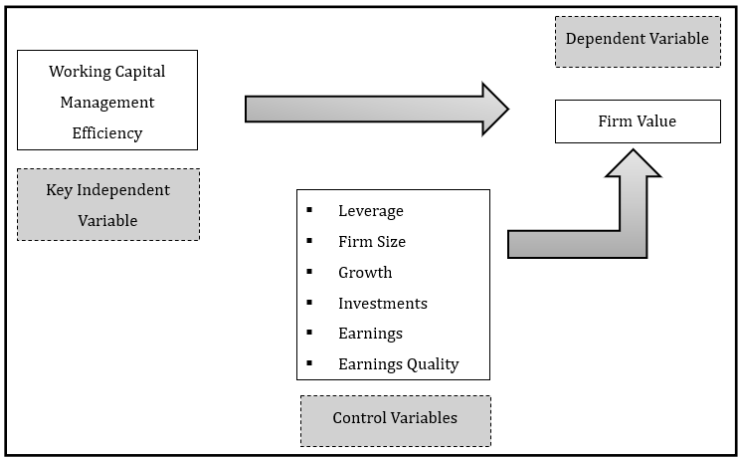


Figure 1. Preliminary research framework

Source: Constructed by the Authors.

4. Empirical Results and Analysis

4.1 Descriptive Statistics

Table 4 contains the summary statistics of the variables used in this study. The selected manufacturing firms had an average of 3.34 *tobinsq* score over the five years in concern. That means typically firms' market value estimates were 3.34 times its book value estimates. The *tobinsq* values ranged from 0.65 times to 12.01 times.

Table 4. Summary statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
tobinsq	100	3.34	2.96	0.65	12.01
ccc	100	128.62	97.93	-94	408
dih	100	128.30	69.05	34	361
dso	100	47.17	39.59	0	257
dpo	100	46.83	55.48	2	347
tdta	100	0.49	0.20	0.05	0.88
lnta	100	23.59	0.95	21.32	25.44
dsales	100	0.14	0.24	-0.41	1.99
capexta	100	0.06	0.08	-0.14	0.55
cfoni	100	0.59	4.51	-18.54	24.8
pe	100	21.60	37.32	-193.16	207.16

Source: Prepared by the Authors.

The key independent variable *CCC* and its components *DIH dso*, and *DPO* had a typical value of 128 days, 128 days, 47 days, and 47 days respectively. The selected firms had their inventories piled up for about 34 days to about 361 days. Their customers paid out their debts immediately within about 257 days, and they paid out their creditors within 2 days to within 347 days. These firms had a typical *tdta* of about 50%, an average *dsales* of 14%, and a typical *pe* of 21.6 times. The *capexta* for the firms was about 6% on average and the mean *lnta* was 23.59.

4.2 Correlation Analysis

Table 5 shows the correlation among the different factors mentioned earlier. The response variable *tobinsq* and *dso* have a moderate negative correlation between them. *dih* and *dpo* both have a weak positive correlation with the response variable. The *ccc* has a weak negative correlation with *tobinsq*. All the other predictor factors also have weak correlation, either positive or negative, with the response variable.

Table 5. Correlation matrix

	tobinsq	***ccc***	***dih***	***dso***	***dpo***	***tdta***	***lnta***	***dsales***	***capexta***	***cfoni***
tobinsq	1.00									
ccc	-0.14	1.00								
dih	0.12	0.81	1.00							
dso	-0.53	0.22	-0.04	1.00						
dpo	0.03	-0.60	-0.21	0.29	1.00					
tdta	0.08	0.07	0.02	0.11	-0.01	1.00				
lnta	-0.35	0.13	0.13	0.16	0.05	-0.20	1.00			
dsales	-0.10	0.01	-0.06	-0.09	-0.14	0.16	0.15	1.00		
capexta	0.00	0.04	0.01	-0.06	-0.11	-0.02	0.12	0.54	1.00	
cfoni	0.07	-0.05	-0.04	0.05	0.07	-0.10	-0.01	-0.06	0.02	1.00
pe	0.19	0.15	0.09	0.11	-0.08	0.05	0.04	-0.11	0.04	0.76

Source: Prepared by the Authors.

If we look at the predictor-predictor relations, we do not find many strong interrelations among them which is good in terms of multicollinearity problem. *ccc* has strong correlations with both *dih* and *dpo*, which is obvious given that those are just components of *ccc* that are used to calculate the *ccc* itself. But it will not matter in terms of multicollinearity as *ccc*, and its components will not be used in the same estimation model for practical reasons.

4.3 Test for Multicollinearity

The variance inflation factor (VIF) is used to assess multicollinearity among the explanatory variables. Table 6 contains the details of the test. The highest VIF is 2.59 for P/E, while the mean VIF is 1.81. The remaining VIF values range from 1.02 to 2.53. These values are below commonly used thresholds. This indicates that multicollinearity is not a serious concern in regression models.

Table 6. VIF test

Variable	VIF	1/VIF
pe	2.59	0.386752
cfoni	2.53	0.394685
ccc	1.11	0.903558
lnta	1.02	0.982593
Mean VIF	1.81	

Source: Prepared by the Authors.

4.4 Panel Regression Results

The initial OLS model includes all theoretically relevant variables. To ensure model parsimony and mitigate potential multicollinearity, a backward elimination procedure was applied. Table 7 shows the detailed procedure.

Table 7. Backward elimination

Variables	**Initial OLS** ***tobinsq***	**Model 2** ***tobinsq***	**Model 3** ***tobinsq***	**Model 4** ***tobinsq***	**Model 5** ***tobinsq***
ccc	-0.00526	-0.00527	-0.00528	-0.00525	-0.00399
	(0.00295)	(0.00294)	(0.00292)	(0.00291)	(0.00285)
tdta	-0.138				
	(1.492)				
lnta	-1.089***	-1.082***	-1.096***	-1.082***	-1.068***
	(0.307)	(0.295)	(0.292)	(0.289)	(0.292)
dsales	-0.583	-0.616			
	(1.407)	(1.352)			
capexta	2.406	2.458	1.467		
	(4.096)	(4.035)	(3.385)		
cfoni	-0.167	-0.165	-0.167	-0.167	
	(0.0997)	(0.0965)	(0.0959)	(0.0955)	
pe	0.0326**	0.0323**	0.0331**	0.0332**	0.0173*
	(0.0123)	(0.0119)	(0.0117)	(0.0117)	(0.00742)
adj. R-sq	0.148	0.157	0.164	0.171	0.153

Source: Prepared by the Authors.

Note. Standard errors in parentheses. * p<0.05, ** p<0.01, *** p<0.001.

The process yielded the following firm value equations:

$$V = \alpha + \beta_1 (ccc) + \beta_2 (lnta) + \beta_3 (pe) + \beta_4 (cfoni) + \varepsilon \quad (3)$$

$$V = \alpha + \beta_1 (dih) + \beta_2 (dso) + \beta_3 (dpo) + \beta_4 (lnta) + \beta_5 (pe) + \beta_6 (cfoni) + \varepsilon \quad (4)$$

The Breusch and Pagan Lagrangian multiplier (LM) test was conducted to choose between the pooled OLS model and the random effects model, and the Hausman specification test was conducted to pick between fixed effects and random effects. For both aggregate and component-wise analyses, panel models are preferred over the OLS models as suggested by the results of the LM tests that reject the null hypothesis of no firm-specific panel effect. The results of the Hausman tests suggest that for *ccc vs tobinsq*, the random effects model is preferred and for *dih, dso, and dpo vs tobinsq*, the fixed effects model is preferred. Table 8 shows a summary of model selection.

Table 8. Panel model selection

Model Type	LM test p-value	Hausman test p-value	Preferred model
CCC aggregate *[ccc vs tobinsq]*	0.0000	0.9350	Random effects (RE)
CCC decomposed [*dih, dso, and dpo vs tobinsq*]	0.0000	0.0000	Fixed effects (FE)

Source: Authors' Compilation.

The two final models, one showing the impacts of *ccc* on *tobinsq* and the other showing the impacts of *dih, dso*, and *dpo* on *tobinsq* are put together for comparison on Table 9 The two hypotheses developed at the beginning of this study become statistically apparent.

Table 9. Results of panel data models

Variables	*ccc vs tobinsq*	*dih, dso, dpo vs tobinsq*
ccc	-0.00693* (-2.35)	-
lnta	-0.926* (-2.15)	-0.589 (-0.95)
cfoni	-0.114** (-2.73)	-0.119** (-2.71)
pe	0.0181** (3.28)	0.0173** (3.02)
dih	-	-0.0121** (-2.84)
dso	-	0.00284 (0.41)
dpo	-	0.00158 (0.28)
p-value	**0.0016**	**0.0164**

Source: Prepared by the Authors.

Note. z/t statistics in parentheses. * p<0.05, ** p<0.01, *** p<0.001.

The first hypothesis of this study was that efficiency in working capital management has a significant positive effect on the value of the manufacturing firms in Bangladesh. The second hypothesis was that the effects will be greater between some components of efficient working capital management and the firm value measure than in other cases. The two models provide enough evidence with reasonable statistical significance to support these two hypotheses.

4.5 One-Year-Lagged Robustness Analysis

To assess whether working capital decisions have delayed implications for firm value, the two principal panel models were re-estimated using one-year-lagged values of the core working capital variables. Current Tobin's Q was regressed separately on the previous year's CCC and on the previous year's DIH, DSO, and DPO. Firm size, earnings quality, and the price-earnings ratio were retained in their contemporaneous forms.

The Breusch-Pagan Lagrangian multiplier tests rejected pooled ordinary least squares in favour of panel estimators in both specifications ($p = 0.0000$). The Hausman test favoured random effects for the lagged CCC model ($p = 0.9371$), and fixed effects for the lagged component model ($p = 0.0000$). Table 10 reports the resulting estimates.

The aggregate model comes out as marginally insignificant at the 5% level ($p = 0.053$). Accordingly, the significant contemporaneous CCC result reported in the main analysis does not fully carry over to the lagged specification. In the contemporaneous component model, DSO and DPO do not have statistically significant associations with firm value. However, the lagged analysis identifies a positive association between previous-year DSO and current firm value, while DPO remains insignificant.

Table 10. Results of one-period lagged panel models

Variables	*ccc vs tobinsq [one-period lagged]*	*dih, dso, dpo vs tobinsq [one-period lagged]*
ccc [lagged]	-0.004	-
	(-1.22)	
lnta	-0.9529	-0.487
	(-1.88)	(-0.60)
cfoni	-0.0557	-0.0430
	(-1.18)	(-0.92)
pe	0.0094	0.0065
	(1.52)	(1.04)
dih [lagged]	-	-0.012*
		(-2.65)
dso [lagged]	-	0.023*
		(2.42)
dpo [lagged]	-	-0.001
		(-0.15)
p-value	**0.0532**	**0.0209**

Source: Prepared by the Authors.

Note. z/t statistics in parentheses. * p<0.05, ** p<0.01, *** p<0.001.

5. Findings & Discussion

The main estimation models of this study reveal that efficiency in managing working capital has statistically significant effect on the value among the manufacturing companies in Bangladesh. The inverse correlation between CCC and Tobin's Q suggests that companies which have shorter CCC tend to be valued better in the market. This essentially indicates that efficient working capital management has a significant positive impact on manufacturing firms' value in Bangladesh. A shorter CCC suggests quicker recovery of cash invested in operations. Faster CCC reduces the need for external financing and improves liquidity management. This operational efficiency may also signal better managerial effectiveness to investors, thereby positively influencing market perceptions and firm valuation. This finding is consistent with Vijayakumaran (2019), Sawarni et al. (2020), and Akhter (2021), all of whom report that longer operating-cycle measures are associated with weaker market-based performance. It contrasts, however, with Panigrahi et al. (2022).

However, when CCC is decomposed into its individual components, the findings reveal a more nuanced relationship. The aggregate effect of shorter CCC appears to be driven primarily by days inventory in hand (DIH) as among the components of CCC, only DIH is proved to have a statistically significant negative effect on market values of the companies. This suggests that inventory management has a central role in determining working capital efficiency in the context of Bangladeshi manufacturing firms. One possible explanation is that inefficient inventory management leads to higher holding costs, risk of obsolescence, tied-up cash, lost sales and business relationships. All of these can negatively affect firm performance and valuation. The negative DIH result is consistent with the findings of Vijayakumaran (2019) and Akhter (2021).

In contrast, DSO and DPO do not exhibit statistically significant relationships with firm value. The insignificant DSO result differs from Akhter (2021), who reports a negative association between receivable days and Tobin's Q, while the insignificant DPO result contrasts with the positive payable effect reported by Panigrahi et al. (2022). The insignificant results may indicate that receivables and payables management practices are relatively standardized across firms or subject to industry norms, limiting their variability and impact on valuation. Table 11 summarizes the status of the hypotheses based on the preferred panel models.

The one-period lagged analysis provides partial support for the main findings. The coefficient of lagged CCC remains negative but is statistically insignificant. This may suggest that the valuation implications of the overall cash cycle are more immediate, or that aggregation across its components masks differences in their intertemporal effects. The component model, however, provides stronger and more differentiated evidence. Lagged DIH remains negative and significant, with a coefficient close to that obtained in the contemporaneous model. This consistency reinforces the view that narrower inventory holding period is the most stable CCC component improving firm value in the sampled companies. Lagged DSO, however, exhibits a positive and significant association with firm value, although

its contemporaneous coefficient is insignificant. One possible interpretation is that firms may extend trade credit strategically to support customer relationships and sales, with the resulting benefits being reflected in market valuation with a delay. This result should nevertheless be interpreted cautiously because it is not consistent across contemporaneous and lagged specifications. DPO remains insignificant in both specifications, indicating limited evidence that payment timing independently influences firm value.

Table 11. Status of the hypotheses

Hypothesis	Final Empirical Evidence	Decision
H1: *Efficient working capital management positively affects the value of manufacturing firms in Bangladesh.*	The coefficient of CCC is negative and significant, implying that firms with shorter cash conversion cycles tend to have higher Tobin's Q. Since a shorter CCC reflects more efficient working capital management, the evidence supports a positive valuation effect of working capital efficiency. The one-year lagged specification does not confirm persistence of the aggregate CCC effect.	Supported
H2: *The individual components of the cash conversion cycle affect firm value differently.*	The component-wise model shows that DIH has a significant negative effect on Tobin's Q, whereas DSO and DPO are insignificant. The lagged model further supports the negative association between DIH and firm value and adds DSO as a significant factor. The negative effects of DIH and insignificant effects of DPO remain highly consistent.	Supported

Source: Constructed by the Authors.

6. Conclusion

Working capital requires a trade-off between the firm's profitability and its liquidity. This is why efficiency in managing working capital is crucial for seeing a positive turn in the firm's value. While numerous studies highlight the impact of working capital management efficiency on firms' profitability, only a few delve into its outcome on firm value.

Examining the panel data from 2018 to 2022 of 20 manufacturing companies listed under the DSE, this paper reveals a negative association between CCC and Tobin Q. This suggests that efficient working capital management enhances firms' market value, thereby boosting shareholder wealth. In essence, firms that neglect proper working capital management may face penalties in the financial market. Additionally, the study indicates that the effects are greater between some components of working capital management efficiency and the company value measure than in other cases as only DIH came out as a significant predictor of Tobin's Q and DSO and DPO came out as insignificant. The lagged specifications provide additional evidence that inventory management is the most consistent working-capital determinant of firm value. The study contributes theoretically by showing that the valuation implications of working capital management are both component-specific and time-dependent.

6.1 Research Implications

The findings of this research provide the finance and supply chain managers with an important suggestion that firms should prioritize inventory management as a key driver of value creation. The managers should focus on conducting better forecasting for inventory management and maintaining a lean inventory level. This is likely to yield a better cash conversion cycle and result into improved firm valuation in Bangladesh. From a broader perspective, the results highlight the importance of improving supply chain efficiency and operational infrastructure in emerging markets like Bangladesh.

6.2 Future Research Directions

This research has included firms from different manufacturing sectors of Bangladesh. Future research can be conducted to find out whether the impacts differ among different sectors. There can be cross-country research to understand whether the various factors of cash conversion cycle have varying impacts on firm valuation across different economies as well. This research used a purposive sampling considering market capitalization of the manufacturing firms. It caused a greater proportion of companies belonging to pharmaceuticals & chemicals sector to be included yielding an unbalanced sectoral distribution. Future research can undertake a more balanced sampling approach.

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