

# Sustainable Working Capital and Financial Performance in the Cement Industry of Pakistan: An OLS Approach\*

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## ABSTRACT

*This research aims to demonstrate for the first time how the Pakistani cement sector's financial health is impacted by sustainable working capital. The cement Industry uses sustainable working capital techniques and practices for magnificent financial outcomes. Considering the importance of these profitable techniques, we practice these in cement firms with a sample size of 25 cement firms listed in the Pakistan stock market (PSX) from 1997-2022. The data is collected from annual reports available on the financial statements. The current ratio and Quick ratio are measured for liquidity. Ordinary Least Square & correlation analysis indicates that the cash conversion cycle ( $\beta_1 = -0.564$ ,  $p = 0.00$ ), Current ratio ( $\beta_2 = -0.20$ ,  $p = 0.040$ ), Quick ratio ( $\beta_3 = -0.585$ ,  $p = 0.000$ ) and Inventory Turnover ratio ( $\beta_4 = -0.244$ ,  $p = 0.004$ ) have a negative effect on financial performance (Tobin's Q). This study helps policymakers that can handle liquidity Sustainable working capital for the cement industry.*

**Keywords:** Inventory Management, Tobin's' Q, Current Ratio, Quick Ratio

## I. INTRODUCTION

From the procurement of initial supplies to manufacturing and distribution, including waste or recycling, an organization's supply chain can be affected by its working capital management (WCM), including accounts payable, accounts receivable, and inventories (Lefebvre, 2022). Sustainable short-term and long-term investment considers factors related to the environment, society, and governance in addition to economic goals. Under the banner of investing with social responsibility, this form of investing initially developed in favour of enforcing punitive monitors, but its reach has grown dramatically in the past few decades (Tarkom, 2022). The value of investments maintained with a focus on sustainability has reached tens of billions of \$ & appears to continue to rise (Ao et al., 2022). Given this quick expansion, it is crucial to comprehend how sustainable investment affects the worth of assets and company behaviour. A sustainable working capital strategy is adopted by Cement industries in Pakistan to maintain short-term investments. As it directly impacts a company's profitability, WCM is a crucial aspect of corporate finance (Adegbeie & Akenronye, 2022). One of the requirements for an enterprise's success is effectively controlling sustainable functioning investment (Zheng et al., 2022).

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Management of diverse, sustainable working capital components is necessary for Sustainable WCM. capital in a way that maintains a suitable level of short-term investments WCM for the proficient process of corporate and for achieving the twin goals of profitability (Chang et al., 2022). When performing daily business, a company must balance profitability and efficiency. Insufficient working capital reduces a company's liquidity, yet storing too much working capital causes problems. Resulting in a decline in profitability and proper working capital estimation in reality (Setianto et al., 2022). The management's duty is challenging because the quantity of sustainable working capital requires changes between organizations based on factors, including the type of business, the size of the operation, the production cycle, the credit policy, and the availability of ingredients (Nayal et al., 2022). Sustainable working capital comprises two parts: Present assets and obligations. When a business invests in its finances insufficiently, Sustainable WCM is necessary (Nasiti et al., 2019). It indicates insufficient supplies of the business's unprocessed goods and accounts receivable, which could result in an impairment of output and a concomitant revenue decline. Additionally, it will be challenging for the organization to respond quickly and meet interest in the event of significant economic interest. On the contrary, if a corporation invests too much in financial resources, it must pay for stock storage, processing costs, and lost potential profits. (De Leijster et al., 2020). Due to this, a sizeable sum of money is required to make long-term investments in the form of different current assets. For instance, a sufficient quantity of working capital must always be kept available to maintain the intended level of sales due to the time lag between the sale of items and their actual realization in cash (Napier & Stadler, 2022). If a company can convert its operating cash flow into profit during the same operational cycle, it can be very successful; otherwise, it would need to borrow money to cover its ongoing working capital requirements. Therefore, it is essential to coordinate the twin goals of profitability (Xu et al., 2020). Investments in present assets are inevitable to ensure prospective consumers receive the goods or services you promise. When managed properly, these investments should have the desired effect on financial performance (Kyeré & Ausloos, 2021). Resources will take longer to operate if they are obstructed at different supply chain stages. Although this might boost profitability (owing to increased sales), it could also have a negative impact if the costs associated with working capital outweigh the advantages of keeping more inventory on hand and/or extending more credit to customers (Bhattacharya, 2023). According to empirical findings, one of the major causes of industrial illness is inefficient working capital management. While attempting to reduce current assets, modern financial management does not ignore the possibility of stock shortages (Woo et al., 2021). Because of this, good WCM is a crucial indicator of how well a business is doing and asks for decreasing unnecessary investment blockage to reduce funding expenses. Given the preceding, this study makes an effort to examine working capital management in the cement business. Along with the steel and petrochemical sectors, one of the top sectors for producing vital essentials for factories is the cement sector. The sector, closely related to the construction sector, offers products for producing concrete and cement for civil engineering and building structures (Scope et al., 2020). When combined with water or salt solution, cementing substance forms a bulk called cement. Materials processing mine; Crushing, pounding and combustion of marble; kiln, blasting refreshing, and manufacturing of items are the three categories under which manufacturing processes are divided

cement grinding, packaging, and shipment (Verma et al., 2023). WCM has two concepts; Working capital is "gross working capital" and includes all of a firm's existing assets. If the company manages its current assets effectively, it will generate greater growth and be worth more in the market. Although the difference between existing cash or business investments and liabilities is referred to as net operational capital. Profit is the after-deducting-all-expenses positive gain from an investment or commercial operation (Jayathilaka, 2020). Profit is derived from the Latin word "prefects," which means to advance. There are two methods to define profit, one in economics and the second in accounting. Only the accounting criteria will be applied (Granof et al., 2021). Profits are the distinction between the cost of selling and the expenditures of carrying an item into the marketplace, implementing into consideration a single functioning or additional fees along with the parts sold for provided services or products, as a concept has been accounted, within a business, whether by harvesting, the extraction procedure, manufacturing, or buying (Haig, 2020). Major measurement indicators of Sustainable working capital are; Cash Conversion cycle (CCC), Current ratio, quick ratio, and Inventory turnover ratio. CCC is a crucial indicator of the success of sustainable WCM (Dhole et al., 2019; Mazanec, 2022; Bhattacharya, 2023). It measures the length of a process in which a company first transforms funds into stock and accounts due by getting supply, then back to funds through gathering reports receivable in revenues. This calculation is done as a combination of days' receivables outstanding (DRO) as well as inventory impressive (DIO), net of days payable outstanding (DPO). In other words, CCC represents the speed at which a company can create extra funds from existing funds. The current ratio explains how Current Assets and Current Liabilities are related. A high current ratio is typically considered a sign of sound financial condition. It is a barometer of a business's capacity to timely complete its immediate responsibilities. The relationship between liquid or quick assets and current liabilities is established. A valuable commodity is considered transparent when it can swiftly or instantly change into currency without compromising value. The most liquid asset is cash. It is also known as the acid test Ratio. The Inventory Turnover ratio is the number of times in a year that inventory is changed. The average list of cost and cost of goods sold are related. Tobin's Q is widely used for measuring financial performance (Ahmad et al., 2023; Azam, 2022; Cardao-Pito, 2022). It is a ratio that compares a company's market value to the entire value of its net assets. The ratio is viewed as a gauge of how efficiently a business utilizes its resources to produce earnings before fulfilling contractual obligations. The corporation is said to be using its assets more efficiently when its profits are higher than the value of its assets. The specific purposes of the study are:

- To assess effectiveness of sustainable WCM practices used in Pakistan's cement industry.
- To measure how quickly each company has raised the sustainability bar in WCM relative to a benchmark (industry standard).

The motivation of the study is that Cement production in Pakistan is currently one of the industries that have thrived despite the

challenging business environment that the world encountered in 2009–2010. There are 29 cement factories in the nation, with an installed capacity of manufacturing 39 million tons of cement, mostly Pak-land cement. Pakistan exports surplus in addition to satisfying its domestic need.

The cement industry in Pakistan produces an excess of exportable cement that is primarily sent to Afghanistan, India, Africa, and the Middle East. The remaining portion of the study is organized as follows. Section 2 examines the scientific research and literature review and extensively discusses our motivation. Information on data, sampling creation, and variable measures is provided in Section 3. Our data analysis and empirical findings are reported in Section 4. Section 5 provides some final notes (Conclusion) and managerial implications for the paper while reviewing our results.

## LITERATURE REVIEW

Many academics have investigated working capital from various angles and settings. Afeef (2011) studied 94 Pakistani companies listed on the Karachi Stock Exchange for six years between 1999 and 2004 and were chosen as a sample. They found a significant inverse relationship between net operational efficiency plus the typical gathering duration, typical payout period, and usual CCC for a selection of Pakistani enterprises listed on the PSX. These results suggest that executives may boost value for stockholders by maintaining controlled inventory and receivables days. The notion that smaller companies put off paying their bills lengthily seems to align with the conflicting relationship between outstanding bills & financial performance. Taheri et al. (2023) significantly imply a business's practices for managing its assets, borrowers, & lenders each affects Tobin's Q in a dairy business. Responsible management should pay close attention to developing this working capital policy and putting it into practice. Aytac et al. (2020) study of Turkish manufacturing companies during the period of 2003–2014 examines factors related to working capital management practices as drivers of business profitability. Study results demonstrate the importance and benefits of the accounts receivable period, inventory period, and leverage. The study also examines the cash conversion cycle with Tobin's Q. Dalci et al. (2019) suggest that the size of the organization and CCC do not have a major effect on profitability. Prasad et al. (2019) investigated the effectiveness of WCM for non-financial Indian firms listed in the Bombay Stock Exchange from 2012-2017. Instead of using typical WCM ratios, performance, utilization, and overall efficiency indices were produced to assess how effectively working capital was managed. The study's conclusions showed that the non-financial companies didn't do particularly well during 2012-2017. Peng & Zhou (2019) stressed that the shared aim of profitability was part of the working capital theory. It was determined whether or if the more recently established alternative working capital ideas had a better correlation with return on investment than the working capital ratios. Results showed that, in terms of the independent variables, there were no significant differences across the years. In their groundbreaking research, Panigrahi et al. (2022) showed how crucial effective working capital management was for increasing shareholder value in manufacturing companies in Oman. The management of WCM significantly affected both profitability. Using correlation and regression analysis, along with industry and capital intensity, it was determined what link existed between the length of the Net Trading Cycle, business profitability, and risk-adjusted stock return. They discovered a significant inverse link between the firm's profitability and net-trading cycle length. Additionally, higher risk-adjusted stock returns were linked to shorter net trade cycles. Any company can benefit from sustainable WCM, which affects profitability. The management of working capital will ultimately be more

important than other aspects. Louw et al. (2022) asserted that most corporations, as shown in their statement, invest a considerable sum of money in working capital. According to his research, there is a poor correlation between Belgian enterprises' days with outstanding sales, payment period, and days with an inventory. His research continued by saying that less profitable businesses put off paying suppliers, which lowers their profits. Mwenda & Pastory (2022) researched three commercial businesses enumerated on Dar ES Salam Stock Exchange. They discovered that profitability and CCC are both positively connected and that profitability and liquidity are negatively correlated. A robust negative correlation exists between profitability and the typical collecting time. Furthermore, there's a significant link between financial performance & transaction deferment period. Mahmood et al. (2022) studied that there is a bad correlation between the period for CCC and return on assets. Increased conversion cycles result in decreased Return on Assets. He said the corporation may boost profits by shortening the duration of inventory conversion and receivables from the client's collection. Kucera & Dvorakova (2023) studied pharmaceutical and biotechnology companies with stock listed on the FTSE. In contrast to the normal period during which inventory is converted and the mean recovery period, which has both a beneficial and detrimental effect on financial performance, accordingly, the standard payment length and means CCC have no effect on Tobin's Q. The study's findings suggest that businesses should shorten the collection period to increase shareholder value. Mandipa & Sibindi (2022), In terms of profitability, the CCC is adversely connected with Tobin's Q. Additionally, businesses can boost their profits by cutting back on the number of days used for collection periods and inventory turnover. Demiraj et al. (2022) studied return on Assets in terms of profitability, and days' sales outstanding are favourably associated; financial viability, on the contrary, is inversely correlated with a turnover of stock times. The study also shows a favourable correlation between profitability and the cash conversion cycle and a connection between financial performance and stock turnover day.

Seth et al. (2021) are credited with developing the WCM theory, the foundation for subsequent studies. The idea of WCM stresses the importance of managing WCM accounts and forewarns that doing so could significantly impact the business's well-being. The activities of a money manager are primarily focused on the cash flows produced during commercial transactions. Because these accounts affect the cash situation, the cash officer should know what is happening with inventory control, receivables, and payables. As a result, Kumpamool & Chancharat (2022) argued that managing cash, stocks, accounts payable, and receivables is essential for a company's operating processes in Thailand. The theory of WCM also contends that a money manager's primary responsibility is to provide capital as and when required and to invest any short-term surplus capital profitably while considering his needs for capital safety and liquidity. This is done by analyzing the risk and return of various investment opportunities. As a result, rather than using the conventional working capital ratios, a money manager should base his judgments on the cash budget and position of all current assets (Naz et al., 2022).

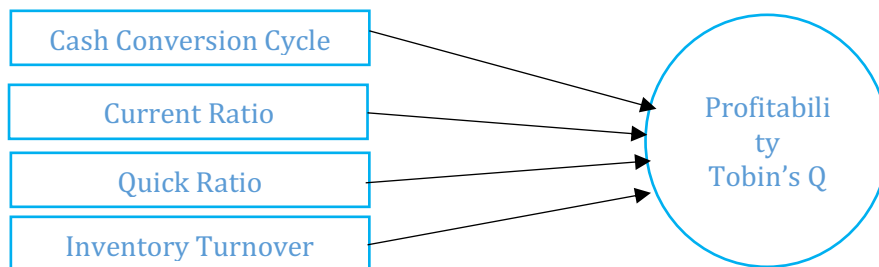
The company's profitability is one factor that affects a going concern. Profitability will display the combined effects of debt, asset management, and liquidity on operating outcomes (Rao et al., 2022). The result of the company's-company's various policies and choices is profitability. When

considering the consequences of a company's inability to obtain the maximum profit to support its operational activities, the significance of profitability can be seen.

Businesses frequently increase inventory sales to enhance inventory turnover to boost profitability. One of the most crucial asset posts is inventory because it is a current asset post with a high value. In trading companies, such stocks are products, but in industrialized stock companies, they may be unprocessed products, tends to be work-in-progress, or final products. Stock that is either too little or too much is a bad indicator. Overstock is a negative indicator (Rasanjali et al., 2022). The greater the potential cost containment, the greater the likelihood of increased financial performance for a business (Okunev, 2022). On the other hand, if inventory turnover is slower, profit gains will be smaller. Achieving a rapid stock turnover is more complex than people may imagine; the business must consider numerous factors when running its operations. Because of the higher stock turnover, the company trades its goods faster, increasing its operating cash flow and, subsequently, its market value and overall assets. Tobin's Q measures a firm's profitability (Cardao-Pito, 2022). For the relevant period, net profit reflects returns to equity holders. High company profits may not always imply high profitability (Arslan-Ayaydin et al., 2022). However, high profitability can be used to determine that a high level of profit was made. The issue of profitably emerges since productivity is measured solely through contrasting earnings earned using one's own money versus outside investment utilized to drive revenues. These are more significant for businesses as a whole than the problem of profit. By way of an outcome, the business's effectiveness is crucial, and rapid inventory turnover is predicted to boost that profitability. The study's financial performance metric is called Tobin's Q. At the same time, sustainable WCM determines the ideal level of cash, inventory, and debtors and financing that class through current liabilities at the least expensive rate possible to meet the company's-company's ongoing needs (Agomour et al., 2022; Shingade et al., 2022; AYDOĞMUŞ et al., 2022). Kolling (2022) depends on the nature of the activity and the type of product managing the CCC. It contains how long it takes to buy, produce, and store raw materials as stock before selling them and collecting the proceeds in cash or turning debtors' bills into cash. A decrease in the corporate CCC will increase profitability (Abolfathi et al., 2022). Numerous studies have examined the relationship between WCM and profitability and found a negative relationship between the cash conversion cycle and profitability (Soda et al., 2022; Harris & Hampton, 2022; Garg & Meenttu, 2022).

Richards & Laughlin (1980) came up with the concept of CCC. The CCC is the time needed to turn a dollar of cash outflow into a dollar of cash inflow from a firm's ordinary course of business. With the company's actual cash expenditures towards the acquisition of manufacturing assets to the final recuperation of its money earned through merchandise sales, there is that extra period. In contrast, Chen et al. (2022) suggest that financial performance and CCC have no empirically significant link. CCC is a product of the inventory conversion period, the receivables collection time, and the payables deferral period, less the payables deferral period. The operating cycle is the time between converting inventory and collecting receivables (Zimon et al., 2022). According to the Cash conversion theory, CCC analysis ought to implement in addition to the conventional, static liquidity ratio analysis since it offers dynamic insights (Tiwari et al., 2023). CCC depicts intervals flanked by disbursements aimed at underdone material purchases

as an in-depth assessment of financial resources, transactions of finished goods as well as getting funds from such sales are included. The number of funds trapped in working capital increases as the cycle lengthens (Zeidan, 2022). The CCC analysis offers more detailed recommendations for controlling a company's working capital position to ensure the correct quantity and time funds are accessible to satisfy a firm's liquidity demands. Additionally, the cash conversion cycle analysis offers more precise guidance for handling a company's sustainable working capital situation in a way that would guarantee the correct quantity and timeliness of money accessible to meet a firm's liquidity demands (Surikova et al., 2022). A quicker cash conversion cycle allows businesses to make more sales with the same investment, demonstrating that they are making the most of their resources and the effectiveness of their management of current assets. Doruk & Ergün (2022) asserted that a larger cash conversion cycle improves financial performance. Any company must have a cash conversion cycle to determine the required cash. The cash exchange cycle theory focuses on how long a corporation takes to get the raw materials, supplies, and money from selling the items. The analysis of the cash conversion cycle by the corporate entity will allow them to make any upgrades because they'll impact the business performance (Hojnik et al., 2022). The shorter the cycle, the fewer resources for corporate companies to function. A temporary cash conversion cycle suggests that commercial companies require few resources. A longer CCC indicates that sales growth is likely to be strong, translating to more significant profits and, thus, better financial performance (Tarkom, 2022). The cash conversion cycle, who disputed the notion, should be as brief as possible, as this will increase shareholder value (Badakhshan & Ball, 2022).



**Figure 1:** Conceptual Framework

**Source:** Author's Compilation.

### Hypotheses of the study

H1= In Pakistan's cement business, the cash conversion cycle has a detrimental impact on Tobin's Q.

H2= In Pakistan's cement business, the current ratio has a detrimental impact on Tobin's Q

H3= In Pakistan's cement business, the quick ratio has a detrimental impact on Tobin's Q.

H4= In Pakistan's cement business, the inventory turnover ratio has a detrimental impact on Tobin's Q.

### RESEARCH METHOD

With this strategy, a relationship between each factor is attempted. The deductive approach entails evaluating an assumption by laying out specific

forecasts and gathering data to verify or refute deductions (Hall et al., 2022). This corresponds to the revisionist viewpoint within the conventional and conservative economics theory (Farrokhnia et al., 2022). This study analyses the negative aspects of the financial performance of the cement industry. The sample period for this study is 25 years, from 1997 to 2022. This research is based on a Quantitative approach. Secondary sources were used to gather the study's results in the form of financial statements of cement companies by annual reports of each Cement company certified by the Pakistan Stock Exchange (PSX) every year. Furthermore, data were collected from published articles and research journals. The study covered a period of 25 years, from 1997 to 2022. The financial performance of the cement industry has been measured by profit-maximizing (Tobin's Q). Sustainable WCM is measured by the CCC, current ratio, quick ratio and Inventory turnover ratio. Table 1 lists the values that are calculated for the parameters.

**Table 1:** Data Sources

Variable	Formula	Data Source
Tobin's Q	Market Value / Net Assets	PSX
Cash Conversion Cycle	Days Inventory Outstanding + Days Sales Outstanding - Days Payable Outstanding	PSX
Current Ratio	Current assets / Current liabilities	PSX
Quick Ratio	Existing assets - inventory / Current liabilities	PSX
Inventory Turnover Ratio	Cost of goods sold/ Average inventory	PSX

**Source:** Pakistan Stock Exchange

The Following (Ahmad et al. 2022; Sah et al., 2022; Tiwari et al., 2023) followed the OLS method adopted. These mathematical models were used in the research to illustrate the importance of distinctions between companies and the specific impacts of the parameters chosen inside the companies during the timeframe. The structure of the model is described as follows:

$$TQ = \alpha_0 + \beta_1 CCC + \beta_2 CR + \beta_3 QR + \beta_4 IT + \mu$$

Where; TQ= Tobin's Q.

$\alpha$  = Intercept

$\beta$  = Slope

CCC= Cash conversion cycle

CR= Current ratio

QR= Quick ratio

IT= Inventory Turnover.



## RESULTS AND DISCUSSION

The descriptive statistics in Table 3 provide further information about the study. It includes the lowest, maximum, mean, and standard deviations. Over 25 years, profitability was, on average, 5.5914015. The highest measured business profitability was 17.0, while the lowest was 0.0550. Over 25 years, the mean value of the cash conversion cycle is 0.62, while the maximum value is 4.23, the minimum value is 2.22, and the standard deviation is 1.63. The average current ratio was 2.2648; the maximum was 4.75, and the minimum was 0.63. Over 25 years, the Quick ratio averaged 1.7689; the maximum was 4.60, and the minimum was 0.18. Over 25 years, the average inventory turnover was 2.9933; the greatest was 5.60, and the minimum was 0.65. Karl Pearson's correlation coefficient was used in the study to determine how closely the variables were connected. The strength of a linear relationship between two variables is measured by the Pearson moment-product correlation coefficient, abbreviated as  $r$ , and having a range of values between +1 and -1. The value 0 denotes that there is no correlation between the two variables. A score greater than 0 represents a positive association, whereas a value less than 0 indicates a bad relationship. The Pearson coefficient was used to determine if there was a linear relationship between the elements connected to the dividend policy and the financial profitability. Table 3 shows that the link between two variables is shown in a correlation table, which indicates closely connected two variables are to one another. The findings show a positive correlation between the cash conversion cycle and Tobin's Q ( $r=0.577$ ) (Doruk & Ergün, 2022). There is a strong positive relation between the current ratio and Tobin's Q ( $r= 0.512$ ) (Taheri et al., 2023; Arslan-Ayaydin et al., 2022). Tobin's Q is statistically significant and has a moderate positive relationship with a quick ratio ( $r=0.347$ ). Tobin's Q has a weak negative association with the Inventory turnover ratio ( $r=-0.01$ ). The cash conversion cycle has a strong positive relationship with the current ratio and quick ratio ( $r=0.678$ ,  $r=0.789$ ), while COC has a moderate positive relation with the inventory turnover ratio ( $r=0.456$ ) (Cardao-Pito, 2022). The current and quick ratios' association is also strongly positive ( $r=0.63$ ). A moderate negative correlation exists between the current ratio and inventory turnover ( $r=-0.314$ ). Also, the quick ratio and inventory turnover ratio is a moderate negative correlation ( $r=-0.476$ ).

**Table 2:** Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
Tobin's Q	.0550	17.0000	4.499596	5.5914
Cash Conversion Cycle	0.62	4.23	2.22	1.63
Current Ratio	.63	4.75	2.2648	1.3628
Quick Ratio	.18	4.60	1.7689	1.2613
Inventory Turnover Ratio	.65	5.60	2.9933	.96453

**Source:** Author's Compilation

**Table 3:** Correlation Estimations

	<b>Tobin's Q</b>	<b>Cash Conversion Cycle</b>	<b>Current Ratio</b>	<b>Quick Ratio</b>	<b>Inventory turnover</b>
Tobin's Q	1	.577	.512	.347	-.010
Cash Conversion Cycle	.577	1	.678	.789	.456
Current Ratio	.512	.678	1	.635	-.314
Quick Ratio	.347	.789	.635	1	-.476
Inventory turnover	-.010	.456	-.314	-.476	1

**Source:** Author's Compilation

The researcher entered and calculated the study measures of multiple regression. The proportion of variance in the dependent variable (Tobin's Q) is explained by the four independent variables that measure Sustainable working capital (AYDOĞMUŞ et al., 2022). The coefficient of determination indicates how well changes in the independent factors explain differences in the dependent variable (Cash Conversion cycle, Current, Quick, and inventory turnover ratio).

The summary of the variable model that the research returned is shown in Table 4. The correlation coefficient's (R) value indicates how closely and firmly the independent and dependent variables are related. The correlation coefficient, which ranges from -1 to 1, is 0.561 in this model, indicating a positive link between Tobin's Q, liquidity, solvency, and company size. Our results are similar (Badakhshan & Ball, 2022; Harris & Hampton, 2022; Azam, 2022). The coefficient of determination, or R Squared, shows the overall variance in the dependent variable. Given the above, the statistics of the square R reveal how well the regression model approximates the actual data points and the quality of the adaption of the model. According to the coefficient of determination of 0.314, changes in the cash conversion cycle, current ratio, quick ratio, and inventory turnover ratio account for 31.4% of the variation in Tobin's Q. The model's R square, which measures how well the model represents the actual data, is 0.314. According to the coefficient of determination of 0.561, changes in the cash conversion cycle, current ratio, quick ratio, and inventory turnover ratio account for a 56.1% variation in Tobin's Q supports (Kumpamool & Chancharat, 2022).

Table 05 demonstrates how successfully the regression model predicted Tobin's Q. The model is the statistical significance ( $f= 3.233$ ). The p-value of 0.041, which is less than 0.05, indicates that the cash conversion cycle, current ratio, quick ratio, and inventory turnover ratio predict financial Profitability by Tobin's Q. This shows that the model's likelihood of making an incorrect forecast is 0.041, indicating the model's statistical significance ( $F=3.233$ ,  $p =0.041$ ). Table 6 shows the estimation results of Ordinary Least Square coefficients. Beta depicts the volatility between the cash conversion cycle, current ratio, quick ratio, inventory turnover ratio and Tobin's Q (Chen et al., 2022; Tiwari et al., 2023; Doğan & Kevser, 2020).

COC, Current ratio, Quick Ratio, Inventory Turnover, and Tobin's Q all have a positive beta. The beta 1 value ( $\beta_1 = -0.564$ ,  $p = 0.00$ ) shows that if a 1% increase in the cash conversion cycle, then Cement Industries' profitability will decrease by 56%. The results also support (Hussain et al., 2021; Tiwari et al., 2023; Doğan & Kevser, 2020). Beta 2 is ( $\beta_2 = -0.20$ ,  $p = 0.040$ ) shows that if there is a 1% increase in the current ratio, then the Profitability of Cement Industries will be decreased by 20% (Suhendry et al., 2021; Mulyadi et al., 2020; Soesilo et al., 2020). The beta 3 is ( $\beta_3 = -0.585$ ,  $p = 0.000$ ) shows that if 1% increase in the quick ratio, then the Profitability of Cement Industries will be decreased by 58% (Ramadhanty & Sukmaningrum, 2020; Suhendry et al., 2021; Mulyadi et al., 2020). Beta 4 ( $\beta_4 = -0.244$ ,  $p = 0.004$ ) shows that if 1% increase in inventory turnover increases, Cement Industries' profitability will decrease by 20%. The results are close to those (Boisjoly et al., 2020; Ahmad et al., 2023; Garg & Meenttu, 2022). Table 7 presents the Hypotheses testing of the study. Significance value/ P-value was considered to be supported / not supported for the hypotheses. OLS suggests that the cash conversion cycle adversely affects Tobin's Q in the Cement industry of Pakistan. The ( $p = 0.000$ ) is less than 0.05. Hence, it supported H1. The ( $p = 0.0040$ ) is also less than 0.05, which supports H2. The current ratio adversely affects Tobin's Q in the Cement industry of Pakistan. OLS suggests that the quick ratio adversely affects Tobin's Q in the Cement industry of Pakistan. The ( $p = 0.000$ ) is less than 0.05. Hence, it supported H3. The ( $p = 0.0040$ ) is also less than 0.05, which supports H4. The inventory turnover ratio adversely affects Tobin's Q in the Cement industry of Pakistan. Afterwards, the linked theory is supported; otherwise, it is not. As a result, according to Table 7, the size, liquidity, and solvency of all hypotheses are supported.

**Table 4:** R-Square Estimations

Model	R	R Square	Adjusted Square	Std. Error R
1	.545a	.297	.205	4.9857605

Source: Author's Compilation

**Table 5:** Regression Estimations

		Some of Squares	Df	Mean Square	F	Sig.
1	Regression	241.128	3	80.376	3.2	.041b
	Residual	571.730	23	24.858	33	
	Total	812.858	26			

Source: Author's Compilation

**Table 6: Coefficient Estimations**

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
(Constant)	-4.729	4.635	2.21	-1.020	0.318
Cash Conversion Cycle	0.564	4.556	2.24	1.46	0.000
Current Ratio	0.202	.929	.494	2.182	0.004
Quick Ratio	.0585	1.083	.132	.540	0.000
Inventory turnover	0.244	1.153	.208	1.045	0.004

**Source:** Author's Compilation

**Table 7: Hypotheses Testing**

S. No	Hypothesis	P=Value	Supported / Not Supported
H1	In Pakistan's cement business, the cash conversion cycle has a detrimental impact on Tobin's Q.	0.000	Supported
H2	In Pakistan's cement business, the current ratio has a detrimental impact on Tobin's Q.	0.004	Supported
H3	In Pakistan's cement business, the quick ratio has a detrimental impact on Tobin's Q.	0.000	Supported
H4	In Pakistan's cement business, the inventory turnover ratio has a detrimental impact on Tobin's Q.	0.004	Supported

**Source:** Author's Compilation

## CONCLUSION

This study sought to investigate the connection between sustainable WCM and the financial success of cement industry businesses quoted on the PSX. The material was gathered from the financial statements of specific corporations mentioned within PSX between 1997 and 2022. The data were analyzed using statistical methods such as descriptive statistics, correlation coefficients from Pearson, and multiple regression modelling (OLS). The study's empirical findings demonstrated that the sustainable WCM (CCC, current, quick and inventory turnover ratios) negatively and substantially impact Tobin's Q scores of cement companies. (Suhendry et al., 2021; Boisjoly et al., 2020; Soesilo et al., 2020. The cash conversion cycle increase causes the enhancement of financial performance because more orders receiving from the market, and more cash converts to producing those orders. Once orders are sold in the markets, the financial performance will increase. It has sufficient cash if the current ratio is high. The ability of the

corporation to pay off its obligations increases as the ratio increases. Liabilities will boost a company's financial performance if the current ratio is low, which indicates that you will find it challenging to pay urgent debts. The acid test ratio considerably impacts Tobin's Q of Cement Firms. A greater fast ratio indicates that a business may produce money swiftly during a time of need (Kumpamool & Chancharat, 2022). Inventory Turnover has a substantial adverse impact on Tobin's Q of Cement firms, indicating that increased inventory levels increase the financial performance of corporations (Ramadhanty & Sukmaningrum, 2020; Garg & Meentu, 2022).

The study's practical implications possess the main consequences for cement firms.: (1) efficient stock, unsecured lenders, borrowers, and liquidity control are critical factors in enhancing a company's profitability. (2) Policymakers are going to be able to establish guidelines or experience to handle liquidity and Sustainable working capital for cement companies (3) Executives of the cement industry can determine the best quantity of stock and receivables at different levels, which shall be beneficial to stock control along with the handling of receivables. In light of the findings, the study suggests that sustainable WCM variables, including CCC, current ratio, quick ratio, and inventory turnover ratio, be emphasized in controlling approaches for cement companies since they are critical factors to the sustainability of a firm.

This study was limited due to a lack of data availability; the researcher has used the parametric frontier model profit maximization. This study only focused on secondary data, which have been obtained from the financial statements of Cement companies, which need to be assured. These may be untrustworthy or have some errors. The study has selected a small sample size based on Cement Companies only 25 years, which is a short period and cannot provide proper comprehensive research of the entire cement industries of Pakistan. It will be better to select more Companies from Pakistan to get more accurate and authenticated research. Due to the time lack of data, only four independent variables (CCC, Current, Quick, Inventory turnover of the company) and one dependent variable Tobin's Q, was studied. The researcher suggests that select more independent variables like ROE, ROA, Accounts receivables turnover, Inventory turnover in days, net profit margin, and other debt management ratios. These variables will help you to make the perfect result for the efficiency of cement industries in Pakistan.

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