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WORKING CAPITAL MANAGEMENT IN BANGLADESH'S TEXTILE SECTOR: A COMPARATIVE ANALYSIS

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ABSTRACT

This study examines working capital management (WCM) practices in Bangladesh's textile sector, focusing on listed companies to assess their efficiency in handling short-term assets and liabilities. Analyzing data from 21 textile firms on the Dhaka Stock Exchange (2017–2021), the research evaluates key WCM metrics, including inventory conversion, accounts receivable and payable periods, and the cash conversion cycle (CCC). Findings reveal considerable variation in WCM practices, with CCC values ranging from negative to prolonged periods, highlighting liquidity and operational efficiency challenges. The study suggests firms can improve financial performance through benchmarking, inventory optimization, stricter receivables management, and favorable payable arrangements. Regular WCM monitoring can help address inefficiencies and optimize cash flow. This research offers industry-specific insights and recommends that future studies expand the scope to non-listed firms and apply advanced statistical methods to explore WCM impact on profitability.

Keywords: Working Capital Management, Textile Companies, Cash Conversion Cycle, Bangladesh.

1. INTRODUCTION

Working capital management (WCM) is a critical aspect of financial management that focuses on optimizing a firm's short-term assets and liabilities to maintain liquidity, operational efficiency, and profitability (Hung & Su Dinh, 2022). Effective WCM ensures smooth daily operations by balancing cash flow, improving liquidity, and minimizing financial constraints. This is especially crucial in capital-intensive industries like textiles, where maintaining adequate liquidity is essential for sustaining production and meeting customer demand (Banerjee & Deb, 2024).

In manufacturing, efficient WCM can prevent liquidity shortages and solvency issues, both of which are vital for survival in a competitive global market (Gitman et al., 2015). Proper management of inventory, receivables, and payables helps reduce holding and operational costs, shorten the cash conversion cycle, and free up funds for investment in growth initiatives. Research suggests that firms with shorter cash conversion cycles achieve higher profitability, as their working capital is more effectively utilized (Deloof, 2003). Additionally, WCM plays a key role in risk management, enabling firms to respond swiftly to supply chain disruptions or financial shocks (Sagner, 2014).

For export-driven industries like textiles, robust WCM practices provide a competitive advantage

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by ensuring timely production and delivery. Firms with efficient systems are better positioned to fulfill large orders, strengthen client relationships, and enhance their reputation in international markets (Hillier et al., 2010). In the long run, sound WCM contributes to financial stability by maintaining steady cash flow, reducing reliance on external financing, and supporting investments in innovation and technology (Shin & Soenen, 1998). This is particularly relevant for Bangladesh's textile sector, where limited access to capital necessitates strong internal cash generation to fund expansion and modernization.

The textile industry is a cornerstone of Bangladesh's economy, accounting for over 80% of export earnings and providing significant employment (Kiron, 2023; BTMA, 2021). However, the sector faces challenges in cash flow management, inventory turnover, and receivables collection, making efficient WCM essential for sustainability and growth. Listed textile firms in Bangladesh vary widely in size, operational scope, and financial practices, offering an opportunity to study how different WCM strategies impact corporate performance and profitability. Poor WCM can lead to financial distress, while well-managed working capital enhances liquidity, frees up resources for reinvestment, and boosts profitability (Deloof, 2003; Shin & Soenen, 1998).

Textile firms manage working capital through inventory control, accounts receivable, and accounts payable. Proper inventory management ensures that raw materials are available without excessive stockpiling, which can strain finances. Similarly, efficient receivables management shortens collection periods, improving cash flow. Meanwhile, strategic payables management, delaying payments without harming supplier relationships, can help optimize cash reserves (Jahan et al., 2021).

Global competition and raw material price fluctuations, especially in cotton, put pressure on textile firms operating on thin margins. This makes efficient WCM even more critical, as it can reduce financing costs and enhance profitability. However, studies indicate that many textile firms in Bangladesh struggle with inefficiencies in WCM, leading to liquidity issues and lower profitability (Islam et al., 2013).

In response, listed textile firms have adopted more sophisticated WCM strategies, such as just-in-time (JIT) inventory systems, improved trade credit management, and optimized short-term financing. A comparative analysis of these practices can reveal which strategies are most effective in maintaining liquidity and profitability. Understanding WCM dynamics in listed textile firms is valuable for both researchers and industry practitioners, offering benchmarks for performance, identifying best practices, and providing recommendations for optimizing working capital in this key sector.

This study aims to analyze the WCM practices of listed textile firms in Bangladesh, evaluating key metrics such as the cash conversion cycle, inventory turnover, and accounts receivable/payable periods. The findings will provide insights into the effectiveness of current WCM strategies and highlight areas for improvement.

2. LITERATURE REVIEW

Working capital management (WCM) focuses on managing a firm's short-term assets and liabilities to maintain adequate liquidity for its operations. Key components of WCM inventory

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management, accounts receivable, and accounts payable (Rukh et al., 2023; Hossain, 2020; Khan et al., 2020) significantly impact a company's financial performance (Hung & Su Dinh, 2022; Banerjee & Deb, 2024). This section provided a review of the key components of working capital management.

2.1 Inventory Conversion Period

The inventory conversion period (ICP) is a key aspect of working capital management, particularly in industries like textiles, where efficient inventory management is essential for operational success and profitability. The ICP measures the time required for a company to acquire raw materials, transform them into finished products, and sell them to customers. Essentially, it indicates how long a firm's capital remains tied up in inventory before being converted into cash through sales (Rukh et al., 2023; Ahmed et al., 2017; Deloof, 2003).

For textile companies in Bangladesh, managing the ICP effectively is crucial due to the industry's heavy reliance on raw materials, especially cotton, and the extended production cycles involved in garment manufacturing. Compared to other sectors, the textile industry has a longer ICP because of multiple production stages, including spinning, weaving, dyeing, and finishing, all of which must be completed before the final product is ready for sale. Delays at any stage can further extend the ICP, increasing the amount of working capital tied up in inventory. Additionally, many textile firms maintain high levels of raw materials and work-in-progress inventory to prevent production disruptions, further lengthening the ICP (Rahman & Ahmed, 2021).

As one of the world's largest textile exporters, Bangladesh relies on efficient inventory management to remain competitive. Poor inventory management extends the ICP and negatively affects liquidity, profitability, and overall financial performance. Hoque et al. (2015) highlight that a prolonged ICP leads to higher storage costs, greater risks of inventory obsolescence or spoilage, and increased capital requirements, all of which reduce profitability.

Textile companies in Bangladesh that effectively shorten their ICP gain a competitive edge by minimizing the time between purchasing raw materials and receiving cash from sales. Many firms have adopted Just-in-Time (JIT) inventory management to reduce holding costs and streamline the ICP (Jahan et al., 2021; Ahmed et al., 2017). These strategies help maintain optimal inventory levels, limit excessive capital investment, and enhance financial performance.

Several empirical studies have analyzed the link between ICP and financial performance in Bangladesh's textile sector. Hossin & Begum (2020) found a strong positive correlation between a shorter ICP and higher profitability among listed textile firms. Their study showed that companies with shorter ICPs manage working capital more efficiently, leading to improved liquidity and reduced reliance on external financing. Similarly, Rahman (2011) examined the working capital practices of 20 listed textile firms and found that firms with shorter ICPs achieved higher profitability ratios. The study emphasized that reducing the ICP frees up cash for operational needs, lowering the risk of liquidity constraints. These findings align with broader research, suggesting that optimizing the ICP is critical for financial stability in capital-intensive industries (Deloof, 2003).

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In summary, the ICP plays a vital role in determining the efficiency of working capital management in Bangladesh's textile sector. Effective ICP management directly impacts profitability by improving liquidity and reducing carrying costs. As the industry faces increasing global competition, textile firms must adopt more efficient inventory management strategies to shorten their ICP and strengthen their financial position.

2.2 Accounts Receivable Conversion Period

The accounts receivable conversion period (ARCP), also known as the receivables collection period, is a key aspect of working capital management, particularly in capital-intensive industries such as textiles. It represents the average number of days a company takes to collect payments from customers after completing a sale. Effective ARCP management is essential for maintaining cash flow, liquidity, and financial stability, especially in the textile sector, where extended credit cycles and intense global competition pose significant challenges (Gupta, 2017).

In Bangladesh's textile industry, the ARCP plays a critical role due to the sector's heavy reliance on export markets. Many Bangladeshi textile firms offer credit to international buyers, resulting in prolonged receivable periods. Delays in collecting payments can severely disrupt liquidity, often forcing companies to rely on short-term borrowing, which increases financial costs. Additionally, extended receivable periods can create cash flow mismatches, limiting a firm's ability to invest in raw materials, labor, and equipment (Hossain, 2020).

Research indicates that many Bangladeshi textile companies struggle to manage their ARCP efficiently. Factors such as inefficient billing processes, long credit terms, and delays in international payments often lead to longer collection periods than industry standards. Hossain (2020) found that the average ARCP for listed textile firms in Bangladesh ranges from 50 to 90 days, exceeding recommended benchmarks. These extended periods negatively affect liquidity and profitability, highlighting the need for more effective receivables management strategies.

To optimize the ARCP, several approaches have been proposed for Bangladesh's textile firms. One strategy involves tightening credit policies to ensure timely customer payments. Another focuses on enhancing invoicing systems to minimize administrative delays. Additionally, the use of trade finance instruments such as letters of credit can reduce the risk of non-payment from international buyers (Fatema et al., 2018). By shortening the ARCP, companies can improve cash flow, lower borrowing costs, and enhance profitability.

However, firms must carefully balance ARCP optimization with customer relationship management. Offering flexible credit terms can be a competitive advantage, particularly in export-driven industries where buyers expect favorable payment options. As a result, Bangladeshi textile firms must strike a balance between maintaining liquidity and fostering strong client relationships (Islam et al., 2013).

In conclusion, the ARCP is a crucial component of working capital management in the textile industry. While efficient receivables management can enhance liquidity and financial performance, companies must also ensure that credit policies remain competitive to sustain long-term business relationships in the global market.

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2.3 Accounts Payable Conversion Period

The Accounts Payable Conversion Period (APCP) measures the average time a company takes to pay its suppliers after purchasing goods or services on credit. It is a key part of the cash conversion cycle, which evaluates how effectively a company handles its working capital. A longer APCP can enhance liquidity by keeping cash available for extended periods, while a shorter APCP may indicate strong supplier relationships or favorable credit terms (Hill et al., 2010).

In Bangladesh's textile industry, where high capital investments and reliance on imported raw materials are common, managing the APCP is especially important. Proper accounts payable management helps textile firms balance liquidity and supplier trust, optimizing working capital. Due to intense competition and volatile raw material costs, many companies in this sector struggle with liquidity, making APCP a crucial factor for financial health (Hossin & Begum, 2020).

To ease cash flow pressures, textile firms in Bangladesh often negotiate extended payment terms with suppliers. A longer APCP allows them to use funds for other needs, like production or inventory, without exhausting cash reserves. However, delaying payments too much can harm supplier relations, risking supply chain disruptions or higher future costs (Mazumder, 2023). Research shows that the average APCP in Bangladesh's textile sector is 40 to 60 days, varying by company size and bargaining power. Smaller firms, with less negotiation leverage, often have shorter APCPs (Hossin & Begum, 2020).

An optimal APCP is vital for balancing liquidity and profitability. A study by Khan et al. (2020) on listed textile firms in Bangladesh found that while a longer APCP boosts liquidity, excessive delays can reduce returns. Companies with a moderate APCP tended to be more profitable than those with extremely short or extended payment periods. This suggests that a well-managed APCP, aligned with other working capital components, supports long-term sustainability in the industry.

Bangladesh's textile sector faces unique challenges, such as raw material price swings and strict international supplier standards that affect APCP management. Additionally, evolving global supply chains and sustainability demands have made accounts payable management more complex. Firms that strategically optimize payment terms without straining supplier relations are better positioned for long-term success (Ahmed et al., 2017).

In summary, effective APCP management is critical for working capital efficiency in Bangladesh's textile industry. It influences liquidity, profitability, and supplier stability, key factors for businesses dependent on timely raw material access.

2.4 Cash Conversion Cycle

The cash conversion cycle (CCC) is a crucial measure of working capital management (WCM) efficiency, reflecting how quickly a company turns its inventory and accounts receivable (AR) into cash (Jaworski & Czerwonka, 2022; Ahmed et al., 2017). A shorter CCC means faster cash recovery, while a longer CCC signals inefficiency in managing working capital. In Bangladesh's textile industry, research by Karim et al. (2024) shows that firms with shorter CCCs tend to be more profitable because they minimize the time capital is locked in inventory and unpaid invoices.

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However, companies must balance CCC reduction with operational stability. Cutting inventory too aggressively to shorten the CCC may lead to stock-outs and production delays (Karim et al., 2024). Similarly, pushing too hard for faster AR collections or delaying payments to suppliers can damage customer and supplier relationships.

Existing research on Bangladesh's textile sector emphasizes the need for efficient management of inventory, accounts receivable (AR), and accounts payable (AP) to enhance liquidity and profitability (Jahan et al., 2021; Karim et al., 2018). While some firms have adopted just-in-time (JIT) inventory systems and strategic trade credit, challenges like supply chain disruptions and international payment delays persist. More comparative studies are needed to determine the best WCM strategies for listed textile companies in Bangladesh.

3. METHODS

This study aims to compare working capital management (WCM) practices in listed textile companies in Bangladesh. Below is a streamlined overview of the research design, sample selection, data collection, and analysis methods used.

3.1 Research Design

Quantitative research design is employed to analyze numerical data related to WCM practices. This design is well-suited for exploring the efficiency of inventory management, receivables collection, payables management, and the cash conversion cycle across different companies. It allows for a clear comparative analysis of WCM practices within the textile sector (Creswell & Creswell, 2018).

3.2 Sample Selection

The sample consists of 21 textile companies listed on the Dhaka Stock Exchange (DSE), selected based on the following criteria:

- The companies have been consistently listed on the DSE for the last five years.
- They provide publicly available financial data for the study period (2017–2021).
- They represent different segments of the textile industry, including spinning, weaving, knitting, and apparel manufacturing.

These criteria ensure the sample accurately reflects the diverse textile industry in Bangladesh, making the findings relevant across the sector.

3.3 Data Collection

Secondary data were collected from the annual reports of the selected textile companies, which were accessed via the DSE website, company websites, and the Bangladesh Securities and Exchange Commission (BSEC). The data spans from 2017 to 2021, focusing on key working capital metrics:

- Inventory Conversion Period
- Accounts Receivable Conversion Period
- Accounts Payable Conversion Period
- Cash Conversion Cycle

In addition to company reports, industry reports, and relevant literature were reviewed to provide

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additional context for the analysis (Sekaran & Bougie, 2016).

3.4 Analytical Methods

The study uses panel data analysis to explore working capital management practices. This approach is ideal as it allows for the analysis of both cross-sectional and time-series data over multiple periods, helping capture both firm-specific and industry-wide factors (Wooldridge, 2010). Descriptive statistics, including means, medians, and standard deviations, are applied to each variable. The analysis was conducted using SPSS statistical software to ensure accurate and efficient data processing.

3.5 Ethical Considerations

The study relies solely on secondary data from publicly available sources, meaning there are no direct interactions with human participants. The research adheres to ethical guidelines for using publicly accessible data, ensuring that no personal or sensitive information is involved. Additionally, all data sources are appropriately cited in line with academic integrity standards.

4. RESULT AND DISCUSSION

4.1 Working Capital Management Practices

Working capital management means carefully handling a company's short-term finances, like cash, inventory, customer payments (accounts receivable), and supplier bills (accounts payable). When done well, it ensures the business has enough money to cover daily expenses and debts while avoiding unnecessary costs. Good working capital management keeps operations running smoothly, improves cash flow, and boosts profits by using resources efficiently. The following Table 1 presents a summary of key working capital management (WCM) metrics from 2017 to 2021, focusing on inventory, receivables, payables, and the cash conversion cycle in the textile sector of Bangladesh.

Table 1: Working Capital Management Practices

WCM	2017	2018	2019	2020	2021	Mean	Min	Max	SD	CV
ICP (days)	115.39	149.74	213.10	271.42	200.76	190.08	115.39	271.42	53.79	0.28
ARCP (days)	126.16	134.53	156.99	180.49	151.70	180.49	149.98	126.16	18.92	0.10
APCP (days)	57.60	53.21	59.55	61.51	52.67	61.51	56.90	52.67	3.47	0.06
CCC (days)	183.96	231.07	310.55	393.33	299.79	393.33	283.74	183.96	71.72	0.18
ICP = Inventory Conversion Period, ARCP = Accounts Receivable Conversion period, APCP = Accounts payable conversion period, CCC = Cash conversion cycle										

Inventory Conversion Period (ICP) measures the average number of days required to convert inventory into sales. Over the five years, ICP increased from 115.39 days in 2017 to 271.42 days in 2020, before slightly declining to 200.76 days in 2021. The mean ICP is 190.08 days, with values ranging from a minimum of 115.39 days to a maximum of 271.42 days. A standard deviation (SD) of 53.79 days indicates moderate variability, while a coefficient of variation (CV)

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of 0.28 suggests that ICP fluctuates moderately relative to the mean. Bangladesh's textile companies generally take a long time to convert inventory into sales, which may indicate inefficiencies in inventory management, such as excessive stock levels or slow-moving inventory.

Accounts Receivable Collection Period (ARCP) represents the average number of days taken to collect payments from customers. ARCP gradually increased from 126.16 days in 2017 to 180.49 days in 2020, before decreasing to 151.70 days in 2021. The mean ARCP is 180.49 days, with an SD of 18.92 days, indicating relatively stable collection times. The CV of 0.10 suggests low variability across the years. The long collection period indicates potential difficulties in collecting payments promptly, which could negatively impact cash flow and overall financial health.

Accounts Payable Collection Period (APCP) tracks the average number of days companies take to pay their suppliers. APCP fluctuated slightly, ranging from 52.67 days in 2021 to 61.51 days in 2020. With a low SD of 3.47 days and a CV of 0.06, this metric shows minimal variability, indicating consistent supplier payment practices over time.

Cash Conversion Cycle (CCC) measures the total time required to convert investments in inventory and other resources into cash inflows from sales. The CCC increased from 183.96 days in 2017 to 393.33 days in 2020, before decreasing to 299.79 days in 2021. With a mean of 283.74 days and an SD of 71.72 days, the CCC shows the highest variability among these metrics, while a CV of 0.18 indicates moderate fluctuations over time. The extended CCC suggests potential liquidity challenges, as a longer cycle means capital remains tied up for an extended period before generating cash.

The data indicate that rising ICP and ARCP have contributed to an extended CCC, which can strain cash flow if not managed efficiently. Meanwhile, APCP has remained stable, suggesting that companies maintain consistency in supplier payments. To enhance liquidity and financial performance, textile firms could focus on reducing ICP and ARCP, thereby shortening the CCC and improving cash flow efficiency.

4.2 Company-wise Comparative Working Capital Management Practices

This section presents a comparison of working capital management practices among listed textile companies in Bangladesh. The following Table 2 presents a comparative analysis of working capital management (WCM) practices among listed textile companies in Bangladesh from 2017 to 2021.

Inventory Conversion Period (ICP) represents the average number of days required to convert inventory into sales. The results show significant variation among companies, ranging from 25.50 days (Apex Spinning & Knitting Mills Limited) to 831.34 days (Alltex Industries Ltd.), with an average of 190.08 days. This wide range suggests that some companies manage inventory far more efficiently than others, impacting liquidity and profitability. A high standard deviation (SD) of 174.07 days and a coefficient of variation (CV) of 0.92 indicate considerable inconsistency in inventory management across firms.

Accounts Receivable Conversion Period (ARCP) measures the average time taken to collect

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payments from credit sales. The collection period varies from 6.11 days (Al-Haj Textile Mills Limited) to 448.87 days (Alltex Industries Ltd.), with a mean of 149.98 days. A high SD of 94.54 days suggests a broad disparity in collection efficiency, while a CV of 0.63 reflects moderate variation. Companies with shorter ARCP manage receivables efficiently, ensuring better cash flow, whereas firms with extended receivable periods may struggle with liquidity constraints.

Table 2: Comparative Working Capital Management Practices

Company Name	ICP (in days)	ARP (in days)	APP (in days)	CCC (in days)
Aman Cotton Fibrous Limited	336.13	167.57	3.77	499.93
Al-Haj Textile Mills Limited	469.83	6.11	47.49	428.45
Alltex Industries Ltd.	831.34	448.87	10.98	1269.23
Anlimayarn Dyeing Ltd.	124.16	175.91	33.90	266.17
Apex Spinning & Knitting Mills Limited	25.50	51.24	140.99	-64.25
Argon Denims Limited	131.87	204.08	6.48	329.48
Dragon Sweater and Spinning Limited	94.99	260.07	2.94	352.12
Envoy Textiles Limited	131.01	141.12	29.32	242.82
Esquire Knit Composite PLC.	165.55	44.56	115.03	95.08
Far East Knitting & Dyeing Industries Limited	106.03	127.49	2.70	230.82
Generation Next Fashions Limited	184.03	140.95	8.92	316.06
Hamid Fabrics Limited	123.55	202.59	153.44	172.70
Malek Spinning Mills Ltd.	128.67	90.93	41.22	178.37
Matin Spinning Mills PLC.	74.18	80.12	8.33	145.97
Mozaffar Hossain Spinning Mills Ltd.	284.41	267.08	9.83	541.67
Rahim Textile Mills Ltd.	98.08	115.48	146.80	66.75
Regent Textile Mills Limited	213.00	180.43	191.89	201.54
Saiham Cotton Mills Limited	200.57	127.52	21.37	306.73
Shasha Denims Limited	106.16	164.87	142.91	128.11
Square Textiles PLC.	89.73	103.97	5.08	188.62
Tosrifa Industries Limited	72.94	48.52	68.80	52.66
Average	190.08	149.98	56.77	283.29
Min	25.50	6.11	2.70	-64.25
Max	831.34	448.87	191.89	1269.23
SD	174.07	94.54	61.48	263.50
CV	0.92	0.63	1.08	0.93

Accounts Payable Conversion Period (APCP) represents the average time taken by companies to pay their suppliers. The APCP varies significantly, ranging from 2.70 days (Far East Knitting &

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Dyeing Industries Limited) to 191.89 days (Regent Textile Mills Limited), with an average of 56.77 days. A high SD of 61.48 days and a CV of 1.08 indicate substantial inconsistency in supplier payment practices. Companies with longer APCP may be extending payment timelines to preserve cash flow, but excessive delays could strain supplier relationships.

Cash Conversion Cycle (CCC) measures the net number of days a company takes to convert investments in inventory and receivables into cash. The CCC varies widely, from -64.25 days (Apex Spinning & Knitting Mills Limited) to 1269.23 days (Alltex Industries Ltd.). A negative CCC, as seen in Apex Spinning, indicates strong liquidity, as the company generates cash from sales before paying suppliers. Conversely, companies with long CCC, such as Alltex Industries Ltd. and Mozaffar Hossain Spinning Mills Ltd., may face significant cash flow constraints. With an average CCC of 283.29 days, an SD of 263.50, and a CV of 0.93, the data highlight substantial variability in working capital efficiency across firms.

The findings suggest that textile companies in Bangladesh exhibit significant differences in WCM practices, particularly in ICP, ARCP, APCP, and CCC. Firms with shorter ICP, ARCP, and CCC tend to manage working capital more efficiently, benefiting cash flow and profitability. In contrast, companies with prolonged CCC may struggle with liquidity issues and could improve financial performance by optimizing inventory turnover, accelerating receivables collection, and managing payables more strategically.

4.3 Category-wise Comparative Working Capital Management Practices

Textile companies are classified into three categories based on their functions and activities: Spinning, Textile, and Knit Composite. Spinning involves twisting individual fiber strands to produce yarn, which serves as the foundation of the textile industry. This yarn is later used in fabric production. Textile companies convert yarn into various types of fabrics and cloth through processes such as knitting, yarn dyeing, weaving, drying, washing, finishing, and other treatments. Knit Composite integrates multiple textile processes, particularly those involving wool. These include yarn dyeing, knitting, fabric dyeing, washing, printing, embroidery, and garment production. Each category plays a crucial role in the textile supply chain, contributing to the transformation of raw fibers into finished clothing and other textile products.

4.3.1 Working Capital Management Practices of Spinning Category

The following table provides a comparative analysis of working capital management practices for spinning category textile companies in Bangladesh.

Table 3 presents key working capital management (WCM) metrics for spinning category textile companies in Bangladesh. The data reveal significant variations in inventory, receivables, payables, and cash conversion cycles across different firms.

The ICP varies widely among spinning companies. Matin Spinning Mills PLC has the shortest ICP at 74.18 days, indicating efficient inventory turnover. In contrast, Al-Haj Textile Mills Limited has the longest ICP at 469.83 days, suggesting slower inventory movement. The average ICP across companies is 213.46 days, with a standard deviation (SD) of 130.31, highlighting notable differences in inventory management efficiency.

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Table 3: Working Capital Management Practices of Spinning Category

Company Name	ICP (in days)	ARCP (in days)	APCP (in days)	CCC (in days)
Aman Cotton Fibrous Limited	336.13	167.57	3.77	499.93
Al-Haj Textile Mills Limited	469.83	6.11	47.49	428.45
Anlimayarn Dyeing Ltd.	124.16	175.91	33.90	266.17
Malek Spinning Mills Ltd.	128.67	90.93	41.22	178.37
Matin Spinning Mills PLC	74.18	80.12	8.33	145.97
Mozaffar Hossain Spinning Mills Ltd.	284.41	267.08	9.83	541.67
Saiham Cotton Mills Limited	200.57	127.52	21.37	306.73
Square Textiles PLC.	89.73	103.97	5.08	188.62
Average	213.46	127.40	21.37	319.49
Min	74.18	6.11	3.77	145.97
Max	469.83	267.08	47.49	541.67
SD	130.31	72.72	16.25	143.16
CV	0.61	0.57	0.76	0.45

The time taken to collect receivables also differs significantly. Al-Haj Textile Mills Limited has the lowest ARCP of 6.11 days, reflecting fast collection practices. Conversely, Mozaffar Hossain Spinning Mills Ltd. has the longest ARCP at 267.08 days, indicating delayed payment collections. The sector's average ARCP is 127.4 days, with a standard deviation of 72.72, emphasizing substantial variation in collection efficiency.

The APCP ranges from 3.77 days (Aman Cotton Fibrous Limited) to 47.49 days (Al-Haj Textile Mills Limited), with an average of 21.37 days. The coefficient variation (CV) of 0.76 indicates that supplier payment strategies vary considerably among spinning firms.

The CCC, which represents the total time required to complete the working capital cycle, also shows notable differences. Mozaffar Hossain Spinning Mills Ltd. has the longest CCC at 541.67 days, suggesting potential liquidity constraints due to slower inventory turnover and receivables collection. In contrast, Matin Spinning Mills PLC has the shortest CCC at 145.97 days, reflecting greater efficiency in cash flow management. The sector's average CCC is 319.49 days, with an SD of 143.16 days, indicating significant variations in working capital efficiency.

The high standard deviation and CV across ICP, ARCP, and APCP highlight considerable disparities in WCM practices among spinning companies. Matin Spinning Mills PLC demonstrates the most efficient WCM, with a short CCC, indicating strong liquidity management. Mozaffar Hossain Spinning Mills Ltd., with the longest CCC, may experience greater liquidity challenges due to slower turnover.

These findings suggest that spinning companies can enhance liquidity and operational efficiency

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by optimizing inventory management, accelerating receivables collection, and strategically managing payables. This analysis underscores the importance of effective WCM in maintaining financial stability and competitiveness within Bangladesh's textile sector.

4.3.2 Working Capital Management Practices of Textile Category

This section presents a comparative analysis of working capital management practices among textile category companies in Bangladesh's textile sector.

Table 4: Working Capital Management Practices of Textile Category

Company Name	ICP (in days)	ARCP (in days)	APCP (in days)	CCC (in days)
Alltex Industries Ltd.	831.34	448.87	10.98	1269.23
Argon Denims Limited	131.87	204.08	6.48	329.48
Hamid Fabrics Limited	123.55	202.59	153.44	172.70
Rahim Textile Mills Ltd.	98.08	115.48	146.80	66.75
Regent Textile Mills Limited	213.00	180.43	191.89	201.54
Average	279.57	230.29	101.92	407.94
Min	98.08	115.48	6.48	66.75
Max	831.34	448.87	191.89	1269.23
SD	278.56	113.93	77.64	438.71
CV	1.00	0.49	0.76	1.08

Table 4 represents key working capital management (WCM) metrics for the textile category of the textile sector in Bangladesh, revealing significant variations in inventory, receivables, payables, and cash conversion cycles across companies.

The ICP varies significantly, ranging from 98.08 days (Rahim Textile Mills Ltd.) to 831.34 days (Alltex Industries Ltd.), with an average of 279.57 days. The high standard deviation (SD) of 278.56 days and a coefficient of variation (CV) of 1.00 indicate extreme variability in inventory management efficiency. Some companies hold inventory for extended periods, potentially affecting liquidity and profitability.

The ARCP ranges from 115.48 days (Rahim Textile Mills Ltd.) to 448.87 days (Alltex Industries Ltd.), with a mean of 230.29 days. The SD of 113.93 days and CV of 0.49 suggest moderate variability in receivables collection efficiency across companies. While some firms collect payments efficiently, others experience delays that could strain cash flow.

The APCP, which measures the time taken to pay suppliers, ranges from 6.48 days (Argon Denims Limited) to 191.89 days (Regent Textile Mills Limited), with an average of 101.92 days. The SD of 77.64 days and CV of 0.76 indicate considerable variation. Some companies extend payment timelines, which may improve short-term liquidity but could strain supplier relationships.

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The CCC, representing the total time required to convert working capital into cash, shows extreme differences. It ranges from 66.75 days (Rahim Textile Mills Ltd.) to 1269.23 days (Alltex Industries Ltd.), with an average of 407.94 days. The high SD of 438.71 days and CV of 1.08 highlight major discrepancies in working capital efficiency. Rahim Textile Mills Ltd., with the shortest CCC, demonstrates strong liquidity and efficient cash flow management. Alltex Industries Ltd., with the longest CCC, may struggle with cash flow delays, potentially impacting its financial health.

The high variability in ICP, ARCP, APCP, and CCC (as seen from the CV values) indicates inconsistent WCM practices among textile mills. Some companies efficiently manage inventory and receivables, while others experience delays that could hinder cash flow. Firms with longer CCCs may benefit from optimizing inventory turnover, improving receivables collection, and balancing payables management to enhance overall liquidity and financial stability.

4.3.3 Working Capital Management Practices of Knit Composite Category

The table below presents a comparative analysis of working capital management for textile companies in the knit composite category.

Table 5: Working Capital Management Practices of Knit Composite Category

Company Name	ICP (in days)	ARCP (in days)	APCP (in days)	CCC (in days)
Apex Spinning & Knitting Mills Limited	25.50	51.24	140.99	-64.25
Dragon Sweater and Spinning Limited	94.99	260.07	2.94	352.12
Envoy Textiles Limited	131.01	141.12	29.32	242.82
Esquire Knit Composite PLC	165.55	44.56	115.03	95.08
Far East Knitting & Dyeing Industries Limited	106.03	127.49	2.70	230.82
Generation Next Fashions Limited	184.03	140.95	8.92	316.06
Shasha Denims Limited	106.16	164.87	142.91	128.11
Tosrifa Industries Limited	72.94	48.52	68.80	52.66
Average	110.78	122.35	63.95	169.18
Min	25.50	44.56	2.70	-64.25
Max	184.03	260.07	142.91	352.12
SD	47.13	68.97	57.56	132.05
CV	0.43	0.56	0.90	0.78

Table 5 presents a detailed overview of key working capital metrics for the Knit Composite category of textile companies, revealing significant differences in their efficiency in managing inventory, receivables, payables, and cash conversion cycles.

The ICP ranges from 25.50 days (Apex Spinning & Knitting Mills Limited) to 184.03 days (Generation Next Fashions Limited), with an average of 110.78 days. The standard deviation (SD) of 47.13 days and coefficient of variation (CV) of 0.43 indicate moderate variability, meaning that

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while some companies manage inventory turnover efficiently, others experience slower inventory conversion.

The ARCP shows a wide range, from 44.56 days (Esquire Knit Composite PLC) to 260.07 days (Dragon Sweater and Spinning Limited), with an average of 122.35 days. The SD of 68.97 days and CV of 0.56 suggest moderate to high variability, indicating differences in credit policies or collection efficiencies across the companies.

The APCP spans from 2.70 days (Far East Knitting & Dyeing Industries Limited) to 142.91 days (Shasha Denims Limited), with an average of 63.95 days. The SD of 57.56 and CV of 0.90 indicate high variability in payment practices, with some companies paying suppliers quickly while others extend payment terms, which could impact liquidity and supplier relationships.

The CCC ranges from -64.25 days (Apex Spinning & Knitting Mills Limited, indicating a net cash inflow where collections and inventory turnover exceed payments) to 352.12 days (Dragon Sweater and Spinning Limited), with an average of 169.18 days. The high SD of 132.05 and CV of 0.78 highlight significant variability in cash conversion efficiency. While some companies have efficient cash flow, others face delays in converting resources into cash.

The wide variability in ICP, ARCP, APCP, and CCC across companies suggests that there is room for improvement in working capital management. Companies that take longer to convert inventory or collect receivables may benefit from:

Optimizing inventory management, possibly by adopting just-in-time strategies to reduce excess stock. Reviewing credit policies and improving collection efficiency to shorten the ARCP and boost cash flow. Streamlining payment processes to ensure timely payments to suppliers, which can also enhance supplier relationships without straining liquidity. Improving these areas could lead to better liquidity, reduced financing costs, and enhanced overall financial performance.

4.3.4 Summary of Comparative Working Capital Management Practices Category-wise

The following Table 6 compares Working Capital Management practices across three categories, Spinning, Textile, and Knit Composite.

The Textile category has the highest ICP at 279.57 days, indicating a slower inventory turnover. This suggests that capital is tied up in unsold inventory for a longer period, potentially limiting liquidity. The Spinning category follows with an ICP of 213.46 days, reflecting moderate inventory management efficiency. The Knit Composite category demonstrates the best inventory turnover with an ICP of 110.78 days, suggesting more efficient inventory management.

The Textile category also has the longest ARCP at 230.29 days, indicating slower collection processes that could negatively impact cash flow. The Spinning category shows a better ARCP of 127.40 days, indicating more efficient collections. Once again, the Knit Composite category outperforms the others with the shortest ARCP of 122.35 days, which helps maintain a healthier cash flow.

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Table 6: Comparative Working Capital Management Practices of Category-wise

Company Category	ICP (in days)	ARCP (in days)	APCP (in days)	CCC (in days)
Spinning	213.46	127.40	21.37	319.49
Textile	279.57	230.29	101.92	407.94
Knit Composite	110.78	122.35	63.95	169.18

The Textile category reports the longest APCP at 101.92 days, which could provide additional liquidity by delaying cash outflows. However, excessively long payment periods may strain supplier relationships. The Knit Composite category has a moderate APCP at 63.95 days, while the Spinning category has the shortest APCP at 21.37 days, indicating faster payments to suppliers.

The Cash Conversion Cycle (CCC), which combines ICP, ARCP, and APCP, provides an overall measure of working capital efficiency. The Textile category has the longest CCC at 407.94 days, reflecting a slower cash flow cycle, which may limit liquidity. The Spinning category follows with a CCC of 319.49 days, indicating moderate efficiency. The Knit Composite category has the shortest CCC at 169.18 days, highlighting its superior working capital management and faster conversion of resources into cash.

This comparison suggests that Knit Composite Textile Mills have optimized their working capital management, offering greater liquidity and flexibility in operations. Companies in the Textile and Spinning categories may benefit from improving inventory turnover, speeding up receivables collection, and managing payables more efficiently. Specifically, Textile companies should focus on reducing their ICP and ARCP to enhance cash flow and reduce capital tied up in unsold inventory and receivables. Spinning companies might optimize APCP by balancing prompt supplier payments with the need for liquidity. Knit Composite companies should maintain their efficient working capital practices, while also exploring opportunities for further optimization in their inventory and receivables management.

5. CONCLUSION

Working capital management (WCM) is a crucial aspect of financial management, focusing on efficiently managing a company's short-term assets and liabilities to ensure smooth operations and profitability. This study aims to compare the WCM practices of listed textile companies in Bangladesh. By analyzing key WCM metrics, such as the cash conversion cycle, inventory turnover, and accounts receivable and payable periods, the research evaluates the effectiveness of current practices and identifies areas for improvement.

This study uses a quantitative research approach, analyzing data on various WCM metrics, including the inventory conversion period (ICP), accounts receivable conversion period (ARCP), accounts payable conversion period (APCP), and the cash conversion cycle (CCC). The sample consists of 21 textile companies listed on the Dhaka Stock Exchange (DSE), with data spanning from 2017 to 2021. Descriptive statistics—such as mean, median, standard deviation, and

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coefficient of variation—were used to assess the variability and efficiency of working capital practices across the companies.

The study reveals the ICP ranges from 25.50 days for Apex Spinning & Knitting Mills Limited to 831.34 days for Alltex Industries Ltd., with an average of 190.08 days. This indicates wide differences in inventory management efficiency among companies. The finding also states that the ARCP varies from 6.11 days for Al-Haj Textile Mills Limited to 448.87 days for Alltex Industries Ltd., with a mean of 149.98 days. The high standard deviation of 94.54 suggests considerable variation in how quickly companies collect receivables. It is also found that the APCP ranges from 2.70 days for Far East Knitting & Dyeing Industries Limited to 191.89 days for Regent Textile Mills Limited, with an average of 56.77 days. The high coefficient of variation (CV) of 1.08 indicates significant inconsistency in payment practices. Furthermore, the CCC varies widely, from a negative -64.25 days for Apex Spinning & Knitting Mills Limited (indicating cash is generated from sales before paying suppliers) to 1269.23 days for Alltex Industries Ltd. The average CCC is 283.29 days, with a high standard deviation of 263.50 and a CV of 0.93, highlighting significant differences in working capital efficiency.

Implications for Management

The findings suggest several areas for improvement and strategies for optimizing working capital.

- Bench-marking: Companies can compare their performance to industry averages and best practices to identify opportunities for improvement.
- Inventory Optimization: Implementing techniques such as Just-in-Time (JIT) inventory or Economic Order Quantity (EOQ) can reduce holding costs and improve cash flow.
- Receivables Management: Strict credit policies, efficient collection procedures, and offering early payment discounts can help accelerate cash inflows.
- Payables Management: Negotiating favorable payment terms with suppliers and optimizing payment schedules can help manage cash outflows effectively.
- Continuous Monitoring: Regular tracking of working capital metrics and key performance indicators can help identify issues early and allow for timely corrective actions.

By implementing these strategies, textile companies can enhance their working capital efficiency, improve cash flow, and strengthen overall financial performance.

Future studies could expand the sample to include non-listed textile companies, which represent a large portion of the industry, providing a more comprehensive understanding of WCM practices across the sector. Additionally, while this study used descriptive analysis, future research could employ advanced techniques like regression analysis, factor analysis, or panel data analysis to gain deeper insights into the relationship between working capital management and profitability.

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