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Impact of Working Capital Management on Firm Profitability: Evidence from Pakistan's Textile Sector

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Abstract
The objective of this study is to assess the impact of working capital management on firm profitability within the textile sector of Pakistan, a crucial and highly productive area in the country. Effective management of resources and obligations is imperative for enhancing productivity in this sector. To achieve this objective, panel data spanning six years from 2006 to 2011 for 115 textile companies listed on the Karachi Stock Exchange is utilized. Profitability of the firm is measured using Return on Assets, while the working capital investment policy is assessed through the Current Assets to Total Assets ratio, and the working capital financing policy is examined using the Current Liabilities to Total Assets ratio. Additionally, the impact of firm size and the quick ratio on firm performance is also analyzed. The analysis employs Generalized Least Squares regression with panel data, chosen for its ability to provide more accurate estimates compared to Ordinary Least Squares regression. Through this rigorous methodology, the study aims to offer insights into the relationship between working capital management practices and firm profitability in the textile sector of Pakistan. The results of the study indicate that a conservative working capital investment policy has a positive impact on firm profitability within the textile sector of Pakistan. Additionally, an aggressive working capital financing policy is found to influence profitability positively. Furthermore, both the quick ratio and firm size demonstrate a positive relationship with profitability. These findings hold significant implications for administrators and policymakers, providing valuable insights into effective working capital management strategies. By understanding the impact of conservative investment policies and aggressive financing policies on profitability, decision-makers can make informed choices to optimize firm performance. Moreover, investors and lenders stand to benefit from this study as well, as it offers accurate information about the financial health and performance of companies within the textile sector. Armed with this knowledge, stakeholders can make more informed investment and lending decisions, thereby mitigating risk and maximizing returns. Overall, the study contributes to enhancing decision-making processes and improving outcomes within the textile industry of Pakistan.

Keywords: Working Capital Management, Firm Profitability, Textile Sector
JEL Codes: G32, L67, M21

1. INTRODUCTION

Working capital management plays a crucial role in the financial health and success of businesses across various industries and sizes. It encompasses the efficient allocation and utilization of short-term funds, including current assets and short-term obligations, such as accounts receivable, accounts payable, inventories, cash, short-term bonds, securities, and liquid assets. Effective working capital management is essential for businesses to enhance their growth and profitability. By optimizing the management of current assets and liabilities, companies can improve their liquidity position, streamline operations, and capitalize on growth opportunities. Moreover, prudent working capital management enables firms to navigate through challenging economic conditions and mitigate financial risks. Successful companies often prioritize reducing costs and maximizing profits, even amidst adverse economic circumstances. Efficient working capital management allows businesses to maintain adequate levels of liquidity while minimizing unnecessary expenditures and maximizing returns on investment. This strategic approach not only fosters financial stability but also enhances competitiveness and sustainability in the long run. The importance of working capital management cannot be overstated, as it serves as a cornerstone for sound financial management practices and contributes significantly to the overall success and resilience of businesses. Indeed, your point emphasizes the critical role of working capital management in enhancing profitability and ensuring the survival of businesses. Efficient working capital management enables companies to allocate resources effectively to value-creating activities, thereby enhancing growth prospects and maximizing returns for shareholders. Unlike long-term investments, which may take time to yield returns, investments in current resources can generate immediate benefits, such as improved operational efficiency and increased productivity. By focusing on optimizing working capital, companies can ensure that they have the necessary funds to seize growth opportunities, meet short-term obligations, and sustain day-to-day operations.

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This proactive approach not only enhances profitability but also contributes to the overall financial health and stability of the organization. Moreover, effective working capital management serves as a crucial mechanism for business control, enabling companies to monitor and regulate their liquidity position, mitigate risks, and maintain financial discipline. Working capital management is indispensable for driving profitability, supporting growth initiatives, and safeguarding the financial viability of businesses. It serves as a cornerstone of financial management, enabling companies to navigate through economic uncertainties and achieve sustainable success in today's dynamic business environment (Reheman et al., 2010).

Absolutely, profitability is indeed a crucial measure of success for any business, representing the surplus earned from investments in the form of revenues. However, it's important to recognize that profitability can be influenced by various factors, including the efficient management of working capital. When companies invest excessively in current assets that do not contribute to value-creating activities, it can negatively impact their rate of return. This is because resources tied up in unproductive assets could have been utilized more effectively elsewhere. As highlighted by Vishnani and Shah (2007), inefficient allocation of resources in current assets can diminish profitability by reducing the returns generated from investments. On the other hand, effective working capital management involves striking a balance between maintaining liquidity to meet short-term obligations and optimizing the utilization of current assets. As noted by Eljelly (2004), excessive investment in current assets poses a risk to the company's rate of return. This is because funds tied up in excess inventory, receivables, or cash may not be generating sufficient returns, thereby lowering overall profitability. Therefore, a prudent approach to working capital management entails ensuring that the company maintains adequate liquidity while avoiding overinvestment in current assets. By optimizing the use of resources and aligning investments with value-creating tasks, companies can enhance profitability and maximize returns for shareholders.

Indeed, the issue of funds management, particularly in developing countries, presents significant challenges that can impact profitability. Despite the extensive research conducted on the connection between funds management and profitability in various parts of the world, including developed countries, this issue has not received adequate attention from researchers in the Pakistan textile industry. A review of existing literature reveals a gap in research specifically focused on the textile industry in Pakistan. Despite the importance of the textile sector to the country's economy, there is a scarcity of studies addressing the relationship between funds management practices and profitability within this industry. Given the critical role of effective funds management in enhancing profitability, it is imperative to address this gap in research. By conducting empirical studies and analysis tailored to the unique dynamics of the Pakistan textile industry, researchers can provide valuable insights into the challenges and opportunities associated with funds management practices in this sector. Furthermore, such research endeavors can offer practical recommendations and strategies to textile companies in Pakistan to optimize their funds management processes, thereby improving overall profitability and contributing to the economic growth of the industry and the nation as a whole. Brigham and Houston (2003) highlighted that approximately 60% of a financial manager's time is dedicated to working capital management. This underscores the significance of funds as a primary resource for companies. Effective control of funds management can ensure the success of the company, while ineffective management may lead to bankruptcy (Padachi et al., 2008). Efficient working capital management involves optimizing the balance between current assets and liabilities to ensure liquidity, operational efficiency, and profitability. By effectively managing working capital, companies can meet their short-term obligations, fund their day-to-day operations, and pursue growth opportunities. The allocation of resources within a company's working capital cycle requires careful consideration and strategic decision-making. Financial managers play a crucial role in monitoring cash flow, managing inventory levels, and overseeing accounts receivable and accounts payable to maintain financial stability and support long-term growth objectives. In essence, working capital management serves as a cornerstone of financial management, with its effective control vital for sustaining business operations and driving organizational success.

2. LITERATURE REVIEW

Working capital, as described by Weston and Brigham (1977), represents a company's investment in temporary resources such as accounts receivable, inventories, short-term securities, and cash. These resources are typically funded by temporary obligations like accounts payable and short-term loans. Therefore, working capital can be understood as the difference between current assets and current liabilities. Working capital management involves making decisions related to short-term financing and the management of current assets and liabilities. This includes effectively managing the relationship between a company's current resources and its current obligations. The primary objective of working capital management is to ensure that an organization can sustain its operations and maintain sufficient cash flows to meet its short-term debts and upcoming operational expenses. Thus, the key goal of working capital management is to enable the company to continue its operations smoothly while ensuring it has the necessary liquidity to cover its short-term financial obligations.

Brigham and Houston (2003) provide an insightful historical perspective on the concept of working capital, tracing its origins to an old American peddler. This peddler would stock his wagon with items, which were his resources, and then set off on his journey to sell these products. The products, once sold or "turned over," generated his earnings. In this context, the horse and cart were considered fixed assets because he typically owned them outright, making them part of his equity investment. However, he required additional resources to purchase the products, which were obtained through working capital financing. The loans obtained for this purpose were referred to as working capital finance, and they had to be repaid

after each sales tour to demonstrate to the lender that his credit was sound. As the peddler repaid the financial advance, the lender would provide him with additional financial credit for his subsequent tours. Financial institutions that engaged in this practice were considered to be employing "sound financial practices."

Working capital (WC) is commonly defined as "the excess of current assets over current liabilities and provisions." However, in accounting terms, it represents the difference between cash inflows and cash outflows. In practical terms, working capital encompasses various components such as stocks of items, fuels, semi-finished goods (e.g., work-in-progress and completed items), and by-products. Additionally, it includes cash holdings, both in banks and on hand, as well as the aggregate sum of various liabilities, including outstanding company payments such as rent, income, interest, and dividends. Furthermore, working capital comprises purchases and services, short-term financial loans and advances, and various obligations owed to individuals, such as amounts due to manufacturers for the sale of goods or services and advances made towards tax payments (Arnold, 2008).

Brealey and Myers (2003) net working capital essentially represents the financial cushion available to a company to cover its short-term obligations. It serves as a measure of liquidity, indicating the company's ability to meet its near-term financial commitments without relying on additional funding or facing financial distress. By deducting current liabilities from current assets, net working capital provides insight into the company's operational efficiency and financial health. A positive net working capital suggests that the company has more assets than liabilities in the short term, indicating a healthy financial position. Conversely, a negative net working capital may indicate liquidity issues or over-reliance on short-term financing, potentially signaling financial risk. Effective management of net working capital is crucial for ensuring smooth business operations, as it enables the company to meet its day-to-day obligations promptly while also maintaining sufficient resources for growth and investment opportunities. By optimizing the balance between current assets and liabilities, companies can improve cash flow management, minimize financing costs, and enhance overall profitability. Moreover, maintaining adequate net working capital levels is essential for sustaining investor confidence and securing financing from lenders or investors. It serves as a vital metric for assessing the company's short-term financial position and its ability to manage operational requirements effectively. By analyzing net working capital alongside other financial metrics, stakeholders can gain valuable insights into the company's financial performance and make informed decisions regarding investment, financing, and strategic planning.

The study by Siddiquee and Khan (2009) underscores the critical importance of effective working capital management (WCM) for companies of all sizes and industries. It highlights that inefficient management of working capital not only diminishes profitability but also poses a significant risk to the overall economic health of the organization. Regardless of a company's profitability, size, or specific characteristics, maintaining an adequate level of working capital is essential for its continued operation and success. Effective WCM plays a pivotal role in ensuring liquidity, profitability, solvency, and overall performance of the company. By efficiently managing its working capital components such as accounts receivable, inventory, and accounts payable, a company can optimize its cash flow, mitigate financial risks, and capitalize on growth opportunities. Moreover, sound working capital management strategies enable companies to meet their short-term financial obligations promptly, thereby enhancing their credibility with creditors, suppliers, and other stakeholders. The findings of Siddiquee and Khan's study emphasize that WCM should be treated as a strategic priority by companies, as it directly impacts their financial performance and long-term sustainability. Companies that implement effective WCM practices are better positioned to navigate economic challenges, capitalize on market opportunities, and maintain a competitive edge in their respective industries. Therefore, developing and implementing robust WCM strategies tailored to the specific needs and circumstances of the company is essential for achieving and sustaining success in today's dynamic business environment.

Working capital management plays a crucial role in decision-making regarding short-term investments and financing, as highlighted by Sharma and Kumar (2011). The primary objective of working capital management is to strike a balance between short-term assets and liabilities to ensure the efficient utilization of resources and liquidity. This balance is particularly vital for trading, distribution, and manufacturing firms, where profitability and liquidity are directly impacted by the management of working capital, as noted by Raheman and Nasr (2007). According to Mahmood and Qayyum (2010), the overarching goals of working capital management are to enhance the company's profitability and ensure the availability of adequate resources to fulfill short-term obligations as they arise. Shareholders' wealth maximization is intricately linked to profitability, and companies strive to achieve acceptable returns on their investments in current assets. However, companies may choose to maintain higher levels of cash reserves than strictly necessary for operational needs, often as a precautionary measure to mitigate risks or uncertainties in the business environment. Effective working capital management enables companies to optimize their financial resources, maintain liquidity, and enhance profitability, thereby contributing to the overall value creation for shareholders. By carefully managing the components of working capital, companies can achieve a balance between profitability and liquidity, ultimately driving sustainable growth and long-term success.

According to Odi and Solomon (2010), working capital management encompasses the decisions and strategies related to short-term investments and the efficient utilization of resources. It involves managing the interplay between an organization's short-term assets and its corresponding liabilities. The primary objective of working capital management is to ensure the continuity of the company's operations by maintaining adequate income to meet short-term financial obligations

and operating expenses. Working capital decisions typically revolve around determining the optimal level of investment in current assets. As Reason (2008) suggests, these decisions are often made with a forward-looking perspective, considering the company's anticipated needs and cash flow requirements for the upcoming period. Unlike capital investment decisions, which focus on long-term strategic planning, working capital decisions are more immediate and are based on considerations of profitability and cash flow. To effectively manage working capital, management employs a combination of policies and techniques aimed at optimizing the utilization of financial resources. These may include strategies for managing accounts receivable, inventory levels, accounts payable, and cash reserves. By implementing sound working capital management practices, companies can enhance their liquidity, mitigate financial risks, and improve overall operational efficiency.

The research focusing on working capital management (WCM) guidelines aims to assess the impact of different strategies on a company's risk and success. Afza and Nazir (2007) operationalized these guidelines by using specific financial ratios. One of the key ratios used is the ratio of total current assets to total assets, which indicates the proportion of a company's assets tied up in current assets. A lower ratio suggests a relatively conservative or competitive approach to working capital management. Additionally, the ratio of current liabilities to total assets is employed to operationalize accounts payables. A higher ratio reflects a more aggressive strategy, indicating that a significant portion of the company's assets is financed through short-term obligations. The study then examines the impact of these two factors on a company's risk, measured by the variability of sales, as well as its profitability, assessed through metrics such as return on assets (ROA) and return on equity (ROE). By analyzing the relationship between WCM strategies and financial performance indicators, researchers can gain insights into the effectiveness of different approaches to managing working capital and their implications for a company's overall risk and profitability.

3. METHODOLOGY

To analyze the effect of working capital management on the profitability of textile companies, data from 115 Karachi Stock Exchange (KSE) listed textile companies in Pakistan over the period of 2006-2011 was utilized. Data was obtained from publications by the State Bank of Pakistan (SBP) and the Karachi Stock Exchange (KSE), as well as from the official websites of companies. It's important to note that some companies were excluded from the study due to various reasons such as new establishments or liquidations during the period under consideration. Panel data techniques, specifically fixed effect and random effect with Generalized Least Squares (GLS) regression, were employed to analyze the data. These techniques are preferred for panel data analysis as they minimize the chances of error and provide robust results (Castillu, 2009; Dougherty, 2011). By using panel data analysis, researchers were able to account for both time-series and cross-sectional variations in the data, allowing for a comprehensive examination of the relationship between working capital management and profitability across different textile companies over time.

4. EMPIRICAL FINDINGS

Table 1 presents descriptive statistics for several variables, including ROA, CATAR, CLTAR, SIZE, and QR, based on 690 observations. Starting with ROA (Return on Assets), the mean value is 1.346681, indicating an average return of assets across the observations. The standard deviation is relatively high at 8.392837, suggesting considerable variability in returns among the observations. The minimum return on assets is -29.19, while the maximum return is 32.5, reflecting a wide range of returns. Moving on to CATAR (Cash and Total Assets Ratio), the mean value is 0.4282747, representing the average proportion of cash to total assets. The standard deviation is 0.3408282, indicating variability in this ratio across the observations. The minimum and maximum values are 0.042054 and 6.025524, respectively, suggesting variability in the liquidity position of the firms. Similarly, CLTAR (Current Liabilities to Total Assets Ratio) has a mean value of 0.477965, indicating the average proportion of current liabilities to total assets. The standard deviation is 0.1817366, implying variability in this ratio across the observations. The minimum and maximum values are 0.0323548 and 1.538456, respectively, reflecting variability in the financing structure of the firms. For SIZE, the mean value is 14.27802, representing the average size of the firms. The standard deviation is 1.261109, indicating variability in firm size across the observations. The minimum size is 7.990915, while the maximum size is 17.69842, suggesting a range of firm sizes in the dataset. Finally, QR (Quick Ratio) has a mean value of 0.33344265, indicating the average liquidity position of the firms. The standard deviation is 0.5897949, implying variability in the quick ratio across the observations. The minimum quick ratio is 0.01, while the maximum is 7.17, indicating variability in the ability of firms to meet short-term obligations using liquid assets. In short, the descriptive statistics provide insights into the central tendencies, variability, and range of values for each variable, offering a foundational understanding of the dataset. These statistics serve as a basis for further analysis and interpretation of the data.

Table 2 presents Pearson's correlation coefficient matrix for several variables, including ROA, CATAR, CLTAR, SIZE, and QR, along with the Variance Inflation Factor (VIF) and its reciprocal (1/VIF). Starting with ROA (Return on Assets), it has a correlation coefficient of 1.0000 with itself, as expected, indicating a perfect positive correlation. Moving on to CATAR (Cash and Total Assets Ratio), it has a correlation coefficient of 0.1442* with ROA, suggesting a weak positive correlation. The VIF for CATAR is 1.50, indicating a low level of multicollinearity with other variables. CLTAR (Current Liabilities to Total Assets Ratio) has a correlation coefficient of -0.1725* with ROA, indicating a weak negative correlation. The VIF for CLTAR is 1.17, also suggesting a low level of multicollinearity. SIZE has a correlation coefficient of 0.3907*

with ROA, indicating a moderate positive correlation. The VIF for SIZE is 1.02, suggesting minimal multicollinearity. QR (Quick Ratio) has a correlation coefficient of 0.1430* with ROA, indicating a weak positive correlation. The VIF for QR is 1.42, suggesting a relatively low level of multicollinearity. Overall, the correlation matrix provides insights into the relationships between the variables. The low VIF values suggest that multicollinearity is not a significant concern in the analysis. The reciprocal of the VIF values also confirms this, with values close to 1 indicating minimal multicollinearity. These findings support the reliability of the correlation coefficients in assessing the relationships between the variables.

Table 1: Descriptive Statistics

Variables	Observations	Mean	Std. Dev.	Min	Max
ROA	690	1.346681	8.392837	-29.19	32.5
CATAR	690	.4282747	.3408282	.042054	6.025524
CLTAR	690	.477965	.1817366	.0323548	1.538456
SIZE	684	14.27802	1.261109	7.990915	17.69842
QR	680	.33344265	.5897949	0.01	7.17

Table 2: Pearson's correlation coefficient matrix

	ROA	CATAR	CLTAR	SIZE	QR	VIF	1/VIF
ROA	1.0000					-	-
CATAR	0.1442*	1.0000				1.50	0.665745
CLTAR	-0.1725*	0.2143*	1.0000			1.17	0.857256
SIZE	0.3907*	0.1519*	-0.0269	1.0000		1.02	0.977921
QR	0.1430*	0.4717*	-0.1426*	0.0639***	1.0000	1.42	0.703968
					Total	1.28	

Table 3: Results of fixed and random effect models with GLS

	Fixed Effect		Random effect	
ROA	Coefficients	P-Value	Coefficients	P-Value
CATAR	3.807348	.005	2.531885	0.015
CLTAR	-13.23896	.000	-8.02612	.000
SIZE	4.754533	.000	2.652068	.000
QR	1.684969	.060	.7886779	.194
-Cons	-62.77177	.000	-33.71085	.000

Table 3 presents the results of fixed and random effect models with GLS (Generalized Least Squares), showing coefficients and p-values for each variable included in the models, namely ROA, CATAR, CLTAR, SIZE, and QR, as well as the intercept (-Cons). In the fixed effect model, the coefficient for CATAR (Cash and Total Assets Ratio) is 3.807348 with a p-value of 0.005, indicating statistical significance at the 1% level. Similarly, for CLTAR (Current Liabilities to Total Assets Ratio), the coefficient is -13.23896 with a p-value of 0.000, indicating statistical significance. For SIZE, the coefficient is 4.754533 with a p-value of 0.000, also indicating statistical significance. However, for QR (Quick Ratio), while the coefficient is 1.684969, the p-value is 0.060, suggesting marginal statistical significance at the 10% level. The intercept (-Cons) in the fixed effect model is -62.77177 with a p-value of 0.000, indicating statistical significance. In the random effect model, the coefficients for CATAR, CLTAR, SIZE, and QR are 2.531885, -8.02612, 2.652068, and 0.7886779, respectively. The p-values for these coefficients are 0.015, 0.000, 0.000, and 0.194, respectively. These coefficients and p-values indicate the statistical significance of the respective variables in the random effect model. Similarly, the intercept (-Cons) in the random effect model is -33.71085 with a p-value of 0.000, indicating statistical significance. The results suggest that CATAR, CLTAR, and SIZE have statistically significant effects on ROA in both the fixed and random effect models, whereas QR shows marginal significance in the fixed effect model. The intercepts in both models are also statistically significant. These findings provide valuable insights into the relationships between the variables and their impacts on ROA, informing further analysis and decision-making processes.

Table 4 presents the results of Hausman's Test, which is used to determine whether the fixed effect model or the random effect model is more appropriate for the given data. The test compares the coefficients from the fixed effect model (labeled as A) with those from the random effect model (labeled as B), assessing whether the differences between them are statistically significant. For each variable (CATAR, CLTAR, SIZE, and QR), the table displays the coefficients from the

fixed effect model (Fixed A), the coefficients from the random effect model (Random B), the differences between these coefficients (A-B), and the standard errors associated with these differences. The results of the test provide insights into the appropriateness of choosing between the fixed and random effect models. If the differences between the coefficients are statistically significant, it suggests that the random effect model may be more appropriate due to the presence of unobserved heterogeneity. Conversely, if the differences are not statistically significant, the fixed effect model may be preferred, indicating that the observed heterogeneity adequately captures the variation in the data. In this case, the differences between the coefficients for CATAR, CLTAR, SIZE, and QR are not provided in the table. However, the standard errors associated with these differences are provided. These standard errors can be used to calculate test statistics, such as the z-test or t-test, to assess the statistical significance of the differences. If the test statistics are statistically significant, it would indicate that one model is more appropriate than the other. Overall, Hausman's Test helps researchers determine the most suitable model for their data, taking into account the presence of unobserved heterogeneity and other factors influencing the choice between fixed and random effect models.

Table 4: Hausman's Test

	Coefficients		Difference	Standard
	Fixed A	Random B	A-B	Error
CATAR	3.807348	2.531885	1.275463	.8630297
CLTAR	-13.23896	-8.02612	-5.21284	1.985875
SIZE	4.754533	2.652068	2.102465	.6524181
QR	1.684969	.7886779	0.896291	.6556568

5. CONCLUSIONS

Working capital management plays a crucial role in the success of a company, especially in industries like textiles. This study focused on evaluating the impact of working capital investment policy and working capital financing policy on the profitability of 115 textile companies listed on the Karachi Stock Exchange from 2006 to 2011. The results of the study indicate that both working capital investment policy and working capital financing policy significantly affect a firm's profitability. Specifically, adopting a conservative investment policy, which involves higher investment in current assets and lower investment in fixed assets, was found to be more favorable for profitability. Conversely, employing an aggressive financing policy, where the company maintains more current liabilities compared to long-term debts, was also associated with higher profitability. These findings underscore the importance of strategic decision-making in managing working capital, as it can have a substantial impact on a company's financial performance and overall success. By optimizing working capital management practices, textile companies can enhance their profitability and competitiveness in the market. The findings of this research highlight the importance of optimizing short-term investment and working capital management practices in the textile industry. Specifically, the study reveals that adopting a conservative working capital investment policy and an aggressive working capital financing policy can lead to higher profitability for textile companies. Additionally, factors such as firm size and quick ratio were also found to have a positive effect on profitability. These insights are valuable for financial administrators and managers in the textile industry, as they provide guidance on effective strategies for managing short-term investments and balancing obligations and resources. By understanding and implementing these guidelines, companies can enhance their competitiveness and overall financial performance. It is recommended that supervisors focus on achieving a proper balance between the company's obligations and resources, ensuring efficient utilization of working capital to maximize profitability and sustain long-term growth in the textile sector.

REFERENCES

Afza, T. and Nazir, M. S. (2007). Working Capital Management Policies of Firms: Empirical Evidence from Pakistan. *Conference Proceedings of 9th South Asian Management Forum (SAMF) on February* 24-25, North South University, Dhaka, Bangladesh.

Arnold, G. (2008). *Corporate financial management* (4th ed.). Pearson education limited.

Brealey, R. and Myers, S. (2003). *Principles of Corporate Finance* (7th ed.). New York: McGraw-Hill.

Brigham, Eugene, F. and Houston, J. F. (2003).*Fundamentals of Financial Management* (10th ed.).

Castillo, R., Castillo, E., Guerra, R., Johnson, V. E., McPhail, T., Garg, A. K., & Guerrero, T. (2009). A framework for evaluation of deformable image registration spatial accuracy using large landmark point sets. *Physics in Medicine & Biology, 54(7), 1849.*

Dougherty, C. (2011). Introduction to econometrics. Oxford University Press.

Eljelly, A. (2004). Liquidity - Profitability Trade-off: An Empirical Investigation in an Emerging Market. *International Journal of Commerce & Management*, 14(2), 48-61.

Mahmood, and Qayyum, A. (2010).Working Capital Management and Corporate Performance of Manufacturing Sector in Pakistan. *International Research Journal of Finance and Economics*, 47, 1450-2887.

Odi, and Solomon. (2010). An Empirical Analysis of Corporate Survival and Growth: Evidence from Efficient Working Capital Management.

Padachi, Kesseven, M. S. Narasimhan, Durbarry, R. and Howorth, C. (2008). An Analysis of Working Capital Structure and Financing Pattern of Mauritian Small Manufacturing Firms, *Journal of Applied Finance*, 14(7), 41-62.

Raheman, A. and Nasr, M. (2007). Working capital management and profitability – case of Pakistani firms. *International Review of Business Research Papers*, 3, 279-300.

Raheman, A. Afza, T. Qayyum, A. and Bodla, M. A. (2010). Working Capital Management and Corporate Performance of Manufacturing Sector in Pakistan. *International Research Journal of Finance and Economics*, (47), 156-169.

Reason, T. (2008). Preparing your company for recession.

Reheman,A., Talat,A.,AdulQayyum,& Bodla, A. Muhammad.(2010). Working Capital Management and Corporate Performance of Manufacturing sector in Pakistan. *International Research Journal of Finance and Economics*, 47, 450-460.

Sharma, A. K. and Kumar, S. (2011). Effect of Working Capital Management on Firm Profitability: Empirical Evidence from India. *Global Business Review*, 12(1), 159–173.

Siddiquee, M. and Khan, S. M. (2009). Analyzing working capital performance: evidence from dhaka stock exchange (dse).

Vishnani, S. and Bhupesh, K. S. (2007). Impact of Working Capital Management Policies on Corporate Performance- An Empirical Study. *Global Business Review*, 8(267).

Weinraub, H. J. and Visscher, S. (1998). Industry Practice Relating to Aggressive Conservative Working Capital Policies. *Journal of Financial and Strategic Decisions*, 11(2), 11–18.

Weston J. F. and Brigham E.F. (1977). Essentials of managerial finance' Illinois. *The Dryden Press*, 261-76.