

Working Capital Management Efficiency and Corporate Governance in Manufacturing Sector of Pakistan

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Abstract

Efficiency in “Working Capital Management” (WCM) has been the key factor of many profitable firms. The purpose of this paper is to examine the impact of characteristics of corporate governance on the WCM efficiency of firms in context of Pakistan. A total of 40 firms listed at Pakistan Stock Exchange (PSX, previously known as Karachi Stock Exchange (KSE)) are selected for the period of 5 years which lead to a total of 200 observations. Cash conversion cycle and current ratio are the main measures of WCM efficiency whereas Chief Executive Officer (CEO) Tenure, CEO Duality, Audit Committee and Board Size are the main measure of corporate governance characteristics. The results state that governance characteristics have significant impact on WCM efficiency. Except CEO Duality, all other independent variables have significant role in explaining WCM efficiency. This paper suggests the management to set policies that favors maintaining the optimal level of working capital. Firms can create value for the shareholders by reducing the investments, however improving efficiency, in working capital. Keeping appropriate size of the board and audit committee, management can improve the WCM efficiency. The findings of this study are also beneficial to investors, company stake holders, and other key intermediaries.

Keywords: Corporate Governance; Working Capital Management Efficiency; Correlation

Introduction

Managing current assets and current liabilities is deemed as one of the most important job for the management. The importance increases for the small scale firms where the capital is limited to cover the losses that arise from mismatch between the two sides. The proportion to maintain certain level of working capital by a firm is a matter of policy. Such policies are set by the corporate governance. The proportion of maintaining certain level of working capital differs among different industries, sectors and nature of business e.g. manufacturing companies possess more investment in short term assets as compare to non-manufacturing or service firms. Setting a sound policy for maintaining the level of working capital is the vital challenge for the firm’s corporate governance. Excessive investment in working capital entails that the company is not fulfilling its potential whereas low investments in working capital is a warning sign that the company’s liquidity is at risk. Therefore, strong policies must be set by the corporate governance to manage this sensitive issue of corporate finance. This study aims to ascertain the impact of corporate governance on the efficiency of working capital. This research is conducted in the context of Pakistan. Companies from various sectors are included in the study. This paper extends the work of Gill, Biger et al. (2012) by scrutinizing the generalization of results beyond manufacturing sector and incorporating few new explanatory variables.

Background of the study

In this study, Management of working capital refers to the management of short term capital of the company which is the sum of circulating (Current Assets) minus fixed capital (Current Liabilities). The management of working capital requires continuous effort for maintaining the balance between the needs of current asset and current liabilities. Efficient working capital management (WCM) mitigates the risk of bankruptcy by ensuring the liquid assets availability to balance the needs with obligation. Afza and Adnan (2007) elucidate that efficient working capital management improves the liquidity of the firm which results in smoothness of company's operation. On the other hand poor WCM policies, carried by corporate governance, reduce the company's liquidity which ultimately affects the profitability of the firm (Lazaridis and Tryfonidis 2006). Researchers (for example, (Deloof 2003; Lazaridis and Tryfonidis 2006; Raheman and Nasr 2007; Gill, Biger et al. 2012) note that managing working capital inefficiently has negative impact on the shareholders' value.

The term corporate governance is subjective and has distinctive meaning in different contexts. According to Magdi and Nadereh (2002), corporate governance is a set of process in which business is run well which also maximizes shareholders wealth. Corporate governance is a set of rules, practices, processes through which the organization conducts its operations (John and Senbet 1998). The structure of corporate governance assign the roles and authorities among participants in the organization namely, managers, board members, stockholders, stakeholders, and utter the rules and set of procedures for conducting company's operations. The top management such as, Board of Directors, Chief Executive Officers (CEO) has the basic responsibility of setting policies regarding current assets and current liabilities. The proportion of cash and its equivalents, a firm holds, are representatives of the procedures and policies that companies set regarding the working capital. Effective processes and practice serves as monitoring body that keeps check on firm's resource management.

Among all the working capital components (Cash, Accounts receivable, Marketable security and inventory), Cash is deemed as most wanted asset by the management. It is the source to acquisition of other assets; it's readily availability allows the company to invest in other physical and intangible assets and to pay off the dividends to shareholders. According to Besley and Brigham (2007), the basic motives of firms for holding cash are transactions, precautions and speculation. Transactional motives of the firm are all day to day operational transactions and their settlement. Precautionary motives are the cash that firms hold as a provision against uncertain future event. Speculative motives refer to the cash holding for opportunities that firm can utilize and make profit. The main benefit of cash holdings are mitigation of bankruptcy risk and low external financial source cost (Ferreira and Vilela 2004). According to Afza and Adnan (2007) excessive cash holdings do not benefit the firms which results from induction of poor corporate governance. Firms often evaluate the marginal cost with marginal benefits of cash holding prior to setting the optimal level of cash. The level of cash that firm holds is best explained by the trade-off theory. The main detriment of maintaining excessive cash is the loss of opportunity of making profitable investments (Lee and Powell 2011).

Sustaining the appropriate liquidity level is essential for conducting the operations smoothly (Afza and Adnan 2007). On the other hand, though excessive cash holding ensures liquidity, but also jeopardize the benefits of advantageous bargain that may arise in future. There should be tradeoff amid profitability and liquidity (Raheman and Nasr 2007). The amount of cash that firms hold is characterized by the policies that corporate governance set regarding cash flow, working capital requirement, dividends and investments (Opler, Pinkowitz et al. 1999).

According to John and Senbet (1998) the top level management (such as Board of Directors) plays primary role in influencing the firm's performance. The influence can take place directly e.g. Board monitoring system, or indirectly e.g. CEO appointed by board members. The policies of the firm regarding cash, account receivables, securities and inventories with all the other operations are set by CEO and Board of directors. The characteristics of boards e.g. Board size, CEO duality, plays vital role in conducting business affairs and may lead to

- Excessive cash holdings
- Excessive investments in Account receivables
- Excessive amount in Payables

Shareholders expect that the firm should involve only in those activities that maximizes the shareholders' value. However, that is not always the case; policies set by corporate governing bodies are not always in the favor of the firm. Poor Policies of the firm regarding cash conversion cycle negatively affects the shareholders' value (Gill, Biger et al. 2012). According to Gill and Shah (2012) poor policies may characterize management's own risk aversion decision, but that may lead to an agency problems because excessive balances maintained by CEO and board members do not benefit in maximizing shareholder value.

Problem Statement

It is assumed that the working capital management efficiency is poor in Pakistani firms which are mainly affected by the Corporate Governance characteristics and decision making criteria about WCM.

Research Objectives

- To examine the relationship of characteristics of corporate governance on CCC.
- To examine the relationship of characteristics of corporate governance on Current Ratio.
- To ascertain the impact of corporate governance characteristics on WCM efficiency measures.

Research Questions

- What is the impact of corporate governance characteristics on CCC?
- What is the impact of corporate governance characteristics on Current Ratio?
- Do corporate governance characteristics improve the efficiency in management of working capital?

Literature Review

Management of working capital is deemed as one of the most fundamental charge by the management. Because of its importance, different researchers have attempted to explore this study in different environment and study settings. The impact of corporate governance has also been studied by many researchers but very few of them have taken into consideration its impact on WCM efficiency. This section, however provide operational definitions and includes the historical debate on the variables under consideration in this study.

Corporate Governance

Gill, Biger et al. (2010) define corporate governance as structure and process used to manage and control the business conduct in order to maximize the shareholders' value. According to Shleifer and Vishny (1997), corporate governance ensures that investors get the return for the capital they invested in a firm. Corporate governance is basically responsible for setting policies regarding working capital management. Therefore, the importance of corporate governance in management of

working capital cannot be ignored. The measures of corporate governance are indicated as, CEO tenure, Duality, Size of the members on board and members of Audit Committee.

CEO duality: In general, CEO duality exists when a board member holds the position of CEO in the same company. Arguments in favor of CEO duality believe that duality leads to improved efficiency and effectiveness and that will ultimately improve corporate performance (John and Senbet 1998). According to Stewardship theory, CEO duality will facilitate strong and unified leadership rather than impairing the board's independence and its role of monitoring. In addition, Resource Dependency theory suggests that the combination of decision control and decision management into one authority facilitates optimal decision making. On the other hand, Agency theory criticizes the duality concept and adopts the argument that duality reduces monitoring effectiveness (Ahmed Sheikh, Wang et al. 2013). The role of CEO and Board are different and should be separated, otherwise same person holding two positions will dominate the board and make the managerial monitoring ineffective (Fama and Jensen 1983). Both the duality and separated structure has its pros and cons, therefore there is no optimal structure (Brickley, Coles et al. 1997). Boyd (2006) elucidated that Duality and separated structure are affected by certain industry conditions whereas the choice of optimal structure differs from industry to industry. Maintenance of adequate proportion of assets is also significantly influenced by the certain corporate governance characteristics e.g. CEO duality, Board size and CEO tenure (Gill and Shah 2012).

Board Size: The size of the board members plays vital role in setting optimal proportion of short term capital required by the organization (Gill and Shah 2012). Researchers (for example, (Lipton and Lorsch 1992; Yermack 1996) has found that large number of board of directors are less efficient and flexible in process of decision making as compare to small number of directors. Kajola (2008) argues that Large number of board members lead to improved monitoring but it also reduce communication and flames the conflicts in decision making. Therefore Kyereboah-Coleman (2008) suggests that small number of board members are more likely to improve flow of communication with the organization which will also lead to making better decision by the management.

Audit Committee: The audit committee is set up for the purpose of building confidence in the integrity of procedures and processes of corporate reporting and internal control of the organization. Audit committee is center of corporate governance that plays vital role in meliorating company's risk management program and ensures enhancement in the quality of financial management (Klein 2002). According to Anderson, Mansi et al. (2004) the basic purpose of the audit committee is to aid the board relating to:

- Align company's process and procedure with regulatory body's criteria.
- Building confidence in the integrity of procedures and processes of corporate reporting and internal control of the organization.
- Ensuring company's Audit management's performance.

Kyereboah-Coleman (2008) argues that WCM is an important part of financial management that requires continuous attention from the management. He also suggests that there should be at least three members in the audit committee to facilitate augment independence. Auditors keep check on the efficiency of WCM and timely warn the management of any threat that is likely to appear in near future.

CEO Tenure: According to Anderson, Mansi et al. (2004) CEO tenure has significant positive relationship with corporate earnings and also argues that longer CEO tenure can influence the board's opinion with little impediments. CEO tenure enhances the efficiency of cash current ratio management (Gill, Biger et al. 2012). Kyereboah-Coleman (2008) argues that the longer the CEO serving in firm, the more protection they will give to the interest of the shareholders.

John and Senbet (1998) found that CEO duality has significant negative relationship with the profitability whereas board size and number of outside directors has positive association with the profitability of the firm. Heracleous (2001) failed to find any significant relationship between corporate governance characteristics (CEO Dual responsibility and Board Composition) on the performance of the firm. Anderson, Mansi et al. (2004) examined the impact of audit committee characteristics on firm's yields spread by incorporating a sample of 500 S&P firms, stated that the size of audit committee and number of meeting the committee holds has a negative relationship with the earning management. However, the result also concludes reliability of the company's statement is significantly affected by the audit committee characteristics.

Bauer, Guenster et al. (2004) studied the impact of good corporate governance on the performance of the firm, stated that good governance enhances the firm's value whereas a negative relationship found between good governance and earning management. Klapper and Love (2004) studied the governance practices in emerging markets, found that the poor regulatory environment increases the importance of the corporate governance practices and the firm's performance decreases in weak regulatory environment suggesting the policy makers to strengthen the regulation regarding corporate governance.

CEO tenure has indirect influence on organizational performance by directly influencing the members of the board Simsek (2007). Drobetz and Grüninger (2007) found positive correlation between corporate cash holdings and CEO duality, also found an insignificant relationship between cash holdings and board size. This reveals that there is no impact of board size on the cash holding policies whereas CEO duality significantly lead to high corporate cash holding policies. Kajola (2008) examined the relationship between the characteristics of corporate governance and the performance of the firm for a total of 20 companies listed on Nigerian stock exchange for the time period of 2000 to 2006. There is found significant positive relationship between board size and return on Equity (ROE) as well as CEO status and ROE. The study suggests for size limit of the board members and favors independence among the two posts (Member of the board and CEO).

Isshaq, Bokpin et al. (2009) conducted the research in context of Ghana by examining the relationship between governance characteristics, cash balances and the value of the firm. The study found that board size has significant positive relationship with the firm's value and corporate governance variables.

Kuan, Li et al. (2011) investigated the correlation amid cash balances and corporate governance characteristics among the family owned non-financial firms. The result suggests that the approach to manage the firm differs among non-family owned and family owned firms. The study also stated that cash holding of the firms are significantly affected by the dual responsibility of CEO (Member of the board and Executive officer).

Ahmed Sheikh and Wang (2012) studied the impact of internal attributes of corporate governance on the profitability of firms in Pakistani environment for the time period of 2004 to 2008. The result indicated that board size is positively related to Earning per Share, whereas outside directors are negatively related to the firms share price.

Gill, Biger et al. (2011) examined the impact of corporate governance on the earning management of the Canadian non-manufacturing firms. Selecting a sample of 75 service firms listed at Toronto stock Exchange (TSE), the study found that larger number of board members has significant negative impact on the firm's profitability in Canada. On the other hand, corporate liquidity and CEO duality positively affects the profitability of the firm. The result also found that earning management is positively affected by CEO dual responsibility.

Working Capital Management

The concept of Short term capital can be traced back to Adam Smith's Era. Smith as cited in Fazzari and Petersen (1993), pointed the working capital concept by differentiating between the circulating capital from fixed capital. Dewing and Smith (1941) noted that the Society of Mines Royal clearly divided current and fixed capital in the balance sheet prepared in 1951. They further pointed that liquidity was the essential difference between current and fixed components. WCM comprises of management of firm's current assets (Cash, receivables, securities and inventories) and current liabilities (Payables and other short term obligations). Whereas Net working capital is the sum of Short term asset minus short term liabilities and cash is the most liquid asset among all the other working capital components. Cash ensures that the company is capable of paying its due obligations on time. The importance of cash holding cannot be ignored but at the same time holding excessive cash does not benefit the firm (Gill, Biger et al. 2012). Therefore, maintaining adequate cash holding based on firm's requirement is a key element for the firm survivability (Gill and Shah 2012). Excessive cash holding does not benefit the firm, whereas optimal level of cash calls for suitable timings for investment opportunities. In this regard, Sound policies are required to be set by corporate governance to efficiently manage working capital of the firm (Cossin and Hricko 2004). The historical reflections on corporate governance and WCM are as follows: -

Nadiri (1969) conducted the study on cash holdings in the American industry. Using the Data for the period of 1948 to 1964 years; Nadiri (1969) built a model to estimate the desire level of cash holdings. The result stated that output of the company plays significant part in determination of cash holdings.

Soenen (1993) initiated the concept of Cash conversion cycle (CCC). CCC consists of Account receivable in number of days (ACP) plus Days in Inventory (ITD) minus Days in Accounts payable (APP). Using Chi square test, he examined the association amid CCC and profitability. The results found negative association between CCC and profitability measures. This means that profitability can be increased by tightening the CCC.

Shin and Soenen (1998) argued that firms has the option to select among these two types of strategies for working capital management; first, they can increase the investment in short term capital in order to attract more sales and second, they can reduce the investment in working capital in order to minimize the cost. Tightening the investments in short term capital (Aggressive Policies) improves the profitability but it will also jeopardize liquidity of the firm. Therefore, Strong policies must be set by the corporate governance to manage the working capital of the firm.

Dittmar and Mahrt-Smith (2007) elucidated that companies that holds excessive cash are not in the favor of shareholders protection. Incorporating the sample of 11000 firms from 45 nations, the result stated that easy accessibility to obtain funds motivate the companies to hold excessive. The study also found that cash holdings are determined by agency problems and therefore there is a need for strong governance. Saddour (2006) selected 297 firms for the time period of 1998 to 2002. The result stated that developing firms tends to hold greater level of cash than the mature firms.

Eljelly (2004) empirically examined the relationship between profitability and liquidity in the context of Saudi Arabia. Both the CCC and current ratio were incorporated in study as a measure. The study suggested that current ratio is less effective than CCC as a measure of liquidity although both affect the firm's profitability.

Lazaridis and Tryfonidis (2006) selected a total of 131 firms listed at Athens Stock Exchange (ASE) for the time period of 5 years to establish significant relationship between profitability and CCC. The result showed significant relationship between profitability (GOP) and CCC components. The results also suggest that firm can boost profitability by maintaining the WCM components to the optimum level. Padachi (2006) examined the trends in WCM and its impact on the corporate

earnings by selecting a total of 58 small scale firms for the period of 1998 – 2003. The result stated that firms' profitability can be increased by condensing the investments in short term capital.

Juan García-Teruel and Martínez-Solano (2007) explored Spanish firms' profitability under the influence of WCM by incorporating the sample of 8872 for the time period of 7 years. The result stated that the existence of endogeneity among the variables and further suggested that by reducing the CCC, managers can maximize shareholders' wealth and value of the firm.

Raheman and Nasr (2007) assessed the profitability and liquidity of the firm in Pakistani context by using the sample of 94 non-financial firms for the time period of 6 year. The study incorporated the measures of WCM such as Days in Receivable, Days in Inventory, Days in Payable, CCC, and current ratio and measures of Profitability such as Net Operating Profit, Return on Asset. The result found Negative relationship between the measures of WCM and the profitability of Pakistani firm. The result suggests that management can improve the profitability of Pakistani firms by reducing the investments in temporary or short term capital. The result also found significant negative relationship between profitability and liquidity.

Ganesan (2007) analyzed the WCM efficiency in the telecommunication. Using sample of 349 firms for the period of 2001 to 2007, the study found that "Days in working capital" has negative but insignificant impact on the Firms profitability in telecommunication equipment industry.

Al-Fayoumi and Abuzayed (2009) studied the impact of WCM in context of Jordan. Their study incorporated a sample of firms listed in Amman Stock Exchange to investigate the impact of WCM on the firm's value and accounting profitability. Using robust estimation technique, the study found that there is a significant positive relationship between CCC and profitability. They argued that firms with good profitability are less attentive toward management of working capital.

Mathuva (2009) studied the impact of WCM on corporate earnings in the context of Kenya by selecting a total of 30 firms for a period of 1993-2008. The Result stated that (1) Profitable firms has quick cash collection criteria from their customers, (2) High investments in inventory reduces the risk of stock outs and ensures timely fulfillment of customers' requirements, (3) Profitable firms take longer time period for payment of their short term obligations.

Nobanee and Al Hajjar (2009) argued that tightening CCC is linked with profitability but it could also reduce the profitability. Reducing inventory can lead to stock outs and reduce good credit customers, Strict Account receivable policies can also decrease sales and lose many good customers. In this regard working capital must be maintained optimally which requires strong policies set by the corporate governance.

WCM is deemed one of the most challenging and sensitive task to deal with and it requires continuous check from the top management. Because of its importance, different scholar has made numerous attempts to study the topic in different context and study settings. Majority of the researchers (Soenen 1993; Eljelly 2004; Lazaridis and Tryfonidis 2006; Dittmar and Mahrt-Smith 2007; Ganesan 2007; Mathuva 2009)suggested that firms can enhance profitability reducing the investment in the components of working capital. On the other hand researcher Nobanee and Al Hajjar (2009) argued that, reducing the investments in short term capital can lead to profitability but it also has negative consequences. Reducing the investment in account receivable (Sales on credit) can discourage the good credit customer forcing them to take business elsewhere. Reduction in inventory can lead to possibility of stock outs that can also sway good customers towards competitors. Similarly holding account payable for long benefits the firms by investing it in profitable opportunities but it also affects the creditworthiness of the firm for future borrowings. Therefore, there should be tradeoff in maintain the optimal level of working capital. This is the

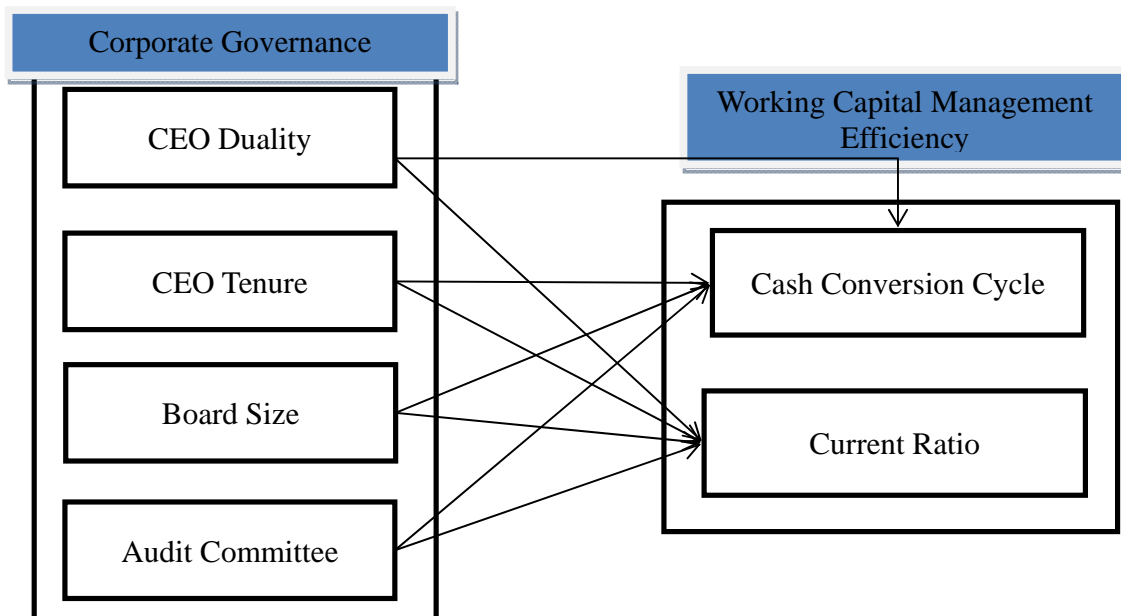
reason why this area of corporate finance requires so much of the attention by the management and there is a need for strong corporate governance (Dittmar and Mahrt-Smith 2007). According to Gill and Shah (2012) Maintenance of adequate proportion of working capital is also significantly influenced by the certain corporate governance characteristics e.g. CEO duality, Board size and CEO tenure. To sum up, it is depicted from the historical studies that the corporate governance characteristics do significantly affect the measures of WCM efficiency. This paper addresses the gap by examining the relationship between the corporate governance characteristics and the measures of WCM efficiency.

Gap Analysis

This study is the extension to the findings of Gill, Biger et al. (2012) which examined the impact of governance characteristics on WCM efficiency in American manufacturing firms. Their study suggested future researchers to investigate the generalization of their study beyond American manufacturing firms. This study examines the impact of corporate governance characteristics on measures of WCM efficiency of the firms in context of Pakistan. The work done on this topic is very rare and almost untouched in Pakistan's perspective. The findings of this paper contribute to financial literature on features that elevate the WCM efficiency and linking its relationship to corporate governance. It also creates awareness to the top management that sound policies can ultimately meliorate the WCM efficiency and that in return; it can positively affect profitability and maximize shareholders' wealth. Thus, the maximization of shareholders' wealth will also reduce agency problems.

Research Design

Theoretical Framework



Hypothesis

- H1:** There is a negative relationship between CEO Tenure and Cash Conversion Cycle
H2: There is a positive relationship between CEO Duality and Cash Conversion Cycle

- H3:** There is a positive relationship between Board Size and Cash Conversion Cycle
H4: There is a positive relationship between audit committee and Cash Conversion Cycle
H5: There is a negative relationship between CEO Tenure and Current Ratio
H6: There is a positive relationship between CEO Duality and Current Ratio
H7: There is a positive relationship between Board Size and Current Ratio
H8: There is a positive relationship between Audit Committee and Current Ratio

Methodology

This study aims at analyzing the impact of corporate governance characteristics on WCM efficiency. Panel Data Methodology will be used because of the nature of the study. Therefore, Quantitative tools such as correlation and regression will be used to for testing the significant relationship between variables and the models reliability. Secondary data such as Companies financial statements will be used for the analysis. Yearly Data for 5 years will be collected from online publicly available sources including Stock exchange databases, Company's official websites, other online databases etc.

Population

The study can be generalized to Pakistani industry; therefore, the population of the study will be non-financial industry of Pakistan. This study incorporates only the non-financial firms in the analysis. Financial and service firms are not incorporated in the study because of the nature of their business and data required for the analysis are not used in their financial statement.

Sample

A Convenient sampling technique has been used in the study. A total of 40 firms have been selected after analyzing 104 firms from different sectors that are listed at Pakistan Stock Exchange (PSE). The data is gathered for the period of 2008 – 2012. Therefore, total number of 200 observations will be used in data analysis. Company's Annual reports will be analyzed for data collection, which are publicly available on company's official websites, PSE website etc.

Study Type

The Study type of this study is causal and use panel data Methodology. Data is gathered for the period of 5 years at fixed intervals. Causality is examined of the independent variables on the dependent variables by incorporating correlation and regression tools.

Variables

The variables choice in the study is based on the literature review in order to align with the past researches. In this study the causal impact of characteristics of Governance on WCM measures is examined. The independent variables of this study are the measures of characteristics of governance such as Size of Board Members (BDS), CEO tenure (CET), CEO Dual Responsibility (CED) and Audit committee (ADC). Board Size and Dual Responsibility has been adopted from (Gill, Biger et al. 2012). Whereas Audit Committee has been adopted from Anderson, Mansi et al. (2004) and CEO tenure has been adopted from (Kyerboah-Coleman 2008). The dependent variables in this study are the measures of WCM efficiency. Four measures of the dependent variable such as Cash Conversion Cycle (CCC), Current Ratio (CR), Cash holdings (CAH) and cash conversion efficiency (CACE). CCC measure has been adopted from Soenen (1993) whereas Current Ratio has been adopted from (Eljelly 2004). Cash holdings and Cash conversion efficiency has been adopted from (Gill, Biger et al. 2012).

Measurement

The variables in the study have been adopted from previous studies to ensure accordance with the literature and the measurements to collect the data are as follows:

Openly accessible at <http://www.european-science.com>

Explanatory Variables

Audit Committee ($ADC_{i,t}$) = Size of the audit committee

CEO Duality ($CED_{i,t}$) = Assigning the value of 1 if CEO is the part of board members in the same organization and assigning the 0 for otherwise.

CEO Tenure ($CET_{i,t}$) = CEO Experience in years in an organization.

Board Size ($BDS_{i,t}$) = Size of the board member

Dependent Variable

Cash conversion Cycle ($CCC_{i,t}$) = $(ACP) + (ITD) - (APP)$

Current Ratio ($CR_{i,t}$) = $(\text{Current Asset} / \text{Current Liabilities})$

Model Specification

$$(CCC_{i,t}) = a + \beta_1 CED_{i,t} + \beta_2 CET_{i,t} + \beta_3 BDS_{i,t} + \beta_4 ADC_{i,t} + \varepsilon_t \quad (1)$$

$$(CR_{i,t}) = a + \beta_1 CED_{i,t} + \beta_2 CET_{i,t} + \beta_3 BDS_{i,t} + \beta_4 ADC_{i,t} + \varepsilon_t \quad (2)$$

Where,

$CCC_{i,t}$ = Cash Conversion Cycle at time t ;

$CR_{i,t}$ = Current Ratio at time t ;

$CED_{i,t}$ = CEO dual responsibility at time t ;

$CET_{i,t}$ = CEO tenure at time t ;

$BDS_{i,t}$ = Board Size at time t ;

$ADC_{i,t}$ = Audit Committee at time t ;

ε_t = The error term

β_1 , β_2 , β_3 , and β_4 are the parameter estimates for CEO Dual Responsibility, CEO Tenure, Board Size, and the Audit Committee. The positive and negative sign of the estimates depicts the nature of the effect of independence variables on the dependent variables.

Results*Descriptive Analysis*

The Descriptive statistics in Table I and Table II depicts the mean and standard deviation of the dependent and independent variables. These figures depict overall picture about the key variables incorporated in the study. Standard deviation entails the possible movement in the data from the mean. CCC and Current Ratio are the measures of WCM efficiency has the standard deviation of 96.7579 and 1.395 which shows that the variable can deviate from mean at an average of 97 days and 1.395 times.

Quantitative Analysis

The study incorporates two types of quantitative analysis. First, the correlation analysis is used for ascertaining the relationship between the dependent variables and explanatory variables. Pearson correlation will be used for finding the relationship and the sign of the Pearson correlation coefficient will determine the direction of the relationship. There are two dependent variables in the study; therefore, correlation test will be used twice in order to check the relationship of explanatory variable on both the dependent variable. Second, the regression analysis is used to examine the strength of relationship among the dependent and explanatory variables. Regression tool will ascertain the strength of the explanatory variables to bring changes in the dependent variables. Again regression tool will be used twice in order to incorporate the impact of explanatory variable on both the dependent variable separately. However, General linear model has been used for the purpose of conducting the regression.

Correlation Analysis

Table I depicts Pearson product moment correlation, which was computed to ascertain the correlation between the independent variables and dependent variables. The tabulated results show that the dependent variable (CCC) has no significant correlation with the Explanatory variable (CEO Duality) with the sig value greater than 0.05. CEO tenure has significant negative correlation with CCC with a coefficient of $p = -.501$ at significance level $\alpha = 5\%$. Therefore, the more experience of CEO will significantly reduce the CCC period. The Audit Committee and the board size have significant positive correlation with CCC with the coefficient of $p = .591$ and $p = .690$ at significant level $\alpha = 5\%$. Therefore, the increase in the explanatory variables (Audit Committee and Board Size) will significantly increase the length of cash conversion cycle. Among all the four Explanatory variables, CEO duality showed no relationship with the outcome variables, whereas all the others explanatory variables have significant correlation with the outcome variable. The tables also depict that there is no significant correlation among the explanatory variables, therefore eliminating the problem of multi- collinearity.

Table 1 Correlation Matrix

Variable	M	SD	1	2	3	4
Cash Conversion Cycle (CCC)	96.7579	74.16699	.021	-.501**	.591**	.690**
CEO Duality (CED)	.32	.468	-	-.005	-.004	.058
CEO Tenure (CET)	25.88	13.144		-	.050	-.023
Audit Committee (ADC)	4.18	1.118			-	-.031
Board Size (BDS)	7.53	1.400				-

** $p < .05$; * $p < .01$

Regression Analysis

Regression analysis is used for the prediction of behavior of the dependent variable in response to the explanatory variables. The impact of governance characteristics on WCM efficiency was examined in the study. The variables (CEO tenure, CEO Duality, Audit Committee and Board size) are used as explanatory variables which are the measures of corporate governance. Whereas, Cash Conversion Cycle (CCC) and Current Ratio (CR) are used as the dependent variables and that are the measures of WCM Efficiency. However, the dependent variables are regressed on the independent variable to ascertain the strength of the relationship.

Corporate governance and CCC management

CCC was regressed on explanatory variables (Audit Committee, CEO Duality, Board size and CEO tenure) to ascertain strength of the relationship. The Model summary table stated that Explanatory variables significantly affect the dependent variable with $R^2 = 0.575$ and Adjusted $R^2 = 0.566$. The overall model is significant with F statistic = 66.010 which is significant at level $\alpha = 5\%$. This means that 57.5 % of the variation in the dependent variable is caused by the independent variable. In this case, the 57.5 % of the variation in Cash Conversion Cycle is caused by the characteristics of corporate governance (Audit Committee, CEO Duality, Board size and CEO tenure).

Table 2 Summary of Multiple Regression Analysis for Cash Conversion Cycle

Variable	B	SE(B)	T	Sig.
CEO Duality [1]	11.95	7.498	1.594	.112
CEO tenure	-.899	.328	-2.039	.043
Board Size	26.130	2.942	8.883	.000
Audit Committee	18.251	3.931	4.642	.000
(Constant)	-116.913	28.801	-5.795	.000

Note: $R^2 = 0.575$; $F = 66.010$; [1]CEO Duality: 1 = Duality, 0 = Independent;
* $p < .05$

However, parameter Estimates of the independent variables causing dependent variable is as follows.

1. There was no statistically significant relationship found between CEO duality and CCC with a Sig value = 0.112 which is greater than $\alpha = 0.05$ concluding the variable insignificant. This means that Dual responsibility of CEO does not explain any change in the dependent variable. Therefore, the parameter of CEO Duality $\beta = 11.95$ does not explain anything about the dependent variable.

2. There was significant negative relationship between CEO tenure and Cash Conversion cycle with a sig value = 0.043 which is lower than $\alpha = 0.05$ ensuring its significance. This means that experience of the CEO has significant role in explaining the CCC. Therefore, the parameter of CEO tenure $\beta = -.899$ entails that higher tenure of CEO will significantly reduce the cash conversion cycle by round about 1 day.

3. There existed positive relationship between Board Size and CCC with a Sig Value = 0.000 which is lower than $\alpha = 0.05$ ensuring its significance. This means that the proportion of directors on board has significant role in explaining the CCC. Therefore, the parameter of Board size $\beta = 26.130$ entails that large size of the board will significantly increase the cash conversion cycle up to 26 days.

4. There was significant positive relationship between Audit Committee and Cash Conversion cycle with a sig value = 0.000 which is lower than $\alpha = 0.05$ ensuring its significance. This means that the proportion of members on Audit Committee has significant role in explaining the CCC. Therefore, the parameter of Audit Committee $\beta = 18.251$ entails that higher tenure of CEO will significantly increase the cash conversion cycle up to 18 days.

The overall model states that the governance characteristics do have significant impact on the WCM efficiency. $R^2=0.575$ is good enough to significantly explain the variations in the dependent variables caused by independent variables. CCC is one of the two main measures of the dependent variable which is explained 57.5% by the explanatory variables (Tenure, Board size, Audit Committee) therefore excluding CEO duality which was found insignificant.

*Correlation Analysis***Table 3. Correlation Matrix**

Variable	M	SD	1	2	3	4
Current Ratio (CR)	1.395	.9799	-.074	-.574**	.870**	.555**
1. CEO Duality (CED)	.32	.468	-	-.005	-.004	.058
2. CEO Tenure (CET)	25.88	13.144		-	-.050	-.023
3. Audit Committee (ADC)	4.18	1.118			-	-.031
4. Board Size (BDS)	7.53	1.400				-

* $p < .05$; ** $p < .01$

Table 3 depicts Pearson product moment correlation, which was computed to ascertain the correlation between the independent variables and dependent variables. The tabulated results show that the dependent variable (Current Ratio) has no significant correlation with the Explanatory variable (CEO Duality) with the sig value greater than 0.05. CEO tenure has significant negative correlation with Current Ratio with a coefficient of $p = -.574$ at significance level $\alpha = 5\%$. Therefore, the more experience of CEO will significantly reduce the Current Ratio period. The Audit Committee and the board size have significant positive correlation with Current Ratio with the coefficient of $p = .870$ and $p = .555$ at significance level $\alpha = 5\%$. Therefore, the increase in the explanatory variables (Audit Committee and Board Size) will significantly increase the length of cash conversion cycle. Among all the four Explanatory variables, CEO duality showed no relationship with the outcome variables, whereas all the others explanatory variables have significant correlation with the outcome variable. The tables also depict that there is no significant correlation among the explanatory variables, therefore eliminating the problem of multi-collinearity.

Regression

Regression analysis is used for the prediction of behavior of the dependent variable in response to the explanatory variables. The impact of governance characteristics WCM efficiency was examined in the study. The variables (Tenure, CEO Duality, Audit Committee and Size of the Board) are used as explanatory variables which are the measures of corporate governance. Whereas, Cash Conversion Cycle (CCC) and Current Ratio (CR) are used as the dependent variables and that are the measures of WCM Efficiency. However, the dependent variables are regressed on the independent variable to ascertain the strength of the relationship.

Corporate governance and Current Ratio

Current Ratio was regressed on explanatory variables (Tenure, CEO Duality, Audit Committee and Size of the board) to ascertain strength of the relationship. The Model summary table stated that Explanatory variable significantly affect the dependent variable with $R^2 = 0.789$ and Adjusted $R^2 = 0.785$. The overall model is significant with F statistic = 182.567 which is significant at level $\alpha = 5\%$. This means that 78.9 % of the variation in the dependent variable is caused by the independent variable. In this case, the 78.5 % of the variation in Current Ratio is caused by the characteristics of corporate governance (Tenure, CEO Duality, Audit Committee and Size of the board).

However, parameter Estimates of the independent variables causing dependent variable is as follows.

1. There was no statistically significant relationship found between CEO duality and Current Ratio with a Sig value = 0.91 which is greater than $\alpha = 0.05$ concluding the variable insignificant. This means that Dual responsibility of CEO does not explain any change in the

Current Ratio. Therefore, the parameter of CEO Duality $\beta = -.118$ does not explain anything about Current Ratio.

Table 4 Summary of Multiple Regression Analysis for Current Ratio

Variable	B	SE(B)	T	Sig
CEO Duality [1]	-.118	.070	-1.697	.091
CEO tenure	-.007	.003	-2.244	.026
Board Size	.106	.027	3.882	.000
Audit Committee	.661	.037	18.065	.000
(Constant)	-4.835	.445	-7.540	.000

Note: $R^2 = 0.789$; $F = 182.567$; [1] CEO Duality: 1 = Duality, 0 = Independent; * $p < .05$

2. There was a significant negative relationship between CEO tenure and Current Ratio with a sig value = 0.026 which is lower than $\alpha = 0.05$ ensuring its significance. This means that experience of the CEO has significant role in explaining the investments in Current Ratio. Therefore, the parameter of CEO tenure $\beta = -.007$ entails that higher tenure of CEO will significantly reduce the Current Ratio by 7 percent.

3. There was significant positive relationship between Board Size and Current Ratio with a sig value = 0.000 which is lower than $\alpha = 0.05$ ensuring its significance. This means that the proportion of directors on board has significant role in explaining investments in current assets. Therefore, the parameter of Board size $\beta = .106$ entails that higher tenure of CEO will significantly increase the Current Ratio by 10.6 percent.

4. There was significant positive relationship between Audit Committee and Current Ratio with a sig value = 0.000 which is lower than $\alpha = 0.05$ ensuring its significance. This means that the proportion of members on Audit Committee has significant role in explaining the investments in current assets. Therefore, the parameter of Audit Committee $\beta = .661$ entails that higher tenure of CEO will significantly increase the Current Ratio up to 66.1 percent.

The overall model states that the governance characteristics have significant impact on the WCM efficiency. $R^2 = 0.789$ is nearly a good and also good enough to explain significantly the variations in the dependent variables caused by independent variables. Current ratio is one of the two main measures of the dependent variable in this study which is explained 78.9% by the explanatory variables (Tenure, Board size, Audit Committee) therefore excluding CEO duality which was found insignificant.

Discussion

The management of short term assets and short term liabilities are deemed as challenging task in today's competitive environment. Globalization of firms has given more boosts to the importance of the management of working capital. Therefore, managerial consent has become extremely important for the management of these resources. The firm must set the policies that can effectively manage the tradeoff between current assets and current liabilities. Corporate governance has the primary responsibility of setting all the policies and procedures to efficiently conduct organizational activities. However, it was posited from the literature that corporate governance did play major role in the managing the working capital efficiently. Addressing this gap, this paper seeks to examine the impact of governance characteristics on WCM efficiently.

To ascertain the relationship between governance characteristics and WCM efficiency, a total of eight hypotheses were developed to examine the significant relationship between governance

characteristics and WCM efficiency. Quantitative analyses such as Correlation and regression tools were incorporated to test these hypotheses. The results from the correlation and regression tools were as follows.

Corporate Governance and CCC Management

H1: There is a negative relationship between CEO Tenure and CCC

The H1 hypothesis was accepted, which was confirmed by both correlation $R = -.501$ and regression $\beta = -.899$. The results confirmed that increase in the CEO tenure can significantly reduce the cash conversion cycle by 50.1% whereas 89.9% variation in CCC can be explained by CEO tenure.

H2: There is a positive relationship between CEO Duality and CCC.

The H2 hypothesis is rejected. The result was insignificant confirmed by both correlation and regression, where the sig value in both the tests was greater than $\alpha = 0.05$. Therefore, no further interpretation was necessary.

H3: There is a positive relationship between Board Size and CCC.

The H3 hypothesis is Accepted, which was confirmed by both correlation $R = .591$ and regression $\beta = 26.130$. The results confirmed that increase in the size of board can significantly increase the cash conversion cycle by 59.1% whereas 260.130% of the variation in CCC can be explained by Board Size.

H4: There is a positive relationship between audit committee and CCC.

The H4 hypothesis is Accepted, which was confirmed by both correlation $R = .591$ and regression $\beta = 18.251$. The results confirmed that increase in the audit committee can significantly increase the cash conversion cycle by 59.1% whereas 180.251% of the variation in CCC can be explained by audit committee.

Corporate Governance and Current Ratio

H5: There is a negative relationship between CEO Tenure and Current Ratio.

The H5 hypothesis is accepted, which was confirmed by both correlation $R = -.574$ and regression $\beta = -.007$. The results confirmed that increase in the CEO tenure can significantly reduce the current ratio by 57.4 % whereas 0.07% variation in Current ratio can be explained by CEO tenure.

H6: There is a Positive relationship between CEO Duality and Current Ratio.

The H6 hypothesis was rejected. The result was insignificant confirmed by both correlation and regression, where the sig value in both the tests was greater than $\alpha = 0.05$. Therefore, no further interpretation was necessary.

H7: There is a positive relationship between Board Size and Current Ratio.

The H7 hypothesis was Accepted, which was confirmed by both correlation $R = .555$ and regression $\beta = .106$. The results confirmed that increase in the size of board can significantly increase the cash conversion cycle by 55.5% whereas 10.6% of the variation in Current Ratio can be explained by Board Size.

H8: There is a positive relationship between audit committee and Current Ratio.

The H8 hypothesis was Accepted, which was confirmed by both correlation $R = .870$ and regression $\beta = .661$. The results confirmed that increase in the audit committee can significantly increase the current ratio by 66.1% whereas 66.1% of the variation in Current Ratio can be explained by audit committee.

A total of six hypotheses were accepted and two hypotheses were rejected. There overall structure depicts that independent variables have significant power in explaining the variation in dependent variables. The acceptance of H1 and H5 are backed by Anderson, Mansi et al. (2004) They

elucidated CEO tenure has significant positive relationship with corporate earnings and also argues that longer CEO tenure can influence the board's opinion with little impediments. Kyereboah-Coleman (2008) argues that the longer the CEO serving in firm, the more protection they will give to the interest of the shareholders. Therefore, the two accepted hypotheses do have some literature support, however, this study further contributes to the literature that CEO tenure not only improves corporate earning but it also significantly improves the WCM efficiency.

H2 and H6 were rejected because there was no significant relationship found in explanatory variable (CEO Duality) and the dependent variables (CCC and Current Ratio). This result also has support in the literature Heracleous (2001) who also failed to find any significant relationship between duality and firm's performance. Two reasons can possibly explain the insignificance of this relationship between the two variables. Firstly, that the scope of the study was too narrow, however it might have been missing some of the important variable that has impact on organizational performance; secondly, that different organization has different requisition of corporate governance practices.

H3 and H7 were accepted and it was also supported up to some extent by Anderson, Mansi et al. (2004). Their research stated that the size of the audit members and the number of meeting the member's holds has a negative association with the earning management of the firm. However, this result is somewhat in accordance with Anderson, Mansi et al. (2004) which entails that reliability of the company's statement is significantly affected by the audit committee characteristics. The Error bar in Appendix-1 also depicts that when the size of the audit committee increases, it will also increase the cash conversion cycle therefore decreasing profitability. The same consequences hold for current ratio. The two accepted hypotheses do have some literature support; however, this study further contributes to the literature by suggesting that the size of the Audit committee must not be very large. Small audit committees significantly affect profitability as compare to large audit committees, and small audit committees will also improve the WCM efficiency.

H4 and H8 were also accepted and it was supported by the literature. Researchers (for example, (Lipton and Lorsch 1992); Yermack (1996) found that large number of board of directors are less efficient and flexible in process of decision making as compare to small number of directors. Kajola (2008) argues that large number of board members lead to improved monitoring but it also reduces communication and flames the conflicts in decision making. Therefore, Kyereboah-Coleman (2008) suggests that small number of board members must be encouraged to facilitate improved communication channel and effective decision making process. The Error bar in Appendix-2 also depicts that when the size of the "board members" increases, it also increases the cash conversion cycle therefore decreasing profitability. The same consequences hold for current ratio. The two accepted hypotheses do have some literature support; however, this study further contributes to the literature by suggesting that the size of the Board members must not be very large. Small audit committees significantly affect profitability as compare to large audit committees, and small audit committees will also improve the WCM efficiency. To sum up it can be concluded from the results that corporate governance characteristics do have significant impact on the efficiency of managing working capital of the Pakistani firms.

Conclusion

Management of working capital ensures that the organization is meeting its daily obligations. Every organization has to maintain at least some investments in working capital in order to smoothly conduct their operations. Without adequate working capital the company cannot operate, neither can they function. The management of working capital requires continuous effort for maintaining the balance between the needs of current asset and current liabilities. Failure to maintain optimal level

of working capital can impede firms' operations and profitability and that can lead company to bankruptcy. In Pakistan, many organizations have enormous investments in short term capital, therefore it can be expected that the policies and procedures set by the management will have significant impact on WCM efficiency.

This study aims at examining the WCM efficiency in context of Pakistan under the influence of corporate governance. A total of 40 firms listed at PSE were selected for the period of 5 years resulted in 200 observations to conduct the analysis. The results of this study are not only in accordance with the literature Gill, Biger et al. (2012) but it also has significant contribution. This study favors the higher CEO Tenure, because more experience of the CEO tenure leads to the efficiency of managing organizational resource. The longer the CEO serving in firm, the more protection they will give to the interest of the shareholders. CEO with longer tenure have more understanding of the dynamic nature of the organization and are in a better position to set policies that will benefit the firm. The study also suggests that size of the board must not be very large, because larger board size reduces the efficiency in controlling and monitoring. Small board size increases the efficiency in the management of working capital. Audit committee must also be maintained at optimal minimum because the large audit committee also play significant role in reducing the efficiency in management of working capital. CEO duality was under spot light in the literature, therefore there was expectation that dual responsibility of CEO might have significant role in WCM efficiency. There was mixed debate about CEO duality and its impact on WCM efficiency, but there was no significant relationship found in this study which was conducted in the context of Pakistani Environment. Some study found significant positive relationship of CEO duality with firms' performance whereas others found no significant relationship. However, it is evident from the study that the characteristics of the corporate governance play a significant role in managing the efficiency of working capital. The mismatches of assets and liabilities have adverse consequences on the firm's performance as evident from the literature. Therefore, strong governance is required for the firm to manage its resources efficiently and maximize the shareholders' wealth.

Implications

Academic Implications

This Study contributes to the existing literature by ascertaining the significant impact of governance characteristics on the efficiency in managing working capital. The findings of the study will benefit the future researchers and scholars with a sound understanding of the role played by corporate governance in management of working capital. This study has investigated different measures of governance and WCM efficiency. However, this research will aid future researches relating to governance and WCM by enhancing their awareness about the importance of corporate governance and WCM in Pakistani scenario.

Managerial Implications

The findings will also help the managers and policy makers of the firm by creating awareness about the role they can play in influencing working capital management. This paper suggests the management to set policies that favors maintaining the optimal level of working capital. Firms can create value for the shareholders by reducing the investments in working capital but keeping very low investments in working capital can create liquidity problems. Therefore, management must be aware of the tradeoff between liquidity and profitability. Keeping appropriate size of the board and audit committee, management can improve the WCM efficiency. Continuous monitoring must be facilitated on the resources of the company and better management must be

initiated to ensure that the firm's capital is optimally utilized. The findings of this study will also be beneficial to investors, company stake holders, and other key intermediaries.

Limitations

This research is subject to certain limitation. First, the findings of this study can be generalized to Pakistani industry only. Second, the sample size and the time period are narrow. The implementation of the result in practice can sometimes be challenging for the organizations.

Future Recommendations

The findings of the study can be further generalized beyond the Pakistani industry. Future researchers are suggested to conduct similar research in different industries and study settings by incorporating large sample size and longer time period. Some other characteristics of corporate governance (Board compositions and CEO turnover) which are not included in this research can be incorporated in the study to strengthen the literature in this area.

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APPENDIX 1

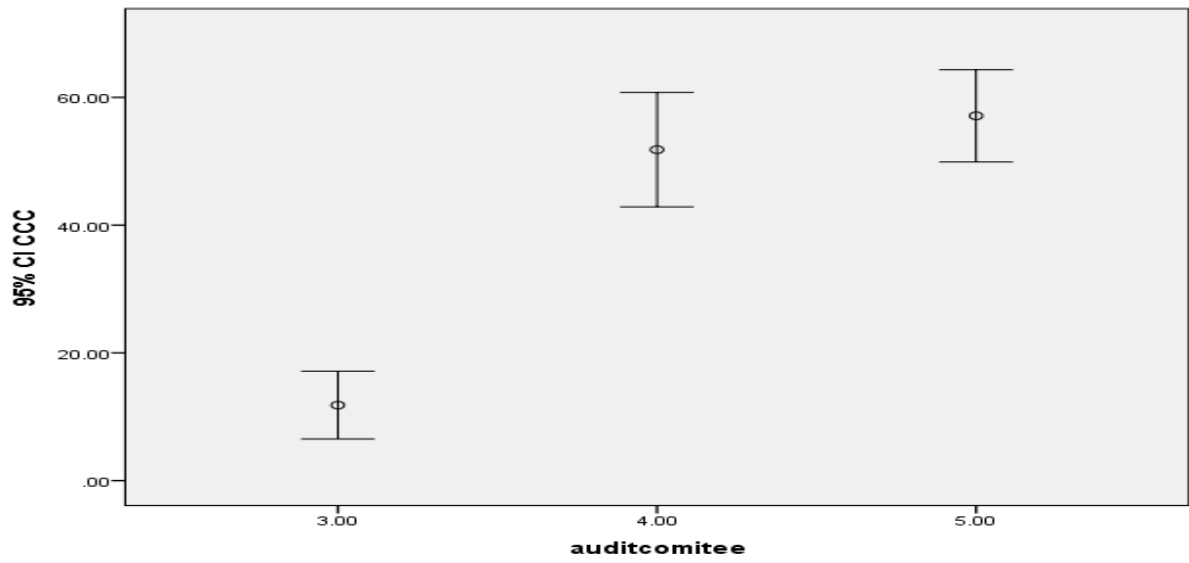


Figure I Error Bar of CCC against Audit Committee

APPENDIX - II

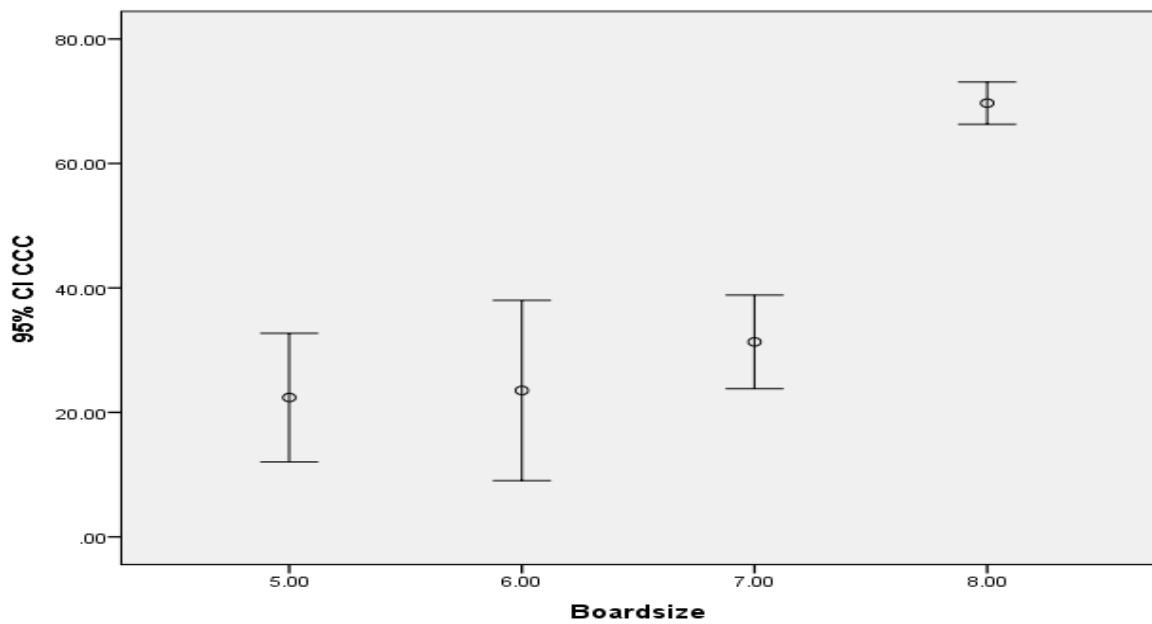


Figure II Error Bar of CCC against Board Size