Predicting Corporate Performance: Interactions between the CEO and Board Members

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Abstract

Interactions are a part of corporate governance that have not been researched to any large degree. Corporate Governance has attracted an immense amount of attention due to the large corporate failures throughout the world through fraudulent activities or otherwise. There is a gap in the knowledge because no studies have been conducted examining the interactions. The problem addressed in this study was to determine the existence, strength, and direction of relationship between interactions between the chief executive officer (CEO) and board members, corporate performance, and stock prices. The survey instrument was hosted by Qualtrics, a firm specializing in data collection and analysis. This correlational study (using the Schulz, Israel, and Lantz "Instrument for evaluating dimensions of group dynamics within community-based participatory research partnerships") was conducted and participants were CEOs or board members of the corporations listed on the Australian Security Exchange (ASX) that were not in a trading halt or had a takeover in the last 12 months. The hypotheses tested were whether positive interactions between the CEO and the board members affected corporate performance and stock prices. If so, this would be of benefit to the corporations throughout the world to improve their corporate performance. ANOVA tests were conducted across all attitudinal questions as well as undertaking the Wilcoxon signed-rank test to see if there was any difference between the approximated matched pair that is the reported profit increase and the stock price increase. However, the lack of variation response and the small samples meant that the decision to accept or reject the hypotheses at this stage cannot be made. Future research should consider increasing the sample size and ensuring that the sampling includes responses from corporations that had a decrease in stock performance. Future data collection should also be undertaken at different time intervals to

increase the reliability and to provide a comparison of different perceptions of the board interactions.

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Chapter 1: Introduction

Corporate governance is a framework to guide the conduct of the corporation and how it is governed (Grace, Hat, & Koski-Grafer, 2016). Corporate governance reflects on the alignment of the interests of the shareholders and the directors (Grace et al., 2016). The attributes of corporate governance include the rules, policy, and processes that may have an effect on firm performance in stable conditions and a buffering effect in crisis periods (Tshipa, Brummer, Wolmarans, & du Toit, 2018). Corporate governance is essential in implementing international best practices to provide a function to handle a crisis as well a non-crisis events and to provide a stable system of managing the corporation (Tshipa et al., 2018). A component or a subset of corporate governance comprises interactions between the executives, such as between the chief executive officer (CEO) and board members.

Interactions between the CEO and board members of Australian corporations were examined within the context of a global view of corporate governance. Interactions are a part of corporate governance which is a set of principles and recommendations for corporations to achieve good governance outcomes and to meet the expectations of shareholders (Australian Securities Exchange, 2013). Akbar et al. (2016) regarded the relationship between corporate governance and firm performance in the United Kingdom, as paramount. Zhang (2013) supported and further argued that power and trust in the relationship between the board of directors and the chief executive officer (CEO) are important.

Interactions, being a part of governance, have not been researched to any large degree. However, corporate governance is a fundamental principle for performance that has attracted the interest of various academics, economists, and politicians (Salim et al., 2016). There has been limited theory and research into the CEO-board members' behaviors (Garg & Eisenhardt, 2017).

Successful completion of objectives and goals were often reflected by the type of communication (Wu et al., 2017). Conflict relationships affected the various parties and contributed in a negative way to project success (Wu et al., 2017).

Researchers over the years have demonstrated that the corporate world has had many frauds and corporate collapses that have affected all the stakeholders including the ongoing effects throughout the financial world (Alleyne & Elson, 2013). Researchers have contributed to the growing awareness of how board members and CEOs can improve their effectiveness through corporate governance and the resultant process of decision-making (Vo, 2010).

Boyd et al. (2010) found that the board of directors' interactions are complex and multifaceted and described the interactions in the field of power, control, involvement, and vigilance. Many researchers have conducted investigations into the relationship between a corporation's financial performance, the CEO, and board members' relationships (Boyd et al., 2010). Boyd et al. (2010) researched CEO-board of directors' relations while focusing on the information resources that the board of directors could provide. Research founded on the agency theory is used to describe the relationship between the board of directors and the CEO in a more adversarial manner (Boyd et al., 2010).

Hopkins and Hopkins (2002) defined interactions as those interpersonal activities taking place within a group and those that influence the outcomes. Interactions are seen primarily as a financial issue rather than a combination of financial, cultural, ethical issues, and corporate governance (Garg & Eisenhardt, 2017). Garg and Eisenhardt (2017) argued that it was how CEOs engage in strategic processes and how the CEO and board members interacted. The problem addressed by this study is that CEOs, board members, and shareholders have no information on whether positive interactions between the CEO and board members leads to

better corporate performance and consequently higher stock prices. This research is needed as there is a gap in the literature as evidenced by the paucity of such and it is important, commercially, to be able to determine how interactions affect corporate performance, if at all.

Statement of the Problem

The problem addressed in this study was to determine the existence, strength, and direction of relationships between the interactions between the CEO and board members, corporate performance, and stock prices. There have been numerous studies on the effects of corporate governance. There are no studies in interactions and there is a gap in the knowledge. Earlier research conducted on a similar topic did not define the actual relationship among CEO and board members in relation to the corporate governance policies accomplished by board members and CEO and its overall impact on their relationship (Rodriguez-Fernandez, 2015).

Interactions within corporations are often determined by the non-verbal exchange between the individual's (CEOs and board members) and they are a fundamental driver of the relationship involving trust (Del Birio, Yoshikawa, Connelly, & Tan,2013). Trust is developed by the interactions, including the risk-taking, task performance, and attributes that affect behaviors of all corporate directors (Del Birio et al., 2013). It is the CEO's ability and behavior that lead to the external perceptions of the CEO's integrity (Del Birio et al., 2013). The CEO's interactions often determine how the board members will react (Del Birio et al., 2013). Negative perceptions of the CEO's integrity will be a concern to the board members in that the CEO may not be acting appropriately (Del Birio et al., 2013).

Effective communications and interactions are essential for building good working relationships and trust (Pennings et al., 2018). Trust is an essential aspect within interactions between various parties. Pennings et al. (2018) argued that dominance, power, status, and

control were aspects of interactions between humans and these comprised important features. Trust is a critical component of effective interactions between the CEO and board members (Del Brio et al., 2013).

Board members' behavior has not been researched greatly, but the suggestion is that the effective decision-making necessitates different interaction patterns (Bezemer et al., 2014). Although interactions between the CEO and board members may look similar from corporation to a corporation, the board members' behavior and interactions vary greatly (Bezemer et al., 2014).

Purpose of the Study

The purpose of this quantitative correlational research was to determine the existence, strength, and direction of the relationship between the interactions between the CEOs and board members and corporate performance. In addition, the existence, strength, and direction of the relationship between the interactions between the CEOs and board members and the corporation's stock price were determined. The predictor (independent) variable was the level of interaction between the CEO and board members. Corporate performance and stock prices were the criterion (dependent) variables.

The data were collected using a self-administered survey hosted on Qualtrics, a firm specializing in data collection and surveys which obtained the relevant data from CEOs and board members of corporations listed on the Australian Securities Exchange (ASX). Qualtrics utilized its wide data base to recruit the potential targets. Exclusions were those corporations that have been taken over by another corporation along with those that have been placed into external administration.

Interactions, as defined by Hopkins and Hopkins (2002), are those interpersonal activities taking place within a group. Interactions include 10 behavioral attributes, namely, engagement, active listening, individuality, relationality, solidarity, understanding, action, planning, power and influence, and openness (Charas, 2013). Interactions were measured on a scale of 1-4 (with 1 being the lowest and 4 being frequently). These interactions were classified as co-operative, hostile, passive, and positive.

Theoretical Framework

Agency theory describes the relationship between two parties whereas one party, the agent, acts on behalf of another, the principal. In the case of corporations it is the CEO and board of directors (agents) who act on behalf of the stakeholders and/or shareholders (principals) (Pouryouselfi & Frooman, 2017). Agency theory is one of the oldest theories on both management and economics that describes the issues between the stakeholders, and management of the corporation (Panda & Leepsa, 2017).

Components of the agency theory are those of the issues involving the problem of risk-sharing between the various parties which, in this case, comprise executives (agent: Board and Management) and the stakeholders (principals) (Panda & Leepsa, 2017). In essence, the agency theory's component of contractual relationship is between the stakeholders and the executive whereby both parties work for their own self-interest (Panda & Leepsa, 2017). The executives are working to maximize their self-interest through measures such as short term and or high risk investment, higher remuneration and information restriction. These measures can conflict with the stakeholders' self-interest which may be looking for longer term growth and expense management (Panda &Leepsa, 2017).

Agency theory was a basis for this research. The argument is that the interactions of the board and CEO differ in each organization to maximize shareholder returns. Positive interaction, which is defined as a non-confrontational between the board of directors and the chief executive officer, results in proper accountability on the parts of the directors and the CEOs (Shin, 2014). The active interaction between the board of trustees and the CEO leads to smooth and proper decision making in the organization (Bandura et al., 2010).

Agency theory can be traced back for over 200 years and appeared to be the best theory for researching the interactions of the board and CEO and the linkage to corporate performance (Jensen & Meckling, 1976). Bendickson et al. (2016) argued that although agency theory is not a new concept, it is an incremental advancement encompassing a variety of ideas and relationships. However, analysis of the interactions between CEOs and board members (such as non-argumentative but firm in action and non-distress causing factors) is difficult, as there is so much diversity in the communications (Chen, 2014).

Furthermore, Garg and Eisenhardt's (2017) conclusions were that certain behaviors, namely, interactions, resolved their effective strategy-making process. Sundaramurthy et al. (2014) undertook research into the effects of positive and negative synergies which are defined as the various sections of the corporation working constructively and are influenced by the interactions of the CEO and board members (Complexity Lab, 2017). These scholars demonstrated that there appears to be a positive effect on the performance when positive synergy is evident between the CEO and board members.

Positive interaction between the board of directors and the CEO leads to the formulation of policies that are accepted by all the management levels of the organization (Garcia-Zamor, 2013). The board of directors holds the responsibility for developing organizational policies and

the CEO has the duty of overseeing the operation of the organization (Garcia-Zamor, 2013). Active interaction contributes to the development of respect between the board members and the CEO and this helps immensely to improve the performance of the corporation through good rapport and minimizing conflicts (Rubinstein, 2015).

Nature of the Study

A quantitative correlational research method was used. The process involved the collection of quantifiable data of which the data were recorded in numbers (Leedy & Ormrod, 2013). Quantitative research means that the data can be generated to produce statistics (Leedy & Ormrod, 2013). These data will provide information that can be generalized to large populations by sampling and extrapolating the sample's results (Goertzen, 2017; Leedy & Ormrod, 2013).

Quantitative research was undertaken through questionnaires or surveys and the types of questions related to the interactions between the CEO and board members. Quantitative research is better than qualitative when the data are needed to be compared in a systematic way and to generalize to the whole population, in addition to testing the theories with the hypotheses (Leedy & Ormrod, 2013). Quantitative research assesses the relationship between the variables (Goertzen, 2017). The advantage of quantitative research is that questions are closed-ended or forced-choice answers which lead to fast data collection. The results can be generalized from a reasonably small sample to the entire population, provided that a reasonably high rate of response is received (Polit & Beck, 2010). Because the purpose of the study was to determine the existences, strength, and direction of two potential relationships, I was interested in comparing variables, testing hypotheses, and generalizing the findings all of which favor the use of quantitative research.

Qualitative research methods are better when the researcher is exploring the subject trying to understand the reasoning or the patterns of behavior which are difficult to obtain other than through qualitative surveys (Leedy & Ormrod, 2013). Qualitative researchers look for the characteristics of the participants that are difficult to be reduced to mathematical values (Leedy & Ormrod, 2013). Qualitative data collection may be more useful with few participants required but are much more in-depth information seeking observation of survey whereby there are no close-ended questions, but the results may be difficult and unreliable in generalizing (Leedy & Ormrod, 2013; Trochim & Donnelly, 2008).

A correlational study is quantitative in nature and that purpose is to determine whether there is a relationship between two or more variables (Waters, 2017). Correlation research does not involve influencing variables but looks for the associations between the variables (University of Connecticut, 2017). A correlation has a direction in that it may be positive or negative and this research is aimed at determining whether interactions in fact, do predict corporate performance. Correlations exhibit different strengths of the relationship and these relationships are measured by the Pearson correlation coefficient (University of Connecticut, 2017).

The types of interaction collected between the CEO and board members included the very good, good, neither good nor bad, bad, very bad. There are various types of interactions such as verbal, non-verbal, interpersonal power, and status. The type of interaction in this study was on the verbal and non-verbal communications. Interactions may affect the other members' actions, and these may affect the relationship between the members including the CEO who may in turn, affect the corporate performance (Glaeser & Scheinkman, 1999).

Research Questions

The following research questions were used to guide the study of the impact of the positive interaction between the board and the CEO.

RQ 1. What is the relationship, if any, between the interactions of the CEO and board members and corporate performance?

RQ 2. What is the relationship, if any, between the interactions of the CEO and board members and the corporation's stock price?

Hypotheses

The hypothesis test was done based on the null and the alternative hypothesis. The two hypotheses are as follows:

$H1_0$. There is no statistically significant relationship between the interactions between the CEOs and board members and corporate performance.

$H1_a$. There is a statistically significant relationship between the interactions between the CEOs and board members and corporate performance.

$H2_0$. There is a no statistically significant relationship between the interactions between the CEOs and board members and the corporation's stock prices.

$H2_a$. There is a statistically significant relationship between the interactions between the CEOs and board members and the corporation's stock prices.

Significance of the Study

The main aim of the research was to determine whether the interactions of the CEO and the board members, affect corporate performance. Rodriguez-Fernandez (2016) found empirical evidence that there was a link between positive corporate social responsibility (CSR), improved financial performance, and the study contributed to the growing awareness of how board

members and CEOs can improve the effectiveness through CSR. Boyd et al. (2010) found that the interactions between the CEO and board members are complex and multifaceted, whereby the interactions involved power, control, involvement, and vigilance

The findings will be important to organizations which are listed on the stock market or those intending to get listed. The study also explored whether positive and negative nature of associations are significant in affecting the valuation of a company stock. This research was designed to provide insights into whether the board and CEO are acting in a positive or negative manner that will improve or otherwise, the corporation's financial performance and the effect on the stock price. The results of the research will benefit corporations throughout the world into how their boards and CEOs interact and the consequences thereof. Should there be a correlation between interactions between the CEO and board members and the corporate performance, in addition to stock price movements, then the research will provide better insight for CEOs and board members to follow in their interrelations.

Both the CEO's and the board members' performance require regular assessment to ensure that there is open communication thus confirming (or otherwise), the expectations, roles, and responsibilities (Smith, 2017). The literature is vast on corporate governance and the complex relationship between corporations and performance (Bezemer et al., 2014). Most researchers focused on board structures, CEO-chair duality, outsider ratios, in-board monitoring committees (Bezemer et al., 2014). Bezemer et al. argued that the board of directors' and CEOs' behavior and interactions are not well-known and in fact these researchers commented that very little progress has been made. However, Bezemer et al. noted that the overarching effect of interactions was important for board functioning through positive interactions and fostering meaningful cooperation.

This study was designed to find a correlation between interactions between the CEOs and board members and corporate performance and the stock prices. Zajac and Westphal (1996) found that there had been numerous studies on the interdisciplinary research primarily in identifying economic and behavioral factors that lead to changes in the CEO. Furthermore, Zajac and Westphal (1996) created an economic-strategic model of the CEO characteristics that were the ones that influenced the selection of CEOs. This study allows for a better selection process by analyzing potential CEOs' and board members' interactions.

The interactions between the CEO and board members are often fraught with tension because the board has a fiduciary duty to review the CEO's leadership, behavior, and performance (Dierickx, 2003). Interactions take place which involve someone doing something (Polley & McGrath, 1984). Interactions may cause various changes to other inputs such as in the members themselves or the relationships amongst the members including the CEO and board members (Polley & McGrath, 1984). The problem is that the board members are reluctant to fulfil this duty because they are afraid of offending the CEO who interprets the questioning as a lack of trust (Dierickx, 2003). Dierickx (2003) argued that there are cases where by a company's economic performance is seriously damaged by the friction between the board and the CEO caused by the interpersonal dynamics, such as the lack of candid communication in interactions.

This research will be useful in directing training so that both the CEOs and board members feel at ease and do not take personal offence as outlined previously. The business practice to change would be in training the CEO to be more forthcoming, transparent, and allow the board to scrutinize without feeling that they do not trust him or her. The board members' training on the interactions would be to undertake such training whereby they do their fiscal duty and scrutiny without making the CEO feel that they do not trust him or her. Charas (2014)

argued that board's interactions generate better economic values and these interactions are crucial. Furthermore, Charas (2014) contended that boards that function effectively have an 800% greater impact on the corporate performance.

The study will be of commercial benefit in that corporations will be mindful of the interactions between the CEO and board members and the consequences regarding the stock prices (market value). By researching interactions, it will assist in optimizing corporate behavior as there are requirements for more open and transparent corporate operations. The research will fill a gap on the relationships between the interactions between the CEOs and board members and corporate performance and stock prices. At present there is much literature on corporate governance in general. The literature on interactions, which are a specific part of corporate governance, is scarce and this research will provide, not only new information, but a base for further research.

Definitions of Key Terms

Australian Stock Exchange. The ASX acts as a clearing house and market operator for investors in Australian securities listed with it (International Dictionary of Finance, 2003).

Board of directors. The Board of Directors comprises a group of people who have a duty of care to act in the interest of all shareholders (Feld, 2014). This governing body is responsible for the processes that focus on maximizing the wealth of the shareholders and at the same time to develop good corporate governance policies to avoid or at least minimize conflicts of interest (Feld, 2014).

Cooperative interactions. Cooperative interactions are those motivated by the desire for selecting options to exert control to some degree over the outcomes (Bluestein, 2014)

Corporate governance. Corporate governance is the term used to determine the role of agents who have a contractual relationship in governing corporations (L'Huillier, 2014). Corporate governance comprises the monitoring mechanisms used to control and protect the shareholders' interests by the CEOs and the board of directors (L'Huillier, 2014).

Corporate performance. Corporate performance may be measured by setting business goals and providing feedback to management to see whether such goals were achieved (Kellen, 2003). Corporate performance is based on the productive use of resources including, capital, human, and physical with the aim to achieve required goals and objectives (Carton, 2004).

Hostile interactions. Hostile interactions are those actions that are in response to a perceived insult or threat often in an unplanned manner fueled by emotion (Brose, 2011).

Passive interactions. Passive interactions are those actions both verbal and non-verbal whereby a person is afraid to interact or speak up and shows little or no emotion (Counselling Service in France, 2012).

Positive interactions. Positive interactions are not the same as compliance interactions but as a non-hostile form of interactions that are designed to be positive (Hearron & Hilderbrand, 2010).

Summary

The problem that the present study sought to address was whether or not there was a distinct relationship between interactions occurring among board members and CEOs and the stock prices and performance of corporations. The study was necessitated by lack of studies on the relationship between interactions between board of directors and CEOs on a corporation's stock prices and corporate performance. The study was based on quantitative correlation research. The purpose of the study was to establish the existence, direction, and significance of

relationships between interactions among board members and CEOs and the performance of corporations in the stock market.

The nature of interactions between board members and CEOs was the predictor or independent variable of the study. The criterion or dependent variable was the stock prices of corporations under investigation and their corporate performance. These survey questions were hosted by Qualtrics to gather primary data pertaining to the corporations on the Australian Securities Exchange (ASX).

The study was be based on a quantitative research method, and consequently, the generated data were presented using statistics to determine their significance and validity. The research sought to answer questions on the extent to which interactions between board members and CEOs predict corporate performance and stock prices. The study was informed by the null hypothesis that interactions between board members and CEOs are statistically related to stock prices and corporate performance of firms. The alternative hypothesis was that there is no statistically significant impact of interactions between board of directors and CEOs and the stock prices and corporate performance of firms.

Chapter 2: Literature Review

The purpose of this study was to determine existence, strength, and direction of the relationship of interactions between CEOs and board members on corporate performance, and between CEOs and board members on corporate stock price. The predictor (independent) variable was the level of interaction between CEOs and board members. Corporate performance and stock prices were the criterion (dependent) variables.

Previously, researchers have not addressed interactions between CEOs and board members. Some researchers have claimed that a correlation exists for the interactions between CEOs and board members, corporate performance, and stock prices. Such factors have been referred to as group dynamics and corporate governance. Interactions are defined as processes that people act upon and react to from other people or situations. Many researchers have analyzed the relationship between corporate governance and corporate performance, focusing on, for example, CEO duality, board size, and the number of women who served on a board (Pham, 2016). Schoenberg, Cuskelly, and Auld (2016) argue that intragroup dynamics, that is, the interactions, appear to significantly influence corporate performance.

Corporate performance is a wide-ranging concept, but in this paper, it was measured based on the reported profit or loss for each corporation. It is a fundamental assumption that corporate performance will affect stock prices (Puspitaningtyas, 2017). However, this is not necessarily so as argued by Puspitaningtyas in that financial performance (corporate performance) may be measured on a variety of ways, including profitability, growth, market valuation, and liquidity (Puspitaningtyas, 2017). Research indicated that it was only market valuation that affected the stock prices in a significant way (Puspitaningtyas, 2017). Puspitaningtyas furthermore argued that, in addition to market valuation, a corporation's

financial performance is useful in making investment decisions which tend to drive the stock prices. Financial performance analysis is often measured through the financial ratios and is an indicator to project the movement in stock prices (Puspitaningtyas, 2017).

Overall corporate performance and stock prices appear to be interwoven with the group dynamics (interactions) between CEOs and board members (Graham, Kim, & Leary, 2017). Only limited research has been undertaken on the integration of theoretical perspectives regarding interactions between CEOs, board members, corporate performance, and stock prices (Graham et al, 2017). There are many perceptions regarding the CEO's ability and the interactions with the board members and the effect on CEO turnover regarding good or poor corporate performance (Graham et al, 2017). This study examined the relationships to determine the existence of any correlations regarding the interactions between CEOs and board members and corporate and stock prices.

Chapter Overview

This study was based on an examination of the interactions between CEOs and board members. The theory is that the interactions between them CEOs and board members predict corporate performance. There has been limited research conducted on the interaction and corporate performance relationships, despite the abundant research on corporate governance in general (Garg & Eisenhardt, 2017). Many of the hostile interactions between the CEO and board members stem from the fact that all parties have different interests (Beck, 2015). Another argument is that frequent communication between CEOs and board members provides a mutual benefit that can result in better corporate performance (Scudder & Scudder, 2015).

The purpose of this quantitative correlational research was to determine the existence, strength, and direction of the relationship between the interactions between the CEOs and board

members, corporate performance, and stock price. Macharia and Gatuhi (2013) examined the knowledge and understanding of financial reports as the basis for investors to understand the multifaceted aspects of the rate of returns and capital gains. Researchers have argued that better performance can create a higher demand for stock and that a strong relationship exists between corporate performance and stock performance (Machdar, 2016).

Research and content searches were conducted through the Northcentral University library database. Additional searches were undertaken by using Google and crossed-checked for the digital object identifier (doi) on the website https://www.crossref.org. Additional research was completed by checking the references used by current researchers.

The main theoretical theme for this research was in regard to interactions (intragroup dynamics). Interactions between CEOs and board members predict corporate performance that consequently and subsequently leads to fluctuations in stock prices. The themes included interactions, effective communication, positive relationships, and the state of relationships, which can greatly impact corporate performance. Other theoretical themes comprised corporate performance and its relationship to an increase or decrease in stock prices.

The key search terms included: *interactions, corporate performance*, *role CEO and board members*, *impact on corporate performance*, *relationship board and corporate performance*, *dynamics*, *stock prices*, and *board monitoring*. Furthermore, the searches were narrowed to include results from the year 2000 to the present, although other earlier non-current studies were reviewed depending on relevance. The scope of the literature included combinations previously mentioned research in both academic journals and general literature.

Van Essen et al (2015) and Roa and Tilt (2016) indicated a linkage or correlation between corporate performance and stock prices. In addition, some theorists such as Ratemo

(2015) and Guo, Zhang, and Tian (2018) found that there is a correlation between corporate performance and stock prices. This research project was based on the findings in that a correlation does exist between corporate performance and stock prices.

Primary Theory and Theoretical Framework

The purpose of this quantitative correlational research was to determine the existence, strength, and positive or negative correlation of the interactions and relationship between CEOs, board members, and corporate performance. The relationship between CEOs and board members requires a high degree of trust, a strong sense of balance, and clear and meaningful communication (An & Zhang, 2013). These relationships of trust and interactions lead to developing a healthy work culture from the upper levels to lower levels of management (An & Zhang, 2013).

The aim of this research was to demonstrate that a relationship exists between the interactions of CEOs, board members, and corporate performance. In other fields of study, Vogel, Meyer, and Harendza (2018) found verbal and non-verbal aspects of communication to have important encounters in many aspects. These findings can be transferred to other fields such as the verbal and non-verbal communication (interactions) between CEOs and board members and corporate performance. Interactions between people, including CEOs and board of directors, can be in the form of verbal or non-verbal communication (Vogel et al., 2018).

The framework for this research encompassed work by Shen (2003), who argued that the relationship between CEOs and board members is of central importance. Effective interactions between CEOs and board members enable CEOs to make better decisions in the interest of the organization (Chen, 2014). These decisions frame more effective policies, rules, regulations, and

innovative strategies to enhance productivity and sustain long-term success and growth of employees and corporate organizations (Chen, 2014).

Schoenberg et al. (2016) devised a theory (intragroup dynamics) that the intragroup dynamics of CEOs and board members are significant factors that influence corporate performance. The theory of intragroup dynamics by Schoenberg et al. stated that a relationship existed between CEOs and board members that affects corporate performance. Furthermore, Schoenberg et al. highlighted the importance of positive and clear communication between CEOs and board members. Schoenberg et al.(2016) also suggested that these interactions were entirely dependent on each other for successful strategy implementation

Schoenberg et al. (2016) concluded that positive relationships affect corporate performance, where conflict and power struggles resulted in mixed findings. Schoenberg et al. (2016) found that, when the relationship between a CEO and board members was positive, corporate performance increased. Schoenberg et al. also argued that these relationships tended to be collaborative through open interactions. Schoenberg et al.'s theory of intragroup dynamics (2016) is the theory selected as a basis for this study.

Banta and Garrow (2017) supported the theory of intragroup dynamics as argued by Schoenberg et al. (2016). Banta and Garrow argued that CEOs who focus on boardroom relationships and informal interactions achieve better corporate performance. Banta and Garrow also argued that CEOs and board members who have more informal, intense working relationships have better corporate performance.

Banta and Garrow argued that today's board members want to increase interactions to present critical updates, challenges, and opportunities. Banta and Garrow's theory, which supported the theory by Schoenberg et al. (2016), is also a basis for this study. A strong

partnership between CEOs and board members is crucial for the growth and development of corporate organizations. The interactions between CEOs and board members enhance an organization by setting organizational goals and objectives (Rao and Tilt, 2016).

Garg and Eisenhardt (2017) and Duru, Iyengar, and Zampelli (2016) examined the relationships and nature of interactions between CEOs and board members. Garg and Eisenhardt (2017) argued that continuous interaction and effective communication between CEOs and board members are helpful for developing and implementing innovative strategies and policies for entrepreneurial corporations. Garg and Eisenhardt (2017) highlighted the importance of positive and clear communication between CEOs and board members. Garg and Eisenhardt (2017) further stated that both CEOs and board members depend entirely on each other to implement strategies through positive and meaningful interactions. A task-oriented focus reflects on the interactions, communications, mutual understanding, and commitments that result in bringing CEOs and board members closer to each other (Garg & Eisenhardt, 2017)

Duru et al. (2016) examined the role of CEO duality and concluded that it results in the declining performance of a corporation. Duru et al. (2016) also examined the task-oriented and the relationship-oriented focus of the relationship between CEOs and board members. Duru et al. (2016) argued that the state of this relationship has the greatest impact and influence on the success and growth of a corporation's performance.

Garg and Eisenhardt (2017) studied and analyzed the way CEOs engage, get involved, and communicate with board members to carry out strategies to make the process more efficient. Garg and Eisenhardt's findings are similar in many ways to those of Duru et al. (2016); more frequent interactions between CEOs and board members reflect open-minded, free, and positive

interactions and fewer meetings whereas interactions are detrimental to the growth and productivity of a corporation.

Positive and high-quality interactions between CEOs and board members result in maintaining harmony and flexibility of a corporation. Interactions should be precise, meaningful, clear, and transparent in defining the roles and responsibilities (Garg & Eisenhardt, 2017). Garg and Eisenhardt (2017) largely supported the earlier study of Rosseau et al. (1998) who argued that interactions involve trust, which requires a high level of confidence to predict corporate performance.

Hartnell, Kinicki, Lambert, Fugate, and Doyle Corner (2016) analyzed the relationship type and interaction levels between CEOs and board members that directly affect the performance of an organization. These effects were primarily the positive or negative impact of productivity for a corporation (Hartnell et al., 2016). Furthermore, Hartnell et al. (2016) argued that the relationship between CEOs and the board members is considered as the most crucial relationship in a corporation. These relationships have a direct effect on corporate performance (Hartnell et al., 2016). The findings of Hartnell et al. suggested that the interaction level positively or negatively affects the relationship between CEOs and board members' productivity.

The theory and findings of Duru et al. (2016) indicated that the relationship between CEOs and board members has the greatest impact on corporate performance. This theory aligned with the theory from Hartnell et al. (2016) about the relationship between CEOs, their boards of directors, and corporate performance. The theories of Duru et al. (2016) and Hartnell et al. (2016) were aligned and served as a basis for this research project. The theory of Duru et al. (2016) not only aligned with the theory of this study but strengthened it.

Lückerath-Rovers (2013) stated that positive relations between CEOs and board members affected their respective attitudes and can affect a corporation's financial performance. The Hartnell et al. (2016) theory strengthened the Lückerath-Rovers (2013) theory and further argued the consequences of the relationships between CEOs and board members that affect work culture. The theories of Lückerath-Rovers (2013), Hartnell et al. (2016), and Duru et al. (2016) are aligned with this study's theory. In partial support of these theories, Pereira and Filipe (2014) focused on the directors' attributes and corporate performance linkages.

Boyd, Haynes, and Zona (2011) outlined that the relationships between CEOs and board members have been a prominent focus of management and strategy research. Boyd et al. (2011) contended that some progress has been made in regard to CEO and board member relations. However, Boyd et al. reasoned that many unanswered questions remain regarding the generalization of such theories. Boyd et al. also argued that their CEO–board relations theory, where CEO and board member relationships were necessary for a smoothly functioning corporation, can result in better performance. Boyd et al. focused on the complexities of corporate governance, which partially aligns with, and further strengthens, this study's theory.

Pham (2016) stated that corporate governance affected corporate performance. Pham's findings included that such factors as CEO duality, board size, and whether women were on the board affected performance. However, Pham disputed that all of these factors affected corporate performance in a negative way. Pham concluded that empirical evidence is consistent with the arguments that small board sizes bring greater focus to corporate performance. Pham did not state that the board members' level of experience was a factor. However, Pham's theory strengthens the overall theme of this study, although it applied only to Vietnamese corporations (Pham, 2016).

Cooper, Gulen, and Rau's (2014) theory was focused on a CEO being proactive in developing better relations with board members. However, the theory by Cooper et al. (2014) did not consider the interactions or communications between CEOs and board members to be a major driver for corporate performance. In a similar mode, He and Huang's (2011) theory attempted to link the attributes of CEOs, board members, and respective interactions with corporate performance. He and Huang did not find a correlation between the attributes of the board members and corporate performance, but their research highlighted a gap in the knowledge that this study sought to address. Likewise, the theory by Cooper et al. (2014) also demonstrates a gap in the knowledge that study is attempting to fill.

Zhu and Chen (2015) focused on the characteristics of board members as a controlling mechanism on the CEO. Zhu and Chen claimed that frequent communication has a direct effect on performance. However, Zhu and Chen contended that this fact was not proven. Zhu and Chen's theory partially aligned with this study's theory and was relevant.

Secondary Argument

This study's secondary argument is that corporate performance, which is driven by the interactions between CEOs and board members, affects stock prices. Van Essen, Otten, and Carberry (2015) concluded that better corporate performance leads to an increase in stock price. Rao and Tilt (2016) concurred with Van Essen et al. (2015) in that higher stock prices could be achieved through better corporate performance and linked positive relations between CEOs and board members as a factor in corporate performance. These theories aligned with this study's theory in that a direct relationship exists between corporate performance and stock prices.

An and Zhang (2013) also argued that positive relations between CEOs and board members resulted in better corporate performance and stated that a link exists between financial

performance and higher stock prices. This theory of interactions aligned with this study's theory. In addition to An and Zhang's theory, Lilienfeld-Toal and Ruenz (2014) concurred that the relationship between CEOs and board members affects the stock prices. Lilienfeld-Toal and Ruenz stated that a lack of communication or interaction can lead to poor strategic decision-making that affects performance and consequently stock prices. Lilienfeld-Toal and Ruenz highlighted the relationships of CEOs and board members in regard to stock performance. Lilienfeld-Toal and Ruenz's theory strengthened this study's theory.

The study by Ghasempour, Ghasempour, and Bahonar (2013) stated that a knowledge and understanding of financial reports were the basis of investment in the stock market. Ghasempour et al. (2013) argued that stock analysis was derived from financial information. Ghasempour et al. found that stockholders and (potential) investors needed to understand the major factors in determining the multifaceted rate of return. This theory aligned with this study because the research by Ghasempour et al. focused on financial performance and stock returns.

Dalvi and Baghi (2014) stated that better corporate performance would increase stock prices. Dalvi and Baghi claimed that a relationship exists between corporate performance and the liquidity of shares. Dalvi and Baghi (2014) found that a strong correlation between better corporate performance and increased stock prices. Dalvi and Baghi also defined corporate performance as a product of activities and a return on investment within a given timeframe. Furthermore, Dalvi and Baghi stated that better performance creates a higher demand from informed investors and, therefore, increases stock liquidity and prices. Dalvi and Baghi's theory of corporate governance and stock price relationship aligns with this study's theory. Dalvi and Baghi's theory is a part of the framework for this research and a basis for this study's secondary theory.

Michelberger (2016) argued that a positive effect on corporate performance can be traced to the relationships between CEOs and board members. Subsequently good corporate governance displayed improvement in stock prices and in the value of the organization. Michelberger's theory of corporate governance is relevant to this study because it has strong similarities to this study's theory. Interactions are a subset of corporate governance in that they form the basis for communication,

Mohamed and Elewa (2016) discovered that strong corporate governance affects the value of a corporation. Mohamed and Elewa's theory stated that a relationship exists between good corporate governance and stock prices. This study examined the interactions that are a part or subset of corporate governance that can lead to better corporate performance. This theory aligned with this study's theory in that good relationships predict the corporate performance and subsequently affect stock prices.

Macharia and Gatuhi advanced a theory (financial performance–stock prices) that stated that financial performance influences the stock prices (Macharia & Gatuhi, 213). Macharia and Gatuhi (2013) examined the relationship between investors and analysts in analyzing financial reports, which, in turn, affects stock prices. Ngunjiri (2016) argued that stock price is the present value of the cash flow. Ngunjiri's (2016) theory supports Macharia and Gatuhi's (2013) theory of financial performance and stock prices relationships. Ngunjiri's (2016) theory is a fundamental principle, where financial performance is the key for investors who look for dividends and capital growth. Ngunjiri (2016) further reasoned that corporate performance influences stock prices. This theory aligned with the theory for this research.

Shen (2007) claimed that the relationship between a CEO and board members is of central importance and that this relationship comprises the dynamics of the interactions and has

corporate implications. Shen's theory supported this study's theory. Shen (2017), however, focused mainly on CEO leadership development.

Theory Support and Basis

In support of the theory used in this study, Hartnell et al. (2016) claimed that a corporation's productivity is impacted by the level of relationships between the CEO and board members. Furthermore, Schoenberg et al. (2016) supported this study's theory. Further support for this study's theory stemmed from Banta and Garrow (2017) who supported the theory by Schoenberg et al. (2016). Furthermore, Lückerath-Rovers (2013) studied that positive relations between the CEO and board members can lead to a corporation's superior financial performance, which further added weight to this study's theory. Zhu and Chen's theory added more support to this study's theory in that frequent communication has a direct effect on performance (Zhu & Chen, 2015).

Communications and dynamics between CEOs and board members are embedded in corporate governance. Michelberger (2016) further confirmed and added more support that a positive effect on corporate governance can be traced to the relationship between CEOs and board members. Overall, the theory by Schoenberg et al. (2016) was one of the core theories that this research study was based on.

Corporate Performance

Lilienfeld-Toal and Ruenzi (2014) stated that interactions between CEOs and board members are based on consideration and negotiation. However, Lilienfeld-Toal and Ruenzi contended that a CEO and board members' interactions should be for the common objective of achieving organizational goals. This idea was further supported by An and Zhang (2013), who reasoned that positive interactions between CEOs and board members result in the better

performance and higher stock prices. Clear communication and interactions between CEOs and board members result in developing and establishing defined roles and responsibilities, which lead to developing a favorable and profitable relationship.

Cooper, Gulen, and Rau (2014) claimed that an effective structure is where the CEO is proactive in effective communication to develop better relationships and interactions. In today's era of transparency, board members are legally required to be actively involved in positive communication and interactions with the CEO (Cooper et al., 2014). In previous years, board members could be passive and take little or no responsibility (Cooper et al., 2014). Cooper et al. stated this requirement is not considered as a major driver for the successful performance of corporate organizations.

The type of interactions that occur between CEOs and board members should be transparent, meaningful, precise, intellectual, and trustworthy. These interactions, in turn, result in improving cohesiveness, coordination, and cooperation, raising the overall effectiveness of the organization. Isidro and Sobral (2015) argued that the CEO and the members of the board are responsible for establishing good interactions.

Jenter and Kanaan (2015) argued that corporate performance management is the subset of business intelligence or business analytics. Jenter and Kanaan further argued that good corporate performance requires effective communication and understanding between the CEO and board members of an organization. Effective communication and positive interactions act as a constructive mechanism to enhance strengths and identify weaknesses, improving the effectiveness of the CEO and board members (Hou, Priem, and Goranova, 2017). Hou et al. (2017) concurred with Jenter and Kananan (2015) stating that positive interactions lead to overall improvement in the performance of the corporations.

Lückerath-Rovers (2013) contended that goodwill, appropriate strategies, and proper functioning of a corporation, depend entirely on the effective communication and positive interactions between CEOs and board members. Furthermore, Lückerath-Rovers (2013) claimed that the respective attitudes of a CEO and board members lead to a corporation's superior financial performance. Positive interactions and good relationships are initiated through the CEO and board member interactions and relationships (Lückerath-Rovers, 2013).

Lilienfeld-Toal and Ruenzi (2014) conducted a survey that examined the reasons for the underperformance and low-value of stocks. A factor was that a lack of interactions between CEOs and board members resulted in poor strategic decisions and poor managerial decisions-making. Lilienfeld-Toal and Ruenzi highlighted the consequences of CEO and board relationships, which comprised the extended relationships and productive interactions between CEOs and board members. These interactions provided strong external governance and strong product market competition that enhanced a corporation and its stock performance. Lilienfeld-Toal and Ruenzi emphasized that the relationship between a CEO and board members directly impacts stock performance for a corporation. Lilienfeld-Toal and Ruenzi concluded that a company's stock performance is directly related to the combined performance and relationships of a CEO with their board members, which supported this study's theory.

Pan, Wang, and Weisbach (2015) examined stock performance and whether it is directly related to the ability of CEOs and board members and their communication. Pan et al. (2015) further argued that the combined performance of CEOs and board members helps create value by raising a corporation's performance. This combined performance was supported by other researchers in that there appears to be a direct nexus between the interactions between CEOs and board members and corporate performance (Pan et al., 2015).

Pan et al. (2015) stated that positive interactions and communication are important between CEOs and board members. Such interactions should also be meaningful, transparent, and precise to help increase the productivity and value of a corporation (Pan et al., 2015). Pan et al. argued that the stability or decline in the volatility of stock return depends on the relationships, interactions, and abilities of the CEO and board members.

Nyataichi (2016) argued that positive relations between CEOs and board members are critical for companies to facilitate their decision-making process. Effective relationships between CEOs and board members, with no conflict, further positively affects corporate culture. Nyataichi examined the impact on financial performance, particularly on return on assets (ROA) and return on equity (ROE) and concluded that a positive relationship between CEOs and board members can improve corporate performance.

Zhang (2013) examined the working relationship between CEOs and board members. Zhang contended that CEOs and board members should have a significant trust relationship with each other. Zhang developed two theoretical models. One hypothesis was about the performance impact when a board of directors had more power than the CEO. The other hypothesis was about the performance impact when a board trusted the CEO (Zhang, 2013). Zhang concluded that, when a board of directors trusts the CEO, the performance of the corporation improved significantly. On the contrary, when the board exercised more power than the CEO, the company's performance declined (Zhang, 2013). Zhang stated that it is impossible to undergo strategic decision-making without ensuring healthy interactions.

Zhang (2013) examined the risks that prevail when forming a board and what controls are needed to reduce the chances of conflict. Zhang contended that a board requires a substantial

level of experience and expertise to raise board performance. Furthermore, Zhang (2013) argued that CEO interaction with board members is necessary for better corporate performance.

The board of directors, including the CEO have a duty and vital role in the corporate performance (Muchemwa, Padia, & Callaghan (2016). There is a lack of clarity in the relationship between corporate performance, and corporate governance, and the board composition (Muchemwa et al., (2016). The role of board of directors is to monitor the CEO and corporate performance (Muchemwa et al., 2016). It appears that there is a positive correlation between the board members' composition and corporate performance (Muchemwa et al., 2016). However; the empirical evidence is not consistent in suggesting that by increasing the number of outsiders that this will enhance corporate performance (Muchemwa et al., 2016).

Desender (2009) examined the crucial role that CEOs and board members play in financial performance. The size and expertise of a board are two main factors that affect the impact of a board on business performance. A large board with highly experienced board members will usually have a positive impact on business performance (Descender, 2009). A small board with inexperienced board members will result in lower financial performance of a business (Desender, 2009). Furthermore, a large board with inexperienced board members can negatively impact performance. Likewise, a small board with experienced board members can positively impact performance

Desender (2009) argued that interactions between CEOs and board members are essential for enhancing corporate performance. This concept is illustrated with an ownership structure that works with a board of directors to collectively impact corporate performance (Desender, 2009). Desender reasoned that the board members have to make appropriate decisions; otherwise, their poor decision-making can prove costly regarding corporate performance and

profitability. This study examined Desender's theory and explored the gap in the knowledge in whether there is a correlation between interactions and corporate performance.

Ammari, Amdouni, Zemzem, and Ellouze (2016) concurred with Desender (2009) in that board structure has a significant effect on corporate performance. Ammari et al. (2016) claimed that, because board members are the core monitoring body of a company, they must maintain effective interactions with the CEO for corporate success. Ammari et al. concurred with Desender (2009) in that a large board size has a direct relationship with a company's performance.

The findings by Ammari et al. (2016) revealed that large corporations need a large number of board members to improve and enhance the decision-making process and performance. Ammari et al. (2016) stated that effectiveness among CEOs and board members can positively affect the decision-making process and enhance performance. Ammari et al.'s findings aligned with this study's theory (Ammari et al., 2016). The gap to fill is whether a correlation exists in regard to the interactions between CEOs, board members, and corporate performance.

Gabrielsson, Huse, and Minichilly (2007) argued that board members play a vital role but if their capabilities deteriorate, the board members will negatively influence corporate performance. Gabrielsson et al. (2007) argued that CEOs and board members must work as a team through positive interactions so that corporations improve. The CEO is accountable to the board members and, likewise, the board members are accountable to the shareholders. The board members are responsible for exercising power and monitoring the CEO which directly or indirectly affects the corporate performance.

Gabrielsson et al. (2007) concluded that CEOs and board members should not strive to work as separate entities or independently and should adopt a teamwork approach and with positive interactions. Zhang (2013) and Gabrielsson et al. (2007) held similar views on this point in that board members should put their trust in the CEO. These researchers also came to the same conclusion that the CEOs and board members need to maintain a quick decision-making process to facilitate corporate performance.

Elsayed (2007) declared that positive relations can have a positive impact on performance. The collective expertise of a CEO and board members is more likely to achieve corporate objectives through positive interactions (Elsayed, 2007). Positive interactions between CEOs and board members are necessary to improve operations and enhance the decision-making processes of a business. From these statements, it can be concluded that interactions between the CEO and board members affect the corporate performance. A gap in Elsayed's theory is in examining whether a correlation exists regarding the interactions between CEOs, board members, and corporate performance.

Boyd et al. (2011) reasoned that an effective relationship between CEOs and board members is necessary for a smoothly functioning corporation. It facilitates transparency and the objectives of the board members who represent the interest of the shareholders, are aligned with the objectives of the corporation (Boyd et al., 2011). Boyd et al. (2011) researched the dimensions of CEO-board member relations to understand the complexities of corporate governance structures, including interactions and corporate performance.

Boyd et al. (2011) argued that when board members have all the power, they act as an obstacle to the CEO. Boyd et al. focused on the interactions that board members undertake to

challenge or support the CEO. This study researched the gap left by Boyd et al.'s study by examining interactions and corporate performance.

Zhu and Chen (2015) suggested that when board members unnecessarily restrict the CEO, they restrict corporate performance. Zhu and Chen stated that it is highly likely that CEOs who develop narcissist characteristics might adversely affect their company. Board members act as a controlling mechanism for the CEO and, through their expertise and interactions, ensure that the CEO works according to the directives of the board (Zhu & Chen, 2015). Board members must ensure that the corporation does not lose any competitive advantage because of slow decision-making processes; therefore, positive interactions are necessary (Zhu & Chen, 2015). Frequent interactions of CEOs with board members are required. These frequent interactions can have a direct effect on corporate performance and ultimately the financial performance of the business, although it is not yet proven (Zhu & Chen, 2015).

Schmidt (2015) argued that the level of social and friendly ties between a CEO or chairman and board members is proportionate to a corporation's performance. Schmidt claimed that board members have the dual role of monitoring and advising and determined that the relationship of a CEO with board members had some impact on financial returns. Schmidt concluded that social friendliness between a CEO and board members is necessary. Schmidt also argued that frequent interaction is a by-product of such meetings that ultimately enhance a business's performance. Schmidt further states that a corporation's performance correlates to the information that is passed between a CEO and board members. This statement aligned with this study's research. The specific gap to fill was whether interactions between CEOs and board members drive a company's performance.

Khanna, Kim, and Lu (2015) focused on a different aspect of the corporate governance structure as contrasted with Schmidt (2015). Khanna et al. (2015) agreed that, when a CEO is a member of the selection committee of the board, corporate performance improves. Khanna et al. argued that, when the CEO is connected with the board members too well, the probability of corporate fraud increases. Khanna et al. argued that, when CEOs and board members have a high level of interconnectedness, the likelihood of fraud diminishes.

Khanna et al. (2015) contended that people who share a common past and worked together previously should be selected as the board members. Their interactions are more likely to be positive (Khanna et al., 2015). However, CEOs can experience severe adverse effects on corporate performance because close board members might be reluctant to monitor as effectively as they should (Khanna et al., 2015).

Tang, Crossan, and Rowe (2011) claimed that CEOs often attain objectives through aggressive corporate behavior. Tang et al. (2011) contended that this behavior can result in maximum profits or hefty losses as found numerous times in the corporate world. CEOs who go to extreme lengths to maximize profits are considered risk-takers and do not like to be overpowered by other board members (Tang et al., 2011). Tang et al. (2011) contended that board members act as chicanes for a dominant CEO who would go to extensive levels to attain objectives. Board members are responsible and accountable for shareholders' wealth, and therefore, board members cannot afford to let a CEO become a big risk-taker (Tang et al., 2011).

Tang et al. (2011) suggested that board members and CEOs must reconcile through frequent and positive interactions. These positive interactions ensure the safety of shareholders' investments and work with the strategies to align with objectives (Tang et al., 2011). Tang et al. (2011) contrasted the earlier research by Erhardt, Werbel, and Shrader (2003), disputing that, if

performance is repeatedly checked, it can lead to being counter-productive. Erhardt et al. (2003) had stated that CEOs and board members must use their collective effectiveness in strategic decision-making to achieve goals.

Lins, Servaes, and Tamayo (2017) debated whether board members have any impact on stock valuation or profitability. Lins et al. (2017) found that CEOs who acted in a high-risk manner were likely to make risky decisions that jeopardized a corporation. However, these CEOs were able to increase profitability levels, performance, and the stock price of a corporation but at great risk (Lins et al., 2017). Rowley, Shipilov, and Grieve (2017) argued that better performance, stability, and consistent growth were reliant on the decision-making and strategies determined by CEOs and board members.

Brauer and Wiersema (2017) argued that CEOs and board members have to make decisions based on interim corporate financial reports to devise their plans and strategies. The findings by Goranova, Priem, Ndofor, and Trahms (2017) supported these plans and strategies in that all significant impacts can be traced to decision-making by CEOs and board members. However, Goranova et al. (2017) stated that no significant relationship exists between directors and firm performance.

Goranova et al. stated that positive relations between CEOs and board members affected corporate performance (Goranova et al., 2017). Lins et al. (2017) also disputed the theory by Goranova et al. (2017) that good relations did not impact corporate performance. Clifford (2017) found that good interactions and dynamics between CEOs and boards of directors have a likelihood for corporations to develop positively. The gap in the research which this study examined, is whether a correlation exists between CEOs and board members in regard to interactions and performance.

Westphal (2003) analyzed the idea of examining interaction levels between corporate executives and outside directors. Westphal argued that, by increasing the pace of corporate effectiveness, a shift in the dynamics of the relationship will occur between a corporation's management, CEO, and board members. Hartnell et al. (2016) concurred with Westphal (2003), who comprehensively explored ways that encourage interaction between CEOs and board members. Furthermore, An and Zhang (2013) argued that better interactions affect corporate performance through positive interactions in strategies and decision-making.

Van Ees, Gabrielsson, and Huse (2009) contended that the consequences of board members' behavior, which is a part of corporate governance, were major areas of research. Van Ees et al. argued that relationships between CEOs and board members were a major factor in decision-making, control, and corporate performance. Van Ees et al. stated that interactions by CEOs and board members solve conflicts, exert control, and solve problems through cooperation.

Pereira and Filipe (2014) argued that interactions represent important parts in the relationship between the CEOs, board members, and corporate performance. Research by Pereira and Filipe (2014) indicated that their focus was on the director attributes and a link to corporate performance. Furthermore, in the review by Pereira and Filipe (2014), the focus was on finding a link between corporate performance and board composition. The focus was not on the interactions between the CEO and board members. Pereira and Filipe noted that literature had many contradictions regarding smaller boards, independent boards, corporate performance, and attributes. Pereira and Filipe stated after analyzing previous researchers' findings, that excessive focus was placed on analyzing the effects of a board's characteristics as a link to corporate performance.

Hill and Davis (2017) claimed that interactions between CEOs and board members have not been researched thoroughly. Hill and Davis contended that board members were reluctant to ask difficult questions of CEOs through fear that they would be accused of micromanaging. Hill and Davis stated that problematic interactions can inhibit the ability to understand how to innovate and be productive. Pressing questions by board members are often perceived as hostile interactions by CEOs (Hill & Davis, 2017). Some interactions between CEOs and board members were deemed hostile by CEOs who felt that their performance was being evaluated (Davis, 2017). These perceived hostile interactions by CEOs indicated that innovative discussions were inhibited (Hill and Davis, 2017).

Michelberger (2016) reasoned that, since the introduction of the Sarbanes-Oxley Act (2002), strong evidence suggests that U.S. corporations had obtained better governance and improved stock prices. Michelberger argued that shareholders were willing to pay a premium for a corporation's stock if the corporation exhibited excellent corporate governance practices. Michelberger claimed that there is much research delving into the impact of governance variables, such as board size, meeting frequency, director qualifications, and board members' relationships, and their impact on corporate performance. Michelberger indicated that there is a gap in the knowledge that this study's research involved examining the interactions between CEOs and board members, corporate performance and, stock prices.

Michelberger (2016) stated that interactions between CEOs and board members can have a positive effect on corporate performance. However, Michelberger indicated that this finding is not necessarily true because much of the research did not use a standardized measure to define good corporate governance. Michelberger argued that many factors in the corporate governance system, including interactions, are not clearly defined. However, researchers' findings indicate

that there might or might not be a positive impact on the relationship between CEOs and board members because of the differences in the variables and oversimplification of variables (Michelberger, 2016).

Michelberger (2016) found that researchers used non-standard financial performance indicators, limited variables, and small samples to determine a moderate positive correlation. Mirza and Javed (2013) stated that the results are inconclusive. Furthermore, Mirza and Javed suggested that the link between corporate governance, including interactions, and corporate performance is mixed and contradictory. This gap in the knowledge was researched in this study.

In contrast to the findings by Mirza and Javed (2013), Biggio and Cortese (2013) argued that interactions between individuals have a great impact on the workings of a corporate environment. Biggio and Cortese argued that there is a significant contribution to the concept of well-being and its influencing factors based on the interactions between people. Individuals generate goodwill by using their interpersonal skills such as the interactions that occur between CEOs and board members (Biggio & Cortese, 2013). The interactions can act as a link between people and objectives, which may impact on corporate performance (Biggio & Cortese, 2013).

Corporate Performance and Stock Prices

Positive interactions between board members and CEOs result in better profit generation (An & Zhang, 2013). Van Essen et al. (2015) argued that better profit leads to a rise in the stock price which, in turn, provides the opportunity to pay dividends. This is likely to self-perpetuate a rise in the market price of shares (Van Essen et al., 2015). Hartnell et al. (2016) argued that the level of relationships and interactions between CEOs and board members affect a corporation's

performance. However, the findings by Hartnell et al. (2016) lack various factors that can affect performance.

Pham (2016) argued that the effect of corporate governance, including interactions, on corporate performance is a measure of the return on investment (ROI) that is evaluated to determine the impact. Pham (2016) found that the characteristics of corporate governance can have a positive or negative influence as measured by the ROAs. Pham (2016) argued that several discussions have occurred about the relationship between corporate governance and performance and the effect of corporate governance on stock prices. Pham (2016) found that corporate governance practices, including interactions, affected corporate performance but with reservations.

Dalton and Dalton (2005) argued that larger boards enable a corporation to collect a wealth of information and knowledge. Dalton and Dalton (2005) argued that a small board is more effective at monitoring compared to a large board that leads to higher performance. However, Pham's (2016) argument confirmed Dalton and Dalton's (2005) findings in that small boards bring greater focus on weak directors to ensure that they become effective. Dalton and Dalton (2005) and Pham (2016) did not conclude that better corporate performance or interactions lead to higher stock prices.

Mirza and Javed (2013) contended that, for investors and stakeholders, corporate performance is essential and highly valuable. Mirza and Javed argued that better corporate performance resulted in better future investments. This action generated further economic opportunities for stakeholders and in itself would lead to higher stock prices (Mirza & Javed, 2013). Zhao's (2013) findings that financial performance regarding shareholder returns affected the stock prices were supported by Mirza and Javed's (2013) findings.

Ueng (2016) claimed that corporations that have good corporate governance, including the quality of the interactions between CEOs and board members, are likely to perform better. When corporations have good governance mechanisms, they have better financial performance, which leads to an increase in shareholders' wealth (Ueng, 2016). Shareholder wealth is the value of the stock price for the corporation in which they own shares (Ueng, 2016). Wijethilake, Ekanayake, and Perera (2015) debated the relationship between board involvement and corporate performance and found it to have some correlation but with restrictions. Wijethilake et al. (2015) furthermore suggested that enhanced board involvement positively contributed to corporate performance, which further increased shareholder wealth.

Müller (2014) argued that shareholders want good financial performance to distribute dividends, which in turn attracts other investors and increases stock value. Corporate performance is essential for long-term stock returns, which may or may not be correlated with good corporate governance and interactions between CEOs and board members (Müller, 2014). Müller stated that there is a statistically significant relationship between corporate governance (including interactions) and corporate performance as measured by the return on assets (ROA). Darweesh (2015) argued that positive relationships between board members' independence and financial performance affected stock prices and market value. Darweesh found that financial performance leads to better stock prices in that it creates greater wealth for investors.

Darweesh argued that corporate governance, including the interactions between CEOs and board members, affected corporate performance (Darweesh, 2015). Darweesh tested the relationships between board independence, size, executive compensation on corporate financial performance, and market value and its effect on stock prices (Darweesh, 2015). Darweesh's findings were that there were positive correlations between the individual corporate governance

mechanism and performance. This was dependent on the board size and the executive compensation when such had significant relationships as a relationship of the return on equity (ROE) and the ROA (Darweesh, 2015). Darweesh (2015) found that there was a negative relationship between board independence and ROA and the return on equity (ROE). This negative relationship was reflected by the board size having a significant impact on the performance Darweesh, 2015). Buallay, Hamdan, and Zureigat (2017) argued that corporate governance of which interactions are a subset, significantly correlate with corporate performance.

Shamsudin, Mahmood, and Ismail (2013) argued that stock price reflects corporate performance, which drives investors, which, in turn, boosts stock price. Shamsudin et al. (2013) argued that a corporation's performance is measured by profitability, which is a test on the effectiveness of CEOs, board members, and management. Furthermore, as Shamsudin et al. (2013) argued, a corporation's performance is reflected in its stock price. However, Heo and Yang (2016) disputed previous research that indicated that numerous reliability issues involved corporate performance in predicting stock prices. Heo and Yang reasoned that investors use financial performance to predict future stock prices as it is a fundamental analysis.

Puspitaningtyas (2017) argued that corporate performance reflects in higher stock prices, but the linkage appears to be stemming only from the earnings-per-share ratio. Puspitaningtyas argued that other factors, such as liquidity, profitability, and growth, do not appear to directly impact stock prices. Numerous studies, however, contradict each other. Sutopo, Kot, Adiati, and Ardila (2018) debated that corporate performance is an essential factor that affects stock prices and investors use financial statements for decision-making purposes. Sutopo et al. (2018) stated

that corporate performance and its prospects are important factors that affect stock prices and, accordingly, are reflected by stock price fluctuations.

Sutopo et al. (2018) argued that much research examined and found relationships between accounting information and stock prices. Furthermore, Sutopo et al. suggested that, in fact, financial performance affected the value of shares, supporting research by Puspitaningtyas (2017). Sutopo et al. furthermore affirmed Issah and Ngmenipuo's (2015) findings.

Issah and Ngmenipuo (2015) found a positive linear relationship between financial performance and share prices. Issah and Ngmenipuo argued that prior findings in the empirical literature were consistent with this view. Issah and Ngmenipuo stated that the positive coefficients for the independent variables aligned with their theoretical framework. Issah and Ngmenipuo claimed that corporate performance affected stock prices. However, Olsen, Sisodiya, and Swisher (2016) claimed that numerous factors affected a corporation's share price. Olsen et al. (2016) argued that the characteristics of the CEO are a significant influence on stock performance. The conclusion is that both CEOs and boards of directors influence a corporation's stock performance.

Numerous studies have researched whether CEO traits contribute to financial performance. Olsen et al. (2016) stated that their focus was on large publicly traded corporations. Olsen et al. suggested that a CEO's characteristics do matter, and that CEO's age was significantly related to lower corporate performance. Olsen et al.'s research indicated that both CEOs and board members affect corporate performance, which subsequently results in fluctuations in a company's stock prices.

Arya, Mittendorf, and Ramanan (2017) contrasted the findings by Olsen et al. (2016) in that stock prices provide relevant feedback that can guide a corporation's decisions. Arya et al.

(2017) debated whether a relationship exists between financial performance and stock market prices. Arya et al. discussed what appears to be a paradox between corporate performance and stock market prices. Arya et al. stated that corporate performance was focused on past performance and, therefore, is incomplete in providing information for future performance. Furthermore, Arya et al. argued that corporate performance did not predict profitability for forthcoming time periods and it was difficult to demonstrate a link between corporate performance and future market prices.

Arya et al. (2016) contrasted with Cook and Glass's (2014) findings that a link exists between a corporation's performance and the impact on share price. Cook and Glass tested several factors that might influence the relationship of a corporation's efforts including the efforts by CEOs and board members. Cook and Glass (2014) argued that a significant positive increase in share price followed announcements that were deemed positive. These public announcements cause investors to react positively and Cook and Glass (2014) found that there were significant positive increases in share prices.

Stefan (2016) supported Cook and Glass (2014) in disputing the findings by Ayra at al. (2016) in that financial indicators of performance affect share prices. Stefan (2016) contended that performance can influence the return on the stock. However, Stefan argued that previous findings indicated that economic theories could not verify or validate that corporate performance influenced share price. However, Stefan found a statistical and economical link in the relationship between corporate performance and stock price. However, the link applied to the companies listed on the Romanian Stock Exchange.

Avdalović and Milenković (2017) argued that economists believe that stock prices are affected by supply and demand in a free economy, but there are other important factors, such as

dividends and earnings per stock, that can significantly affect supply and demand. Furthermore, Avdalović and Milenković stated that empirical findings revealed a significant and positive relationship between the ROE as determinants based on corporate performance. Aveh and Awunyo-Vitor (2017) argued that corporate performance, which consists of earnings per share, ROE, and market capitalization, were key determinants that influence share prices. Aveh and Awunyo-Vitor did not find a relationship between dividend payments and a stock's market price, which appears to contradict Avdalović and Milenković's (2017) findings. Aveh and Awunyo-Vitor (2017) argued that corporations should focus on improving their performance to help investors determine stock prices.

Alves, Canadas, and Rodrigues (2015) argued that corporate disclosures played an important part in stock price. Alves et al. (2015) claimed that corporations with high levels of disclosure influence potential investors in that stock transactions are a fair price. Alves et al. argued that a corporation's strategy is more useful than many other types of disclosures that influence the market. Voluntary disclosure provides investors with a great deal of information, particularly in predicting corporate performance in the future (Alves et al., 2015).

Al Omoush and Al-Shubri (2013) argued that corporate performance is a corporation's ability to generate profit. Al Omoush and Al-Shubri stated that corporate performance has a direct and positive impact on the ROE or ROA and stock returns or prices. Al Omoush and Al-Shubri argued that corporate performance and stock prices have a direct link.

Anhar (2015) debated that the market price of a stock is affected by its returns and is reflected in the financial performance of the particular corporation. Anhar (2015) found a direct connection between stock prices and corporate performance. Anhar (2015) supported Al Omoush and Al-Shubri's (2013) findings in that corporate performance coupled with investor

expectations predicted individual stock prices. A corporation's performance determines the financial ratios that investors analyze (Anhar, 2015). Olsen et al. (2016) supported Anhar's theory and findings in that corporate performance affects the market price of a stock.

Pham (2016) supported the theory that corporate performance affected stock prices and concluded that corporate governance practices, including interactions, can affect corporate performance. The results of Pham's (2016) study showed mixed results, and Pham suggested that more research was needed. Contrary to Pham's theory (2016) and He and Huang's (2011) theory, Dalvi and Baghi (2014) contended that corporate performance and the liquidity of shares have a strong correlation. Furthermore, Dalvi and Baghi (2014) suggested that better corporate performance creates a higher demand, leading to higher stock prices. Mohamed and Elewa (2016) and Zhao (2013) argued that corporate performance predicted stock prices as supported by Ueng (2016) in that performance leads to an increase in shareholder wealth.

Ueng (2016) supported the findings of Sudiyatno et al. (2012) that linked stock prices with corporate performance. Ueng (2016) also supported Shamsudin et al. (2013) in that stock prices are reflections of corporate performance that investors are driven by, which in turn, boosts stock price. Heo and Yang (2016) argued that there are numerous disputes regarding the reliability of corporate performance in predicting stock prices but argued that investors use financial performance to predict future stock prices.

Sutopo et al. (2018) contrasted Puspitaningtyas's (2017) findings, by arguing that much of the research found relationships between accounting information (corporate performance) and stock prices. Issah and Ngmenipuo's (2015) found positive coefficients, indicating that corporate performance affected stock prices. Olsen et al. (2016) argued that CEO and board

member characteristics affected stock performance. Olsen et al. (2016) supported Issah and Ngmenipuo's (2015) theory.

Arkan (2016) stated that financial ratios that are derived from financial statements predict stock prices. Arkan argued that accounting data and financial ratios can be attributed to the change in stock prices. Furthermore, Arkan stated that predictive variables, such as dividend yield, are commonly used to predict stock prices, but they are not reliable. Arkan argued that accounting information appears to have a correlation with stock price. Arkan argued that profitability ratios and valuation ratios have an effect on stock prices, and that the combination affects predictability in emerging markets. Anwaar (2016) argued that corporate performance affected stock returns. Anwaar's findings found that the highest positive correlation was between the ROA and earnings-per-share (EPR) that were supported by net profit in determining stock prices. Arkan (2016) and Anwaar (2016) argued that corporate performance has a correlation with the impact on stock returns (share prices). This finding supported the theory of this research project.

Dalvi and Baghi (2014) argued that corporate performance affects stock prices supports this study's secondary theory. Macharia and Gatuhi stated that good corporate governance improves financial performance and stock prices (Macharia & Gathuhi, 2013). Support for the secondary argument of this study stemmed from Michelberger (2016), who argued that good corporate governance improves performance and stock prices. Interactions are a part of corporate governance and many studies have confirmed that corporate governance has a general link in improving corporate performance.

Summary

Much research has been conducted on the effects of corporate governance. However, there has been virtually no research in regard to CEOs' and board members' interactions in determining whether the existence, strength, and direction of their interactions affect corporate performance. Many researchers have touched on CEO and board member interactions, which are a part of corporate governance.

Researchers, such as Pham (2016), argued that corporate governance affected corporate performance and that such factors as CEO duality affected corporate performance in a negative way. Garg and Eisenhardt (2017) along with Duru et al. (2016) explored the relationships between CEOS and board members. Garg and Eisenhardt (2017) surmised that continuous communication/interactions between CEOs and board members are important for developing and implementing strategies and polices

An and Zhang (2013) and Van Essen et al. (2015) suggested that positive interactions lead to better profit generation, which in turn, leads to a rise in stock price. Rao and Tilt (2016) concurred with An and Zhang (2013) and argued that higher stock prices can be achieved through positive interactions. Hartnell et al. (2016) stated that interactions between CEOs and board members affect corporate performance. However, the findings by Hartnell et al. lack factors that can affect performance.

Lilienfeld-Toal and Ruenzi (2014) argued that the relationships between CEOs and board members directly impacts stock performance. The various researchers' findings indicate a great deal of contrast, but overall, the majority of the researchers determined that a link exists between corporate performance and stock prices. Recent research found that several factors influence a corporation's potential performance, including the efforts by its CEO and board members. The

research has numerous gaps and, as suggested, further research into interactions, corporate performance, and stock prices is warranted.

Chapter 3: Research Method

Introduction

The purpose of this quantitative correlational research was to determine the existence, strength, and direction of the relationship between the interactions between the CEOs and board members and corporate performance. In addition to this, the existence, strength, and direction of the relationship between the interactions between the CEOs and board members and the corporation's stock price was determined. The predictor (independent) variable was the level of interaction between the CEO and board members. Corporate performance and stock prices were the criterion (dependent) variables.

The problem to be addressed in this study was to determine the existence, strength, and direction of a relationship between the interactions between the CEO and board members, corporate performance, and stock prices. Board members' behavior has not been researched to any great extent, but the suggestion is that effective decision-making necessitates different interaction patterns (Bezemer et al., 2014). Bezemer et al. (2014) argued that it is the qualitative assessment of the interaction differences that affected the quality of the corporate meetings.

Overview

The research method and design were that of a quantitative correlational study to examine the existence, strength, and directions relationship between the interactions between the CEOs, board members, and corporate performance. Quantitative research was chosen because it involved the collection of numerical data that can be generalized to large populations. Quantitative correlational analysis is the analysis whereby there is no manipulation of data and the data were used to determine if there is a relationship between the variables (Curtis,

Comiskey, & Dempsey, 2016). This research method was appropriate in that it facilitated the basis for exploring the relationships between the CEO and board members in an objective way.

The key steps in this research design were those that could display the data in matrixes (or graphs) and whether the interpretation about the direction, strength, and the association of variables could be determined. The population comprised those corporations listed on the ASX that had not been in a trading halt or takeover in the last 12 months. This study questionnaire, data collection, and analysis were hosted and undertaken by Qualtrics sampling CEOs and board members. The questionnaire comprised numerous questions seeking closed answers on the participant's behavior, effectiveness, general feelings with decision-making, corporate performance, and stock movements.

Research Method and Design

The purpose of this research was to determine the existence, strength, and direction of the relationship between the interactions between the CEOs and board members and corporate performance. In addition, the existence, strength, and direction of the relationship between the interactions between the CEOs and board members and the corporation's stock price will be determined. There are many factors that could influence the performance but there may be a link between the interactions and the corporate performance.

Primarily three research methodologies were considered for this study, quantitative, qualitative, and mixed methodology. Quantitative research involves the collection of numerical data which can be used to generalize the results to large populations. Quantitative research was applicable for this study because statistics can be sampled from the population with minimal time constraints for the participants. Quantitative research is an objective method that tests the theory rather than in developing a theory and it is more accurate as it is structured and deductive (Park

& Park, 2016). Quantitative researchers use samples that will serve as representatives of the population to facilitate the creation of statistical models to explain concepts in the prediction of results (Balnaves & Caputi, 2001).

Quantitative correlational analysis (other than experimental designs) is the analysis whereby there is no manipulation of the data and it is purely used to determine if there is a relationship between the variables or characteristics (Curtis et al., 2016). Correlational studies measure directly or indirectly depending on whether the subject is intangible or tangible. In this study, the research used an indirect method to examine correlations (if any) as it is an intangible (Curtis et al., 2016). Support for using correlation research is that it can be undertaken quickly and is relatively inexpensive and more importantly, the data provided often lead to further explorations of a phenomena (Curtis et al., 2016). Correlational research can provide the basis for future research to investigate the variables that appear to be correlated (Curtis et al., 2016). However, it must be noted that correlational research does not confirm a causation (Curtis et al., 2016).

Correlational research is undertaken to help in the examination of the relationship of one characteristic or variable to one or more other characteristics of variables, to assess the correlation between these variables (Leedy & Ormrod, 2013). Correlational research methodology is a conceptual framework whereby the researcher accurately defines the variables (Curtis, Comiskey, & Dempsey, 2016). The correlation is assessed on the basis of an increase or reduction in the values of one variable following a change in the other variable in a predictable fashion (Leedy & Ormrod, 2013).

The disadvantage of correlational studies is that a faulty logic characteristic that supposedly influences the other, might lead to differences in result values (Leedy & Ormrod,

2013). This study was based on a correlational non-experimental design to assess a potential correlation. Correlational research is simply an exploratory study to classify the activities of variables.

A research design specifies the methods and procedure for collecting and analyzing the data (Zigmund et al., 2010). The population and target will comprise a sample from a random selection of the 2,200 corporations listed on the ASX. The criterion (dependent) variables were corporate performance and stock prices and the predictor (independent) variable were the level of interactions between the CEO and board members.

This research method was appropriate since it facilitated the basis for exploring the relationship between the CEO and board members in an objective manner. Quantitative research enhances the probabilities of the variability of ideas to the research problem (Leedy & Ormrod, 2013). Quantitative research includes the examination of the variables, which are numerically measurable thus seeking a measurement of the association between two variables called correlational studies (Becker et al., 2016). Correlational studies tend to be more accurate in the estimation of relationships between the predictor and criterion than other methods (Becker et al., 2016).

Qualitative research is characterized by the aim of understanding some aspect of social life rather than generating data for analysis through numbers (McCusker & Gunaydin, 2015). Furthermore, qualitative research is aimed to understand attitudes and experiences of people (McCusker & Gunaydin, 2015). Qualitative research method is a method used to analyze the quality or characteristics and to facilitate examination of the complexities of the specific phenomenon (Leedy & Ormrod, 2013). A drawback of qualitative research method is the

possible change in the natural behaviors of the participants, due to awareness of the procedure and observation (Leedy & Ormrod, 2013).

In contrast to quantitative research, qualitative research is subjective as the researcher interacts with the participants (Smith, 2013). Qualitative research tends to be value-laden, biased, and unstructured, but can prove to be accurate and reliable through verification (Park & Park, 2016). Qualitative research will generalize case findings by searching for other similar cases, but it is limited to similar cases and cannot be generalized to a target population (Smith, 2013).

Mixed methods is a combination of both qualitative and qualitative research methods (Tran, 2016). Mixed method uses multiple methods to achieve their research by using triangulation but it is generally not transferable or generalizable (Tran, 2016). The problem with mixed methods research is that it has untenable theoretical foundations (Doucerain, Vargas, & Ryder, 2016). However, this is largely been overcome by adopting pragmatism (Doucerain, Vargas, & Ryder, 2016).

"Mixed methods research is a research design (or methodology) in which the researcher collects, analyzes, and mixes (integrates or connects) both quantitative and qualitative data in a single study or a multiphase program of inquiry" (Creswell as cited in Petrovic et al., 2017). Petrovic et al. (2017) concluded that mixed methodology provides a more complete approach than a solely quantitative or qualitative approach. A drawback of both the mixed methods and qualitative research is that they may generate results in favor of their research and fraud or misconduct is reasonably common (Fanelli, 2009).

The key steps in the research design were that the sample was adequate for the testing; that the results can be displayed in matrixes (or graphs); whether the interpretation about the

direction and strength of the association of the variables can be determined, that the identification of the predictor and criterion variables have been completed; and to ensure that the research problem and purpose of the research were clearly stated.

Quantitative research was the most suitable for this research in that it involves the collection of numerical data that can be used to generalize results to large populations. This study required objective research to be able to test the theory as suggested by Park and Park (2016). Qualitative research is subjective whereas an objective approach is required for this research to be able to generalize to large populations.

Research using the mixed methods is a combination of both quantitative and qualitative methods (Tran, 2016). However, the mixed methods research has the weakness in that it undertakes qualitative research (McCusker & Gunaydin, 2015). Mixed methods research was not used for this project because of this qualitative aspect. This study used the quantitative research method.

Population and Sample

The population listed on the ASX consists of organizations having a balance sheet date of June 30 was the target. Such population offered a large range for selection of potential participants and there are approximately 2,200 corporations listed on the ASX. Corporations placed into external management were not included because the market prices of these were in a trading halt and fluctuations would also be associated with debts and corporate performance instead of corporate governance matters. In this case, the samples were obtained from the CEOs with large range of experience levels will be included. By doing so, there were different levels of experience ranging from the relatively inexperienced to the highly experienced which

provided a better sample that ensured a realistic approach for seeking correlations. The sample was a random sample of 57 participants who agree to participate.

G*Power software was used to determine the sample size from the target population. The test for the required sample was the Wilcoxon signed-rank test because rank is assigned. The bi-serial correlation test was not applicable because it requires ratio or interval data. The error factor, alpha was 5% and therefore the confidence level stands at 95%. The beta factor was the probability of a Type II error and is one minus the alpha factor which represented the power. The size of the sample was 34 after utilizing a two-tailed correlation examination.

The G*Power test used was the t-test family using the Wilcoxon signed-rank test model and to ensure validity. This model was chosen to calculate the sample size for a two-tail test. The number of predictors was one (the level of interactions between the CEOs and board members).

The test was a two-tail test with an alpha of 0.05. The power is 1- alpha which in this case was 1-.05 which equals .95. The alpha (which is 1 minus the confidence level) was the lower cut-off level of significance and is normally set at .05 (Tomczak et al., 2014). A sample size comprises three factors, namely the significance level, power, and magnitude of the differences (McCrum-Gardner, 2010). The significance level (p value) is the probability cut-off point of 5% usually (McCrum-Gardner, 2010). The effect size quantifies the differences between two or more groups and is measured in the outcomes of the control group and the experimental groups (McCrum-Gardner, 2010).

Materials and Instrumentation

Research data must be useful and in particular, it must be reliable and valid (Kimberlin & Winterstein, 2008). Reliability requires the processes to have exact replicability (Lueng, 2015).

Validity refers to whether a research question is valid in determining the outcomes (Lueng, 2015). Validity includes the design methodology, sampling, and the data analysis to determine whether all of these factors are valid (Lueng, 2015).

Internal validity is defined as an absurd association between 2 variables attributable to a causal link (Broniatowski & Tucker, 2017). External validity may be defined as a causal link that generalizes across various contexts and must not only be valid, but must be reliable and replicable (Broniatowski & Tucker, 2017). If there is a correlation between the interactions and corporate performance and this can be replicated, then the results can be generalized to other corporations.

The survey instrument comprised a bank of questions to measure the level of interactions between the CEO and board members, financial performance, and stock price movements. The first section of the question bank was the self-administered Schultz, Israel, and Lantz (2003) instrument which was used for evaluating dimensions of group dynamics on a scale of one to 4. The reliability of the instrument had previously been demonstrated and was to be replicated as the questionnaire was used without alteration.

The second bank of questions comprised questions on financial performance and stock price movements. This section was a self-administered quantitative instrument and the questions require a response on a scale to collect data on the performance and stock prices. The responses generated were kept anonymously as the CEOs do not have to identify their corporation or their names and only percentage changes between two successive years was collected through the questionnaire.

Operational Definitions of Variables

Level of interactions between CEO and board members. The level of interactions between the CEO and board members were self-assessed and measured based on the Schultz, Israel, and Lantz (2003) instrument for evaluating dimensions of group dynamics on a scale of one to ten. The level of interactions in this study were those that involve communication, emotion in organization, and employee attitudes (Biggio & Cortese, 2013). The level of interactions within the meaning of communication includes those verbal as well as non-verbal communications. These can be positive and negative emotions as a part of the interactions and likewise, attitudes can be positive or negative.

Positive interactions may be defined as those non-hostile interactions in a form that are designed to be positive. Hostile interactions are defined as those actions that are in response to a perceived threat or insult and are often fueled by emotion (Brose, 2011). Passive interactions may be defined as those actions, whereby a person is afraid to interact and often showed little or no emotion. It has also been argued that emotions are generally passive, and it can be effectively controlled (Prinz, 2008). These interactions were coded on a 1-10 scale whereby 1 was the lowest ranking (nil or virtually nil positive interactions) and 10 was the highest where the interactions are very positive. The interactions were measured for two years so that there was a comparison available.

Corporate performance. Corporate performance was the dependent measured by the net profit and measured on a ratio scale provided by the participants as reported to the ASX (Roberts, 2016). The variance was the difference between the previous financial year and the current financial year. Corporate performance is the degree to which financial goals and objectives are met and corporate performance is the corporation's key measure of financial

success (Schwaiger & Pfisher, 2016). Corporate performance is a measure of the corporation's overall financial health (Ngunjiri, 2016).

Stock price. Stock price variance may be measured as a percentage of growth, for example, in bands of less than 10%, more than 10% but less than 20%, more than 20% but less than 30%, and greater than 30%. This was self-reported by the participants and it was the difference (positive or negative) between the current financial year valuations and the previous financial year valuations on a percentage basis.

Study Procedures

Prior to collecting data, approval was sought and received from the Institutional Review Board (IRB). This was particularly important because the research involves human subjects and procedures involving human subjects must comply with a wide range of requirements. The IRB Committee investigates or examines the research project and in particular, the research questions for the security of the data for confidentiality (NCU, 2017). The IRB Committee seeks to ensure the researcher does not harm physically, mentally, or cause discomfort or damage to the participants (NCU, 2017).

The IRB Committee ensures that the participants do not face undue risk and the Committee reviews the safety, welfare, rights, and dignity of the research participants (NCU, 2017). The researcher must maintain confidentiality at all times so that the identity of the participant remains unknown (NCU, 2017). Privacy issues have long been issues in survey research and as most research techniques require personal data, there is always the risk of disclosure, inadvertently or otherwise (Saha-Chaudhuri & Weinberg, 2017). Data research needs to be anonymized by removing the identifiers and at no stage will the identity be known to

outsiders, as the participants will not need to provide any personal identifiers including that of their corporation's name that may provide a link (Saha-Chaudhuri & Weinberg, 2017).

Assurance was provided that under no circumstances would the data be provided to a third party. All research materials were kept in a locked safe, accessible only to a researcher. The findings were written in an aggregate manner whereby no personal identifiers are attached, as none were recorded, and all research materials will be destroyed after seven years by deleting all electronic files and by shredding paper files (NCU, 2017). Any information regarding the corporation, from where participants are recruited would not be disclosed.

Leedy and Ormrod (2013) argued that research is often mistaken for the simple gathering of information. In fact, research is more than that and it involves collecting, analyzing, and interpreting the data with the view to understanding a phenomenon (Leedy & Ormrod, 2013). Furthermore, there must be at least one question about the phenomenon to undertake research (Williams, 2007). There are three approaches to research, namely, quantitative, qualitative, and mixed methods of which the last is a combination of quantitative and qualitative research methods (Williams, 2007).

This quantitative method research examined the correlation between the interactions of the CEO and board members and corporate performance. Quantitative research involves a method of using numerical statistics in a non-experimentation mode and it builds upon existing theories whereby the research creates meaningful data through objectivity (Leedy & Ormrod, 2013; Williams, 2013). This quantitative research questionnaire was hosted by Qualtrics to examine the relationship between one variable and another to determine whether an increase or decrease in the value of the independent variable results in a predictable manner for the dependent variable (Leedy & Ormrod, 2014).

The data provided the correlation or otherwise between the interactions of the CEO and the board members. The research problem must be manageable and aligned with the method or design that aligns with these hypotheses (Gavin, 2016). The linkage between the interactions, stock performance, and stock prices were undertaken by comparing the CEOs' responses compared to the corporate performance variance and by comparing the stock price movements.

The responses on the one to 10 scale questions provided the basis of the level of interactions which actually are the reflection of the quality of interactions. By testing for the correlation between the quality/level of interactions, the tests in the correlational analysis may find that there is or there is not a linkage. Dubberly, Pangaro, and Hague (2009) contended that interactions were a framing of the relationships between people and objects. Machdar (2017) argued that financial performance does affect stock prices however, the correlation, if any, between the quality and level of interactions, may affect the corporate performance, which in turn may affect the stock prices.

Data Collection and Analysis

The participants submitted their responses electronically to Qualtrics for analysis. This data provided information to be analyzed and was sufficient to satisfy the requirements for aligning with the hypotheses. The analysis was undertaken by examining and transforming the data into some meaningful model for it to be useful and this included the data provided by the participants. The CEOs participating needed to nominate the corporation's profit and stock prices' movements. The data collected from the survey by the CEOs comprised responses on a scale of one to 10 (where one is the lowest ranked and ten is the highest score).

$H1_0$. There is no statistically significant relationship between the interactions between the CEOs and board members and corporate performance.

$H1_a$ There is a statistically significant relationship between the interactions between the CEOs and board members and corporate performance.

$H2_0$. There is a no statistically significant relationship between the interactions between the CEOs and board members and the corporation's stock prices.

$H2_a$. There is a statistically significant relationship between the interactions between the CEOs and board members and the corporation's stock prices.

The Wilcoxon signed-rank test was used to compare paired samples when the hypothesis was being tested which was used to determine whether the correlation between the variables was significant, whereby the significance level known as alpha (α) approaches 1 on a scale of -1 to +1 (The test could further be strengthened by using Spearman's correlation if the variables are not normally distributed and/or the Pearson's correlation (Trajkowski, 2016). Pearson's correlation test used the two-tailed test because the direction of the relationship in the hypotheses may have the possibility of a relationship in both directions. Pearson's correlation coefficient (r) was used to measure the strength of our "linear" relationship between two quantitative variables, whereby the major assumption is that of a normal distribution (Trajkowski, 2016).

Outliers are unusual data points and in statistics researchers always test the outlier by using an outlier test in both outlying X axis and outlying Y axis on a graph. In regression analysis, a researcher can test the outlier by plotting regression residuals compared to the predicted Y values, or by plotting regression residuals compared to the order of the data points. If a residual is two standard deviations away from zero, it would be considered an outlier. The cause of its displacement may be due to error in measurement or in experiment.

Linearity is a property of a mathematical expression that can be represented as a straight line in a graph. Normality tests are done to check whether the data are normally distributed

independent and dependent variables (Trajkowski, 2016). Statistical tests are conducted based on the set of assumptions and if there are changes in these, assumption violation may result. Normality means that the results are normally distributed in a symmetrical bell-shaped curve with a zero mean and with a one standard deviation and the skewness and kurtosis would both be zero (Emerson, 2018). Kurtosis is the measure of heavy or light tailed nurse in normal distribution.

Cronbach's alpha is used to test whether or not a questionnaire is reliable and valid (Tavokol & Dennick, 2011). Cronbach's alpha is the best method of reliability (social sciences) and can be determined in a single session which produces internal consistency that is superior to other methods (Diedenhofen & Musch, 2016). Cronbach's alpha coefficients are used in regard to internal consistency reliability (Diedenhofen & Musch, 2016). If items in the dataset are closely related to each other then they are considered as valid and reliable (Connelly, 2011). Calculating alpha is a common practice for new questionnaires especially when multiple-term measures of a construct are engaged (Tavakol & Dennick, 2011). In this context, the step-by-step demonstration of analysis is identifiable in the sense that the responses collected from the study will be organized.

The first step is to check that the questionnaire was reliable and valid; the Schultz, Israel, and Lantz Questionnaire has been proven reliable and valid. The collected data were tested using the Wilcoxon correlation test to determine whether there is a correlation between the variables (Trajkovski, 2016). Spearman's correlation test was also undertaken to ensure that the research correlation is strengthened (Trajkovski, 2016). The next step was to check for outliers which are unusual data points. The results of this research were analyzed and written up to either confirm or deny the hypotheses.

Assumptions

Leedy and Ormrod (2013) argued that often assumptions are so self-evident that researchers may consider them unnecessary to discuss. However, that is not the case and all the assumptions need to be stated and an assumption, applied to research, is important as it is presumed to be true for a specific purpose (Wargo, 2015). Further assumptions were that the executives of the listed corporations would be able to read and understand the questionnaire. It is also assumed that the participants will have a sincere interest in the research and act honestly (Wargo, 2015).

Limitations

If the study goes beyond the limits then the results may not hold true and possibly result in false correlations between the level of interactions between the CEOs and board members. Limitations are those factors that a researcher cannot control. In this study the limitations were those factors that the participants may exhibit in by not acting honestly or by falsifying the financial performance and so on. The limitation of this study was that it is seeking a correlation between interactions and corporate performance and consequently, whether corporate performance results in higher stock prices or otherwise. Limitations must be justified rather than stated (Simon, 2011). The questionnaire must be simple and straightforward so that the participants are unlikely to misinterpret what is asked.

Simon and Goes (2013) argued that every study design has particular limitations and these limitations may affect the result and the conclusions. Correlational research involves the prediction that the behavior of one variable affects the other without necessarily being the causal effect (Simon & Goes, 2013). There may be some other causes or factors that affect or cause the

results. The limitations are present with respect to the generality of such findings so that findings that go beyond these limits, may not necessarily be true (Simon & Goes, 2013).

Research studies have strengths and weaknesses, but it is the limitation that should be focused specifically on the problem and not on general limitations of all studies (Connelly, 2013). Connelly (2013) further argued that limitations focus on internal and the external validity of the study whereby the internal validity addresses the conduct of the research and the external validity focuses on the applications to generalize. Connelly (2013) further argued that other limitations may be unique to the particular study and such limitations cannot be controlled by the researcher although some may be minimized.

Delimitations

Delimitations are made by choice by a researcher stemming from the objectives of the research (Simon & Goes, 2013). Delimitations have characteristics that are the limit of the research and therefore define the boundaries (Simon, 2011). Delimitations are made to narrow the field of research otherwise the scope would be too vast and meaningless or at least virtually impossible to undertake. In this research study, there were no geographical limits, except that of the continent of Australia. Another delimiting factor was that corporations that have been placed in a trading halt or have undergone a merger in the last 12 months, were excluded. The research was conducted on listed corporations on the ASX.

A major step in delimiting was in the choice of the problem whereby there are other related problems that could have been chosen but were rejected (Simon & Goes, 2013). The delimiting factor in this study was that of the interactions between the CEO and board members, but not between general management and stakeholders for example. Furthermore, the limitations

of those companies that are under administration or have been taken over during that particular year and were excluded.

Ethical Assurances

Akbulut et al. (2008) asserted that ethical violations have increased significantly with the event of computer technology. Akbulut et al. (2008) further argued that there has been an increase in such ethical violations in the data collection process and ethical committees are established to control such. Data collection methods, particularly in scientific research regarding human beings, require approval from the ethics committees (Akbulut et al., 2008). When conducting research, there are major ethical issues to be addressed, namely; informed consent, beneficence (do no harm), respect for anonymity and confidentiality, and respect for privacy. (Fouka & Mantzorou, 2011).

Brydon-Miller (2008) argued that training in ethics is not necessarily enough to restrain the researcher in conducting self-reflection. Furthermore, Brydon-Miller (2008) argued that any self-reflection is required to evaluate critically a researcher's ethics. Furthermore, informed consent will be obtained to protect the privacy of the participants. Research ethics includes honesty, objectivity, integrity, carefulness, openness, respect for intellectual property, confidentiality, publication, respect for colleagues, social responsibility, non-discrimination, competence, and legal requirements toward human beings' protection (Resnick, 2015).

It is essential that the data are securely controlled and are not available to anybody or accessible by outsiders. The CEOs will require that secure steps in securing the data will be taken and by not making it available to anyone outside consistent with the code of ethics (Neuman, 2014). This research study not only took into consideration the legalities but the

ethical and moral considerations as required. This research, in no way, jeopardized or harmed the participants by releasing sensitive data which may or may not be commercially valuable.

These data were kept confidential, but, steps in the security of the data were undertaken at all stages to prevent any unauthorized activity. The collection and storage of data are very important and must be done in a fail-safe system (DeVries et al., 2017). Researchers undertaking research involving human subjects must follow a good governance system. The data are securely captured and stored in a manner that will prevent unauthorized access (DeVries et al., 2017).

NCU guidelines also require the utmost in safe security of sensitive material or data that identify the participants and the data must be securely captured and stored (NCU, 2017). Participants were never be coerced into participating and participation was voluntary. Furthermore, the participants were aware of their rights and their involvement as they signed an informed consent form (Neuman, 2014). The data will be kept for seven years in a locked safe and after this period the data will be destroyed by shredding and burning.

Jachimowicz, Matz, and Polonski (2017) asserted that the interest of the researchers and participants must be aligned and transparent to the participants. Researchers must ensure that the participants are well informed in how the data will be used (Jachimowicz et al., 2017). The participants were provided with an informed consent that spelled out the kinds of research that would be undertaken in addition to the participants' protection (Tai, 2012). Furthermore, there were no deceptive techniques and informed consent is the most essential part of the research ethics (Tai, 2012).

Researchers must be meticulous and careful and attentive to detail and communications of the results must be in full and reported in an unbiased way (NCU, 2017). Furthermore, the

research must be objective, and conclusions and interpretations must be based on facts and information that is capable of proof and replication and there should be transparency in the methods along with the impartiality from interested parties (NCU. 2017). Furthermore, research involving animals or human subjects must follow the principles of respect in a duty of care and fairness in providing proper references along with treating fellow researchers with honesty and integrity (NCU, 2017).

As the researcher, I complied with all issues as required by the IRB. I ensured that the major ethical issues such as informed consent, beneficence, respect for anonymity and confidentiality, and privacy were complied with. Furthermore, I obtained the written consent to protect the privacy of the participants and to inform them of the objectivity, integrity, and the use of the data. This was done in an honest manner to protect and to have respect for my professional colleagues as well as complying with moral and ethical obligations. I ensured that the data are securely controlled and are not available to anyone outside the survey.

These reports were made in a meticulous manner in a full and unbiased way. IRB approval was sought prior to conducting any research to ensure compliance with all regulations and standards. Participation in the research was totally voluntary without any compulsion or obligation. As this study is objective, the participants were expected to act honestly and not introduce any biases that may affect their personal and professional experiences regarding the interactions.

Summary

The problem addressed is whether there is a relationship between the interactions between the CEO and board members, corporate performance, and stock market prices. Quantitative researchers have been recognizing an effective model of study because it is

objective (Leedy & Ormrod, 2013). This research method was appropriate for the study as it facilitates the basis for exploring the relationship between the CEO and board members in understanding their role in organizational performance. The quantitative method was chosen because of its objectivity and being able to sample a large number of participants from corporations listed on the ASX. The population of the target were those corporations listed on the ASX which provided a large range for a sample selection.

The limitations on the quantitative research stemmed from the questions and the factors beyond which a researcher cannot control. The quantitative research data should be able to be generalized from the sample taken. This does not mean that generalizations are to be taken from outside of the questions and generalized beyond the limitations of the study. A major and potential limitation for this study was that there is no control over the behavior of the participants.

Prior to any data being collected, IRB approval was given including the priori test. IRB protects the participants from unethical conduct in regard to the participants' safety, welfare, rights, and dignity (NCU, 2017). Delimitations were made by choice by the researcher stemming from the objectives of the research to be undertaken (Simon & Goes, 2013). Brydon-Miller (2008) argued that ethics is not necessarily a restraint on the researcher, but it provides a self-reflection on how to conduct research.

Chapter 4: Findings

The purpose of this quantitative correlational research was to determine the existence, strength, and direction of the relationship between the interactions between the CEOs and board members and corporate performance. The boundaries of the study were publicly listed as companies on the Australian Securities Exchange (ASX) and their CEOs and board members. Furthermore, the corporations must not been in the takeover or trade suspension in the last 12 months. In addition, the existence, strength, and direction of the relationship between the interactions between the CEOs and board members and the corporation's stock price were determined. The boundaries of this study were those of CEOs and board members of public companies listed on the Australian Securities Exchange (ASX) that had not been taken over or in a trade suspension or halt in the last 12 months. The predictor (independent) variable was the level of interaction between the CEO and board members. Corporate performance and stock prices were the criterion (dependent) variables.

The quantitative study analysis was to examine the extent to which the data met the assumptions and to identify particular and potential factors that would impact the interpretation of the results. The primary object of this study was to determine whether there is a relationship between the interactions between the CEO and board members and the correlation between these interactions, and corporate performance. This chapter analyzes the research question and hypotheses, the results of the questionnaire and the evaluation of the findings.

Validity and Reliability

The object of this study was to determine if there is a correlation between the interactions between the CEO and board members that predict the corporate performance and the stock performance. The interactions between the CEO and board members was a subset of corporate

governance in general and its correlations in relation to corporate performance (if any). The survey was designed based on questions from the Schulz, Israel, and Lantz Questionnaire bank (Schulz, Israel, & Lantz, 2003). Statistical tests included ANOVAs, regression, and the Wilcoxon signed-rank test. The questionnaire was hosted by Qualtrics (Australia). The research question is looking to see if there is any relationship between the interactions of the CEO and board members and corporate performance. The behavior of the CEO and board members is ascertained through these questions. The hypotheses are seeking whether there is a significant relationship between the interactions between the CEO and board members and corporate performance or otherwise. (See Appendix A for the questions comprising the individuals' behavior pattern).

Prior to commencing the analysis, inferential statistics require certain assumptions to be made. It is assumed that there is the normality of the continuous variables that are used, and they are normally distributed around a mean (that is a bell-shaped distribution). ANOVA, a regression test, was used and normality is assessed with regards to the mean differences. If the assumptions of normality are not there, then the normality becomes skewed along with kurtosis.

Reliability, especially in psychological research, needs to be consistent in the results. Reliability is important because the study must fulfil the predicted aims and hypothesis to ensure that the results are due to the study. This means that the results must not stem from extraneous information or variables. Reliability is able to be measured in a number of ways, depending on the type of instrument (Polit & Beck, 2012). There is no point in having unreliable or inconsistent results from the study that cannot be replicated.

Reliability is evaluated by the extent that individual differences between the scores across groups of participants, are key measures (Hagan, 2014). The reliability coefficient is one of the

most commonly reported reliability measures, particularly in statistics based on correlations between scores on the same test (Hagan, 2014). Overall, reliability must be consistent in its assessment and it does matter particularly in psychological research. The reliability can be strengthened by asking sufficient questions to assess the results from the study.

Validity on the other hand, is a measure of how well the questions are obtaining information and results in the study. In particular, psychological assessment requires consistent and accurate results that are reliable and valid. Validity involves collecting evidence to support the score interpretations. Thus, rendering support that the score interpretations are accurate (Hagan, 2014). It is important that the concept being measured is actually reflected by the interpretations of the instrument (Hagan, 2014).

Validity, regarding data collection, means that the results are representative of the intention of the research. Validity must ensure that the questions actually measure what they claim to measure. An important aspect is the interpretations rely on the assumptions and what effect or impact these will have upon the interpretation (Hagan, 2014).

The obvious concern when selecting an instrument is what it actually measures and the concepts that are relevant to the research questions (Hagan, 2014). Of major concern is whether or not the instrument allows the researcher to measure the predictor and moderator variables needed to answer the research question (Hagan, 2014). On completion the results must include information of the selection, administration, and how the performance rated. The concept (statistically speaking) and the results will hinge on the instrument being used (Hagan, 2014).

Quantitative data are measurements expressing certain quantities and are normally measured in units associated with the data. Research using quantitative methods is aimed at performing mathematical modelling and estimation to test the objective theories or to find

relationships between the variables (Edler et al., 2002). In this study, SPSS and Excel software programs were used to test for relationships. The correlation analyses were used in the research to determine whether or not there were relationships between the variables.

It must be noted that the collection, analyzing, and the reporting of data are not an exact science and errors can and will occur (Brown, Kaiser, Anders, & Allison, 2018). It is important that errors and reliability are identified by the analyst and minimized or eliminated as best as possible. The most common error is the measurement error which is the difference between the measured quantity and its true value course through miss calibrated instruments. However, generally speaking, blunders are recorded by mistake in the instruments calculating the measurement and the data result recording. Thus, by labelling an error, the analyst declares that it is lacking an objective correctness (Brown et al., 2018).

There are numerous types of errors related to measurement, study design, replication, statistical analysis, among others (Brown et al., 2018). There are three types of errors, namely systematic errors, random errors, and blunders. It is reasonably difficult to miscalculate the research data in quantitative research as the measurements are mathematically recorded. These errors affect the entirety of the research and in fact some may cause harm (Brown et al., 2018). A type I error is when the null hypothesis is true, but the analyst rejects it. This is also known as a false positive. A Type II error is when the null hypothesis is false, and the analyst fails to reject it. This is also called a false negative.

A psychometrics study is concerned with theory and technique and is concerned with the objective measurement of various attributes such as skills, knowledge, personality traits, attitudes, and the like. There are various impacts in this study in the lack of variation with the data collected. Thus, in future, further testing could be carried out. It is important that the

psychometric soundness with the Wilcoxon signed-rank test and regression tests are verified. Potential factors that would affect the impact on interpretation include the lack of variation in the responses. Further statistical tests may increase the predictability.

Once the data have been collected, it is essential that the data be interpreted and analyzed to be useful in meeting the objective of the research (Saunders, Thornhill, & Lewis, 2007). Data analysis, and interpretation assign meaning to the collected information to determine the significance, implications, and overall conclusions. The analysis and interpretation provide the meaning made of the data collected. The data analysis is essential in that it provides conclusions that may or may not support the research problem.

Research using quantitative data methods is often used in psychological or social sciences research (Sakaluk, Williams, & Biernat, 2014). The primary use of statistical analysis is to be able to interpret and to generalize the research findings (Unwin, 2013). A primary goal of the statistical analysis is to identify correlations (if any exist) and trends. Qualtrics (Australia) hosted the questionnaire and Qualtrics used IBM SPSS and Excel statistical analysis programs.

Results

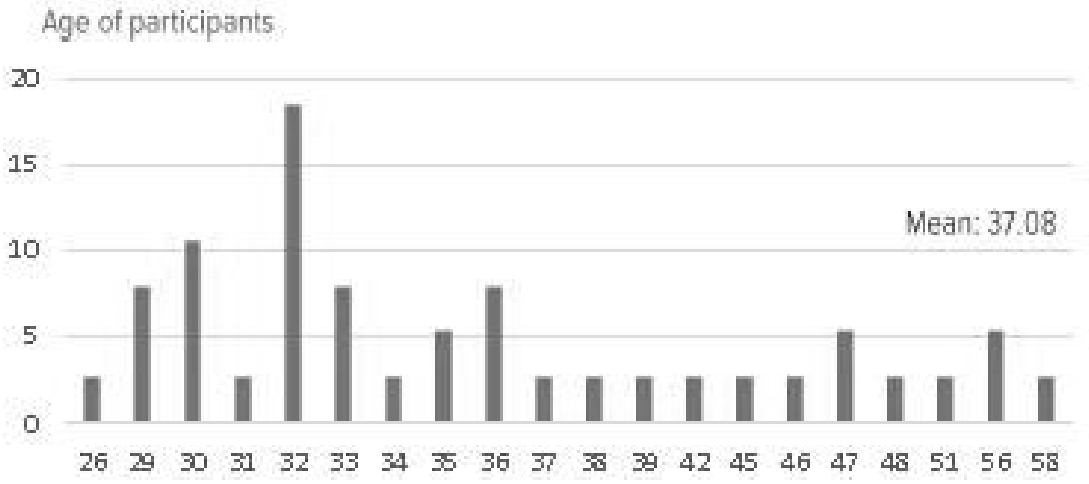
The survey was designed to cover both active and passive quantitative variables. This survey was a non-experimental quantitative survey hosted from the 25th to 30th March 2019 and received 38 complete responses. The analyses were conducted in both SPSS and Excel.

The variables (profit and stock performance increase) had insufficient variations in results to evaluate the difference between options for a 2-tailed hypothesis test. Active variables encompass the participant's behavioral patterns with respect to actionable participation in board meetings as well as the effectiveness of the CEO / board interactions. Questions covered in this section required the respondent to quantify their input and how such input affected board

meetings. Such questions asked encompassed the number of times input was sought or given, the fluidity, and influence of interactions and commitment to decided courses of action.

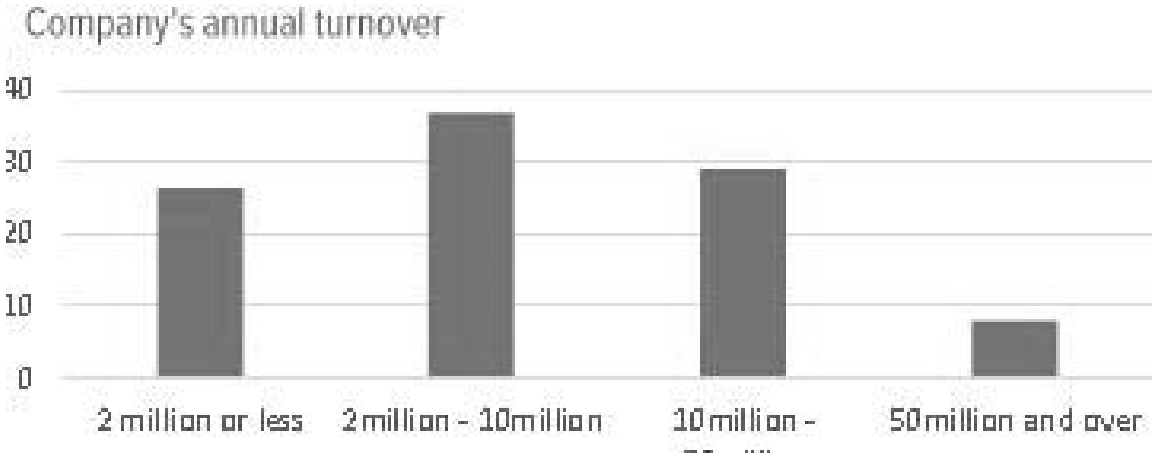
Of the 38 participants 22 were female and 16 were male. The age range was from 26 to 58, with a mean of 37.08. The greatest number of the participants were aged 32.

Table 1- Participant Descriptor Summary



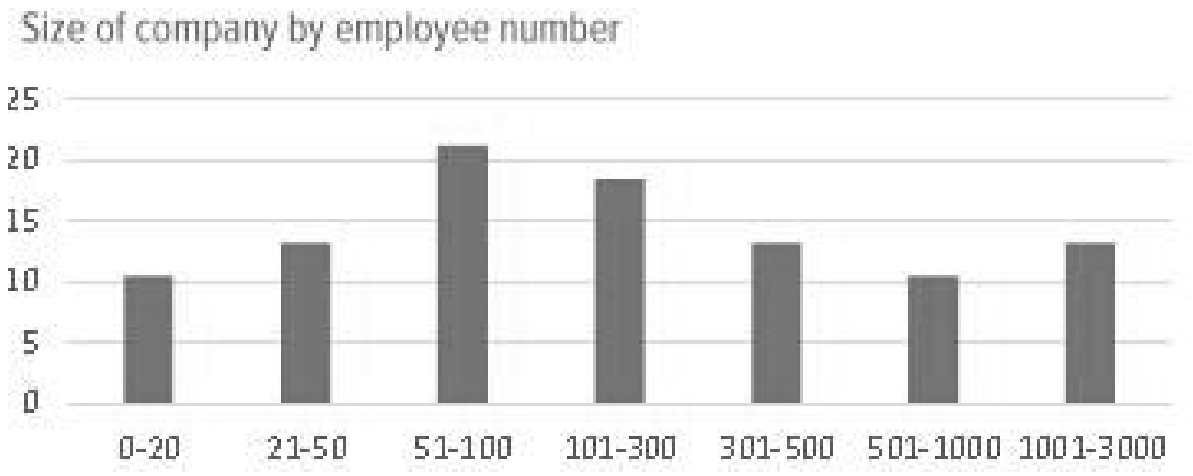
The size of the corporations in terms of revenue, are listed below. The table shows that the majority of the corporations had revenues in the $2-$10 million range.

Table 2 - Size of company in terms of revenue



The size of the corporations in terms of employee numbers in the survey, is listed below. The majority of the corporations had the numbers of employees ranging from 51-300. Furthermore, there were some corporations that had more than 1,000 employees.

Table 3- Size of company in terms of number of employees



Research question 1/ Hypothesis: What is the relationship, if any, between the interactions of the CEO and board members and corporate performance?

$H1_0$. There is no statistically significant relationship between the interactions between the CEOs and board members and corporate performance.

$H1_a$. There is a statistically significant relationship between the interactions between the CEOs and board members and corporate performance.

The first part of the survey (34 attitudinal questions) sought responses based on the core questions provided by the participant. To test the null hypothesis1 and to answer the Research Question 1, all of the attitudinal (perception) questions were analyzed for scale reliability. Factor analysis was conducted and eight factors were created across five dimensions. The principal component analysis was in using the oblique rotation. Furthermore, factor scores were created using the Anderson-Rubin method as illustrated in Figure 6. These factors dealt with the

perceptions of personal influence over other members of the board. (See Appendix B for Perceptions of board members' interactions and resolutions)

Several cases had missing data on specific branch questions. There were no other questions that had missing data and all cases were retained. Skewness and kurtosis were significant in all variables (greater than plus/- 0.05). The data were not transformed due to the assumption that nonparametric testing with ranking, would be used to test significance. This would also counteract the impact of the skew on the analyses.

A multiple regression was performed on the variables identified in table 6 and table 7. The table displays the correlations between variables and the unstandardized regression coefficients, and the intercept, the standardised regression coefficients, and the goodness-of-fit. The results were that the regression was not significantly different from zero. Therefore, it can be concluded that no factors were significant.

The model specifies one endogenous variable over all stock performance ranks score and numerous exogenous variables. These variables are perceptions of personal influence, acceptance of others, personal commitment towards board outcomes, perceptions of board member interactions and resolutions, perceptions of board member trust and cooperation, perception of staff interactions, staff involvement in board meetings, satisfaction in the meetings, and board effectiveness. (See Appendix C for the Perceptions of board members' interactions and resolutions).

Regression was performed on the variables. Using the variables created from the factor scores, Appendix D (Correlation matrix for the regression of profit-making), displays the correlations between variables and displays the unstandardized regression coefficients, the standardized regression coefficients, and the goodness-of-fit. The regression was not

significantly different from zero and therefore no factors were significant. The correlation matrix for the regression stock performance ranking. This demonstrated at Appendix E. There was very little differences in the perceptions of personal influence and acceptance of others.

ANOVAs were conducted across all attitudinal questions using the dichotomous dependent variables (DVs) for profit and stock performance. The logistic regression was conducted using the dichotomous DVs and were loaded in one step. This procedure was then followed with multiple regression using ranking scores for each of the dependent variables. No coefficients or model were found to be significant. (See Appendix F).

Appendix G demonstrated the wide variety of responses to the question "how often do you ask for additional information? The graphic representation was to demonstrate the percentage of the participants in asking for further information. As demonstrated, the vast majority of the participants indicated that they sometimes ask for additional information.

Research question 2/hypothesis: What is the relationship, if any, between the interactions of the CEO and board members and corporation's stock prices?

$H1_0$. There is no statistically significant relationship between the interactions between the CEOs and board members and corporate performance.

$H1_a$. There is a statistically significant relationship between the interactions between the CEOs and board members and corporate performance.

$H2_0$. There is a no statistically significant relationship between the interactions between the CEOs and board members and the corporation's stock prices.

$H2_a$ There is a statistically significant relationship between the interactions between the CEOs and board members and the corporation's stock prices..

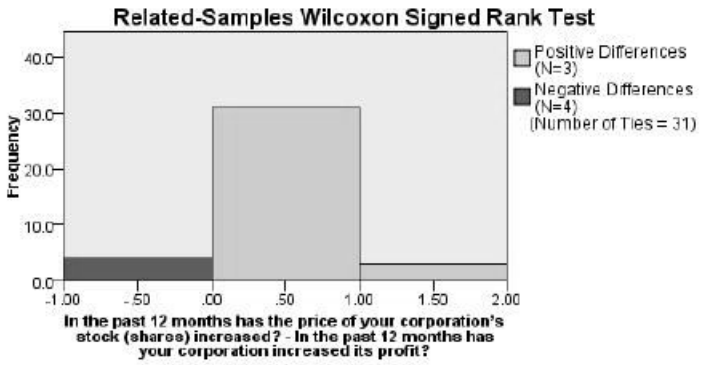
It is believed that the null hypothesis is correct as stated later. The reason the null hypothesis is accepted, is that the sample size and the small variations were insufficient to accept anything else. If the sample size and the variations were much larger, then the results may be different. The passive variables revolved around resultant satisfaction emanating from the CEO/board interaction and furthermore, the general feeling about the decision making process. Questions in these sections were more emotional than quantitative and therefore results fluctuated more than the results in the "active" portion of the questionnaire. Questions covered in this section included such variables as enjoyment and usefulness of CEO / board interactions and the belief in the effectiveness of such interactions. In the section, activate research variables and participants' behaviour, the questions asked were to reveal the relationship amongst the CEO, board Members, and corporate performance. This was to understand the level of interaction required to positively impact corporate performance, and in turn, the company's stock price.

Table 4– Hypothesis Test – Stock prices

Null hypothesis	Test	Sig.	Decision
The median of differences In the past 12 months has your corporation increased its profit?	Related samples Wilcoxon Signed Rank Test	0.705	Retain the null hypothesis
In the past 12 months has your corporation's stock increased? Equals 0			

Asymptotic significances are displayed. The significance level is .05.

Table 5- Wilcoxon signed-rank Test



Total N	38
Test Statistic	12.000
Standard Error	5.292
Standardized Test Statistic	-.378
Asymptotic Sig. (2-sided test)	.705

The dark gray represents the negative differences whereas the lighter shade represents the positive differences in the related samples using the Wilcoxon Signed-Rank Test.

Another aspect was the realization that even though the CEO was the ultimate decision-maker, the board members should be integrated into the decision-making process of the corporation in a symbiotic manner.

Model testing – regression

Figure 1 shown below (the truth about the population for the sample) depicts the core model being tested in this study. The hypothesis - positive board member interactions impact stock performance. The survey used 34 questions to indicate the measures for board member and decision-maker interactions. These questions formed the following dimensions of "board member interactions".

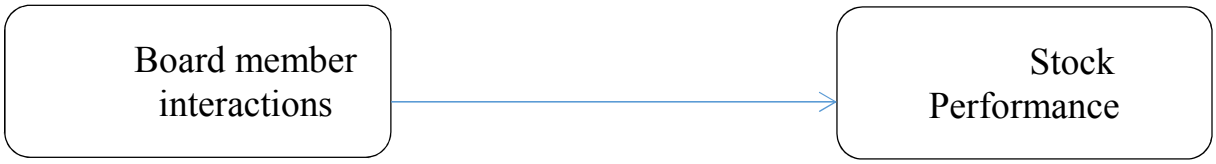
Figure 1 Truth about the population

	Truth about the population	
Decision based on sample	H_0 is true	H_0 is false
Fail to reject H_0	Correct Decision (probability = 1 - α)	**Type II Error** - fail to reject H_0 when it is false (probability = β)
Reject H_0	**Type I Error** - rejecting H_0 when it is true (probability = α)	Correct Decision (probability = 1 - β)

(Qualtrics, 2019).

Figure 2 (shown below) depicts the core model being tested in this study and examines the board member interactions (independent variable) and the dependent variable (stock performance). .

Figure 2 Board member interactions and stock performance



IV – Independent variable DV – Dependent variable

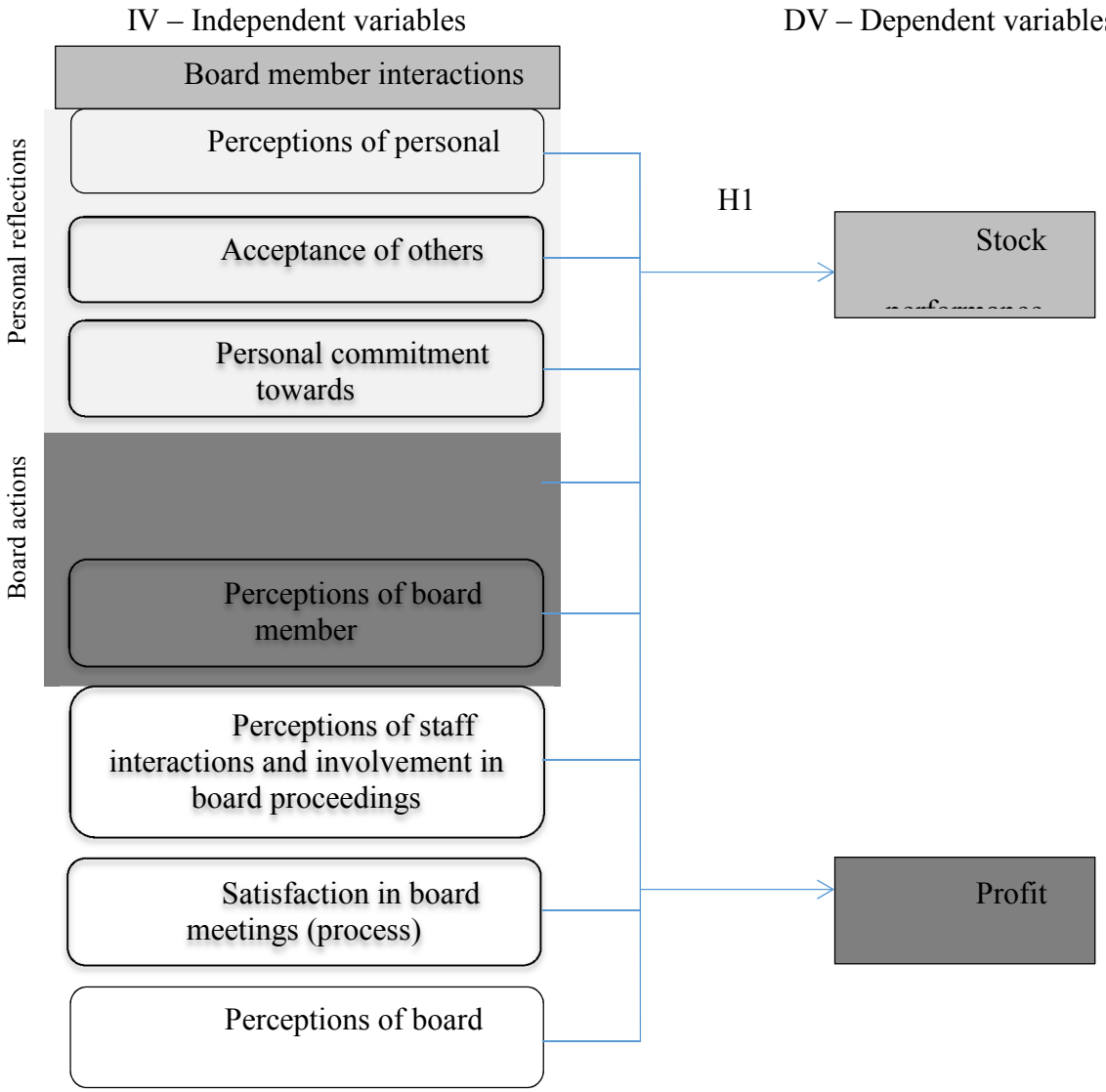
Figure 1 The hypothesis – Positive board member interactions impact stock performance

The survey used 34 questions to indicate the measures for board member and decision-maker interactions. These questions formed the following dimensions of "Board member interactions". Board member interactions were measured with interval questions. Stock performance and profit were measured using two questions to determine direction of performance and amount. The model specifies one endogenous variable – Overall Profit Rank Score and variables Correlation matrix for the regression of profit ranking on board member interaction dimensions.

Figure 3 (Shown below) summarizes the personal reflections, board interactions, staff interactions in Involving board proceedings, and satisfaction of such interactions.

Figure 3 Board member interactions - Stock performance and Profit

This diagram summarizes the personal reflections and board actions regarding stock performance, and corporate performance.



The correlation matrix for profit-making or corporate performance regarding personal influence on staff interaction as demonstrated figure 4 below.

Figure 4 Correlation matrix for the Regression of profit-

This diagram represents the correlation matrix for profit-making or corporate performance with regard to the personal influence, and staff interactions.

	DV	1	2	3	4	5	6	7
Dependent variable – profit rank scores	1.000							
Perceptions of personal influence	0.400							
Acceptance of others	-0.204	-0.365						
Personal commitment towards board outcomes	0.014	0.136	-0.082					
Perceptions of board member interactions and resolutions	0.319	0.856	-0.555	0.213				
Perceptions of board member trust and cooperation	-0.277	-0.309	0.281	0.405	-0.240			
Perceptions of staff interactions and staff involvement in board proceedings	0.401	0.733	-0.430	0.281	0.737	-0.302		
Satisfaction in the meetings	0.358	0.779	-0.339	0.023	0.787	-0.423	0.731	
Board effectiveness	0.280	0.816	-0.402	0.048	0.900	-0.302	0.733	0.835

The diagram represents the correlation matrix for corporate performance regarding personal influence and analyzed through regression analysis. Figure 5 represents the regression analysis of factors of correlation from figure 4. (as demonstrated below). Multiple regression was performed on the variables using the variables created from the factor scores.

Figure 5 Regression

This figure relates to Overall Profit Rank Score. This diagram represents the standardized coefficients with a confidence level of 95%, and the personal influence, particularly with other board members and the perceptions of staff interactions.

	Unstandardized Coefficients	Standardized Coefficients			95.0% Confidence Interval	
	B	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	19.500		11.371	0.000	15.993	23.007
Perceptions of personal influence	3.609	0.337	0.952	0.349	-4.146	11.363
Acceptance of others	-0.172	-0.016	-0.072	0.943	-5.069	4.726
Personal commitment towards board outcomes	-0.752	-0.070	-0.323	0.749	-5.510	4.005
Perceptions of board member interactions and resolutions	0.651	0.061	0.111	0.912	-11.300	12.602
Perception of board member trust and cooperation	-1.158	-0.108	-0.502	0.619	-5.873	3.558
Perceptions of staff interactions and staff involvement in board proceedings	3.217	0.301	1.020	0.316	-3.235	9.669
Satisfaction in the meetings	1.195	0.112	0.329	0.744	-6.226	8.617
Board effectiveness	-4.277	-0.400	-0.865	0.394	-14.391	5.838

Figure 6 (as shown below) depicted the factor analysis of personal influence board members' interactions and resolutions. The factor analysis was used to create the following independent variables for testing in the regression model. These comprised the following: perceptions of personal influence, acceptance of others, commitment towards board outcomes, perceptions of board interactions and resolutions, perceptions of staff interactions and staff involvement in board meetings, satisfaction of meetings (process), and perceptions of board effectiveness.

Figure 6 Factor Analysis

This diagram represents the perceptions of personal influence, and the perception of board members' interactions and resolutions.

Perceptions of personal influence

	Factor 1	Factor 2	Factor 3
I can influence decisions that the CEO and board members make?	0.888		
How much do you feel comfortable about expressing your opinion in CEO/board members' meetings?	0.721		
How much is your opinion listened to?	0.708		
How often do you suggest new ideas?	0.69		
How often are you supportive of others' ideas?		-0.805	
How often are you accepting of other's ideas?		-0.773	
How often do you provide information?		-0.77	
How often are you willing to listen to others' points of view?		-0.515	
I am committed to decisions that are made by the CEO and board members			0.889
α	0.759	0.76	
Percentage of variance	41.59	14.262	11.88
Component eigenvalue	3.743	1.284	1.069

Extraction method: principal component analysis. Rotation method: Oblimin with Kaiser normalization. α: rotation converged in 15 iterations.

The correlation matrix for the regression of profit ranking on board member interaction dimensions demonstrated in figure 7 below. This model specifies one endogenous variable overall stock performance ranks score and numerous exogenous variables. These effects are genius variables comprise the following: Perceptions of personal influence, acceptance of others, personal commitment towards board members, perceptions of board member interactions and resolutions, perceptions of board member trust and cooperation, satisfaction of staff interactions and staff involvement in board meetings, satisfaction in board meetings (process), satisfaction in board meetings and perceptions of board effectiveness.

Figure 7 Correlation matrix for the regression of profit ranking on board member interaction dimensions

	DV	1	2	3	4	5	6	7
Dependent variable – profit rank scores	1.000							
Perceptions of personal influence	0.400							
Acceptance of others	-0.204	-0.365						
Personal commitment towards board outcomes	0.014	0.136	-0.082					
Perceptions of board member interactions and resolutions	0.319	0.856	-0.555	0.213				
Perceptions of board member trust and cooperation	-0.277	-0.309	0.281	0.405	-0.240			
Perceptions of staff interactions and staff involvement in board proceedings	0.401	0.733	-0.430	0.281	0.737	-0.302		
Satisfaction in the meetings	0.358	0.779	-0.339	0.023	0.787	-0.423	0.731	
Board effectiveness	0.280	0.816	-0.402	0.048	0.900	-0.302	0.733	0.835

Extraction method: principal component analysis. Rotation method: Oblimin with Kaiser normalization. α: rotation converged in 11 iterations.

The model (Figure 4 shown previously) specifies one endogenous variable Overall Profit Rank Score (Y1) and 12 exogenous variables; Perceptions of personal influence (x1); Acceptance of others (views) (x2); Personal commitment towards board outcomes (x3); Perceptions of board member interactions and resolutions (x4); Perceptions of board member trust and cooperation (x5); Perceptions of staff interactions and staff involvement in board proceedings (x6); Satisfaction in board meetings (process) (x7); Satisfaction in board meetings (process) (x8); and Perceptions of board effectiveness (x9).

A multiple regression was performed on the variables as identified in the theoretical model using the variables created from the factor scores thus using the correlations between

variables in an unstandardized regression coefficients (*B*) and intercept, the standardized regression coefficients (β) and the goodness-of-fit R^2. The R for the regression was not significantly different from zero, $F(8, 29) = 1.116$, $p<.05$, with R^2 at .235 $p<.05$. No factors were significant.

Figure 8 (regression of Overall Profit ranks Score as demonstrated below) demonstrated the endogenous variable and multiple exogenous variables. The variables comprised the following: perceptions of personal influence, acceptance of others (views), personal commitment towards board outcomes, perceptions of board member interactions and resolutions, perceptions of board member trust and cooperation, perceptions of staff interactions and staff involvement in board proceedings, satisfaction in board meetings, satisfaction in board meetings (process), and perceptions of board effectiveness.

Figure 8 Demographic, frequencies and distributions

Regression

Profit (DV)

The model specifies one endogenous variable **Overall Profit Rank Score** (Y1) and 12 exogenous variables: Perceptions of personal influence (x1); Acceptance of others (views) (x2); Personal commitment towards board outcomes (x3); Perceptions of board member interactions and resolutions (x4); Perceptions of board member trust and cooperation (x5); Perceptions of staff interactions and staff involvement in board proceedings (x6); Satisfaction in board meetings (process) (x7); Satisfaction in board meetings (process) (x8); and Perceptions of board effectiveness (x9).

A multiple regression was performed on the variables as identified in the theoretical model (Figure 2: H2) using the variables created from the factor scores. Table x displays the correlations between variables and Table x the unstandardised regression coefficients (*B*) and intercept, the standardized regression coefficients (β) and the goodness-of-fit R^2. The R for the regression was not significantly different from zero, $F(8,29) = 1.116$, $p<.05$, with R^2 at .235 $p<.05$.

No factors were significant.

Table 1 Correlation matrix for the regression of **profit ranking** on board member interaction dimensions

	DV	1	2	3	4	5	6	7
Dependant variable – profit rank scores	1.000							
Perceptions of personal influence	0.400							
Acceptance of others	-0.204	-0.365						
Personal Commitment towards board outcomes	0.014	0.136	-0.082					
Perceptions of board member interactions and resolutions	0.319	0.856	-0.555	0.213				
Perceptions of board member trust and cooperation	-0.277	-0.309	0.281	0.405	-0.240			
Perceptions of staff interactions and staff involvement in board procedings	0.401	0.733	-0.430	0.281	0.737	-0.302		
Satisfaction in the meetings	0.358	0.779	-0.339	0.023	0.787	-0.423	0.731	
Board effectiveness	0.280	0.816	-0.402	0.048	0.900	-0.302	0.733	0.835

Table 2 Regression

	Unstandardized Coefficients	Standardized Coefficients			95.0% Confidence Interval	
	B	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	19.500		11.371	0.000	15.993	23.007
Perceptions of personal influence	3.609	0.337	0.952	0.349	-4.146	11.363
Acceptance of others	-0.172	-0.016	-0.072	0.943	-5.069	4.726
Personal Commitment towards board outcomes	-0.752	-0.070	-0.323	0.749	-5.510	4.005
Perceptions of board member interactions and resolutions	0.651	0.061	0.111	0.912	-11.300	12.602
Perceptions of board member trust and cooperation	-1.158	-0.108	-0.502	0.619	-5.873	3.558
Perceptions of staff interactions and staff involvement in board proceedings	3.217	0.301	1.020	0.316	-3.235	9.669
Satisfaction in the meetings	1.195	0.112	0.329	0.744	-6.226	8.617
Board effectiveness	-4.277	-0.400	-0.865	0.394	-14.391	5.838

Multiple regression was performed on the variables, using the variables created from the factor scores (Figure 6 previously shown).

Regression was performed on the variables, using the variables created in the factor scores from figure 6. The correlations between the variables, using unstandardized regression coefficients and intercept, the standardized regression coefficients, and the goodness-of-fit, indicated that the regression was not significantly different from zero. In other words, there are no factors that were significant. There was high level of positive difference in the 0-1 range and later the positive differences reduced considerably. The negative differences had always been very less and have been restricted to the range -1 to 0. The hypothesis test summary suggests that the testing significance level was taken to be 0.5 whereas the significance level returned was 1 which was higher than the test hence the hypothesis was retained. (Null hypothesis = true).

Figure 7 shows that there is a slight decrease in mean of perceptions of trust between CEO and board members the stock prices have increased in the initial phase and where even at a growth when the trust levels were at all-time low. The trust levels then rose to a new high and so were the stock prices. In the graph, the capacity of CEO and board members to work well together has been reducing with an increase in raw scores for ranking. This rose a bit when the raw scores for ranking increased from 26-50% to 50-75% but this trend again saw a downfall and reached its minimum value.

Figure 7 (previously shown) demonstrated the correlation matrix of corporate performance ranking on board member interaction dimension. Figure 7 demonstrated the mean scores of "when the staff facilitate meeting, they encourage open communication between CEO and board members" which rose with an increase in raw scores for ranking. However, there was a steep fall when the raw score for ranking increased from 26-50% to 50-75%. This was the same phase when the capacity of CEO and board members to work well together took a small incline but contrary to that "When the staff facilitate meeting, they encourage open communication

between CEO and board members" took a steep rise to reach an all-time high. Both the attributes behaved opposite to each other at all levels. The graph demonstrated the mean of suggesting new ideas has been on a steady increase until raw score level 26-50%. The trend witnessed a downfall from 26-50% to 51-75% but later started to rise again. The Wilcoxon signed-rank test issues are where there are two sets of scores to compare and they are derived from the same set of participants (Qualtrics, 2019). The Wilcoxon signed-rank test is used for a single outcome that is where there is a dependent variable in this case, stock or corporate performance. The data were continuous and have only one categorical predictor (positive board member interactions) and has only two categories which are positive or negative (Qualtrics, 2019). The Wilcoxon signed-rank test was used in this questionnaire. However, there was insufficient data to give a true indication of whether there is a hypothesized independent variable (positive board interactions, and how it would contribute to the outcome (Qualtrics, 2019).

The Wilcoxon signed-rank test has three main assumptions. These are the dependent variable which must be measured at the ordinal or continuous level, the independent variable should consist of two categorical "related groups" or "matched pairs" (MacFarland& Yates, 2016).. Each individual had been measured on two occasions in the same dependent variable, and the distribution of the difference between the two groups is symmetrical (Qualtrics, 2019). The test did not find any matched pairs or related groups in the dataset. An attempt to create matched pairs and responses to see if there is any difference in scores between the corporate performance and stock performance and a single score calculation of attitudes, was conducted but none could be found. In summary, with the Wilcoxon signed-rank test, the test and analysis thereof could not identify matched pairs in the attitudinal/perception data.

ANOVA tests help the analyst to determine whether to reject the null hypothesis or accept the alternative. ANOVA is an acronym for "analysis of variance". Pivot tests are used to test a relationship between 2 variables, and therefore in this study. This was not used as there are 2 predictors and one criterion.

There was a very limited item response to show a significant difference according to the participants in relation to the increase in trust between CEOs and board members (Qualtrics, 2019). ANOVAs were also performed across all variables to detect if there are any differentiating factors regarding corporate performance. There were four attitudinal/perception questions that differentiated by reported corporate performance. A one-way ANOVA means that there is only one independent variable, whereas the two-way ANOVA means that there are two independent variables that can have multiple levels (Qualtrics, 2019).

Evaluation of Findings

Research in agency theory, whereby the argument is that the interactions of the board and CEO differ in each organization, indicated that the primary object was to maximize shareholder returns. Positive interactions are those showing respect for others, even if disagreeing. Positive interactions include those that may express negative thoughts or feelings but are delivered in constructive ways without aggressive behavior. Shin (2014) defined positive interactions as a non-confrontational interaction. Interactions are difficult to find as there are so many combinations which may affect their respective accountability.

The conceptual theory for this study is that involving agency theory, which describes the relationship between two parties whereas one party, the agent, acts on behalf of another, the principal. Agency theory is one of the oldest theories on both management and economics that describes the issues between the stakeholders, and management of the corporation (Panda &

Leepsa, 2017). The research in the interactions between the CEO and board members has not been researched previously. In fact there is no research or even close associations of interactions.

The first hypothesis tested was whether positive interactions between board members (including the CEO) and decision-makers have an effect on stock performance. The second hypothesis testing is whether positive interactions between board members and decision-makers have an effect on organizational profit. Multiple regression tests were undertaken in both the logistic and linear procedures. However, the results did not vary significantly to be able to draw a positive or negative conclusion that is in being able to accept or reject the hypotheses.

The questionnaire was from the Schulz, Israel, and Lantz (2003) "Instrument for evaluating dimensions of group dynamics within community-based participatory research partnerships". This questionnaire was undertaken by Qualtrics to determine the attitudinal correlations between the CEO and board members. The main aim of the research was to determine whether the interactions of the CEO and board members affected corporate performance. Rodriguez-Fernandez (2016) found empirical evidence that there was a link between positive corporate social responsibility and improved financial performance. This study is based upon the overall conceptual theory based on Rodriguez-Fernandez, Schulz, Israel, and Lantz (2003), and Sundaramurthy, Pukthuanthong, and Kor's (2014) theories.

When using the Wilcoxon signed-rank test. It was found that there was no significant effect and the tests were undertaken to ensure that there was no chance of either type I Type II errors, in other words, data cleansing ensured that there were no false positives or forced negatives. The theory that positive interactions predicted the corporate performance were not determined at this stage. The logistic regression test was conducted on the dichotomous coded

outcome variable based on increase or no change in performance of both stock performance and organizational profit. Furthermore linear regression was conducted on a ranked measure of the dependent variables, to test the hypotheses and the conceptual theory.

The research questions were aimed at determining whether there is a statistical significant relationship between interactions between the CEOs and board members and corporate performance. The main questions related to attitudinal (perception) questions that were analyzed for scale reliability. Multiple tests such as factor analysis and ANOVA tests were conducted across all attitudinal questions using that dichotomous independent variables for-profit stock performance. The results did not affirm the theory because there was a lack of variation in the responses. Further testing by adding additional sensitivity was conducted to test the hypotheses.

No coefficients or modelling were found to be significant. However by using multiple regression analysis on stock performance the indications were that there are no factors that were significant because of the lack of variation in the responses. This would indicate that further research is required. This research did not reject the positive hypothesis nor the null hypothesis but did indicate that much more research was needed to get a better understanding.

The important points from the research were that more than half the participants were female. The range of age of participants was from 26 to 58 years and average age of participants was 37.08. with the maximum number of participants were of 32 years of age. The data collected were from the information technology sector in particular and subsequently their opinions were dominant. Most participants agreed that the profits in the last year had increased and that the most number of respondents believe that the company's annual turnover falls in the range 2-10 million. Most of the respondents believe that the prices of their stocks have increased in the last year.

Summary

This study was to investigate the relationships between the interactions between the CEO and board members, corporate performance, and stock performance. The data in this study did not meet the requirements for parametric tests but rather non-parametric tests. The dependent variables were corporate performance and stock performance increases. However, after testing it is discovered that there is insufficient variations in the results to evaluate differences between the options for a two-tailed hypothesis test. Attitudinal (perception) questions were analyzed for scale reliability and factor analysis was conducted over various factors that were created across five dimensions. The principal component analysis was oblique rotation and factor scores were created by undertaking the Anderson-Rubin method analysis.

ANOVA tests were conducted across all attitudinal questions using that dichotomous dependent values for corporate performance and stock performance. Regression analysis was conducted on the dependent values using factor scores from the attitudinal data. No coefficients however proved to be significant and no models were found to be significant. Multiple regression tests were undertaken but once again, no coefficients or models were found to be significant. The Wilcoxon signed-rank test was performed to see if there is any difference between the approximated matched pair that is the reported profit increase and the stock price increase.

The results of the evaluation and analysis were significantly affected by the lack of variation in responses to the dependent variables. Qualtrics noted that further research should be conducted to increase the sample size and to ensure that sampling includes responses from organizations and participants who have had a decrease in stock performance over the preceding

twelve months. However, the lack of variation response to the data meant that a decision to accept or reject the hypothesis cannot be made at this stage (Qualtrics, 2019).

Chapter 5: Implications, Recommendations, and Conclusions

Corporate failures throughout the world have often been traced to the lack of corporate governance (Gordon, 2015). In recent times the issues involving corporate governance have surfaced as corporations throughout the world seek answers. Interactions between the CEO and board members are the key links within corporate governance. Corporate performance, corporate social responsibility, and ethical operations comprise the major challenges in the corporate world. This study's research was in determining whether there is a link between the interactions between the CEO and board members and corporate performance and stock prices.

The problem addressed in this study was to determine the existence, strength, and direction of the relationship between the interactions between the CEO and board members, corporate performance, and stock prices. There have been very many studies on the effect of corporate governance but none on whether interactions between the CEO and board members predict corporate performance and stock prices. This gap was investigated to define the actual relationship between the CEO and board members in relation to corporate governance policies and their overall impact on their relationship (Rodriguez-Fernandez, 2015).

Quantitative research was undertaken to obtain data from CEOs' and board members' experiences through a self-administered questionnaire hosted by Qualtrics (Australia), a corporation specializing in data collection and surveys. The exclusions from participating in the survey were those corporations that had a takeover in the last 12 months or those that have been placed into a trading halt for any reason. Many factors could influence the corporate performance but there may be a link between the interactions and corporate performance. The purpose of this study was in the examination of the interactions between the CEO and board

members in exploring whether there was a link between the interactions, corporate performance, and stock prices.

The research method undertook a quantitative correlation analysis to determine if there is any relationship between the variables. Samples were taken that were representatives of the general population (within certain parameters). These results were then used to generalize across the population and to create a concept of the statistical models. Quantitative correlational analysis in this study did not manipulate any data that were used to determine if there was a relationship between the variables. Quantitative research enhances the probabilities of the variability of ideas to the research problem (Leedy & Ormrod, 2013). Quantitative research was chosen as it is the most suitable for this research in that it involves the collection of numerical data that could be used to generalize results to large populations.

Exploring a correlation between the interactions, corporate performance, and consequently the stock price movements, was paramount. Every study design has limitations, and as such, these limitations may affect the result and conclusions (Simon & Goes, 2013). Limitations must be justified rather than simply stated (Simon, 2011). Limitations are present with respect to the generality of findings so that if the findings go beyond these limits, the predictions for correlations are not necessarily true (Simon & Goes, 2013). In this study, it could not be assumed that interactions between the CEO and board members would affect the movements of the stock prices.

The results were inconclusive as to whether there was a correlation because there was not much in the way of variation in the responses. Non-parametric analysis was applied as the samples were small and regression analysis was performed using factor scores which were generated by the attitudinal data. However, no coefficients were found to be significant even

using multiple regression tests. The correlation matrix for the regression of the profit-making showed no significant factors either although skewness and kurtosis were significant.

Implications

Panda and Leepsa (2017) argued that agency theory is one of the oldest theories on both management and economics that describes the issues between the stakeholders and management of a corporation. The implication of this study is indirectly linked to Panda and Leepsa's research although those scholars did not consider the interactions between the CEO and board members. Shin (2014) defined positive interactions as a non-confrontational interaction. However, interactions are difficult to define, as there are so many combinations.

The primary research was to determine whether there was a relationship that existed between the interactions so that these findings could be transferred to other fields between the CEO and board members and corporate performance (Vogel, Meyer, & Harendza (2018;). Consequently, to determine any relationship between the interactions of CEOs and board members and corporate performance and a corporation's stock prices, the primary research was focused on two research questions:

RQ 1. What is the relationship, if any, between the interactions of the CEO and board members and corporate performance?

RQ 2. What is the relationship, if any, between the interactions of the CEO and board members and the corporation's stock prices?

The primary theoretical framework encompassed the work by Shen (2003) who argued that the relationship between CEOs and board members is of central importance. Chen (2014) argued that effective interactions between the CEOs and board members enable CEOs to make better decisions in the interest of the organization.

The implications of the first hypotheses as to whether positive interactions between the CEO and board members affected corporate performance was reinforced by Rodriguez-Fernandez (2016) who found empirical evidence that there was a link between positive corporate social responsibility and improved financial performance. These scholars provided a base for this study and the implications from the study are subsequently reinforced by the scholars.

This study inferred or suggested that there is maybe an indirect correlation/link between positive interactions between the CEO and board members and corporate performance. The results from the study did not conclusively determine that there was a direct link. This is due to few samples and the lack of variation in the responses from the participants. This indicated that further research is required to determine whether there is a correlation or otherwise.

The first series of questions was designed to determine the participants' behavior and relevance patterns. The relevance being in that the research was aimed at revealing the relationships amongst the CEO and board members and the corporate performance. Implications for the corporate world would be whether there was a nexus between the level of dependence between the CEO and board members in decision-making and the corporate performance. It also assessed whether there is a degree of relationship that the CEO and board members had and corporate performance.

Further implications from this first section of the questionnaire were whether the relevance was again to find the degree of communication between the CEO and board members and whether there is any significant symbiotic relationship. Implications for the corporate world would be in that the CEOs and boards of directors should modify their behavior to improve their respective corporate performance. However, the results from the research were significantly affected by the lack of variation in the responses by the participants.

This study reviewed the theoretical framework to determine the relationship between the CEOs and board members that required a high degree of trust, a strong sense of balance, and clear and meaningful communication (An & Zhang, 2013). The results of this study in trying to understand the nexus between board decision making and stock performance, were not conclusive. However, there needs to be further research so that the implications and generalizability may be transferred to the corporate world with regards to the decision-making and corporate behavior.

The research question RQ 1examined the corporate behavior of the CEO and board members in their decision-making and cooperation and whether or not this affected the operational and financial performance. If there was a proven relationship, then these implications could be transferred to the respective CEOs and corporate board members to improve their corporate performance. The overarching question was whether the impact of mutual decisions made by the CEO and board members, predicted the corporate performance. The impact of the suggested ideas is important for the growth and development of a corporation and the survey was to determine whether there was a correlation. However, when the using the Wilcoxon signed-rank test, it was found that there were no significant effects and at this stage, no conclusions could be drawn. Hence, further research is warranted to establish whether the interactions between the CEO and board members affects the financial performance.

The responses regarding the effectiveness of the CEO and board members in achieving their corporate goals, did not provide any significant correlations. Therefore, the findings did not affirm the theory because of the lack of responses and future research is needed to test the hypotheses using added sensitivity. The research question RQ 2 sought to determine whether there is any relationship between the price of the corporation's stock through their financial

performance improvements. However, due to the small sample and lack of variation is in the responses, the various tests (factor analysis and ANOVA) did not conclusively find that there was a correlation. Future research may affirm the hypotheses and provide new knowledge that could be applied in the corporate world which should have any impact upon interactions between the CEOs and board members.

Schoenberg, Cuskelly, and Auld (2016) devised a theory (intragroup dynamics) stating that the intragroup dynamics of CEOs and board members are significant factors that influence corporate performance. However, the results of this study indicated that there was no real positive correlation and subsequently, these findings could not be transferred or generalized to the corporate world. Schoenberg et al. (2016) found that there were positive relationships that affect corporate performance and that the relationship was positive and corporate performance increased. The results of this study did not find a strong positive correlation between the interactions and corporate performance. This indicates that further research is warranted to determine if a positive relationship affects corporate performance. This relationship could be considered as a part of the intragroup dynamics based on Schoenberg et al.'s (2016) theory of intragroup dynamics.

The implications of this study did not support Schoenberg et al.'s (2016) theory as demonstrated in the regression test (Figure 1). However, the implications were that the relationship between the CEO and board members, did affect the corporate performance but the correlation was very weak. This study's findings did not support Schoenberg et al.'s theory or refute it. This is because there is insufficient sampling and the responses did not vary to any great extent.

Banta and Garrow (2017) supported the theory of intragroup dynamics as argued by Schoenberg et al.'s theory and research (2016). However, this study's findings did not support or refute Banta and Garrow's theory. Furthermore, Banta and Garrow (2017) argued that CEOs who focus on boardroom relationships and informal interactions, appear to achieve better corporate performance. The results from this study's findings were that no strong correlation could be found and thus further research is required to determine any correlations between the interactions and corporate performance.

This study examined the relationship between the CEO and board members and their interactions. This study was similar to the one that Eisenhardt, Duru, Iyengar, and Zampelli, undertook. Garg and Eisenhardt (2017) found that continuous interaction between CEO and board members was helpful for developing and implementing innovative strategies and policies for entrepreneurial corporations. This study, however, did not find that there was a correlation between the interactions and corporate performance. Garg and Eisenhardt (2017) highlighted the importance of positive and clear communication between CEO and board members, but did not over-reach by saying that it improved corporate performance. Rao and Tilt (2016) argued that the interactions between the CEO and board members enhanced the corporation by setting organizational goals and objectives. This study however, did not reach those conclusions most likely due to the small sample and lack of variations in the responses.

This study's analysis was aligned with Hartnell, Kinicki, Lambert, Fugate, and Doyle Corner's theory that the relationship between CEOs and board members is considered to be the most crucial relationship in a corporation. Furthermore, this study's findings did not find a relationship that positively or negatively affected the relationship between the CEO' and board

members' productivity. This may be due to the small sample in the lack of variation is. However, future research is needed in this area to confirm or deny the hypotheses.

Lückerath-Rovers (2013) argued that positive relations between CEOs and board members affected their respective attitudes and that it may affect a corporation's financial performance. However, the results from this study are inconclusive but we can safely say that none of the above factors can impact profits. Pham (2016) argued that corporate governance affected corporate performance but Pham's findings included various factors such as board size, CEO duality, and whether women were on the board and the conclusion was that it did affect corporate performance. However, Pham (2016) argued that these factors did not negatively affect corporate performance but concluded that empirical evidence is consistent with the arguments that small board sizes bring greater focus to corporate performance. However, the results in this study, indicate that no conclusions could be drawn from the interactions and corporate performance.

In the regression test (Figure 1), the significance levels of all the factors were inconsiderable showing that no factors in the consideration were significant enough to impact the analysis. Thus, we can arguably conclude that the above factors are not significant to impact stock performance. The data illustrate that the dependent variables must have some common data also called a matched pairs to make it measurable. A symmetry must be established between the two data sets in order to perform the Wilcoxon signed-rank test. No matched pairs could be found which could be used for the test. Therefore, the hypotheses is not supported but at the same time, it is not refuted. This indicates that further research is warranted.

Limitations were present because of the small number of participants. Furthermore, limitations also were present because of the lack of variation in the participants' responses. The data from the questionnaire, were collected at the one time and this may be a limiting factor. Hence, the data in future research should be collection over different time periods.

Recommendations for Practice

Future research may have broad implications for corporations to modify their corporate behavior. If positive interactions between the CEO and board members predict the corporate performance in a positive way, then corporations will be very interested in determining how to improve their interactions. Research in the interactions between the CEO and board members, a subset of corporate governance, provides an important influence on the policy-making and direction of corporations (Filatotchev, Jackson, Gospel, & Allcock, 2007).

Additional research will help provide a path for interaction effectiveness, particularly as corporate governance research is having a large impact in the management of corporations throughout the world (Keasey, Thompson, & Wright, 2005). This research is vital because of the corporate failures throughout the world, whereby the core problems were corporate boards or CEOs or both parties in not working together in an ethical and correct approach. The principle of corporate governance is to enable organizations to achieve their organizational goals and to improve corporate performance. It comprises largely a set of rules defining the relationships between stakeholders and management (Rushforth, 2019).

Many of the corporate failures resulted from "runaway" CEOs who are not constrained by the board nor did the board scrutinize the CEOs' work. Consequently, many major corporate collapses resulted directly from the lack of interaction between the CEO and board members. A classic case was the Australian case of HIH Insurance group, whereby the CEO and CFO

undertook fraudulent activities and the board members did not scrutinize their actions (Townsend, 2008).

The board members have a job to do in scrutinizing the corporate financial liability and the behavior of the CEO. Therefore, the interactions between the CEO and board members are paramount and these interactions are vital for the financial health of the corporation. There are many cases of fraudulent behavior by the CEO and/or board members and this research has direct implications in that the interactions affect corporate performance.

This study was to provide new knowledge in the corporate field. The guidelines for this research were those of the interactions between the CEO and board members and their effect on corporate performance. This study's model was that the set of propositions (statements) expressing relationships among the concepts (constructs), sort to determine whether there was a correlation between positive interactions and corporate performance. The theoretical implications were to highlight the correlations if present to further contribute to the corporate behavior of the CEOs and board members and their collective effect on the corporate performance (Filatotchev & Boyd, 2009).

Recommendations for Future Research

In addition, future research should consider increasing the sample size. This would be to ensure that the sampling includes responses from corporations that have had a decrease in stock performance over the preceding 12 months. The lack of variation in the participants' responses meant that the decision to retain or reject the hypothesis could not be made at this stage. Therefore, future data collection should be undertaken at different time intervals to increase the reliability and to provide a comparison of the different perceptions of the board interactions and behavior. This data collection would be beneficial for testing using the Wilcoxon signed-rank

test. This research should provide a more in-depth detail for understanding the relationship between the variables. Alternatively, future research could comprise a series of online scenarios designed to determine the actual impact of the CEO and board interactions on decision making.

Future research in this study of interactions and corporate performance, should consider researching the understanding of the decision-making that moderates behavior. Such research could be in compliance issues to increase the predictability of the model and to identify relationships between independent variables and the dependent variable. Future research must be built upon this study's implications and to undertake further research in by the experimental approaches, as previously as discussed with control groups. Furthermore, future research would be in collecting data at different time intervals to increase reliability therefore, enabling a comparison of different perceptions of board interactions and behavior.

Limitations were present because of the small number of participants. Furthermore, limitations also were present because of the lack of variation in the participants' responses. The data were collected at the one time and this may be a limiting factor. Hence, the data in future research should be collection over different time periods. Future research could include experimental approaches whereby an online experiment could be conducted using a control group and participants with both positive and negative stock performance

Conclusion

The problem to be addressed in this research study was to determine the existence, strength, and direction of relationship between the interactions between the CEO and board members, corporate performance, and stock prices. There have been numerous studies in corporate governance but none on whether the interactions between the CEO and board members

predict the corporate performance and stock prices. This study was to fill a gap in the knowledge.

The research data were collected using a self-administered questionnaire hosted on Qualtrics (a firm specializing in data collection and surveys) which obtained the relevant data from CEOs and board members of corporations listed on the Australian Securities Exchange (ASX). The importance of the study was to be able to confirm (or otherwise), the expectations of the CEOs' and board members' performance, through their interactions. Bezemer, Nicholson, & Pugliese (2014) argued that the picture is vast on corporate governance and complex relationships, but none regarding the interactions between the CEO and board members. Bessemer et al. (2014) noted that the overarching effect of interactions was important for board members functioning through positive interactions and fostering meaningful cooperation

Bezemer et al. (2014) furthermore argued that the board of directors' and CEOs' behavior and interactions are not well-known and in fact these researchers commented that very little progress has been made. Hence, the importance of this research study in seeking correlations between the CEOs' and board members' interactions, is significant to see whether better corporate performance can be achieved by positive interactions. The research was important in that it explored whether the positive and negative nature of associations are significant in affecting the valuation of a corporate stock. Furthermore, the problem to be addressed is whether the interactions between the CEO and board members affected their valuation of corporate stock.

The questionnaire was designed to cover both active and passive quantitative variables. The variables (profit and stock performance increase) had insufficient variations in the results.

Further research is needed to determine whether there is a correlation or not, between the interactions between the CEO and board members and corporate performance. The lack of variation response data means that a decision to retain or reject the hypotheses cannot be made at this stage (Qualtrics, 2019). The evaluation and analysis were significantly affected by the lack of variation responses to the dependent variables.

Rodriguez-Fernandez (2016) found empirical evidence that there was a link between positive corporate social responsibility and improved corporate performance. This link was supported by a number of other scholars. The results of this research did not indicate one way or the other whether there is a correlation between positive interactions and corporate performance. However, this does not mean that there is no correlation between these factors. The research would indicate that there is a need for future and further research including using a control group to determine whether there is any correlation between the interactions between the CEO and board members.

Clear indicators of the interactions between the CEO and board members that affected the corporate performance were not available in this study (Qualtrics, 2019). However, the exploration of possible mediators may increase the predictability of the model and identify correlations/relationships between independent variables in the dependent variable (Qualtrics, 2019). Positive interactions are non-confrontational interactions as defined by Shin (2014) but are difficult to define, as there are so many combinations that affect their respective accountability.

Metrical framework for the research encompassed the work by Shen (2003), who argued that the relationship between CEOs and board members is of central importance. Effective

interactions between the CEOs and board members enable the CEOs to make better decisions (Chen, 2014). Various scholars such as, Garg and Eisenhardt (2017) and Duru et al. (2016), however, argued that continuous interaction and effective communication between the CEO and board members are helpful in developing and implementing innovative strategies.

Hartnell et al. (2016) claimed that a corporation's productivity is impacted by the relationship between the CEO and board members. Schoenberg, Cuskelly, and Auld (2016) support the study's theory in that there is a relationship/correlation between positive interactions between the CEO and board members and corporate performance. Lückerath-Rovers (2013) argued that positive relations between the CEO and board members can lead to a corporation's superior financial performance. Thus, further adding weight to this study's theory. Likewise, Zhu and Chen's (2015) theory adds more support to the theory that frequent communication has a direct effect on corporate performance. Michelberger (2016) added further support and stated that the positive effect on corporate governance can be traced to the relationship between the CEOs and board members.

Although this study did not confirm or refute that interactions between the CEOs and board members affected corporate performance, but numerous scholars have indicated that there is a correlation. Lilienfeld-Toad and Ruenzi (2014) argued that interactions between CEO and board members are based on consideration and negotiation and this leads to better and more conducive relations in achieving organizational goals. Scholars, An and Zhang (2013) reasoned that positive interactions between the CEO and board members would result in better corporate performance and higher stock prices.

References

Abditama, A., & Damayanti, S.M. (2015). The influence of company performance toward stock price of PT.Xl AXIATA TBK from 2008–2014. *Journal of Business and Management, 4*, 510–521. Retrieved from journal.sbm.itb.ac.id

Akbar, S., Poletti-Hughes, J., El-Faitouri, R., Zulfiqar, S., & Shah, al. S.Z.A. (2016). More on the relationship between corporate governance and corporation performance in the UK: Evidence from the application of a generalized method of moments estimation. *Research in International Business and Finance, 38*(c), 417-429. http://dx.doi.org/10.1016/j.ribaf.2016.03.009

Akbulut, Y., Uysal, O., Odabasi, H., & Kuzu, A. (2008). Influence of gender, program of study and PC experience on unethical computer using behaviors of Turkish undergraduate students. *Computers & Education, 51*, 485–492. https://doi.org/10.1016/j.compedu.2007.06.004

Al Omoush**,** B.H., & Al-Shubiri, F.N. (2013). The impact of multiple approaches financial management indicators on stock prices: An empirical study in Jordan. *Journal of Global Business and Economics, 6*(1), 1–11. Retrieved from https://eds-a-ebscohost-com.proxy1.ncu.edu

Alleyne, B. J., & Elson, R.J. (2013). The impact of federal regulations on identifying, preventing, and eliminating corporate fraud. *Journal of Legal, Ethical & Regulatory Issues, 16*(1), 91–106. Retrieved from http://www.jespk.net/publications/212.pdf

Alves, H., Canadas, N., & Rodrigues, A.M. (2015). Determinants of share price and share liquidity: An analysis using a SEM model. *Procedia Economics and Finance, 25*, 318–331. doi:10.1016/S2212-5671(15)00742-X

Ammari, A., Amdouni S., Zemzem, A., & Ellouze, A. (2016). The Effect of monitoring committees on the relationship between board structures and firm performance. *Journal of Risk and Financial Management, 14*, 1–13. Retrieved from http://www.mdpi.com/journal/jrfm

An, H., & Zhang, T. (2013). Stock price synchronicity, crash risk, and institutional investors. *Journal of Corporate Finance*, *21*, 1–15. doi:10.1016/j.jcorpfin.2013.01.001

Anhar, M. (2015). Indicators of company performance, investors' expectation, and investment risk in predicting stock return at Indonesia Stock Exchange. *Journal of Resources Development and Management, 5*, 41–51. Retrieved from http://www.iiste.org

Anwaar, M. (2016). Impact of firms' performance and stock returns (evidence from listed companies of the FTSE-100 Index London, UK). *Global Journal of Management and Business Research: Accounting and Auditing, 16*, 30–33. Retrieved from https://www.econjournals.com

Arkan, T. (2016). The importance of financial ratios in predicting stock price trends: Case study in emerging markets. *Finanse, Rynki Finansowe, Ubezpieczenia nr*, 13–26. doi:10.18276/frfu.2016.79-01

Arya, A., Middendorf, B., & Ramanan, R.N.V. (2017). Synergy between accounting disclosures and forward-looking information in stock prices. *American Accounting Association, 92*(2), 1–17. doi:10.2308/accr-51527

Arya, A., & Ramanan, R. (2017). Synergy between accounting disclosures and forward-looking information in stock process. *The Accounting Review, 92*(2), 1-17. doi:10.2308/accr-51527

Australian Stock Exchange. (2013). Corporate governance principles and recommendations. Retrieved from http://www.asx.com.au/documents/public-consultations/draft-cgc-3rd-edition.pdf

Avdalović, S.M., & Milenković, I. (2017). Impact of company performances on the stock price: An empirical analysis of select companies in Serbia. *Economics of Agriculture, 2*, 561–570. doi:10.5937/ekopolj1702561m

Avdul, D.N. (2018). Servant leadership and an innovative work culture: A correlational research study. Dissertation Abstracts International Section A, 78. https://doi.org/10.1016/j.leaqua.2015.08.004

Aveh, F.K., & Awunyo-Vitor, D. (2017). Firm-specific determinants of stock prices in emerging capital market: Evidence from Ghana Stock Exchange. *Cogent Economics & Finance, 5*, 1–11. doi:10.1080/23322039.2017.1339385

Bainbridge, S.M. (2018). The board of directors. In J.N. Gordon & W-G. Ringe (Ed.), *The Oxford Handbook of Corporate Law and Governance*, 50-74. doi:10.1093/oxfordhb/9780198743682.013.20

Balnaves, M., & Caputi, P. (2001). *Introduction to quantitative research methods: An investigative approach*. http://dx.doi.org/10.4135/9781849209380

Bandura, A., & Wood, R. (2010). Effect of perceived controllability and performance standards on self-regulation on complex decision making. *Journal of Personality and Social Psychology, 56*, 805-814. https://doi.org/10.1037//0022-3514.56.5.805

Banta, K., & Garrow, S.D. (2017). How CEOs can work with an active board. Harvard Business Review. Retrieved from https://hbr.org

Beck, J. Improving board-management relations. *Effective Governance*, 1–3. http://www.effectivegovernance.com.au

Becker, T. E., Atinc, G., Breaugh, J.A., Carlson, K.D., & Spector, P. E. (2016). Statistical Controlling correlational studies: 10 essential recommendations for organizational researchers. *Journal of Organizational Behavior, 37*, 157–167. doi:10.1002/job.2053

Bendickson, J. Muldoon, J., Liguori, E., & Davis, P. (2016). Agency theory: The times, they are-changin'. *Management Decision, 54*(1), 174-193, doi:10.1108/MD-02-2015-0058

Berger, V.W. (2014). A priori v post hoc testing. Encyclopedia of Statistics in Behavioral Science. doi:10.1002/9781118445112.stat06359

Bezemer, P-J., Nicholson, G., & Pugliese, A. (2014). Inside the boardroom: Exploring board member interactions. *Qualitative Research in Accounting and Management, 11*(3), 238-259. https://doi.org/10.1108/qram-02-2013-0005

Biggio, G., & Cortese, C.G. (2013). Well-being in the workplace through interaction between individual characteristics and organizational context. International Journal of Qualitative Studies on Health and Well-Being, 8(1), 1-13. https://doi.org/10.3402/qhw.v8i0.19823

Bluestein, J. (2014). *Obedient vs. cooperative behavior. Jane Bluestien's Resources for Teachers, Parents, Counselors, and Youth Workers*. Retrieved from https://janebluestein.com/2014/obedient-vs-cooperative-behavior/

Bolarinwa, O.A. (2016). Principles and methods of validity and reliability testing of questionnaires used in social and health science researchers. *Niger Postgrad Medical Journal, 22*, 195–201. doi:10.4103/1117 – 1936 – 173959

Boyd, B., Haynes, K., & Zona, F. (2010). Dimensions of CEO-board relations. *Journal of Management Studies, 48*, 1892-1923. http://dx.doi.org/10.1111/j.1467-6486.2010.00943.x

Brauer, M., & Wiersema, M. (2018). Analyzing analyst research: a review of past coverage and recommendations for future research. *Journal of Management, 44*, 218–248. doi:10.1177/0149206317734900

Broniatowski, D.A., & Tucker, C. (2017). Assessing causal claims about complex engineered systems was quantitative data: internal, external, and construct validity. *Systems Engineering, 20* (6), 483–496. https://doi.org/10.1002/sys.21414

Brose, M. (2011). Hostile aggression. *Encyclopedia of Child Behavior and Development*, 757-758. doi:10.1007/978-0-387-79061-9_1392

Brown, A.W., Kaiser, K.A., & Allison. D.B. (2018). Issues with data analyses: errors, underlying themes, and potential solutions. *PNAS, 115*(11), 2563-2570. https://doi:10.1073/pnas.1708279115

Brydon-Miller, M. (2008). Ethics and action research: Deepening our commitment to principles of social justice and redefining systems of democratic practice. In P. Reason & H. Bradbury (Eds), *The Sage Handbook of Action Research* (pp. 199-210). https://doi.org/10.4135/9781848607934.n19

Buallay A., Hamdan, A., & Zureigat, Q. (2017). Corporate governance and firm performance: Evidence from Saudi Arabia. *Australasian Accounting, Business, and Finance Journal, 11*(1), 78–98. doi:10.14453/aabfj.v11i1.6

Caporaso, J. A. (1995). Research design, falsification, and the qualitative-quantitative divide. *The American Political Science Review, 89*, 457-460. doi:10.2307/2082441

Carton, R. (2004). Measuring organizational performance: An exploratory study. Retrieved from https://getd.libs.uga.edu/pdfs/carton_robert_b_200405_phd.pdf

Chan, C-Y., Chou, D-W., Lin, J-R., & Liu, F-Y. (2016). The role of corporate governance in forecasting bankruptcy: Pre- and post-SOX enactment. *North American Journal of Economics and Finance, 35*, 166–188. http://dx.doi.org/10.1016/j.najef.2015.10.008

Charas, S. (2013). Improving corporate performance by enhancing team dynamics at the board level. *International Journal of Disclosure and Governance, 12*, 107-131. doi:10.1057/jdg.2013.35

Chen, H. L. (2014). Board capital, CEO power and R&D investment in electronics firms. *Corporate Governance: An International Review, 22*, 422–436. doi:10.1111/corg.12076

Clifford. S. (2017). How Companies Actually Decide What to Pay CEOs. The Atlantic. Retrieved from https://www.theatlantic.com/business/archive/2017/06/how-companies-decide-ceo-pay/530127

Combs, J.G., Gulen, H., & Rau, P.R. (2007). The moderating effect of CEO power on the board composition-firm performance relationship. *Journal of Management Studies 44*, 1299–1323. doi:10.1111/j.1467-6486.2007.00708.x

Complexity Lab. (2016). Synergy types. Retrieved from http://complexitylabs.io/positive-negative-synergies/

Cook, A., & Glass, C. (2014). Do diversity reputation signals increase share value? *Human Resource Development Quarterly, 25*(4), 471–491. doi:10.1002/hrdq.21183

Connelly, L. M. (2011). Cronbach's alpha. Medsurg Nursing, 20, 45-47. Retrieved from http://onlinelibrary.wiley.com. doi/10.1002/job.1960/full

Connelly, L.M. (2013). Limitation section. Medsurg Nursing, 22, 325, 336. Retrieved from www.medsurgnursing.net/

Cooper, M. J., Gulen, H., & Rau, P. R. (2014). Performance for pay? The relation between CEO incentive compensation and future stock price performance. The Wall Street Journal. Retrieved from https://online.wsj.com/public/resources/documents/CEOperformance122509.pdf

Counselling Service in France. (2012). Tell the difference between assertive, passive, and aggressive behavior. Retrieved from http://counsellingservice.eu/tell-the-difference-between-assertive-passive-and-aggressive-behavior

Cremers, M. (2017). What corporate governance can learn from Catholic social teaching. *Journal of Business Ethics, 145*,711–724. doi:10.1007/s10551–016–3127–5

Curtis, E., Comoskkey, C., & Dempsey, O. (2016). Importance and use of correlational research. *Nurse Researcher, 23*(6), 20. doi:10.7748/nr.2016.e1382

Dalton, D., & Dalton, C.R. (2005). Boards of directors: Utilizing empirical evidence and developing practical prescriptions. *British Journal of Management, 16*, 91–97. doi:10.1111/j.1467–8551.2005.0045.x

Dalvi, M.R., & Baghi, E. (2014). Evaluate the Relationship between company performance and stock market liquidity. *International Journal of Academic Research in Accounting, Finance, & Management Sciences, 4*(1), 136–144. doi:10.6007/ijarafms/v4-il/550

Darweesh, M.S. (2015). Correlations between corporate governance, financial performance, and market value (Doctoral dissertation). Retrieved from http://scholarworks.waldenu.edu/dissertations

Das, T. K., & Teng, B.S. (2001). Trust, control, and risk and strategic alliances: an integrated framework. *Organizational Studies, 22*(2), 251-283. https://doi.org/10.1177/0170840601222004

Davis, J., Schoorman, F. D., & Donaldson, L. (1997). Toward a stewardship theory of management. *Academy of Management Review, 22*(1), 20-47. doi:10.5465/amr.1997.9707180258

Del Birio, E.B., Yoshikawa, T., Connelly, C.A., Tan, W.L. (2013). The effects of CEO trustworthiness on directors' monitoring resource provision. *Journal of Business Ethics, 118*, 155–169. doi:10.1007/s10551–012–1575–0

Desender, K. A. (2009). The relationship between the ownership structure and the role of the board. Retrieved from https://business.illinois.edu/working_papers/papers/09-0105.pdf

DeVries M., Fenchel, M., Fogarty, R.E., Kim, B-D., Timmons, D., & White, A.N. (2017). Name it! Store it! A systems approach to manage ring data in this research call facilities. *Journal of Biomolecular Techniques, 28*, 137–141. doi: 10.7171/jbt.17 – 2804 – 003

Diedenhofen, B., Musch, J. (2016). Cocron: A web interface in R package for the statistical comparisons of Cronbach's alpha coefficients. *International Journal of Internet science, 11*(1), 51–60. Retrieved from http://www.ijis.net

Dierickx, C. (2003). Board-CEO interpersonal dynamics: The Achilles' heel of corporate governance. *NACD Directorship, 29*(1), 15-17. Retrieved from https://www.nacdonline.org/magazine/?replytocom=2850

Djokic, D., & Duh, M. (2016). Corporate governance quality in selected transition countries. Managing global transitions. *International Research Journal, 14*, 335–350. http://www.fm-kp.si

Donaldson, L., & Davis, J. (1991). Stewardship theory or agency theory: CEO, governance, and shareholder returns. *Australian Journal of Management, 16*(1), 49-65. Retrieved from https://pdfs.semanticscholar.org/b226/d681d20fb646b147ecb3f452fb5de2269cb7.pdf

Doucerain, M., Vargas, S., & Ryder, A.G. (2016). Mixed-methods research: Integrating qualitative and quantitative approaches to the psychological study of culture. In Evidence-based psychological practice with ethical minorities: culturally informed research and clinical strategies *American Psychological Association*, 147–167.doi: 10.1037/14940 – 008

Drucker, P. F. (1999). Management challenges for the 21st century. *International Journal of Contemporary Hospitality Management,12*, 388-388. https://doi.org/10.1108/ijchm.2000.12.6.388.1

Drucker, P. F. (1963). Managing for business effectiveness. *Harvard Business Review*. Retrieved from https://hbr.org/1963/05/managing-for-business-effectiveness

Dubberly, H., Pangaro, P., & Hague, U. (2009). On modelling, what is interaction?.Human-Computer *Interaction, 16*(1), 69. doi:10.1145/1456202.1456220

Duru, A., Iyengar, R. J., & Zampelli, E. M. (2016). The dynamic relationship between CEO duality and firm performance: The moderating role of board independence. *Journal of Business Research, 69*, 4269–4277. doi:10.1016/j.jbusres.2016.04.001

Edlerk, L.Poirier, K. Dourseon, M, Kelin, J., Mileson, B., Nordmann, H., Renwick, A., Slob., W.,Walton, K., & Wurtzen, G. (2002), Mathematical modelling and quantitative methods. *Food & Chemical Toxicology, 40*(2/3). doi:10.1016/S0278-6915(01)00116-8

Eggertsson, T. (2002). Toward a comparative institutional analysis: *Economic Systems, 26* (4), 414. doi.10.1016/S0939-3625(02)00068-7

Elsayed, K. (2007). Does CEO duality really affect corporate performance? *Corporate Governance: An International Review, 15,* 1203–1214. doi:10.1111/j.1467-8683.2007.00641.x

Emerson, R.W. (2018). Why Is My Bell So pointy and what can I do about it? A discussion of normality and statistical analysis. *Journal of Visual Impairment & Blindness, 112*(3), 331–332. Retrieved from http://www.jvib.org journal of visual impairment & blindness

Erhardt, N.L., Werbel, J.D., & Shrader, C.B. (2003). Board of director diversity and firm financial performance. *Corporate governance: An international review, 11*(2), 102–111. doi:10.1111/1467-8683.00011

Fanelli, D. (2009). How many scientists fabricate and falsify research? A systematic review and meta-analysis of survey data. PLoS ONE, 4, e5738. https://doi.org/10.1371/journal.pone.0005738

Feld, B.V. (2014). Startupboards: Getting the most out of your board of directors. https://doi-org.proxy1.nce.edu/10/1002/9781118516836

Filatotchev I., & Boyd, B.K. (2009). Taking Stock of corporate governance research while looking to the future for corporate governance. *An International Review, 17* (3), 257–265.doi: 10.1111/j.1467–8683.2009.00748.x

Fouka, G., & Mantozrou, M. (2011). What are the major ethical issues in conducting research? Is there a conflict between research ethics and the nature of nursing? *Health Science Journal, 5*(1), 3-14. Retrieved from http://www.hsj.gr

Gabrielsson, J. & Huse, M., & Minichilly, A. (2007). Understanding leadership role of the board chairperson through a team production approach. *International Journal of Leadership Studies, 3*(1), 21–39. https://www.regent.edu

Garcia□Zamor, J. C. (2013). Workplace spirituality and organizational performance. *Public Administration Review, 63*, 355-363. https://doi.org/10.1111/1540-6210.00295

Garg, S., & Eisenhardt, K. (2017). Unpacking the CEO-board relationship: How strategy-making happens in entrepreneurial firms. *Academy of Management Journal*, *60*, 1828–1858. http://hdl.handle.net/1783.1/84372

Ghasempour, A., Ghasempour, M., & Bahonar, S. (2013). The relationship between operational financial ratios and firm's abnormal stock returns. *Research Journal of Applied Sciences, Engineering, and Technology, 6*, 2839–2845. doi:10.19026/rjaset.6.3794

Glaeser, E., & Schienkman. J.A. (1999). Measuring social interactions. Retrieved from https://www.princeton.edu/~joses/wp/measuring_social_interactions.pdf

Goertzen, M. (2017). Applying quantitative methods to E-book collections. Library Technology Reports, 53(4), 12-18. Retrieved from https://journals.ala.org/index.php/ltr/issue/viewIssue/640/401

Goranova, M. L., Priem, R., Ndofor, A., & Trahms, C.A. (2017). Is there a "Dark Side" to monitoring? Board and shareholder monitoring effects on M&A performance extremeness. *Strategic Management Journal, 38*, 2285–2297. doi:10.1002/smj.2648

Gordon, C.E. (2015).Behavioural approaches top corporate governance. London: Routledge https://doi.org/10.4324/9781315755

Governance matters for effective nonprofits. (2017). Executive director conflict. Retrieved from http://www.boardcoach.com/downloads/Executive-Director-Conflict-Board-Leadership-Project-Governance-Matters.pdf

Grace, H.S., Hat, J.E., & Koski-Grafer,S. (2016). The interplay between corporate governance issues and litigation: What is corporate governance and how does it affect litigation? *Business Law Today*, Retrieved from https://qa.americanbar.org

Graham, J.R., Kim, H., & Leary, M. (2017). CEO power and board dynamics. *SSRN. Electronic Journal*. https://doi.org/10.2139/ssrn.2938120

Gunduz, S. (2018). Founder's syndrome at the backstage of agency theory: a threat to corporate governance in corporate social responsibility. *Business & Management Studies: An International Journal, 6*(1), 2148-2586. doi: 10.15295/v6i1.124

Guo, X., Zhang, H., & Tian , T. (2018). Development of stock correlation networks using mutual information on financial big data. *EEE International Conference on Big Data and Smart Computing (BigCom). http S://DOI.org/10.1371/journal.pone.0195941*

Hagan, T. L. (2014). Measurements in quantitative research: How to select and report on research instruments. Oncology Nursing Forum, 41, 431-433. doi:10.1188/14.ONF.431-433

Hagan, T. L. (2014). Measurements in Quantitative Research: How to Select and Report on Research Instruments. *Oncology Nursing Forum*, *41*(4), 431–433. https://doi-org.proxy1.ncu.edu/10.1188/14.ONF.431-433

Hartnell, C. A., Kinicki, A. J., Lambert, L. S., Fugate, M., & Doyle Corner, P. (2016). Do similarities or differences between CEO leadership and organizational culture have a more positive effect on firm performance? A test of competing predictions. *Journal of Applied Psychology, 101*, 846. doi:10.1037/apl0000083

He, J., & Huang, Z. (2011). Board informal hierarchy and firm financial performance: Exploring a tacit structure guiding boardroom interactions. *Academy of Management Journal, 54*(6), 1119–1139. http://dx.doi.org/10.5465.amj.2009.0824

Hearron, P. F., & Hilderbrand, V. (2010). What is positive behavior? Retrieved from https://www.education.com/reference/article/what-positive-behavior/

Heo, J., & Yang, Y. (2016). Stock price prediction based on financial statements using SVM. International Journal of Hybrid Technology, 9. http://dx.doi.org/10.1425/ilhit.2016.9.2.05

Hill L.A., & Davis, G. (2017). The board's new innovation imperative: Directors need to rethink their roles and their attitude to risk. *Harvard Business Review*, 103–109. Retrieved from https://hbr.org

Hopkins, L. R., & Hopkins, S. A. (2002). Effects of cultural re-composition on group interaction processes. *Academy of Management Review, 27*, 541 –553. https://doi.org/10.2307/4134402

Hou, W., Priem, R. L., & Goranova, M. (2017). Does one size fit all? Investigating pay–future performance relationships over the "seasons" of CEO tenure. *Journal of Management, 43*, 864–891. doi:10.1177/0149206314544744

Ingram, K. M., Betts, N. E., Mindes, E. J., Schmitt, M. M., & Smith, N. G. (2001). Unsupportive responses from others concerning a stressful life event: Development of the unsupportive social

interactions inventory. *Journal of Social and Clinical Psychology, 20*, 173–207. Retrieved from http://guilfordjournals.com/doi/abs/10.1521/jscp.20.2.173.22265

International Dictionary of Finance. (2003). *Australian Associated Stock Exchange* (4th ed.). Retrieved from http://web.gccaz.edu/~bri2097936/Economics%20211%20Fall%202011/The%20Economist%20-%20Guide%20to%20the%20Financial%20Markets.pdf

Isidro, H., & Sobral, M. (2015). The effects of women on corporate boards on firm value, financial performance, and ethical and social compliance. *Journal of Business Ethics, 132*(1), 1–19. doi:10.1007/s10551-014-2302-9

Issah, O., & Ngmenipuo, I.M. (2015). An empirical study of the relationship between profitability ratios and market share prices of publicly traded banking financial institutions in Ghana. *International Journal of Economics, Commerce, and Management, III*, 27–42. Retrieved from http://ijecm.co.uk

Jensen, M.C., & Meckling, W.H. (1994). The nature of man. Journal of Applied Corporate Finance, 7(2), 4–19. doi:10.1111/j.1745-6622.1994.tb00401.x

Jenter, D., & Kanaan, F. (2015). CEO turnover and relative performance evaluation. *The Journal of Finance, 70*, 2155–2184. doi:10.1111/jofi.12282

Kellen V. (2003). *Business performance measurement. At the crossroads of strategy, decision-making, learning, and information visualization*. Retrieved from https://pdfs.semanticscholar.org/b35a/fa779d1e0d708e81b6c45d5cbe14ff423410.pdf

Khanna, V., Kim, E., & Lu, Y. (2015). CEO connectedness and corporate fraud. *The Journal of Finance, 70*, 1203–1252. doi:10.1111/jofi.12243

Kimberkin, C.L. & Winterstein, A.C (2008). Validity and reliability of measurement instruments used in research. *American Journal of Health-System Pharmacy, 65*, 2276-2284. doi:10.2146/ajhp070364

Kolk, A., & Pinske, J. (2010). The integration of corporate governance in corporate social responsibility disclosures. *Corporate Social Responsibility and Environmental Management, 17*, 15-26. doi:10.1002/csr.196

Kotler, P. (2010). Marketing insights from A to Z: 80 Concepts every manager needs to know. *Journal of Consumer Marketing, 21*(4), 285-286. https://doi.org/10.1108/07363760410542200

Leedy, P. D., & Ormrod, J. E. (2013). *Practical research, planning and design* (10th ed.), Boston, MA: Pearson Education, Inc.

L'Huillier, B.M. (2014). What does "corporate governance" actually mean? *Corporate Governance: The International Journal of Effective Board Performance, 14*, 300–319. doi:10.1108/CG–10–2012–0073

Lilienfeld-Toal, U.V., & Ruenzi, S. (2014). CEO Board ownership, stock market performance, and managerial discretion. *The Journal of Finance*, *69*, 1013-1050 https://doi.org/10.1111/jofi.12139

Lins, K.V., Servaes, H., & Tamayo, A. (2017). Social capital. Trust, and firm performance. The value of corporate social responsibility during the financial crisis. *The Journal of Finance, 72*, 1785–1823. doi:10.1111/jofi.12505

Liu, Q., Li, C., Wanga, V., & Shepherd, B. E. (2018). Covariate-adjusted Spearman's rank correlation with probability-scale residuals.*Biometrics*,*74*(2), 595-605. doi:10.1111/biom.12812

Lückerath-Rovers, M. (2013). Women on boards and firm performance. *Journal of Management & Governance, 17*, 491–509. doi:10.1007/s10997-011-9186-1

Lueng, L. (2015). Validity, reliability, generalizability and qualitative research. *Journal of Family Medicine and Primary Care*, 324–327. doi:10.4103/2249–4863.161306

Macharia, P.I., & Gatuhi, S.K. (2013). Effect of financial performance indicators on market price of shares in commercial banks of Kenya. *International Journal o Management & Business Studies*, 3, 60. Retrieved from http://www.ijmbs.com

Machdar, M.O. M. (2017). Corporate financial performance, corporate environmental performance, corporate social performance, and stock return. *Jurnal Manajemen dan Kewirausahaan, 19*(2), 118-124. http://dx.doi.org/10.9744/jmk.19.2.118-124

Mast, M.S.,Carrard, B., Paul, J.A. (2017). Gender, Power, and Non-Verbal Communication. Oxford Medicine Online. doi:10.1093/acprof:oso/9780199238361.003.0006

McCrum-Gardner, E. (2010). Sample size and power calculations made simple. *International Journal of Therapy and Rehabilitation, 17*(1), 10-14. https://doi.org/10.12968/ijtr.2010.17.1.45988

McCusker, K., &Gunaydin, S. (2015). Research using qualitative, quantitative, or mixed methods and choice based on the research. *Perfusion, 30*(7), 537–542.doi:10.1177/0267659114559116

McKnight, D. H., Cummings, L. L., & Chervany, N. L. (1998). Initial trust formation in new organizational relationships. *Academy of Management Review, 23*, 473-490. https://doi.org/10.5465/amr.1998.926622

Michelberger, K. (2016). Corporate governance effects on firm performance: A literature review. *Regional Formation and Development Studies, 20*(3), 84–95. doi: http://dx.doi.org/10.15181/rfds.v20i3.1346

Mirza, S.A., & Javed, A. (2013). Determinants of financial performance of the firm: Case of Pakistanis stock market. *Journal of Economics in International Finance, 5*, 43–52. doi:10.5897/JEIF12.043

Mohamed, W.S., & Elewa, M.M. (2016). The impact of corporate governance and stock price and trade volume. *International Journal of Accounting and Financial Reporting, 6*, 27–42. doi:10.5296/ijafr.v6i2.9757

Muchemwa, E. M.R., N., & Callaghan, C.W. (2016). Board composition, board size, and financial performance of Johannesburg Stock Exchange Companies. *South African Journal of Economic and Management Sciences, 19*(4). https://doi.org/10.4102/sajems.v19i4.1342

Müller, V-O. (2014). The impact of board composition on the financial performance of FTSE 100 constituents. *Procedia - Social and Behavioral Sciences, 109*, 969–975. doi:10.1016/j.sbspro.2013.12.573

NCU. (2017). Cyber Security. Retrieved from https://www.ncu.edu/programs-degrees/business-technology-management/cybersecurity#gref

Neuman, W.L. (2014). Social research methods: Qualitative and quantitative approaches. Harlow, UK: Pearson.

Ngunjiri, N. (2016). Relationship between firms' financial performance and stock return for firms listed at Nairobi Securities Exchange (Doctoral dissertation). Retrieved from https://www.researchgate.net/

Nyataichi, V. (2016). Moderating influence of board diversity and directors' compensation on corporate governance structure and financial performance of the companies listed on the Nairobi Stock Exchange. *International Journal of Accounting Research, 5*(136), 2. doi:10.4172/2472-114x.1000136

Olsen, B.C., Sisodiya, S.R., & Swisher, J. (2016). A note on assessing the relation between CEO characteristics and stock performance: alpha above replacement. *Accounting and Finance, 56*, 787–802. doi:10.1111/acfi.12095

Pan, Y., Wang, T. Y., & Weisbach, M. S. (2015). Learning about CEO Board Members ability and stock return volatility. *The Review of Financial Studies, 28*, 1623–1666. doi:10.3386/w18882

Panda, B., & Leepsa, N.M. (2017). Agency theory: Review of theory and evidence on problems and perspectives *Indian Journal of Corporate Governance, 10*(1), 74–95. doi:10.1177/0974686217701467

Park, J., & Park, M. (2016). Qualitative vs quantitative research methods: Discovery or justification? Journal of Marketing Thought, 3(1), 1-7. doi:10.15577/amt.2016.03.01.1

Penn State Eberly College of Science. (2018). Probability theory and mathematical, statistics. Retrieved from https://onlinecourses.science.psu.edu/stat414/node/305

Pennings, H.J.M., Brekelmans, M., Sadler, P., Claessens, L.C.A., van der Want, A.C., & van Tartwijk,J. (2018). Interpersonal adaption in teacher-student interaction. *Learning and Instruction, 55*, 41-57.
https://doi.org/10.1016/j.learninstruc.2017.09.005

Pereira, V., & Filipe, J. (2014). The board's attributes and their influence in company's performance. A review over the recent literature. *International Journal of Latest Trends in Finance & economics sciences, 4*, 691–702. Retrieved from https://repositorio.iscte-iul.pt

Peterson, C. (2001). Minimaly sufficient research. Perspectives on Psychological Science, 4(1). https://doi.org/10.1111/j.1745-6924.2009.01089.x

Petrovic, A., Koprivica, V., & Bokan, B. (2017). Quantitative, qualitative, and mixed research on sport science: A methodological report. *South African Journal for Research in Sport, Physical Education, and Recreation, 39*(2), 181-197. Retrieved from https://www.ajol.info/index.php/sajrs/article/view/160686

Pham, T.P.K. (2016). Research on the relationship between corporate governance and firm performance: Empirical evidence from companies listed on the stock exchange in Vietnam. *International Journal of Management and Applied Research, 3*, 172–183. doi:10.18646/2056.34.16–014

Pirie, S. & Smith, M. (2008). Stock prices and accounting information: A review of the state of play. *Journal of Accounting - Business & Management, 15*, 22–36. Retrieved from https://www.emeraldinsight.com

Polit, D., & Beck, C. (2010). Generalization in quantitative and qualitative research: Myths and strategies. *International Journal of Nursing Studies, 47*, 1451-1458. https://doi.org/10.1016/j.ijnurstu.2010.06.004

Polley, R., & McGrath, J. (1984). Groups: Interaction and performance. Administrative Science Quarterly, 29(3), 1-165, 469. https://doi.org/10.2307/2393041

Poncet, A., Courvoiser, D.S., Combescure, C., & Perneger, T.V. (2016). Normality and sample size do not matter for the selection of an appropriate statistical test for two-group comparisons. *Mythology*, *12*(2), doi:10.1027/1614–2241/a 000110

Pouryouselfi, S., & Frooman, J. (2017). The problem of unilateralism in agency theory: towards a bilateral formulation. *Business Ethics Quarterly, 27*(2), 163–182. doi:10.1017/beq.2016 doc 77

Prinz, J. J. (2008). Gut reactions: A perceptual theory of emotion. *The British Journal for the Philosophy of Science, 59*, 559–567. https://doi.org/10.1093/bjps/axn020

Puspitaningtyas, Z. (2017). Is financial performance reflected in stock prices? *Advances in Economics, Business, and Management Research, 40*, 17–28. doi:10.2991/icame-17.2017.2

Qualtrics. (2013). Determining sample size: How to ensure you get the correct sample size. Retrieved from https://www.qualtrics.com

Rao, K., & Tilt, C. (2016). Board composition and corporate social responsibility: The role of diversity, gender, strategy and decision making. *Journal of Business Ethics, 138*, 327–347. doi:10.1007/s10551-015-2613-5

Roberts, J. (2016). Demographic characteristics of CEOs as predictors of firm performance in periods of financial instability. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (UMI 1867590589)

Rodriguez-Fernandez, M. (2015). Social responsibility and financial performance: The role of good corporate governance. *Business Research Quarterly, 19*, 137-151. http://dx.doi.org/10.1016/j.brq.2015.08.001

Rowley, T.J., Shipilov, A., & Grieve, H.R. (2017). Board reforms versus profits: The impact of ratings on the adoption of governance practices. *Strategic Management Journal, 38*, 815–833. doi:10.1002/smj.2545

Rubinstein, S. A. (2015). The impact of co-management on quality performance: The case of the Saturn Corporation. *ILR Review, 53*(2), 197-218. https://doi.org/10.1177/001979390005300202

Rushforth, J. (2019). The development purpose of corporate governance codes. *Governing Higher Education Today*, 191–201.doi.org/10.4324/9780429429972–13

Şafak, G. (2018). Founder's syndrome at the backstage of agency theory: a threat to corporate governance and corporate social responsibility. *Business & Management Studies: An International Journal, 6*(1). doi:10.15295/v6i1.124

Saha-Chaudhuri, P., & Weinberg, C.R. (2017). Addressing data privacy and match studies by a virtual pooling. *BMC Medical Research Methodology, 17*(1), 1–10. doi:10.1186/s12874–017–0419–0

Sakaluk, J., Williams, A., & Biemat, M. (2014). Analytical review as a solution to the misreporting of statistical results in psychological science. *Perspectives on Psychological Science, 9*. 652-660. https://doi/org/10.1177%2F1745691614549257

Salim, R., Arjomandi, A., & Suefert, J. (2016). Does corporate governance affect Australian banks' performance? *Journal of International Financial Markets, Institutions, & Money, 43*,113–125. Retrieved from https://ro.uow.edu.au/cgi/viewcontent.cgi?article=1913&context=buspapers

Saunders, M., Thornhill. A., & Lewis, P. (2007). *Research methods for business students* (4th ed.) Harlow, Essex: Pearson, Prentice-Hall Financial Times

Schmidt, B. (2015). Costs and benefits of friendly boards during mergers and acquisitions. Journal of Financial Economics, 117, 424–447. doi:10.1016/j.jfineco.2015.02.007

Schoenberg, G., Cuskelly, G., & Auld, C. (2016). The role of intragroup dynamics in non-profit governance models: A systematic quantitative literature review. *Managing Sport and Leisure, 21*(1), 1–22. doi:10.1080/23750472.2016.1169212

Schultz, A.J., Israel, B.A., & Lantz, P. (2003). Instrument for evaluating dimensions of group dynamics within community-based participatory research partnerships. *Evaluation and Program Planning, 26*, 249–262. https://doi.org/10.1016/S0149-7189(03)00029-6

Schwaiger, M., & Pfisher, B. (2016). Financial performance. *The Sage encyclopedia of Corporate* Reputation. http://dx.doi.org/10.4135/9781483376493.n126

Scudder, B. & Scudder, K. (2015). CEOs and boards: Times have changed. *World-Class Communication*. https://doi.org/10.1002/9781119203346.ch10

Shamsudin, N., Mahmood, W.M.W, & Ismail, F. (2013). The performance of stock and the indicators. International *Journal of Trade Economics and Finance, 4*, 409–413. doi:10.7763/IJTEF.2013.V4.327

Shen, W. (2003). The dynamics of the CEO–board relationship: An evolutionary perspective. *Academy of Management Review, 28*, 466–476. doi: 10.2307/30040733

Shin, J. C. (2014). Impact of performance-based accountability on institutional performance in the US. *Higher Education, 60*(1), 47-68. doi:10.1007/s10734-009-9285-y

Simon, M. K. (2011). Dissertation and scholarly research: Recipes for success. Retrieved from http://dissertationrecipes.com

Simon, M.K., & Goes, J. (2013). Assumptions, and limitations, the limitations, and scope of the study. Dissertation and scholarly research: Recipes for success. Retrieved from Retrieved from www.Dissertationrecipes.com

Smeets, K.C., et al.. (2017). Are proactive and reactive aggression meaningful distinctions in adolescents? A variable-and person-based approach. *Journal of Abnormal Child Psychology, 45*, 1-14. doi:10.1007/s10802-016-0149-5

Smith, C. (2017). Assessing the performance of the chief executive. *Community College League of California*. Retrieved from http://www.ccleague.org/files/public/AssessingCEO.pdf

Smith, T. (2013). Qualitative and quantitative research. Research starters: *Education* (Online edition). Retrieved from http://eds.a.ebscohost.com

Statistics Solution. (2018). Testing of assumptions. Advancement through Clarity. Retrieved from www.statisticssolutions.com/testing-of-assumtpions

Stefan, I-O. (2016). The implications of financial performance and stock exchange indicators of listed companies: Empirical evidence for the Romanian capital market. *Audit Financier, XIV*, 896. doi:10.20869/AUDITF/2016/140/875

Sudiyatno, B, Puspitasari, E., & Kartika, A. (2012). The company's policy, firm performance, and firm value: An empirical research on Indonesian stock exchange. *American international Journal of Contemporary Research, 2*, 30–40. Retrieved from http://www.aijcrnet.com

Sundaramurthy, C., Pukthuanthong, K., & Kor, Y. (2014). Positive and negative synergies between the CEO's and the corporate board's human and social capital: A study of biotechnology corporations. *Strategic Management Journal, 35*, 845-868. Retrieved from https//onlinelibrary.wiley.com/journal/10.1002/(ISSN)1097-0266.

Sutopo, B., Kot, S., Adiati, A.K., & Ardila, L. (2018). Sustainability reporting and value relevance of financial statements. Sustainability, 10, 678. doi:10.3390/au10030678

Tang, J., Crossan, M., & Rowe, W. G. (2011). Dominant CEO, deviant strategy, and extreme performance: The moderating role of a powerful board. *Journal of Management Studies, 48*, 1479–1503. https://doi.org/10.1111/j.1467-6486.2010.00985.x

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education, 2*, 53-55. doi:10.5116/ijme.4dfb.8dfd

Teddlie, C., & Tashakkori, A. (2003). Handbook of mixed methods in social & behavioral research. Thousand Oaks, CA: Sage Publications,

Ting, H-I, Chueh, H., & Chang, P-R. (2017). CEO power and its effects on performance, and Governance: Evidence from Chinese banks. *Emerging Markets Review*, 33, 42–61. https://doi.org/10.1016/j.ememar.2017.09.005

Tomczak, M., Tomczak, E., Kleka, P., & Lew, R. (2014). Using G*Power analysis to estimate appropriate sample size. *Trends in Sports Science, 4*(21), 195–206. Retrieved from www.awf.poznan.pl

Townsend, J. (2008). International cooperation in cross-border insolvency: HIH Insurance. *Modern Law Review, 71*(5), 811–822. doi: 10.1111/J.1468–2230.2008 00716_1.x

Trajkovski, V. (2016). How to select appropriate statistical test in scientific articles. *Journal of Special Education and Rehabilitation, 17*, 3-4. Retrieved from https://www.questia.com/library/journal/1P3-4215475161/how-to-select-appropriate-statistical-test-in-scientific

Tran, B. (2016). The nature of research methodologies: terms and usage within quantitative, qualitative, and mixed methods. Mixed Methods Research for Scientific Study, 1 –27. doi:10.4018/978–1–5225–0007–0.ch 001

Trochim, W.M.K., & Donnelly, J.P. (2008). The research methods knowledge base (3rd ed.). Mason, OH: Cengage Learning.

Tsang, E.W.K.(2014). Generalizing from research findings: The merits of case studies: International *Journal of Management Reviews, 16*, 369–383. doi:10.1111/ijmr.12024

Tshipa, J., Brummer, L.Wolmarans, H., du Toit, E. (2018). Corporate governance and financial performance in the midst of exogenous shocks: A study of companies listed on the Johannesburg Stock Exchange. *South African Journal of Economic and Management Sciences, 21*(1), 20 – 38. https://doi.org/10.4102/sajems.v21i1.1964

Ueng, C.J. (2016). The analysis of corporate governance policy and corporate financial performance. *Academy of Economics and Finance, 40*, 514–523. doi:10.1007/s12179-1015–9316–8

Unwin, A. (2013). Discovering statistics using R by Andy Field, Jeremy Miles Zoe Field. *International Statistical Review, 8*(1), 169-170. doi:10.1111/insr.12011_21

Van Ees, H., Gabrielsson, J., & Huse, M. (2009). Toward a behavioral theory of boards and corporate governance. *Corporate Governance: An International Review, 17*, 307–319. doi:10.1111/j.1467-8683.200.00741.x

Van Essen, M., Otten, J., & Carberry, E. J. (2015). Assessing managerial power theory: A meta-analytic approach to understanding the determinants of CEO compensation. *Journal of Management, 41*, 164–202. doi:10.1177/0149206311429378

Vo. T.T. (2010). To be or not to be both CEO and board chair. *Brooklyn Law Review, 76*(1), 65-129. Retrieved from http://open.mitchellhamline.edu/cgi/viewcontent.cgi?article=1184&context=facsch

Vogel, D., Meyer, M., Harendza, S. (2018). Verbal and non-verbal communication skills including empathy during history taking of undergraduate medical students. *BMC Medical Education, 18*, 157. 8:157 https://doi.org/10.1186/s12909-018-1260-9

Walter, M., & Andersen, C. (2016). Indigenous statistics: A quantitative research method. Retrieved from https://doi.org/10.4324/9781315426570

Wargo, W.G. (2015). Edifying assumptions and limitations for your dissertation. *Academic Information Center*. Retrieved from http://www.academicinfocenter.com

Waters, J. (2017). Correctional research guidelines. Capilano University. Retrieved from https://www.capilanou.ca/programs-courses/psychology/student-resources/research-guidelines/Correlational-Research-Guidelines/

Westphal, J. D. (1999). Collaboration in the boardroom: behavioral and performance consequences of CEO-board social ties. *Academy of Management Journal, 42*(1), 7-24.

https://doi.org/10.2307/256871

Wijethilake, C, Ekanayake, A., & Perera, S. (2015). Board involvement in corporate performance: Evidence from the developing country. *Journal of Accounting in Emerging Economies, 5*(3), 250–268. doi:10.1108/jaee-12-2012-0050

Williams, C. (2007). Research methods. Journal of Business & Economic Research, 5(3), 65- 70. https://doi.org/10.19030/jber.v5i3.2532

Wu, G., Liu, C., Zhao, X.,Zuo, J. (2017). Investigating the relationship between communication-conflict interaction project's success among construction project teams. *International Journal of Project Management, 35*, 1466–1482. http://dx.doi.org/10.1016/j.ijproman.2017.08.006

Wu, H-L. (2008). How do board-CEO relationships influence the performance of new product introduction? Leaving from single to interdependent explanations. *Corporate Governance, 16*(2), 77-89. doi:10.1111/j.1467– 8683.2008.006708.x

Zahra, S., & Pearce, J.II. (1989). Boards of directors and corporate financial performance: A review and integrative model. *Journal of Management, 15*(2). https://doi.org/10.1177/014920638901500208

Zajac, E., & Westphal, J.D. (1996). Who shall succeed? How CEO/board preferences and power affect the choice of new CEOs. *Academy of Management Journal, 39*(1), 64-90. https://doi.org/10.2307/256631

Zhang, P. (2013). Power and trust in board–CEO relationships. *Journal of Management & Governance, 17*, 745–765. doi:10.1007/s10997-011-9188-z

Zhao, Y. (2013). The relationship between share price gains, corporate performance, and risk. *iBusiness,5*, 110-112. http://dx.doi.org/10.4236/ib.2013.53B023

Zhu, D. H., & Chen, G. (2015). CEO narcissism and the impact of prior board experience on corporate strategy. *Administrative Science Quarterly, 60*, 31–65. https://doi.org/10.1177%2F0001839214554989

Zikmund, W.G., Babin, B.J., Carr, J.C., & Griffin, M. (2010). *Business research methods* (10th ed.). Mason, MA: South-Western Cengage Learning.

Appendix A

The following questions comprised the individuals' behavior pattern

Sl. No	Questions	Relevance
Participant's behavior participants' behavioral and relevance patterns		The following questions revels the relationship amongst the CEO, board members and corporate performance. It is important to understand the level of interaction and the degree of relationship between the above mentioned to understand the impact of the relationship between CEO and board members to show relevance on company's stock prices.
1	How often do you suggest new ideas?	This question helped to understand the level of dependence between CEO and board members either in taking various decisions for the company's growth or to implement now objectives for the company's performance.
2	How often do you ask for additional information?	Using this question, the degree of relationship was assessed on the basis that decisions made by the CEO and board members are collaborative ideas based on information.
3	How often do you provide information?	The relevance of this question was again to find the degree of communication between the members of the board and the CEO. This questioned tried to identify if there is a significant symbiotic relationship between the CEO and the board members. If the CEO on one hand seek additional information, it is imperative that similar information is passed on when the board asks for the same.
4	How often are you accepting other's ideas?	This question revealed the level of acceptance in the CEO of the company. Even though the CEO is ultimate decision-maker, it is imperative that the ideology of the board

		members is considered for a symbiotic decision making for the company.
5	How often are you supportive of others' ideas?	The last question of understanding the relationship between CEO, Board members and Company stocks implicates the ability of the CEO to understand the concerns and ideas of the board members and his/her ability to support positive suggestions for the performance of the company.
Board's behavioral pattern		Board's behavior is important for a company's performance. The decisions made by them are imperative on company's operational and financial performance
1	How much do CEO and board members listen to each other's points of view, even if they might disagree?	This question intended to find the level of acceptance on both positive and negative aspects and how their level of acceptance helps in improved performance of the company.
2	How much do you feel comfortable about expressing your opinion in CEO and board members' meetings?	The feeling of comfort to share ideas is based on the level of acceptance. Higher the acceptance between the two, higher is the chance that the board members will share more about the ideas to improve the performance. Expressing opinion is important for a mutualistic planning for growth of the company.
3	How much is your opinion listened to?	This shows the impact of suggestive ideas provided by the board members and how their suggestive ideas are important for the growth and development of the company. However, this is based on the number of times their suggestive ideas has been adopted by the CEO, also indicating the level of relationship in mutual decision making
4	How much are you willing to listen to others' points of view?	This question implicates that mutualistic decision making is not just between the board members but also amongst the board members themselves and how this behavior

		has an impact on the performance of the company.
5	How satisfied are you with the way the CEO and board members deal with problems that come up?	This question tends to implicate the level of satisfaction amongst the board members on the decision making for company's performance.
6	How well do you feel that these conflicts were handled by the CEO and board members?	This question explores the perseverance of mutualistic understanding and decision making to tackle organizational challenges and how these decisions helped in improving the performance.
7	Some members of the CEO or board members hold on to their ideas too rigidly	The question attempted to explore if all the board members had equal right to make their suggestive ideas or inequality amongst the board members.
8	Decisions that the CEO and board members make are changed when they get implemented?	This question implicates if the decisions made for the performance improvement are actually followed or the statements change in the future. This question also implicates the diligence of the company with respect to following a goal.
9	I am committed to decisions that are made by the CEO and board members	This question was intended to explore, if once the decisions are made, no conflicts arise in the future with respect to the idea implemented for the betterment of the company. In addition, it will also implicate if these conflicts impact the performance.
10	The CEO and board members work well together and problem-solving processes	The question explores the symbiotic relationship between CEO and the board members with respect to tacking challenges and problems and how this relationship helps in improving the company's performance.
11	I feel pressured to go along with decisions of the CEO and board members even though I might not agree	There may always be a conflict of interest amongst the board members with respect to decision making. The question find the impact of this conflict of interest on performance of the company.

12	I believe that certain individuals have more influence over the agenda at meetings than others	There are always leaders and active decision-makers in board members. However, some may take advantage of the situation and dominate in decision making. However, the question tends to answer if this dominance helps in improving performance of the company.
13	In the next year, I expect to see an increased amount of trust between the CEO and board members.	This question is critical as it seeks to see if there has been any trust or no trust between the CEO and board members. In addition, how this conflict of trust impacts the performance of the company.
14	In the past year, CEO and board members' capacity to work together has increased or decreased	This question simply tends to find the level of corroboration between the CEO and board members. The level of togetherness is based on the level of understanding and satisfaction, and if there is a conflict, how it impacts the performance of the company.
15	Over the past year, has the amount of trust between the CEO and board members increased or decreased	This question explores the level of trustworthiness between the board members and the CEO. Trust does not occur immediately and takes time, which is based on mutual understanding and effective communication.
16	I am satisfied with the level of follow-up action taken by staff in response to decisions made by the CEO and board members	When a decision is taken by the board and the CEO, the staff is imperative to take actions. However, there is no action taken on the decisions made, it indicates the incompetency of the board and the CEO, and may have impact on the performance.
17	I am satisfied with the way staff prepare and structure CEO and board members meetings	This question intended to find the support of the staff members with respect to successful meeting outcomes and the betterment of the company and staff efficiency.
18	When staff facilitate meetings and encourage participation of all CEO and board members	This question implicates the due diligence of the staff members towards improved efficiency and performance of the company.

19	When staff facilitate meetings and encourage open communication between CEO and board members	Similarly, this question too implicates the level of mutualism amongst not just the board members and the CEO but also that the staff have their own suggestions towards improved performance.
20	When staff facilitate meetings that recognize possible problems with conflicts with the CEO and board members	In majority cases the challenges and problems of the company are informed by the staff and hence plays a crucial role to conduct meetings for improved decision making for performance of the company.
Satisfaction of meeting		Satisfaction of meeting is based on mutual understand, effective communication and mutual decision making of the ideas and issues on which the meeting is conducted.
1	I find the CEO and board meetings useful	It indicates the perceived level of motivation and satisfaction from board meetings, either due to mutual decision making or effective communication.
2	I enjoy attending the CEO and board meetings	This indicates that, all the meetings in the past between the CEO and board members have been effective from mutual understanding and decision making and communicating.
Effectiveness of the board		Effectiveness of board members is shown by the amount of trust and effective interaction with the CEO. The board is effective only if the ideas by them are considered by the CEO and there has been improved performance of the company.
4	CEO and board members have been effective in achieving their goals	The question intended to find the impact of mutual decisions made by the CEO and the board members show growth in performance.
5	I believe that there has been significant amounts of progress in dealing with the major issues identified.	This shows that, the issues and problems mentioned by the board members to the CEO are well taken care of and hence has improved the performance of the company.
6	What do you believe is the speed of the progress in dealing with the major issues identified	When an issue is identified, it is imperative that speedy action is taken. This is done by meetings and decision making. The increased

		level of meetings and quick mutual decision making indicates the speed of mitigation of the issue.
General feelings with decision-making		Decision making is very important for improving the performance or to strategize methods to improve the performance.
1	It is easier for me to participate in the subcommittees than in the larger ones?	This question intended to check if the board members have sub committees that decide the objectives of the meeting and the possible outcomes to present to the CEO. In addition, the sub-committee allows everyone to make their own decisions and forming a mutualistic decision.
2	I can influence decisions that the CEO and board members make?	This question wanted to check if the respondent had any authority to change the decisions of the CEO and board members or if these decisions had any link to satisfaction of meetings and decision makings.
3	I believe that the CEO and board members are effective in achieving corporate goals.	This question explores the trust of the participant on the decisions made by the CEO and board members with respect to improved performance.
4	In the past 12 months has your corporation increased its profit?	The effectiveness and impact of the strategies and decisions made by the CEO and board members on company performance has been implicated in this question.
5	You indicated that your organization has increased its profit, can you provide an approximate increase in percentage of income	This question helped to gather secondary data on the company's profits so that comparative assessment can be made to the company's revenues generated and link it to the mutual decision making of CEO and board members.
6	You indicated that your organization has made a loss, can you estimate the loss as a percentage of income	This question, like the above will help to assess the loss made by the company based on the decisions made by the CEO and the board members.
7	In the past 12 months has the price of your corporation's stock (shares) increased?	This question intended to find if the successful meetings between the CEO and the boards members and the decisions made by

		them helped to improve the stocks of the company or financial performance.
8	You have indicated that your organization's stock (shares) have increased. Please indicate approximately how much it has increased as a percentage of overall value per unit	The percentage increase of the stocks estimated by the participants will allow to approximate to relate to company financial reports and implicate that the stock shares increase from decisions made by the CEO and board member meetings.
9	You have indicated that your organization's stock (shares) have decreased. Please indicate approximately how much it is decreased as a percentage of overall value per unit.	As above, the indications made will help in cross referencing to company financial records and implicate the impact of meetings and decisions made by the CEO and board members impact the financial performance of the company.

Appendix A

The following questions comprised the individuals' behavior pattern

Sl. No	Questions	Relevance
Participant's behavior participants' behavioral and relevance patterns		The following questions revels the relationship amongst the CEO, board members and corporate performance. It is important to understand the level of interaction and the degree of relationship between the above mentioned to understand the impact of the relationship between CEO and board members to show relevance on company's stock prices.
1	How often do you suggest new ideas?	This question helped to understand the level of dependence between CEO and board members either in taking various decisions for the company's growth or to implement now objectives for the company's performance.
2	How often do you ask for additional information?	Using this question, the degree of relationship was assessed on the basis that decisions made by the CEO and board members are collaborative ideas based on information.
3	How often do you provide information?	The relevance of this question was again to find the degree of communication between the members of the board and the CEO. This questioned tried to identify if there is a significant symbiotic relationship between the CEO and the board members. If the CEO on one hand seek additional information, it is imperative that similar information is passed on when the board asks for the same.
4	How often are you accepting other's ideas?	This question revealed the level of acceptance in the CEO of the company. Even though the CEO is ultimate decision-maker, it is imperative that the ideology of the board

		members is considered for a symbiotic decision making for the company.
5	How often are you supportive of others' ideas?	The last question of understanding the relationship between CEO, Board members and Company stocks implicates the ability of the CEO to understand the concerns and ideas of the board members and his/her ability to support positive suggestions for the performance of the company.
Board's behavioral pattern		Board's behavior is important for a company's performance. The decisions made by them are imperative on company's operational and financial performance
1	How much do CEO and board members listen to each other's points of view, even if they might disagree?	This question intended to find the level of acceptance on both positive and negative aspects and how their level of acceptance helps in improved performance of the company.
2	How much do you feel comfortable about expressing your opinion in CEO and board members' meetings?	The feeling of comfort to share ideas is based on the level of acceptance. Higher the acceptance between the two, higher is the chance that the board members will share more about the ideas to improve the performance. Expressing opinion is important for a mutualistic planning for growth of the company.
3	How much is your opinion listened to?	This shows the impact of suggestive ideas provided by the board members and how their suggestive ideas are important for the growth and development of the company. However, this is based on the number of times their suggestive ideas has been adopted by the CEO, also indicating the level of relationship in mutual decision making
4	How much are you willing to listen to others' points of view?	This question implicates that mutualistic decision making is not just between the board members but also amongst the board members themselves and how this behavior

		has an impact on the performance of the company.
5	How satisfied are you with the way the CEO and board members deal with problems that come up?	This question tends to implicate the level of satisfaction amongst the board members on the decision making for company's performance.
6	How well do you feel that these conflicts were handled by the CEO and board members?	This question explores the perseverance of mutualistic understanding and decision making to tackle organizational challenges and how these decisions helped in improving the performance.
7	Some members of the CEO or board members hold on to their ideas too rigidly	The question attempted to explore if all the board members had equal right to make their suggestive ideas or inequality amongst the board members.
8	Decisions that the CEO and board members make are changed when they get implemented?	This question implicates if the decisions made for the performance improvement are actually followed or the statements change in the future. This question also implicates the diligence of the company with respect to following a goal.
9	I am committed to decisions that are made by the CEO and board members	This question was intended to explore, if once the decisions are made, no conflicts arise in the future with respect to the idea implemented for the betterment of the company. In addition, it will also implicate if these conflicts impact the performance.
10	The CEO and board members work well together and problem-solving processes	The question explores the symbiotic relationship between CEO and the board members with respect to tacking challenges and problems and how this relationship helps in improving the company's performance.
11	I feel pressured to go along with decisions of the CEO and board members even though I might not agree	There may always be a conflict of interest amongst the board members with respect to decision making. The question find the impact of this conflict of interest on performance of the company.

12	I believe that certain individuals have more influence over the agenda at meetings than others	There are always leaders and active decision-makers in board members. However, some may take advantage of the situation and dominate in decision making. However, the question tends to answer if this dominance helps in improving performance of the company.
13	In the next year, I expect to see an increased amount of trust between the CEO and board members.	This question is critical as it seeks to see if there has been any trust or no trust between the CEO and board members. In addition, how this conflict of trust impacts the performance of the company.
14	In the past year, CEO and board members' capacity to work together has increased or decreased	This question simply tends to find the level of corroboration between the CEO and board members. The level of togetherness is based on the level of understanding and satisfaction, and if there is a conflict, how it impacts the performance of the company.
15	Over the past year, has the amount of trust between the CEO and board members increased or decreased	This question explores the level of trustworthiness between the board members and the CEO. Trust does not occur immediately and takes time, which is based on mutual understanding and effective communication.
16	I am satisfied with the level of follow-up action taken by staff in response to decisions made by the CEO and board members	When a decision is taken by the board and the CEO, the staff is imperative to take actions. However, there is no action taken on the decisions made, it indicates the incompetency of the board and the CEO, and may have impact on the performance.
17	I am satisfied with the way staff prepare and structure CEO and board members meetings	This question intended to find the support of the staff members with respect to successful meeting outcomes and the betterment of the company and staff efficiency.
18	When staff facilitate meetings and encourage participation of all CEO and board members	This question implicates the due diligence of the staff members towards improved efficiency and performance of the company.

19	When staff facilitate meetings and encourage open communication between CEO and board members	Similarly, this question too implicates the level of mutualism amongst not just the board members and the CEO but also that the staff have their own suggestions towards improved performance.
20	When staff facilitate meetings that recognize possible problems with conflicts with the CEO and board members	In majority cases the challenges and problems of the company are informed by the staff and hence plays a crucial role to conduct meetings for improved decision making for performance of the company.
Satisfaction of meeting		Satisfaction of meeting is based on mutual understand, effective communication and mutual decision making of the ideas and issues on which the meeting is conducted.
1	I find the CEO and board meetings useful	It indicates the perceived level of motivation and satisfaction from board meetings, either due to mutual decision making or effective communication.
2	I enjoy attending the CEO and board meetings	This indicates that, all the meetings in the past between the CEO and board members have been effective from mutual understanding and decision making and communicating.
Effectiveness of the board		Effectiveness of board members is shown by the amount of trust and effective interaction with the CEO. The board is effective only if the ideas by them are considered by the CEO and there has been improved performance of the company.
4	CEO and board members have been effective in achieving their goals	The question intended to find the impact of mutual decisions made by the CEO and the board members show growth in performance.
5	I believe that there has been significant amounts of progress in dealing with the major issues identified.	This shows that, the issues and problems mentioned by the board members to the CEO are well taken care of and hence has improved the performance of the company.
6	What do you believe is the speed of the progress in dealing with the major issues identified	When an issue is identified, it is imperative that speedy action is taken. This is done by meetings and decision making. The increased

		level of meetings and quick mutual decision making indicates the speed of mitigation of the issue.
General feelings with decision-making		Decision making is very important for improving the performance or to strategize methods to improve the performance.
1	It is easier for me to participate in the subcommittees than in the larger ones?	This question intended to check if the board members have sub committees that decide the objectives of the meeting and the possible outcomes to present to the CEO. In addition, the sub-committee allows everyone to make their own decisions and forming a mutualistic decision.
2	I can influence decisions that the CEO and board members make?	This question wanted to check if the respondent had any authority to change the decisions of the CEO and board members or if these decisions had any link to satisfaction of meetings and decision makings.
3	I believe that the CEO and board members are effective in achieving corporate goals.	This question explores the trust of the participant on the decisions made by the CEO and board members with respect to improved performance.
4	In the past 12 months has your corporation increased its profit?	The effectiveness and impact of the strategies and decisions made by the CEO and board members on company performance has been implicated in this question.
5	You indicated that your organization has increased its profit, can you provide an approximate increase in percentage of income	This question helped to gather secondary data on the company's profits so that comparative assessment can be made to the company's revenues generated and link it to the mutual decision making of CEO and board members.
6	You indicated that your organization has made a loss, can you estimate the loss as a percentage of income	This question, like the above will help to assess the loss made by the company based on the decisions made by the CEO and the board members.
7	In the past 12 months has the price of your corporation's stock (shares) increased?	This question intended to find if the successful meetings between the CEO and the boards members and the decisions made by

		them helped to improve the stocks of the company or financial performance.
8	You have indicated that your organization's stock (shares) have increased. Please indicate approximately how much it has increased as a percentage of overall value per unit	The percentage increase of the stocks estimated by the participants will allow to approximate to relate to company financial reports and implicate that the stock shares increase from decisions made by the CEO and board member meetings.
9	You have indicated that your organization's stock (shares) have decreased. Please indicate approximately how much it is decreased as a percentage of overall value per unit.	As above, the indications made will help in cross referencing to company financial records and implicate the impact of meetings and decisions made by the CEO and board members impact the financial performance of the company.

Appendix B

Regression Personal Influence

	Unstand Coeff/s	Stand Coeff/s	Standardized Coefficients			95% Confidence Interval for Beta	Upper & Lower Bound-
	Model	Beta	Std Error	beta	t	Sig	ary
Constant	19.5	1.772		11.002	0	15.875	23.13
Perceptions of personal influence	1.187	3.919	0.111	0.303	0.764	-6.828	9.201
Acceptance of others	1.78	2.475	0.166	0.719	0.478	-3.282	6.841
Personal commitment - board outcomes	-1.562	2.404	-0.146	-0.65	0.521	-6.479	3.355
Perceptions of board member i/actions & resolutions	-1.13	6.039	-105	-0.187	0.853	-13.48	11.22
Perceptions of board member trust & cooperation	-0.81	2.383	-0.076	-0.34	0.736	-5.684	4.063
Perceptions of staff i/actions/involve board proceedings	2.073	3.26	0.193	0.636	0.53	-4.595	8.741
Satisfaction in the meetings	-0.883	3.75	-0.082	-0.235	0.816	-8.553	6.787
Board effectiveness	3.538	5.111	0.33	0.692	0.494	-6.916	13.99

Appendix C

Perceptions of Board Members' interactions and resolutions

	Factor 1	Factor 2
The CEO & board work well together on problem solving	0.923	
I believe CEO & board are effective in achieving goals	0.914	
How well do you feel that these conflicts were handled by the CEO & board members?	0.878	
How well do CEO & board listen to each other's points of view even if they disagree?	0.689	
How satisfied are you with the way the CEO & board deal with problems that come up?	0.674	
In the next year, I expect to see an increased amount of trust between the CEO & board members?	0.648	
Some members of the CEO & board hold on to their ideas too rigidly?		0.909
Over the past year has the amount of trust between the CEO & board increased?		0.429
alpha	0.886	0.405
% of variance	48.31	14.68
Component eigenvalue	4.384	1.322

Extraction method: Principal Component Analysis/
Rotation method: Oblimin with Kaiser Normalization.

Appendix D

Correlation matrix for the Regression of profit-making

	DV	1	2	3	4	5	6	7
Dependent variable - profit rank scores	**1**							
Perceptions of personal influence	**0.4**							
Acceptance of others	**-0.204**	**-0.365**						
Personal commitment - board outcomes	**0.014**	**0.136**	**-0.1**					
Perceptions of board member i/actions & resolutions	**0.319**	**0.856**	**-0.6**	**0.213**				
Perceptions of board member trust & cooperation	**-0.277**	**-0.2309**	**0.28**	**0.405**	**-0.24**			
Perceptions of staff i/actions/involve board proceedings	**0.401**	**0.733**	**-0.4**	**0.281**	**0.737**	**-0.302**		
Satisfaction in the meetings	**0.358**	**0.779**	**-0.3**	**0.023**	**0.787**	**-0.423**	**0.731**	
Board effectiveness	**0.28**	**0.816**	**-0.4**	**0.048**	**0.9**	**-0.302**	**0.733**	**0.835**

Appendix E

Correlation matrix for the regression of stock performance ranking

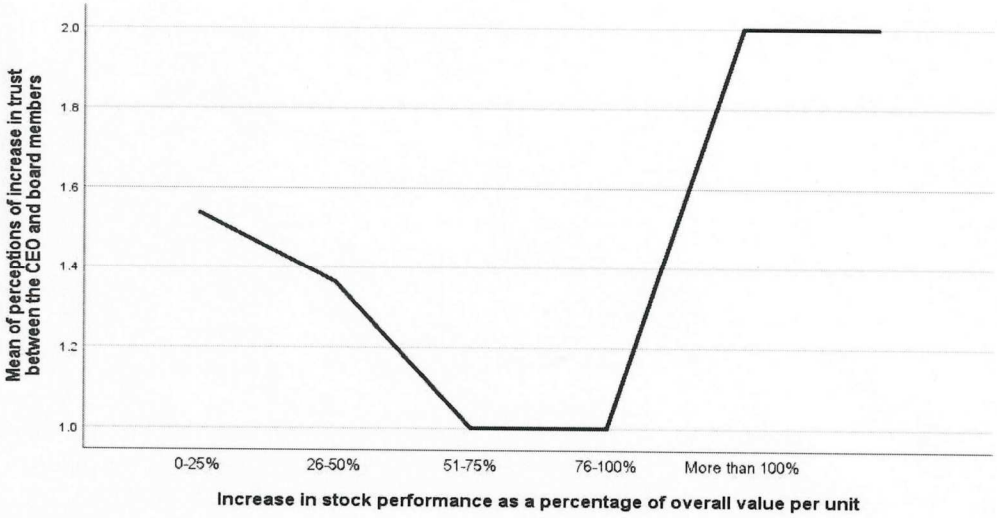
	DV	1	2	3	4	5	6	7
Stocks rank score								
Perceptions of personal influence	**0.31**							
Acceptance of others	**-0.13**	**-0.365**						
Personal commitment - board outcomes	**-0.129**	**0.136**	**-0.082**					
Perceptions of board member i/actions & resolutions	**0.259**	**0.856**	**-0.555**	**0.213**				
Perceptions of board member trust & cooperation	**-0.22**	**-0.309**	**0.281**	**0.405**	**-0.24**			
Perceptions of staff i/actions/involve board proceedings	**0.289**	**0.733**	**-0.43**	**0.281**	**0.737**	**-0.302**		
Satisfaction in the meetings	**0.31**	**0.779**	**-0.339**	**0.023**	**0.787**	**-0.423**	**0.731**	
Board effectiveness	**0.348**	**0.816**	**-0.402**	**0.048**	**0.9**	**-0.302**	**0.733**	**0.84**

Appendix F

ANOVA – Stock Performance

Stock performance

ANOVA's were conducted across all variables to detect if there were any differentiating factors according to stock performance. The only item that shown to have significant differences according to whether the participant nominated no change as opposed to improved stock performance was in relation to perceptions of increase trust between CEOs and board members.



Increased profit

ANOVA's were conducted across all variables to detect if there were any differentiating factors according to increased profit. Four attitudinal/perception questions were differentiated by reported profit increase. These are shown in Table 1 below. Graphs depicting the differences are shown over.

Table 1 ANOVA – Increased profit

	Sum of Squares	df	F	Sig.
How often do you suggest new ideas?	5.028	4	4.052	0.009
How often do you ask for additional information?	5.381	4	2.773	0.043
In the past year, CEO and board members' capacity to work well together	4.949	4	6.259	0.001
When staff facilitate meetings they encourage open communication between CEO and board members	7.192	4	2.866	0.038

Appendix G

Raw scores for providing additional information