Board of Directors' Dynamics, Board Effectiveness and Organisational Performance: The case of Nordic Region.

A thesis submitted for the degree of Doctor of Philosophy

by

Aspasia S. Pastra

Brunel Business School
Brunel University

Supervised by: Dimitrios N. Koufopoulos

September 2017

Abstract

The thesis aims to explore the effect of team dynamics on team and organisational outcomes. Dynamics is a broad term that encompasses all the processes and attitudes that exist between team members and influence the direction of team's performance. Trust, conflict and behavioural integration comprise psychological facets of teamwork and are amongst the most common dynamics of a team.

The current study aims to shed light on the perceptions of board members about the level of conflict, trust and behavioural integration during board meetings, which comprise the most critical forum of the group. Trust, conflict and behavioural integration are the primary attitudes, behaviors, and cognitions that arise within the board and encompass the core aspects of teamwork.

There is a gap in the literature for examining the role of social-psychological processes and interactions between the board members because access to the boardroom is difficult and the researchers are forced to turn their attention on secondary data and proxies for board behaviors. Although that board of directors is an upper echelons group of executives who can ensure the long-term survival of the organisations, there is scarce of research in studying boards from a team perspective. Until today, we have limited knowledge of team processes, such as conflict, both inside the boardrooms and in the context of strategy implementation.

The literature review in this thesis is drawn from multiple disciplines, including management, psychology and sociology, which enable us to gain a deep understanding of team's dynamics.

The methodology has been based on a positivist approach since the focus is centered around the data collection process and the statistical interpretation of the findings. Primary data was collected from board members in Nordic countries, namely Denmark, Finland, Sweden, Iceland and Norway. The data was collected with the use of survey method and the findings are based on 186 usable responses. The Nordic corporate governance model remains still the less known outside the Nordic region (Thomsen, 2016) but this thesis postulates that valuable lessons can emanate from its study. The study of the Nordic model could give us useful lessons for the roles of the board and the structure of their organisations.

The statistical analysis of the model involved: Descriptive Analysis, Exploratory Factor Analysis (EFA), Confirmatory Factory Analysis (CFA) and Structural Equation Modeling (SEM).

The results of this thesis provide theoretical and managerial recommendations for achieving superior board performance. The importance of the role of the Behavioural Integration inside the boardroom is underlined as a significant finding of this study. Moreover, the role of Trust in the board context raises some important questions about its priority since there may be other processes or dynamics which present more clear-cut results on board effectiveness. Furthermore, the deleterious effects of conflict have been underlined. It is also underlined that in this competitive era boards should go beyond fiduciary responsibilities to a more strategic role on a broader range of matters

With the exception of a few studies, researchers still to move inside the "black box" of the upper echelons processes and understand how the executives in the board interact. Building a strong board of directors requires a focus beyond demographic characteristics to board interactions. The most effective boards have the strongest board dynamics and are characterized by openness, teamness and collaborative behaviour. The power of the board comes from the ability of the directors to effectively work together and hopefully the current study contributes substantially to the corporate governance field and the way that team processes affect team outcomes.

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Acknowledgements

First and foremost, I would like to express my sincere gratitude to my advisor and mentor, Dr Dimitrios Koufopoulos, for the continuous support, patience and motivation since 2001.

My sincere thanks also goes to Randi Ib from Board Governance and Dr Siri Terjesen for the contribution to this research. Special thanks to Dr Vasiliki Skintzi and Dr Fawad Latif for their constructive comments. Furthermore, I would like to express my appreciation to the Atlantic Bulk Carriers for sponsoring the first year of this research.

To Anna K. for being always by my side in all the new goals that I set. To Anna D. for providing always support and friendship. Special thanks to the wonderful D.E.L.N.V.M team for the days in Linköping and to the E.P.I.N.A team for making the life in Greece more than beautiful. Special thanks to Gnosis team for the daily exchange of constructive knowledge.

I am extremely thankful to my beloved parents Stavros and Efrosini as well as my sister, Maria for being always the wind beneath my wings in every new step that I take. I hope that in the future this thesis will inspire Dimitra, Mando and Andreas, to pursue their dreams despite the obstacles.

The dissertation is devoted to my little hero Stavros and my lovely husband Dimitris.

"If you want to go fast, go alone. If you want to go far, go together."

African proverb

CHAPTER 1: CONTEXT AND PURPOSE OF THE STUDY

1.1 Introduction to the Field

This initial Chapter of this thesis gives us an overview of this research by discussing its aims, objectives, research questions, hypotheses and the research gaps that need to be addressed.

The board of directors is the upper echelons team of an organisation which has the responsibility for monitoring the top management team and achieving long-term viability. Fama and Jensen (1983: 311) have argued that the board of directors is the "apex of the firm's decision control system". In this dynamic era, boards are facing a plethora of challenges and amongst others they encounter: a volatile external environment, cybersecurity, activist investors, powerful shareholders and lack of trust of the society in organisations (Deloitte, 2016).

Board of directors is a central element of a corporate governance (CG) system. Donaldson (1990: 376) views corporate governance as a "structure whereby managers at the organisation apex are controlled through the board of directors, its associated structures, executive initiative, and other schemes of monitoring and bonding". Various corporate scandals of the last two decades (e.g. Enron, Worldcom, Volkswagen Emissions Scandal, and Toshiba Accounting Scandal) have raised the importance of proper corporate governance practices. Consequently, a plethora of corporate practices and codes (e.g. The UK Corporate Governance Code and Sarbanes Oxley Acton in USA) have been emerged focusing mainly on board characteristics (e.g. age, gender or independency) and board structure (e.g. board size, CEO duality) as the main determinants for good governance. Hundreds of studies have assessed the elements that constitute an effective CG system and investigate the essential CG features. However, research in corporate governance lacks an understanding of the behavioral processes and group interactions that determine board effectiveness (Roberts, McNulty and Stiles, 2005). Since 1999, Forbes and Milliken, urge researches to identify the factors for effective board functioning since this is one of the most important areas of management research.

This study makes an in-depth examination of the board of director's interactions and their effect on board's and organisational outcomes. Recent academic and empirical research suggest that directors should work as a team to be able to boost board outcomes and collective knowledge base (Charas, 2016; Gabrielsson, Huse, and Minichilli, 2007). By combining

knowledge from management, psychology and sociology fields, it is examined how board members interact and what they think about the processes inside their boardroom.

1.2 Presenting the Research Framework, Aims and Objectives

The primary aim of this study is to develop a theoretical framework and conceptualise how boards of directors' processes and interactions shape board and organisational outcomes. The framework aims to examine the impact of overall conflict, trust and behavioral integration on board and organisational outcomes. Figure 1.1 depicts the research model which tries to explain how three different dynamic properties of teamwork affect board and organisational outcomes. These three different dynamics will be examined both separately and jointly so as to gain a deep understanding of their effect on performance and the interrelations that exist between them. Conflict, trust and behavioral integration that exist in the board of directors are the inputs of the model, board effectiveness is the mediating mechanism and organisational performance is the outcome. The model will examine the impact of:

1. Conflict on board effectiveness.
2. Conflict on organisational performance.
3. Trust on board effectiveness.
4. Trust on organisational performance.
5. Behavioural integration on board effectiveness.
6. Behavioural integration on organisational performance.
7. Board effectiveness on organisational performance.
8. Conflict, trust and board effectiveness on board effectiveness and organisational performance (overall model).

In the model, board of directors are perceived as information processing groups in which their processes affect organisational outcomes. Combining multiple theoretical perspectives, the aim is to frame hypotheses and base our arguments. The theoretical perspectives that this study utilises for the board dynamics are: upper echelons, information processing and social exchange theories. Regarding board effectiveness, our argumens are based on multiple corporate governance theories, which are: agency, resource dependence, stewardship, institutional, social network and stakeholder theories. A detailed presentation of these theoretical frameworks is made in chapter 2. The literature review is drawn from multiple disciplines, including management, psychology and sociology which enable us to gain a deep understanding of team's interactions and dynamics.

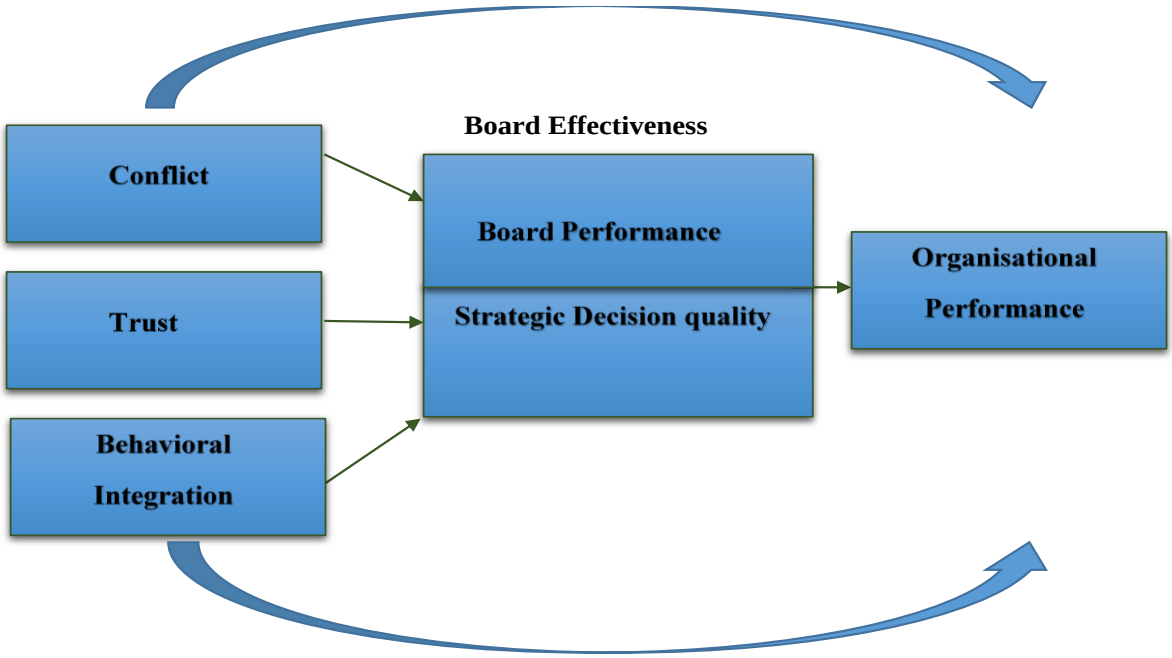


Figure 1.1: Theoretical Model

As such, the following objectives can be formed to describe the direction of the study:

- To review extensively the management and team psychology literature and critically synthesize information about conflict, trust, behavioral integration, team effectiveness and organisational performance.
- To develop a methodology to empirically test the research model.
- To examine if board dynamics (conflict, trust and behavioural integration), both separately and jointly, affect board effectiveness and organisational performance.
- To provide theoretical and managerial recommendations about effective board performance.

The above objectives of the thesis can be depicted in five specific research questions:

- Research Question 1: Does Conflict in the board of directors affect Board Effectiveness and Organisational Performance?
- Research Question 2: Does Trust in the board of directors affect Board Effectiveness and Organisational Performance?
- Research Questions 3: Does Behavioral Integration in the board of directors affect Board Effectiveness and Organisational Performance?
- Research Question 4: Does Board Effectiveness has a significant effect on Organisational Performance?
- Research Question 5: Does Board effectiveness mediates the relationship between Board Processes and Organisational Performance?

This thesis seeks to explore the statistical relationships between the three key team dynamics, board effectiveness and organisational performance. Seventeen hypotheses were formed to test our relationships:

- Conflict in the Board of Directors is negatively related to Board Performance
- Conflict in the Board of Directors is negatively related to Strategic Decision Quality
- Conflict in the Board of Directors is negatively related to Organisational Performance.
- Trust in the Board of Directors is positively related to Board Performance
- Trust in the Board of Directors is positively related to Strategic Decision Quality
- Trust in the Board of Directors is positively related to Organisational Performance.
- Behavioral integration in the Board of Directors is positively related to Board Performance.
- Behavioral integration in the Board of Directors is positively related to Strategic Decision Quality
- Behavioral integration in the Board of Directors is positively related to Organisational Performance.
- Board Performance is positively related to Organisational Performance.
- Strategic Decision Quality is positively related to Organisational Performance.
- Board Performance mediates the relationship between Conflict and Organisational Performance.
- Strategic Decision Quality mediates the relationship between Conflict and Organisational Performance.
- Board Performance mediates the relationship between Trust and Organisational Performance.
- Strategic Decision Quality mediates the relationship between Trust and Organisational Performance
- Board Performance mediates the relationship between Behavioral integration and Organisational Performance.
- Strategic Decision Quality mediates the relationship between Behavioral integration and Organisational Performance.

1.3 Methodology

The methodology, namely the procedural and epistemological framework within which this research is conducted, has been based on a positivist approach since the focus is centered around the data collection process and the statistical interpretation of the findings. Every

research who is taking a positivist approach is independent from the object of the study and views the world as external and objective.

Besides, a deductive approach is taken since the aim is to test the hypothesized relationships based on existing theories which could lead to generalized findings. The reasoning of deductive approach is that an existing theory leads to a new hypothesis. The study aims to design a proper research strategy to test the hypotheses and not generate a new theory.

Since the relationship between theory and research is viewed as deductive, then this study is quantitative in nature. Primary data is collected with the use of survey method from board members in Nordic Countries, namely Denmark, Finland, Sweden, Iceland and Norway. These countries offer ample opportunities for entrepreneurial activity, innovation, research social welfare and education. The business-friendly environment and the high levels of transparency create a dynamic market in which a large number of world-leading companies thrive. The study of the board of Directors in Nordic Region could give us useful lessons about the successful operation of these companies. Besides, the Nordic corporate governance model remains still the less known outside the Nordic region (Thomsen, 2016). According to Lekvall (2014), this model is the only solution to the agency problems of ownership (conflict between the agents and the principals, namely managers and owners) since it creates actives owners.

The model was tested from February till May 2016 with board members from Nordic Region and via the web-survey method we collected 186 usable responses. The statistical analysis of the model involved the following statistical techniques: Descriptive statistics, Exploratory Factor Analysis (EFA), Confirmatory Factory Analysis (CFA) and Structural Equation Models (SEM).

1.4 Motivation and Identification of the Research Gap

Board of directors is an upper echelons group of executives who can ensure the long-term survival of the organisation. The motivation of this study came from the desire to understand what is happening inside the boardrooms and how it affects the organisation. It is hoped that if we understand what is occurring within the boardroom we may begin to understand more about the why it is happening and how it affects the organisation. Additionally, my own professional experience of having worked directly with boards, being the Chief Financial

Auditor of a large Nasdaq-listed company, has inspired me to explore further what makes a board effective as a team.

This study aims to fills the gaps in the literature that are worthy of investigation. First of all, recent academic and empirical research shows that directors should work as a team to be able to boost board outcomes and collective knowledge base (Charas, 2016; Gabrielsson, Huse, and Minichilli, 2007). However, there is a gap in literature in studying boards from a team perspective. Until today, we have limited knowledge of team processes, such as conflict, both inside the boardrooms (Walker, Machold and Ahmed, 2015) and in the context of strategy implementation (Lê and Jarzabkowski, 2015). With the exception of a few studies, researchers still to move inside the "black box" of the upper echelons processes and understand how team members interact (Kisfalvi, Sergi and Langrey, 2016). A limited number of researchers have examined what makes boards function well as groups and the role that board group effectiveness plays in organisation performance (Daily, Dalton, and Cannella 2003; Hermalin and Weisbach, 2003; Ruigrok et al. 2006; Stiles, 2001; Payne, Benson and Finegold, 2009). This is mainly due to the fact that researchers encounter difficulties in granting access in boards rooms and in parallel executives are reluctant to share information about their boards (Daily, Dalton, and Cannella ,2003; Payne, Benson and Finegold, 2009). Besides, there are only a few studies that utilise primary data to extend our knowledge about boards (Crow and Lockhart, 2016; Minichilli et. al., 2012). Archival proxies, which have heavily used in the strategic management research, have raised concerns about construct validity (Boyd, Haynes, and Zona, 2013; Dalton and Aguinis, 2013) since in some cases there is no relation between the archival proxy and the construct that the proxy was meant to capture.

Secondly, group interactions are the most useful indicator of group dynamics and a crucial parameter for improving group effectiveness (Hackman, 1987, p.321). Despite the need addressed by Forbes and Milliken, back in 1999, to examine the factors that lead to increased performance in the boardroom, there is still modest research on it. Recent studies call for more research into board behaviour and dynamics (Bezemer, Nicholson and Pugliese, 2014; Machold and Farquhar, 2013; Pettigrew, 2013; Pugliese, Nicholson and Bezeme, 2015) because it is supported that interactions during board meetings are the most crucial factors of board effectiveness.

Thirdly, by extending the upper echelons perspective from the top management teams (TMTs) to the board of directors, as per the suggestion of Finkelstein, Hambrick and Cannella (2009) aim to shed light on important issues that could help the field of corporate governance to formulate a more comprehensive understanding of why some boards and organisations are successful and others not. This research moves beyond the bulk volumes of studies of board diversity on performance and focus on the way that upper echelon dynamics and processes affect outcomes. A bulk volume of research on board effectiveness has focused on the role of demographic characteristics on organisational performance. However, the findings have produced mixed results because diversity seems to be dependent on the context and the design of the study (Homberg and Buiu, 2013). Research in corporate governance lacks understanding of the behavioral processes and group interactions that determine board effectiveness (Minichilli et al. 2012; Roberts, McNulty and Stiles, 2005). Forbes and Milliken (1999, p. 502) state that ‘‘understanding the nature of effective board functioning is among the most important areas of management research’’. The authors underline that the effectiveness of the board lies on various social-psychological processes and they note that an effective board is characterized by high levels of interpersonal attraction. With this study, an attempt is made to open the black box of board and organisational performance by focusing on the way that group members interact. Furthermore, the limited volume of management research that exists about processes has mainly focused on top management teams and not on way that board members share information and help each other to solve problems. Taking into account the gaps in the field, the author considers the three constructs of the model stimulating in understanding the dynamics of board of directors and the way they shape their decision-making processes.

Fourthly, the focus is on the Nordic corporate governance model. The Nordic corporate governance model remains still the less known outside the Nordic region (Thomsen, 2016). As Lekvall (2014) supports this model is the solution to the agency problems of ownership since it creates actives owners. The agency-problem in Nordic Boards is related in the type II agency conflict (termed also o principal-principal conflict) between major shareholders who participate in the board and minor shareholders with less influence. (Easterbrook and Fischel, 1991; Faccio and Lang, 2002; Nachemson-Ekwall, 2017; Shleifer and Vishny, 1986). The Nordic board is a superior management and strategy setter for the corporation and its study could bring substantial benefits to academic and the whole corporate governance society.

At this point, it should be mentioned that with the current model, board processes are explored as determinants of board effectiveness by avoiding reliance on secondary data. The research is based on perceptions of individuals about the intra-team conflict, trust and behavioral integration and the author considers the individual level as a paramount level of analysis. For example, regarding conflict, Greer and Dannals (2017) and Korsgaard et al. (2008) support that the heart of conflict is an individual-level phenomenon which is heavily dependent on individual's perceptions; thus, if we want to examine the conflict that exists in the team, we first have to be familiar with the processes occurring at the individual level and then to proceed to the dyadic and team level. A large stream of research examining empirically intra-group conflict perceives it as an individual-level psychological process and operationalises conflict processes measures at the individual level (Korsgaard et al. 2008; Smith-Crowe, Brief and Umphress, 2007). Conflict, trust and behavioural integration are operationalised at the individual level in this study.

In this research, focusing on various theoretical perspectives (upper echelons, information processing theory, social exchange and on various corporate governance theories presented in chapter 2) we frame the theoretical framework to study the dynamics of the board of directors and address the gaps literature.

Regarding the envisioned benefits of the study, it is expected that this thesis will provide very useful recommendations to academia, corporate governance community, organisational leaders and team designers. The study of the board interactions in Nordic Region could give us useful lessons and best practices for the operation of global organisations. A detailed and coherent presentation of the contribution of this study to conflict, trust, behavioural integration and board effectiveness literature is made in section 9.3 of this thesis, whereas useful recommendations for corporate governance researchers, management practice and organisational leaders are presented in section 9.4.

1.5 Outline of the Study

Chapter One presents the research framework, aim objectives, research questions and hypotheses, underlying also the potential significance of this research effort.

Chapter Two makes a detailed review of the pertinent management and group psychology literature. The roles of boards are discussed along with the main theoretical

perspectives of corporate governance literature (agency theory, resource dependence theory, upper echelons theory, stewardship theory, institutional theory, social network theory and stakeholder's theory). The chapter presents the three basic constructs of the model (Conflict, Trust and Behavioral Integration) and conceptualises the terms of Board Effectiveness and Organisational Performance.

Chapter Three includes the assumptions of the theoretical model and a discussion directly derived from corporate governance and team psychology literature, produces the hypotheses to be investigated.

Chapter Four concerns the research methodology of this study, addressing several important issues such as philosophy and epistemology, research design, the development of the questionnaire instrument, the process of data collection, the sampling frame and the response rate attained.

Chapter Five presents the descriptive findings from 186 usable responses which were collected via the utilisation of the web survey method. Summaries of the measures along with tables and diagrams will form the basis of the descriptive analysis.

Chapter Six analyses the results of Principal Components Analysis (PCA) which was utilised to reduce a large set of variables into a smaller one. PCA was performed for the constructs of trust, conflict, behavioral integration, board performance, strategic decision quality and organisational performance.

Chapter Seven discusses the findings of Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) which were employed to test the pre-developed hypotheses about the underlying structure of the variables. In this Chapter, it is evaluated how well the observed variables fit the model, whereas the various hypotheses between the dependent and independent variables are tested.

Chapter Eight utilises additional statistical tests, which extend beyond the initial hypotheses, to explore further the constructs of this study, increase the robustness of our findings and contribute to the corporate governance field.

Finally, Chapter Nine summarises this research, underlines its significance and provides theoretical and practical recommendations to academic researchers, policy makers and management practice. The limitations of the study will be addressed and recommendations for future research directions will be provided.

1.6 Summary

In this first Chapter, it is made an introduction to the aims of the current study, research framework, objectives, hypotheses and the motives of this study. This chapter emphasizes the importance of this empirical study since in the corporate governance field we need a better understanding of the behavioral processes and group interactions that lead to superior performance. The Nordic corporate governance model remains still the less known outside the Nordic region (Thomsen 2016) but this study wishes to gain a better insight of the dynamics and interactions that take place in the Nordic boardrooms.

The attention will turn now on Chapter 2 in which a coherent analysis is made about the roles of the board of directors the main theoretical perspectives of corporate governance and team literature. Starred journals from the ABS 2015 Guide will be used to study the board processes and conceptualise the terms of board effectiveness and organisational performance.

CHAPTER 2: Literature Review

2.1 Introduction

The literature review in this chapter is drawn from multiple disciplines, including management, psychology and sociology, which enable us to gain a deep understanding of organisational teams and team's interactions. Starred journals from the Academic Journal Guide 2015 (e.g. Academy of Management Journal, Administrative Science Quarterly, British Journal of Management, Journal of Management, Journal of Applied Psychology, Journal of Management Studies, Organisation Science, Strategic Management Journal, Small Group Research, The Leadership Quarterly, The Academy of Management Review, International Journal of Conflict Management, Organisational Research Methods, Journal of Trust Research) explored to study the constructs of the model.

This chapter presents the conceptualisation of the term ''team'' and discusses two important teams at the upper echelons of the organisation: top management teams and board of directors. Special attention is given on the role of the boards and their importance in corporate governance of the firm. Furthermore, three basic team processes are presented (Trust, Conflict and Behavioral Integration) and an analysis is made about their relation to Board Effectiveness and Organisational Performance. In the literature review the theoretical perspectives of the model are presented, emphasising on Upper Echelons, Social Exchange and Information Processing perspectives as well as on various corporate governance theories.

2.2 What is a Team?

The most crucial decisions in organisations are made by teams and usually we come across with terms such as cross-functional, project and top management teams. A team, termed also as group in literature (e.g. Sundstrom et.al., 2000), is a set of two or more individuals who dynamically interact with each other to achieve shared goals (Salas et al. 1992; Salas, Rico and Passmore, 2017). Guzzo and Dickson define team as:

> "a collection of individuals who are interdependent in their tasks, who share responsibility for outcomes, who see themselves and who are seen by others as an intact social entity embedded in one or more larger social systems (for example, business units) and who manage their relationships across organisational boundaries". Guzzo and Dickson (1996: 308)

Based on this definition Wageman, Gardner and Mortesen (2012) concluded that there are two required prerequisites for each team: membership (who belongs to the team) and a collaborative task. An effective team is involved both in task-work and team-work (Burke, Wilson and Salas, 2003; Dinh and Salas, 2017). Task work is the work need to be done to fulfil teams' objectives, whereas teamwork encompasses all these processes (cognitive, affective and behavioural) that lead to the successful achievement of goals.

The focus of this research is on work teams in organisations and we adopt the definition by Kozlowski and Bell who define teams as:

> "collectives who exist to perform organisationally relevant tasks, share one or more common goals, interact socially, exhibit task interdependencies, maintain and manage boundaries, and are embedded in an organisational context that sets boundaries, constrains the team, and influences exchanges with other units in the broader entity". Kozlowski and Bell (2003: 334)

Research in teams and team effectiveness has drawn its attention either on Input-Process-Output (IPO) models (Hackman, 1987; Marks, Mathieu and Zaccaro, 2001) or on the updated version of IPO, which is the Input-Mediator-Output (IMO) model of Ilgen et al. (2005) which is presented in Figure 2.1. The first model perceives behavioral processes, such as team conflict, as the mediator between the inputs (e.g. individual, team or organisational characteristics) and outcomes. The processes act as mechanisms that will convert inputs to outputs. The latter model takes into account the cyclical dynamic nature of member's interactions and focuses on both on processes and emergent states (either cognitive or affective states). IMO model treats performance outcomes as a new input for upcoming processes and emergent states. Consequently, the key difference of the two models is that the IPO model focuses only on processes as mediators whether the IMO examines both processes and emergent states. Both models have inputs at the individual, team or organisational levels, and produce outcomes. Scott and Wildman show the difference between team processes and emergent states stating that "Team processes are the things teams do, whereas team emergent states are things that teams think or feel" (Scott and Wildman, 2017:503).

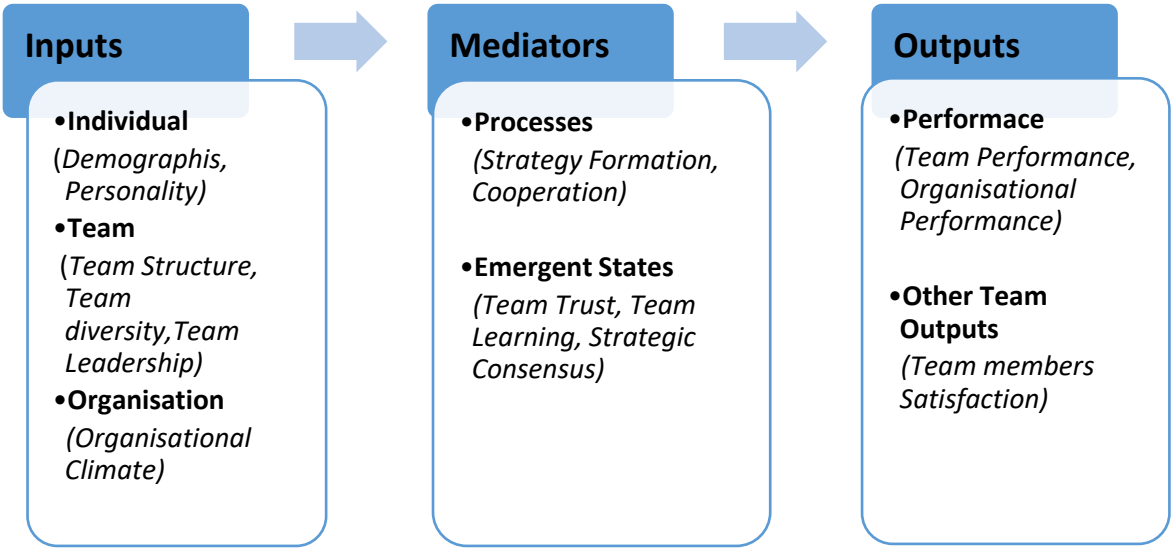


Figure 2.1: IMO Model

Adapted from Mathieu et al. (2008)

Grossman, Friedman and Kalra (2017) combined processes and emergent states and categorised all these mediator variables in ABC in which A denotes an affective mechanism, B a behavioural mechanism and C a cognitive mechanism. In this categorisation, trust is perceived as an affective mechanism and a shared psychological state among the members of a group. Conflict and behavioral integration are conceptualised as the behavioral mechanisms which encompass how members interact.

Time plays an important role in IMO models due to the cyclical nature of team working. However, given the temporal nature that organisational teams have in this competitive era, the cyclical nature of teams is reconsidered in the pursue of frameworks that focus on temporality.

The benefits stemming from the utilisation of a team are abundant and in today's competitive environment we come across with teams which usually replace individuals in leading the organisation since synergy could enable the team to achieve more than each member could achieve individually. Kanter (1988) underlined that diversity in the knowledge and experiences of team members lead to innovative and creative solutions. A group of persons with different knowledge and experiences could affect the quality of the decision-making process (Innami, 1992). Besides, teams learn from their mistakes (Tjosvold, Tang and West, 2004) discuss errors and make improvements for the future. Research has also shown that groups are

more strategic than individuals, learn the solution to the task faster and achieve this with less performance feedback (Maciejovsky et al. 2013). In every organisation, there are various teams and for any executive is of paramount importance to gain a deep understanding of the roles, responsibilities and theoretical underpinnings of these teams. Cohen and Baily (1997) categorized teams in work teams, parallel teams, project teams and management teams. For the aims of this research we focus on management teams and especially on the board of directors.

2.2.1 Conceptualisation of Top Management Team

Top management team (TMT) is a team of executives at the highest level of an organisation who are involved in the daily operations and management of the organisation. TMT is defined as "the relatively small group of most influential executives at the apex of an organisation—usually the CEO (or general manager) and those who report directly to him or her" (Finkelstein, Hambrick and Cannella, 2009, p. 10).

Team at the top has been considered a badly misused term that does not describe what teams can achieve and what makes them work (Katzenbach, 2007). There is not a common approach to the definition of the TMT and some scholars conceptualise it based on its composition (Cohen and Bailey, 1997), others focus on a broader range of managers and others emphasise only on top level executives (for a discussion see Carpenter, Geletkanycz and Sanders, 2004). The main definitions fall into the following categories:

- Officers who simultaneously hold Board positions (Finkelstein and Hambrick 1990; Haleblian and Finkelstein 1993)
- Managers at the vice-president level and higher (Finkelstein and Hambrick 1996; Hambrick and D'Aveni 1992; Hambrick, Humphreyand and Gupta 2015; Ridge, and Ingram, 2017; Wagner, Pfeffer and O'Reilly, 1984; Yoon, Kim and Song, 2016)
- The two highest executive levels (Wiersema and Bantel, 1992)
- All managers identified by the CEO (Amason, 1996; Bantel and Jackson 1989; Barsade, Ward, Turner and Sonnenfeld, 2000; Buyl et al. 2010; Carmeli, Sheaffer, and Halevi, 2009; Heavey and Simsek 2017; Pitcher and Smith, 2001)
- Top five highest paid executives (Bertrand and Schoar, 2003)
- All top-level executives listed in the IPO prospectus (Kor, 2006; Mousa, Kim and Rutherford, 2016; Zimmerman, 2008).

Examining top management teams, we find that a substantial volume of literature is based on the upper echelon perspective developed by Hambrick and Mason (1984) which perceives top management team as a group of individuals, responsible for developing and implementing strategies and whose attributes can affect firm performance directly, as well as indirectly through strategic choices.

2.2.2 Board of Directors

The Board of directors is an upper echelons group of individuals within an organisation with the main aim to oversee the management and the direction of the organisation. In the 90s the role of board was to act as a simple rubber stamp for management proposals (Lorsch and MacIver, 1989). Nowadays boards are conceptualised as the first line of defence against the misbehaviours of CEO (Barka and Legendre, 2016) since the recent corporate scandals of the 20th century gave them multiple responsibilities, including the monitoring of the top management team.

Boards are "elite, and episodic decision-making groups that face complex tasks pertaining to strategic-issue processing" (Forbes and Milliken, 1999: 492). Boards can also be conceptualised as the "apex of the firm's decision control system" (Fama and Jensen, 1983: 311). The board consists of its Chairman, Chief Executive Officer (CEO) and Directors ("functional" Board members either executive or non-executive). In this study, consistent with previous studies (Boivie et al. 2016; Dalton and Dalton, 2011; Zona and Zattoni, 2017), the author conceptualises the board as an information-processing workgroup which produces and shares information to perform multiple roles and complete its tasks within an organisational context.

Recent academic and empirical research shows that directors should work as a team, which shares information, resources and develops team norms, to boost board outcomes, collective knowledge and a shared mindset base (Charas, 2016; Finkelstein and Mooney, 2003; Gabrielsson, Huse and Minichilli, 2007; Payne, Benson and Finegold, 2005). Minichilli et al. (2012:195) argue that although boards share common characteristics with other groups, they also possess some distinctive characteristics which make them vulnerable in ''process losses'' which in turn prevent them from the achievement of superior board outcomes. These characteristics are:

- Their size is larger than that of other teams
- A large number of executives are not stakeholders in the company (outsiders executives) and retain affiliations with other companies
- They meet occasionally approximately 6 to 12 times per year
- The nature of the outcome of their work is totally ‘‘cognitive’’

Although there is evidence that boards should work as a team, the literature lacks understanding of the behavioural processes and group interactions that determine board effectiveness (Bezemer, Nicholson and Pugliese, 2014; Machold and Farquhar, 2013; Pettigrew, 2013; Pugliese, Nicholson and Bezeme, 2015; Roberts, McNulty and Stiles, 2005).

2.3 The Importance of Boards in Corporate Governance

The board of directors is the key organ of the internal system of corporate governance (CG). Corporate governance is about “the structures, processes, and institutions within and around organisations that allocate power and resource control among participants” (Davis, 2005:143). Another definition is that of Donaldson (2012:257) who views corporate governance as “the collection of rules, policies, and institutions affecting how a firm is controlled.

Various corporate scandals of the last two decades (Enron, Worldcom, Tycon, Lehman Brothers, Volkswagen Emissions Scandal, and Toshiba Accounting Scandal) raised the importance of proper corporate governance practices. As a result, a plethora of corporate practices and codes (e.g. The UK Corporate Governance Code and Sarbanes Oxley Acton in USA) have been emerged focusing mainly on board characteristics and structure as the main determinants for good governance. Hundreds of studies have assessed the elements that constitute an effective CG system and investigated CG features, like the gender of directors, board size, the establishment of board committees, the board leadership structure, the frequency of board meetings and the presence of independent non-executive directors in the board. The inconsistent results from the effect of CG features on board effectiveness have led the research community to examine micro dynamics and processes that take place inside the board room.

The importance of boards is evident from the multiple roles that boards are required to undertake. A plethora of academic articles on boards questions: “what is the role of the board?”.

The new challenges of the 21st century, such as cybersecurity, activist investors, loss of trust of the society into the companies and a volatile external environment, force boards to re-examine their roles (Deloitte, 2016). Boards are of paramount importance because they possess the essential skills, networks and expertise to guide the organisation in this changing and volatile environment. Amongst others, they establish a policy based governance system, monitor the TMT, balance the interests of various stakeholders, devise corporate strategies and are involved in the CEO succession planning.

Back in the eighties, Williamson (1984) applying a "transaction cost economic" approach proposed that the main role of the board is to provide governance structure protection for the interests of stockholders. In a later study, Zahra and Pearce (1989) support that the role of the board falls into three categories: service, strategy, and control. In 1999, following the same line with Zahra and Pearce, Westphal moved beyond the monitoring role of the board and underlined that that boards could affect strategic decision making when there is collaboration between the CEO and board which is based on constant advice and direction. Boards are the guardians of corporate success and in an attempt to understand better the roles of these executives, six important theories of corporate governance are presented in sections 2.3.1-2.3.7.

2.3.1 Agency Theory

Agency theory, which is one of the most influential theories when discussing board composition and characteristics, is based on the work of Berle and Mean (1932) about the separation between ownership (shareholders) and control (management). Conflict between managers (agents) and principals (owners) could lead to self-serving actions by managers at the expense of the owners (Fama, 1980). For this reason, the board of directors should play a monitoring role on behalf of the shareholders and avoid any opportunistic behaviour (Jensen and Meckling, 1976).

From the above discussion, it is evident that corporate governance problems under agency theory are related to the risk-sharing issues that exist in a principal-agent relationship. In an organisational setting, agency theory focuses solely on the monitoring function of the boards of directors. Board members should monitor the management (agents) from taking opportunistic behavior and protect shareholders' (principals) interests. For an effective control mechanism of decision making there should be separation between control and management (Fama and Jensen,

1983; Jensen and Meckling, 1978). Jensen and Meckling (1976:308) state that "if both parties to the relationship are utility maximisers, there is a good reason to believe that the agent will not always act in the best interests of the principal". Besides, the authors state that the shareholders should give to agents appropriate incentives such as bonuses and stock options if they want to ensure that the agent will make optimal decisions.

The CEO and Chairman of the board are two separate entities and the majority of the board should be comprised of independent members. Hillman and Dalziel (2003) support that under agency theory the board should monitor the CEO, plan its succession, monitor the strategy implementation, evaluate and reward the executives of the organisation. Within the frameworks of agency theory, the board of directors of the modern corporation plays a fiduciary role for shareholders and a monitoring role for management; this board role is critically tied to the imperfect agency relationship between shareholders and managers.

Boards have a positive effect on organisational performance by performing their monitoring role (Kumar and Zattoni, 2013). Board effectiveness, is conceptualised as the positive effects of board monitoring and is achieved through the structural characteristics of the boards, such as size (Kiel and Nicholson, 2003), board independence (Zattoni and Cuomo, 2010) or board incentives (Zahra, Neubaum and Huse, 2000). Agency theory has given great emphasis on the number of independent directors, supporting that the majority of board members should not be employed by the organisation and have no affiliations with the firm or its employees (Bednar, 2012; Fama, 1980; Fama and Jensen, 1983; Johnson Daily and Ellstrand, 1996; Zorn et. al., 2017). Independence increases objectivity and reduces CEOs' opportunistic actions.

Despite the popularity of agency theory, the findings about the relation between the structural characteristics of the board and organisational performance are mixed and inconsistent. Firstly, the author supports that the agency perspective should be used in conjunction with complementary theories (Daily, Dalton and Cannella, 2003; Roberts, McNulty and Stiles, 2005) so as to advance the study of corporate governance in modern organisations beyond the sole protection of shareholders' interests. Unfortunately, the structures and controls proposed by supporters of agency theory did not manage to prevent the 21st century corporate collapses and fraud scandals (Conyon, Judge and Useem 2011; Crow and Lockhart, 2016; Soltani, 2014). Secondly, the last two decades, various scholars (e.g. Forbes and Milliken, 1999) have raised the importance of board dynamics and processes and underlined the departure from

demographic and structural characteristics to team's dynamics. If we want to advance the study of corporate governance field, these voices should be taken into account when examining agency theory.

Concluding, it should be mentioned that Kumar and Zattoni (2017) support that apart from the typical agency conflicts between outside investors and management, current literature explores also other types of agency conflicts between various internal and external stakeholders. For example, scholars examine the conflict between controlling shareholders and outside investors (Kumar & Zattoni, 2015) or management and the board (Kumar & Sivaramakrishnan, 20108). Kumar and Zattoni (2017) support that for the resolution of these types of conflict, a mixture of CG mechanisms is needed. These CG mechanisms could include monitoring by independent boards, auditors or large outside investors. Furthermore, national level policies and regulations could help in the resolution of this type of conflicts

2.3.2 Resource Dependence Theory

Resource dependence theory is based on Pfeffer and Salancik's (1978) work and is linked to the ability of the board to bring resources to the firm. These resources could be "anything that could be thought of as a strength or weakness of a given firm" (Wernerfelt, 1984: 172). Every organisation under resource dependence theory is an open-system and in this system boards of directors provide: (1) advice and counsel (2) legitimacy (3) channels for communicating information between external organisations and the firm and (4) preferential access to resources (Pfeffer and Salancik, 1978).

The basic focus of the theory is on human and social capital and examines how directors provide resources to the firm (Chen, Hsu and Chang, 2016; Dalziel, Bowerman and Gentry, 2011; Haynes and Hillman, 2010). Interlockings is one of these parameters of board capital that has attracted the greatest attention. An interlock is a social relation that exists between two corporations in cases that one board member holds simultaneously positions in both organisations. Board members who sit on the boards of other companies bring resources and valuable corporate information to the organisation. Under this theory, the acquisition of resources is the primary purpose of the board, and hence board members are the vehicles which are selected for their background, networks and skills to contribute to the achievement of organisational competitive advantage.

2.3.3 Stewardship Theory

In the opposite direction of agency theory lies stewardship theory which postulates that the motives of agents and principals are aligned. Agents are motivated to act in the best interests of their principals (Davis, Schoorman and Donaldson, 1997; Donaldson and Davis, 1991; Sundarmurthy and Lewis, 2001) and have as ultimate aim to maximize returns to shareholders. Executives are professionally and psychologically mature individuals who do not engage in opportunistic behavior and cooperate with the owners for the achievement of common goals. A steward is motivated through intrinsic rewards such as personal fulfilment, growth opportunities and affiliations. The main role of the board is the counselling, advising the CEO throughout the decision-making process. The board strives to maintain a successful organisation in which the shareholders could prosper. Firms that embrace stewardship theory are in favour of duality, namely the simultaneous appointment of the same executive both as CEO and Chairman. Overall, stewardship theory underlines the need for collaboration and trust in the interactions between the board of directors and top management executives (Mason, Kirkbride and Bryde, 2007). The large volume of corporate laws, regulations and codes, along with the financial corporate scandals which are at the forefront of business discussions in the popular press in the last decades, give us evidence that agency theoretic assumptions have attracted far more attention than stewardship theory (Martin and Butler, 2017).

2.3.4 Institutional Theory

Institutional theory (Scott, 2004) considers the processes by which structures, rules and routines, give meaning to social behavior. Institutional theory is about the deeper aspects of social structure and encompasses all the processes that enable rules and norms to become patterns for proper social behaviour. Institutional theory is a broad theoretical perspective that emphasizes rational myths, isomorphism, and legitimacy (Scott, 2008). Organisational survival requires compliance with rules, norms and patterns of doing things prevailing in the environment (DiMaggio and Powell, 1983). This compliance enables things to be done in a specific way and individuals comply with the structures and processes that have already gained legitimacy from the environment.

Williamson (1975) perceives the top management team as creator of the governance structure that enable the firm to reduce transaction costs. Zajac and Westphal (1996) showed how socio-political motives can affect the decisions of powerful boards during the selection

process of a CEO. DiMaggio and Powell (1983) questioning why organisations are becoming so similar, concluded that firms which face similar environmental threats will adopt similar organisational structures. The authors support that isomorphism is the outcome of coercive (pressures from other organisations and culture forces), mimetic (uncertainty in the environment that leads to imitation), and normative pressures (professionalism in the work leads teams to struggle to define rules and procedures). These three powerful institutional forces act upon all organisational bodies that operate in the same institutional context and yield common characteristics.

Within the board framework, the central idea of institutional theory is that the board provides legitimacy for the firm and that the external environment might influence this function. Simply stating, a board acts as the facilitator of the relationship between the organisation and the environment. Minichilli et al. (2012) found a strong positive relation between the Nordic institutional context and board effectiveness and showed how institutional constraints shape the way boards perform their tasks. Concluding, according to Boyd, Haynes and Zona (2011:1901), "resource dependence theory and institutional theory are similar in that both contend that organisations must adapt to a constantly changing and uncertain environment".

2.3.5 Social Network Theory

Social network theory tries to understand the operation and performance of a firm via a network of social ties. Boyd, Haynes and Zona (2011: 1896) state that "organisations are interconnected with other entities through a range of social networks, including supplier relationships, resource flows, association memberships, relationships among individual employees and alliances". Board is the mechanism which connects executives of different organisations enabling them to exchange information, experiences and knowledge. Lynall, Golden and Hilman (2003) support that board composition depicts the social networks of the principal's stakeholders, such as CEO. Harris and Helfat (2012) propose that if we want to gain a better insight of the relations between different boards we should apply a conceptual framework that portrays board as a social network of internal social relationships. Besides, in board governance studies, emphasis has been given on the interlocking directorates, namely the number of positions that a board member holds simultaneously and how this affects organisational outcomes (Gulati and Westphal, 1999).

There are similarities between the resource dependence and social network theories in a sense that both perspectives postulate that a firm is dependent on other entities. Via resource dependence theory the organisation is dependent on the resources that exist in the environment whereas under network theory the firm is based on a network of interrelated ties.

2.3.6 Stakeholders Theory

The father of stakeholder theory, Freeman (1984), views a stakeholder as "any group or individual who can affect, or is affected, by the achievement of a corporation's purpose". Every organisation has a range of stakeholders and these include employees, customers, suppliers, shareholders, banks, activists, competitors, unions. Boards within the framework of stakeholder theory coordinate the various groups that exist in society and balance conflicting interests. The stakeholder perspective of corporate governance has mainly linked to corporate social responsibility as a measure of board effectiveness (Garcia-Torea, Fernandez-Feijoo and Cuesta, 2016; Jamali, Safieddine and Rabbath, 2008) in an attempt to assess the value of the organisation to owners, shareholders and society at large.

Organisations which take a stakeholder-oriented corporate governance approach outperform those who focus solely on their shareholders (Bottenberg, Tuschke and Flickinger, 2017; Hillman and Keim, 2001; Kacperczyk, 2009). The positive effects of a stakeholder's approach, such as long-lasting access to valued resources and organisational learning, outperform the negative ones that may arise and could include conflict between the different stakeholders' groups or higher costs.

2.3.7 Concluding Remarks about Theories of Corporate Governance

Table 2.1 summarises the different theoretical perspectives on corporate governance and presents the key role of the board under each one theory. There is not a unanimous outcome about the main roles of the board. For example, Pearce and Zahra (1992) found three sets of interrelated roles: service, strategy and control whereas Johnson and colleagues (1996) came up with the control, the service and the resource dependence roles. Furthermore, Hillman and Dalziel (2003) analysed the monitoring and the provision of resources functions whereas the study of van den Heuvel, Gils and Voordecker (2006) gave emphasis on the control and service roles. However, it is evident from the literature that the monitoring role of the board has

dominated governance research (Bravo and Reguera-Alvarado, 2017; Goranova et al. 2017; Tuggle et al. 2010).

From this research, it is also clear that the determination of the board roles is not a straightforward and easy task (McNulty, Florackis and Ormrod, 2013; Westphal, 1999) and the time spent on one role may be on the expense of others. For example, the time spent to supervising activities could affect negatively the advisory service activities (Baldenius, Melamud and Meng, 2014) or the strategic ones (Faleye, Hoitash, and Hoitash, 2011; Schwartz-Ziv and Weisbach, 2013). Goranova et al. (2017) respectively found that there is a dark side to the monitoring role since there are both positive and negative aspects during mergers and acquisitions (M&A). From the one hand, the chances of directors to make extremely risky M&A investments is reduced but on the other hand the shareholder's value is decreased.

The move from traditional passive agency roles to multiples roles is of paramount importance in this competitive era. When we examine the boards' roles we cannot exclude the important role that the board of directors should play in strategy. Today's competitive environment put pressures on boards to take a more strategic role. However, agency theory does not expect from directors to implement strategies, instead they are likely to contribute to strategy via the monitoring of strategic decisions (Bravo and Reguera-Alvarado, 2017; Fama and Jensen, 1983; Pugliese et al. 2009).

Table 2.1: Theories of Corporate Governance for the Role of the Board

Theory	***Brief Description***	***Role of the Board***	***Example of Board Tasks***	***Key authors***
Agency Theory	Describes the potential for conflicts of interest that arise from the separation of ownership and control in organisations	Control and Monitor		Berle and Means, 1932; Darus, 2011; Fama 1980; Fama and Jensen, 1983; Jensen and Meckling, 1976; Johnson, Daily and Ellstrand, 1996; Minichilli, Zattoni and Zona, 2009
Resource Dependence Theory	The corporation is an open system, dependent on contingencies in the external environment	Service and Advisory	Advice and counsel to top managers, external legitimacy and networking	Dalziel, Bowerman and Gentry, 2011; Haynes and Hillman, 2010; Pfeffer and Salancik, 1978; Wernerfelt, 1984
Stewardship Theory	Stewards (opposed to agents) are motivated to act in the best interests of their principals	Advisory, Fiduciary, Strategic	Advice and support to top managers, involvement in the whole strategic decision-making process	Davis, Schoorman, and Donaldson, 1997; Donaldson 1990; Donaldson and Davis, 1991; Mason, Kirkbride and Bryde, 2007
Institutional Theory	Organisations conform to accepted norms of their populations and tend to passively conform to the external environment	Maintenance	Analyse the external environment	Barley and Tolbert, 1997; DiMaggio and Powell, 1983; Powell and DiMaggio, 1991; Scott 2004; Selznick, 1957; Zajac and Westphal 1996
Social Network Theory	It seeks to understand how firm behavior and performance may be explained via a pattern of ties with external actors.	Social	Networking task	Boyd, Haynes, and Zona, 2011; Burt, 1992; Harris and Helfat, 2007
Stakeholder Theory	It postulates the coordination of the various groups that exist in society	Coordinating	Coordinating stakeholder interests, Monitoring corporate financial performance	Bottenberg, Tuschke and Flickinger, 2017; Donaldson and Preston, 1995; Freeman, 1984, Garcia-Torea, Fernandez-Feijoo and Cuesta, 2016; Hill and Jones, 1992; Hillman and Keim, 2001; Hung, 1998; Jamali, Safieddine and Rabbath, 2008; Kacperczyk, 2009

From the above we deduce that board's involvement and role in the operation of the organisation is such a complex phenomenon that no single theoretical perspective could adequately capture them (Hung, 1998; Halton, 2016). Consequently, a combination of different theories may be the solution in the explanation of the various roles that the board fulfil in this dynamic era (Gabrielsson and Huse, 2005). Lynall, Golden and Hilman (2003) support that each one of the above-mentioned theories can be relevant to the board composition depending on the stage of the life cycle of the organisation. Quinn and Cameron (1983) explained that social network theory is more relevant in the entrepreneurial stage, resource dependence during the formalisation and control stages. When institutions such as financers have relative power, then institutional theory could be applicable as well as agency theory in the formalization and control stages. Figure 2.2 presents the findings of Lynall, Golden and Hilman (2003) and the relevance of board governance theories to the stage of the life cycle of the organisation.

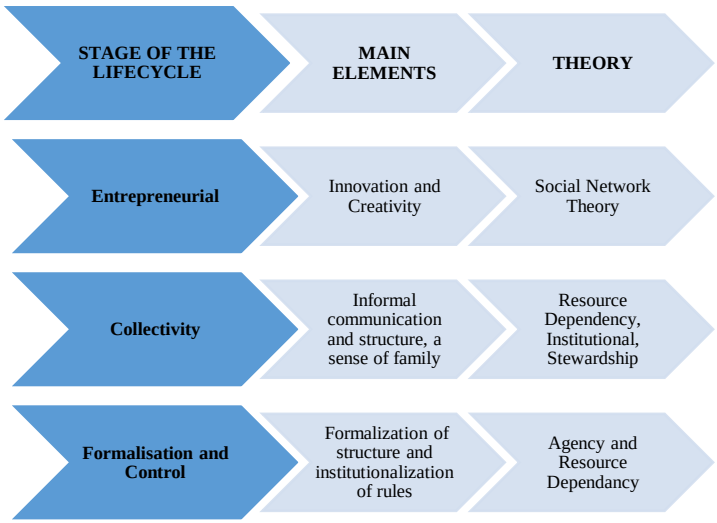


Figure 2.2: Board Governance Theories and the Stage of Life Cycle

Adapted from Lynall, Golden, Hillman (2003)

L'Huillier (2014), examining academic publications from 1985-2012, deduced that the perspective of the authors defines which theory is to be employed. For example, if authors perceive executives as altruistic beings, then they utilise the stewardship perspective. Those who base their arguments on an agency framework, perceive the character of an executive as being self-interested. On the other hand, scholars of resource dependency, stakeholder and social

network perspectives depart from personal attributes and characteristics and view executives as an essential element of the organisational structure that is there to protect the organisational interests.

In the literature, there are also cases that the authors combine different and sometimes conflicting theories. For example, Turnbull (1997) and Laing and Weir (1999) discussed the possibility of individuals behaving both as self-serving agents and as stewards. Hill and Jones (1992) also introduced an amalgam of stakeholder and agency perspectives.

Concluding, the opposing views about the role of the board, suggests a need to move beyond perspectives that are based on board composition or structure and focus more on what actually happens inside the boardrooms (Crow and Lockhart, 2016; Halton, 2016; Heemskerk, Heemskerk and Wats, 2017). Different recent meta-analyses (Finegold, Benson and Hecht, 2007; Lawal, 2012; Petrovic, 2008; Pugliese et al. 2009) have confirmed that the relation between board composition and performance is not clear. Thus, the attention is now turning to the processes and mechanisms inside the boardrooms and the way these affect board effectiveness, considering the various roles that the executives perform in this dynamic era.

2.3.8 Corporate Governance Models

The most widespread corporate governance systems are the one-tier and two-tier models whereas the least known model is the Nordic system. In the one-tier structure of the US, UK and Japan listed companies, the board is the sole decision-making body which is comprised of executive and non-executive directors. Besides, it is common the same person to hold simultaneously the positions of CEO and Chairman (Duality). The General Meeting has the ultimate power over the board.

The two-tier system, used in Germany, Netherlands, China, Indonesia and countries under a German jurisdiction, includes three corporate bodies: the General Meeting, the Supervisory Board and Management Board. The Supervisory Board monitors the management, whereas the Management Board has the ultimate power to perform executive tasks. The Management Board is a powerful decision-making body with limited control from the shareholders and Supervisory Board. Simultaneous membership in both boards is prohibited.

Bezemer, Nicholson and Pugliese (2014) support that although the one-tier model reduces information asymmetries in the decision-making process, it jeopardises the ability of

the monitoring role of the board since executives and non-executives operate on the same board. However, the authors support that there are also challenges for two-tier boards since the separation of decision-management from decision-control affects negatively the working relationships between the management and supervisory boards as well as the level and quality of information provided by management.

Contrary to the two previous models, in the Nordic Model there is a clear-cut hierarchy that gives full power to the General Meeting to ensure the long-term sustainability of the company. The board members are liable to the General Meeting and have the delegation to run the company during their term of service. The Executive Management has limited power and can be dismissed at any time by the board. The differences between the CG systems are presented in Table 2.2.

Table: 2.2: Differences between One-Tier Model, Two Tier and Nordic Model

	One Tier Model (Anglo-American)	**Two Tier Model (countries under German jurisdiction)**	**Nordic Model**
Ownership	General Meeting (Diverse Ownership structure)	General Meeting	General Meeting (Single or small numbers of major shareholders)
Monitoring and Control	Board: Non-executive and executive Directors)	Supervisory Board	Board: Non-Executive Directors
Executive level		Management Board	Executive Management

Adapted from Lekvall (2014)

The Nordic Corporate Governance Codes that have been introduced in each country of Nordic region, created a common Nordic approach that constitutes an example of good corporate governance practice in listed companies. In the Nordic model, there are three decision-making bodies: the Shareholders Meeting, the Board of Directors and the Chief Executive Officer. Besides, there is a statutory auditor which is a control body appointed by the shareholders' meeting with the aim to review the work of the board and management (Figure 2.3).

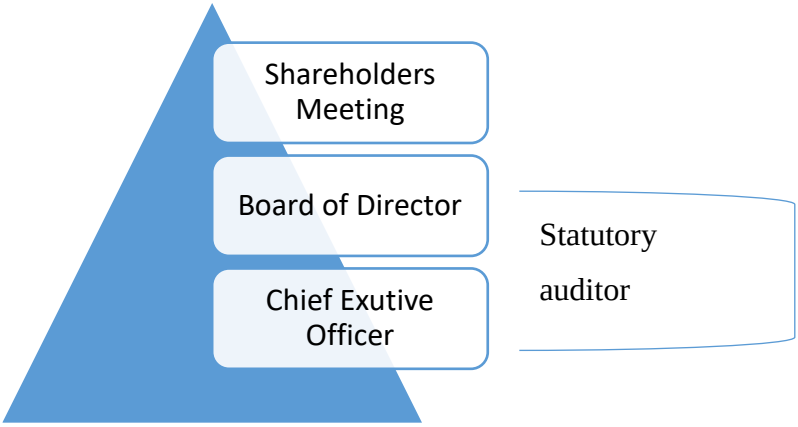


Figure: 2.3: Decision Making Companies in Listed Companies
Source: The Swedish Corporate Governance Code (2016)

The Shareholders Meeting is the highest decision-making body and is comprised of major and minor shareholders who possess shares, exert influence on the organisation and have the long-term responsibility for their company. Shareholders promote the balance between owners, the board and the executive management (The Swedish Corporate Governance Code, 2016). Every organisation is owned by a few major shareholders (those who possess 10% or above of the company's shares) and various minority shareholders for whom there are provisions for the protection of their interests. For example, in the General Meeting, the board or the executive management cannot take decisions that favour major shareholders at the expense of minor shareholders (Lekvall, 2014). The Shareholders Meetings is the ultimate body that decides about the election and appointment of the members of the board.

The board is considered as the shareholders' agents who establish the overall goals and strategy of the company, is responsible for the management, evaluates the performance of CEO and focuses on the long-term value creation. Boards are obliged to follow the directives passed by the shareholders' meeting. Major shareholders are usually sitting on the board. This implies that major shareholders have close ties with the majority of the board members and major owners take active part in the governance of the organisation (Lekvall, 2014).

Nordic boards are mostly comprised of outside, non-executive directors, and this creates a clear division of tasks and responsibilities between the executive management and board of directors. The Swedish Code specifies that the majority of board members should be independent of the company and its management, whereas it is stated that at least two members must also be independent of the company's major shareholders. The CEO is usually the only

once executive elected to the board. Besides, employee representation in the board is a common practice in various Nordic large companies. Employee representation is a trace of social democracy in Nordic corporate governance (Thomsen, 2016).

The Executive Management and CEO are subordinate organs to the board of directors. The CEO is responsible for the daily management of the company and follows the instructions given by the board. Duality is not advised in the listed companies and the CEO cannot be the Chairman of the Board.

The study of the board of Directors in Nordic Region could give us useful lessons for the operation of these companies. The Nordic corporate governance model remains still the less known outside the Nordic region (Thomsen, 2016). As Lekvall (2014) supports this model is the solution to the agency problems of ownership since it creates actives owners. The agency-problem in Nordic Boards is related in the type II agency conflict (termed also o principal-principal conflict) between major shareholders who participate in the board and minor shareholders with less influence. (Easterbrook and Fischel, 1991; Faccio and Lang, 2002; Nachemson-Ekwall, 2017; Shleifer and Vishny, 1986).

The role of the board in the Nordic context moves beyond agency perspective to team production theory (Blair and Stout, 1999; Huse, 2007; Nachemson-Ekwall, 2017) in which the board's role is the protection of the investments of the whole corporation, including controlling and minor shareholders, managers, employees and creditors. The rationale of this model is that if a major shareholder has the incentives to spend time and skills into the organisation, then he/she creates a sufficient condition for the long-term value creation to the benefit of all shareholders.

'The Nordic board is a superior management and strategy setter for the corporation, which sits on top of the ancillary executive board and controls the latter at will. In addition, it is also charged with supervision of the executive board's activities' (Ring, 2016:33).

2.4 Conceptualizing the Dynamics of the Board of directors

Dynamics is a broad term that encompasses all the processes and attitudes that exist between team members and influence the direction of team's performance. All the interactions between team members are considered as an indicator of group dynamics (Hackman, 1987). Trust, conflict and behavioural integration comprise psychological facets of teamwork and are

amongst the most common dynamics of a team. Conflict and behavioural integration are viewed as process variables in literature whereas trust is considered to be an 'emergent state', namely an aggregate of the members' views about the way that they affect and are affected by team interactions. Intra-team processes are about the interactions between team members (Foo, Sin and Yiong, 2006). Team processes are interactions between members of a group that convert inputs to outcomes through cognitive, verbal, and behavioral activities with the ultimate aim to achieve shared goals and orchestrate task work (Marks, Mathieu and Zaccaro, 2001). Conflict and behavioural integration are essential behavioral processes of teamwork (Dinh and Salas, 2017).

Intra-team trust is one of the key dynamics of the teamwork which enhances cooperation and mutual task support between team members (Chang, Sy and Choi, 2012; Ferrin, Bligh and Kohles, 2007; Peters and Karren, 2009). Trust is an attitude and internal affective state which influences interactions and in literature is preferred to be stated as an emergent state and not as process because it is a construct that describes a group property that is dynamic and differs as a function of group context, inputs, processes, and outcomes (Marks, Mathieu and Zaccaro, 2001). As Marks and colleagues support, emergent states do not focus on the nature of interaction; instead describe cognitive, motivational, and affective states. Trust is usually perceived as one of these affective states. Emergent states can be perceived both as inputs and outcomes. An example of the relation between an emergent state and a process can be described with the following example. For instance, low intra-team trust (emergent state) could lead the team to avoid the management of conflict (process) which in turn could produce extra conflict that would diminish more the trust level.

Equally, trust, conflict and behavioural integration are not static concepts; instead all three concepts are intrinsically dynamic whose patterns over time bring difference consequences to the team. However, more research is needed to address the temporal nature of teams in this competitive era in which teams operate in dynamic cycles of goal-directed activity.

Forbes and Milliken back in 1999 were amongst the first to discuss about the need to examine to board processes, conceptualise them as social-psychological processes relating to critical discussion, exchange of information and group interaction. The ways team members interact and work with one another for reaching goals have attracted significant attention in sociology, psychology and management fields.

Top management team research has explored various processes such as communication, conflict, cooperation, trust and their impact on organisational effectiveness. Nonetheless, the role of processes has not been investigated extensively within the board of directors since the access to the boardroom is difficult and the researchers are forced to turn their attention on secondary data and proxies for board behaviors (Daily, Dalton and Cannella, 2003; Hambrick, Werder and Zajac, 2008; Zattoni, Gnan and Huse, 2015).

The current study aims to shed light on the perceptions of board members about the level of conflict, trust and behavioural integration during board meetings, which comprise the most critical forum for the group. Trust, conflict and behavioural integration are the primary attitudes, behaviors, and cognitions that arise within the board and encompass the core aspects of teamwork.

The focus is on the individual level and the author does not aggregate, with the use of statistical techniques, individual's perceptions at the team level. As Korsgaard et al. (2008) support, processes such as conflict are in their core an individual-level phenomenon which is totally dependent on individual's perceptions. At the same exist the dyadic and intragroup conflict comprise social phenomena that are displayed at higher levels of analysis but if we want to examine intragroup conflict we first should examine the processes occurring at the individual level. A large stream of research examining empirically intra-group conflict perceives it as an individual-level psychological process and operationalises conflict processes measures at the individual level (Korsgaard et al. 2008; Smith-Crowe, Brief and Umphress, 2007).

2.4.1 Conceptualisation of Conflict

Scholars in psychology and organisational behaviour have examined extensively the construct of conflict. Conflict is related to disagreements among individuals or groups about goals, opinions, relationship or processes. Jehn (1992: 7) defined it as "perceived incompatibilities, or perceptions by the parties involved that they hold discrepant views, or have incompatible wishes and desires". Conflict in an organisational setting can emerge at the interpersonal level in which there are disagreements between two individuals with incompatible goals and views (e.g., between the supervisor and employee) or at the team level in which there are incompatibilities between individuals within a group. Conflict can also occur between teams

(intergroup conflict) in which there are disagreements between different teams (e.g. the sales department with the finance department).

The aim of this study is to examine the level of intragroup Conflict that exists during board meetings. Intragroup conflict can be defined as a process that exists in a team when its members perceive differences and incompatibilities between them about goals, resources and practices. Conflict is a process stemming from the tension between the members due to real or perceived disagreements. (De Dreu and Weingart, 2003).

> "Intra-group conflict is awareness or perception of the existence of simultaneous, incompatible correct/incorrect, or approval/avoidance issues among group members, concerning task or person related issues." Hjertø and Kuvaas (2009:9)

In this study following the definition of Jehn (1995) and Salas et al. (2005) conceptualise conflict as the perceived incompatibilities in the views, interests, and beliefs between board members.

The intragroup conflict literature had initially broken-down conflict as a phenomenon with two dimensions: cognitive and relationship conflict (Amason, 1996). Relationship conflict (termed also emotional or affective conflict) is the relationship conflict in which disagreements in the team stem from negative emotions and feelings (Jehn 1995; Pelled, Eisenhardt and Xin 1999). On the other hand, task-based conflict (termed also cognitive conflict) is about task-related disagreements from differences in viewpoints (Jehn, 1995). Examples of this type of conflict include opposing views about goals or key performance indicators.

Apart from the two initial types of conflict a third item- that of process conflict- emerged the last decades in literature. Until recently, process conflict has been omitted from studies of intragroup conflict (Behfar et al. 2011). Process conflict is considered as "disagreements about assignments of duties and resources" (Jehn, 1997, p. 540). Process conflict is mainly related to coordination of activities about the way to manage the logistical accomplishment of the task and the synchronisation of people in accomplishing the task (Behfar et al. 2011). The definitions of task conflict and process conflict have not been clearly distinguished in literature. Lê and Jarzabkowski (2015), in one of the few studies of conflict in the context of strategy, found that process conflict give emphasis on the way to implement a strategy, while task conflict draws the attention on the content of the strategy.

Top management teams and board of directors are groups with individuals who may have conflicting goals and opposing views (Cyert and March, 1963). Agency theory give us evidence of the conflict that exist between the different stakeholders since managers and shareholders have different goals and usually balance their interests through the use of power and distribution of roles. Different goals and values at the upper echelons could create conflict and affect the strategic choices as well as the organisational outcomes of the organisation.

2.4.1.1 Conflict and Outcomes

The categorisation of the different types of conflict and their effect on the outcomes is not a simple task since there may be various factors that moderate these interrelations. For example, Simons and Peterson (2000) who investigated the relationship between task (cognitive) and relationship conflict support that task conflict leads to relationship conflict and only through intra-group trust the negative aspects of conflict will be remedied. Table 2.3 summarises the positive and negative effects of each type of conflict based on the most widely cited papers on conflict.

The last decades various discussions have taken place over the positive and negative effects of conflict on group outcomes. Conflict researchers in the 90s and 20s found that relationship conflict is detrimental to group performance (Amason, 1996; Amason and Schweiger, 1994; Jehn, 1995, 1997), whereas for task-based conflict there have been noticed positive effects (Amason and Sapienza, 1997, DeChurch and Marks, 2001; Simons and Peterson, 2000). Amason (1996) underlined the paradox of conflict in strategic decision-making denoting that teams with higher levels of cognitive conflict will produce higher-quality decisions whereas higher levels of relationship conflict will impact negatively the quality decisions. However, the meta-analysis of De Dreu and Weingart (2003) found that both task and relationship types of conflict have a negative impact on performance.

The most recent research investigating the consequences of process, task and relation types of conflict has reported a decrease in group performance and member satisfaction and an increase in the number of negative emotions (Behfar, Peterson, Mannix and Trochim, 2008; Greer, Jehn, and Mannix, 2008). A recent meta-analysis of de Wit, Greer, and Jehn (2012) found that the link between relationship and process conflict is negatively related whereas the relation between task conflict and team performance is zero. Similarly, the meta-analysis of O'Neill,

Allen and Hastings (2013) recommend that process and relationship conflict should be minimized. In both meta-analyses, it was noted that only in decision making teams and top management teams there be some beneficial effects of task conflict on group performance.

For relationship conflict (termed also in this research emotional conflict), which is about emotions and personal incompatibilities, there is a consistent stream of research which has concluded that this type has deleterious effects on team outcomes (see the reviews of De Dreu and Weingart, 2003; Jehn and Bendersky, 2003). Relationship conflict could obstruct the exchange of information between team members and erode strategic decision making (Amason and Sapienza, 1997).

Process conflict has been also found to have negative effect on group outcomes (Behfar, et al. 2002; Greer and Jehn, 2007; Hinds and Bailey, 2003; Vodosek, 2007). Both process and relationship (emotional) types of conflict were found to have a long-term impact on the group interactions (Greer, Jehn and Mannix; 2008) in a sense that high levels of these types of conflict in the initial interactions of the team members predict high levels of conflict in the whole lifecycle of the group. Process conflict can be concluded that is has the most deleterious effects on teams (Greer and Dannals, 2017) since it is related to strong negative emotions and adverse effects on group coordination and performance.

Task-based conflict or cognitive conflict, which is about judgmental differences on achieving common goals, is the only type of conflict which has produced mixed findings. However, the meta-analysis of De Dreu and Weingart (2003) did not support its beneficial effects. Besides, cognitive conflict has been found to weaken information processing (Carnevale and Probst, 1998), reduce group effectiveness, creativity and decision-making (De Dreu, 2006). In the sales research, similar to the findings of the De Dreu and Weingart (2003) where those of Auh, et al. (2014) who found that task conflict in sales teams is as detrimental as relationship conflict. In the board context, Zona and Zattoni (2007) as well as Minichilli et al. (2012) find no significant effect of task-based conflict on board task performance. Zona and Zattoni (2007) propose that this could be due to the fact that cognitive conflict generates negative emotions, counterbalancing its positive effects. Minichilli et al. (2012) support that task-based conflict is an anguished experience for board members.

Summarising it should be noted that from the one hand there is an extensive stream of research that has underlined the negative effects of conflict on team performance (De Dreu,

2008; De Dreu and Weingart, 2003; Jehn, Greer and Rupert 2008; Langfred, 2007). On the other hand, there are a few studies demonstrating positive relations to group performance (Pelled, Eisenhardt and Xin, 1999; Song, Dver and Thieme, 2006). Especially for task conflict there is some evidence that it improves the strategic decision making of top management teams because it facilitates the exchange of information (Amason and Sapienza, 1997, Cronin and Bezrukova, 2006) and generates alternatives (Schwenk, 1984). However, even the task-based conflict outcomes have been inconsistent (see the meta-analyses of De Dreu and Weingart, 2003; De Wit, Greer and Jehn, 2012; O'Neill, Allen and Hastings, 2013). Focusing on the board context, there are studies that find a positive relation between task conflict and board task performance (Bailey and Peck 2011; Wan and Ong, 2005) and others that do not find a significant effect (Minichilli et al. 2012; Zona and Zattoni, 2007).

It should be also underlined that the effect of conflict on outcomes is context-dependent (De Wit, Greer and Jehn, 2012; O'Neill, Allen and Hastings, 2013). For example, O'Neill and colleagues (2013) found that during the strategic decision-making process, task-based conflict produces positive outcomes whereas for operational decision making the outcomes may not beneficial. Besides, the organisational level in which conflict prevails is of paramount importance because task conflict seems to generate beneficial effects on higher organisational levels (De Wit, Greer and Jehn, 2012).

Table 2.3: Effects of the tree types of Conflict on Team Outcomes

Types of Conflict	POSITIVE EFFECTS	KEY AUTHORS
Relational Conflict (Emotional)	Avoidance of emotional conflict negatively affects board task performance	Heemskerk, Heemskerk and Wats, 2017
	Firm innovativeness in extremely hostile environments in which tension enables executives to know each other better and appreciate one another's skills	Qian, Cao and Takeuchi, 2013
Task-based Conflict (Cognitive)	Strategic decision making, decision quality.	Amason and Sapienza, 1997; Angelmar and Mehra, 2000; Eisenhardt, 1989; Eisenhardt and Bourgeois, 1988; Huse 2007; Kilduff, 2000; Li and Li, 2009; Matsuo, 2006; Olson, Parayitam and Bao, 2007; Parayitam and Dooley, 2007, 2009; Schwenk, 1984; Wan and Ong 2005;
	Promote Information Sharing.	Cronin and Bezrukova, 2006
	Task commitment and member satisfaction	Behfar et al. 2011
	Team performance	Pelled, Eisenhardt and Xin, 1999; Simons and Peterson, 2000; Song, Dver and Thieme, 2006; Wolfe and Murthy, 2005; Jehn ,1997
	Improves member understanding of the task at hand	Amason, 1996; Choi and Sy, 2010
Process Conflict	Effective allocation of roles, tasks and resources	Jehn and Bendersky, 2003; Jehn and Mannix, 2001; Karn, 2008
	NEGATIVE EFFECTS	**KEY AUTHORS**
Relational Conflict (Emotional)	Obstructs the exchange of information between team members and erodes strategic decision making and decision commitment	Amason, 1996; Amason and Sapienza, 1997; Parayitam and Dooley, 2007
	Negative emotions and mood, hostility and aggravation.	Cronin and Bezrukova, 2006 ; De Dreu and Van Knippenberg, 2005; Hurt, 2014; Meier, et al. 2013; Parayitam, Olson and Bao, 2010
	Member commitment and turnover intentions.	Bayazit and Mannix, 2003; Conlon and Jehn, 2007; Raver and Gelfand, 2005
	Reduction of collaboration and collaborative problem-solving capacity	De Dreu, 2006, Tjosvold, Law and Sun, 2006
	Group creativity	Farh, Lee and Farh, 2010
	Lower task interdependence and individual autonomy.	Langfred, 2007
	Firm innovativeness	Qian, Cao and Takeuchi, 2013; Prasad and Junni, 2017
	Team job satisfaction	Hjerto and Kuvaas, 2017
	Group performance	Brief and Weiss, 2002; Carnevale and Probst, 1998; De Dreu and Weingart, 2003; Jehn, 1997
Task-based Conflict (Cognitive)	Poorer information processing.	Carnevale and Probst, 1998
	Erode strategic decision making	De Dreu, 2006
	Group performance.	Auh et al. 2014; De Drue, 2008; DeDreu and Weingart, 2003; Jehn et al. 2008; Hjerto and Kuvaas, 2017; Langfred, 2007; Puck and Pregernig, 2014
	Turns into emotional conflict and subsequently distract members from the task at hand	Jehn, Greer, and Rupert, 2008
Process Conflict	Creativity and innovativeness.	Kurtzberg and Mueller, 2005; Matsuo, 2006
	Negative feelings such as anger and guilty, negative attitudes toward the group.	Chen and Ayoko, 2012; Greer and Jehn, 2007; Jehn, 1997; Jordan, Lawrence and Troth, 2006; Passos and Caetano, 2005
	Distraction from task.	Jehn, 1995
	Team performance	Behfar, Mannix, Peterson and Trochim, 2011; Hackman, 1990; Janicik and Bartel, 2003; Steiner, 1972
	Reduced productivity	Jehn, Northcraft and Neale, 1999

2.4.1.2 Concluding Remarks about Conflict

Research in the boards has mainly focused on the effect of board demographics on the performance of the organisation (Melkumov and Khoreva, 2015) but this approach has produced inconclusive results. The last decade researchers have turned their attention on the board processes and board tasks to gain a deeper insight of the operations inside the board. The literature has mainly examined board conflict as a mediating process. For example, Forbes and Milliken (1999) proposed a model in which cognitive conflict mediate the link between board characteristics and board task performance.

Until today, we have limited knowledge of conflict both inside the boardrooms (Walker, Machold and Ahmed, 2015) and in the context of strategy implementation (Lê and Jarzabkowski, 2015). Lê and Jarzabkowski note that the absence of conflict in strategy is a surprising incident since conflict is about incompatibilities in goals and processes and these are the basic elements of strategy implementation. In a very recent participant observation study of 11 supervisory boards, Heemskerk, Heemskerk and Wats (2017) support that board of directors should learn to manage relationship conflict, and not to avoid it totally, because they may be prone to 'cognitive blindness' and a lack of exchange of opposing views.

The position in this research is that task conflict does not exist in isolation from relationship conflict and that the beneficial effects of cognitive conflict are mitigated by the losses arising from emotional conflict (Forbes and Milliken, 1999; Heemskerk, Heemskerk and Wat, 2017; Zona and Zattoni 2007). Task-related disagreements may be perceived as personal attacks which may eventually activate affective conflict (Parayitam and Dooley, 2007).

2.4.2 Conceptualisation of Trust

Researchers and practitioners alike have shown great interest in the definition of trust and the mechanisms through which trust can be developed and maintained. A myriad of definitions has been emerged but not a universally accepted conceptualisation of trust exists. Trust is about individual's perceptions, values and emotions and is a property of collective units (dyads or groups) and not of isolated individual's (Lewis and Weigert, 1985). One of the most popular definitions is that of Mayer, Davis and Schoorman (1995) who conceptualise trust as the willingness of a person to be vulnerable to the actions of another party. Based on this definition, a large stream of scholars has concluded that trust is a psychological state that encompasses two key elements: a) the willingness to accept vulnerability and b) the expectation

of advantageous treatment and beneficial actions by the other party (Ferrin, Bligh and Kohles, 2008; Fulmer and Gelfand, 2012). Reciprocity and expectations are important parameters in most definitions of trust (Lewicki and Brinsfield, 2011). Therefore, trust encompasses a willingness between the trustee and the trustor to get involved in a risk-taking initiative which hopefully could lead to a win-win situation in which information sharing and cooperative behavior could flourish.

Kong, Dirks, and Ferrin (2014) in their meta-analysis found that there is not a common definition of trust since some studies give to trust a broad definition (e.g. Gunia et al. 2011) whereas others perceive it as a dimension of trustworthiness (Mayer, Davis and Schoorman, 1995; Srivastava and Chakravarti, 2009). "Trustworthiness concerns the perceived characteristics of the trustee that serve as the primary basis on which individuals are willing to accept vulnerability" (Dirks and Skarlicki, 2009:137). The three factors of trustworthiness which have attracted the attention of scholars are: perceived integrity, ability, and benevolence (Mayer, Davis and Schoorman, 1995, Mayer and Davis, 1999; Dirks and Skarlicki, 2009). Mayer, Davis and Schoorman, 1995 were the first who perceived trustworthiness as the sum of ability, benevolence and integrity and they claimed that if an individual possesses all these three characteristics, then he or she could be perceived as very trustworthy. Mayer and colleagues claimed that ability is about the essential skills that the trustee possess to perform tasks and duties. Benevolence is about the benign motives that the trustee is believed to own which go beyond self-centered profit actions whereas integrity denotes the possession of ethical principles such as fairness.

Table 2.4, present the most widespread definitions of trust (for detailed review see Burke, et al. 2007 and Fulmer and Gelfand, 2012). From the literarure it can be noticed that trust has been conceptualised at the individual level, team level and organisational level. The bulk volume of research on trust has studied it at the individual level. Fulmer and Gelfand (2012) made a detailed review of the various definitions of trust by collecting articles published in the decade 2000-2011 and distinguished the definitions at three levels in organisations: individual, team, and organisational.

> "Trust at the individual level denotes an individual's degree of trust in interpersonal referents, team or organisation. Trust at the team level represents the aggregated degree of trust that is shared with sufficient consensus among members in a team. Trust at the organisational level involves the aggregated degree of Trust shared with sufficient consensus among members in an organisation". (Fulmer and Gelfand, 2012: 1170)

The only difference between the individual level and the team level is that at the team level perceptions of trust are shared between team members and are explained with the use of aggregated measures. No matter the level, the content of the construct remains unchanged (Costa and Anderson, 2017). However, the conceptualisation of trust at the team level encompasses challenges since the outcome of the level of trust that may exist among colleagues may not be consistent with the views of some of the members For example, a high level of trust that could been found by aggregating individual's perceptions, may be inconsistent with the low level of trust that a few members have in a team; an issue of trust asymmetries between members in a group. Team trust has been considered as an emergent state since it emerges from the continuous interaction between group members and is transformed to a collective construct (Burke et al. 2007; Kramer, 2010; Marks, Mathieu and Zaccaro, 2001) which in turn is likely to affect individual's perceptions.

Table: 2.4: Most cited definitions of Trust

Trust at the Individual Level: Individual's trust in: interpersonal referents, teams or organisations	
Author	**Definition**
Rousseau, Sitkin, Burt and Camerer, 1998	Trust is a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behavior of another
Mayer, Davis and Schoorman, 1995	Trust is a willingness to be vulnerable to another party based on both the trustor's propensity to trust others in general and on the trustor's perception that the particular trustee is trustworthy
Mcallister, 1995	Trust is a belief in, and willingness to act on the basis of the words, actions and deeds of another
Trust as a Shared construct at Team and Organisational Level: Team trust in: interpersonal referents, teams or organisations	
Author	**Definition**
De Jong and Elfring, 2010	Intra-team trust is shared generalized perceptions of trust that team members have in their colleagues
Collins and Smith, 2006	Organisational trust is the collective set of norms, values, and beliefs
Huff and Kelley, 2003	Inter-organisational trust is a collectively held Trust orientation toward a partner firm

Adapted from: Fulmer and Gelfand (2012)

In this study, we examine the individuals' perceptions about the trust that an individual has into her/team, which is an under-researched area in the corporate governance and group psychology fields. Trust in this research is a psychological state and in the board context we conseptualise it as general perceptions about the level of trust that an individual has in his/her colleagues. The level of trust will demonstrate the intention of an individual to accept vulnerability based on positive expectations of the intentions or behaviors of others. Despite the various, and sometimes inconsistent, definitions of trust we agree with Dyer and Chu (2003) who consider trust as a micro level phenomenon which has its basis in individuals.

2.4.2.1 Dimensions and Types of Trust

In literature, trust has been treated as an elusive concept and has served both as a unidimensional and as a multidimensional construct. It's interesting to note that McEvilya and Tortoriello (2011) in their review found a total of 38 different dimensions of trust, with the most common items being: Integrity, Ability and Benevolence, Affective, Cognitive and Trust (verbatim). In this line, Cummings and Bromiley (1996) have found that trust is comprised of

the following three dimensions: a) belief that each party in a group behaves in accordance with its commitments, (b) belief that an individual or group is honest (c) there is no engagement of the relevant parties in opportunistic behavior.

Cognition-based and affect-based trust are two of the dimensions which have attracted the most attention of management scholars (Lewis and Weigert, 1985; McAllister, 1995). Lewis and Weigert, (1985) presented that cognition-based trust entails rational reasoning and is based mainly on the statement that "each trusts on the assumption that others trust". Cognition-based trust had to do with beliefs about another's person trustworthiness. On the other hand, affect-based trust is developed in a relationship through emotional bonds between individuals.

Apart from the dimensions of trust, there are significant discussions about the context that trust flourishes. The literature on organisational trust has centered around five different contexts and trust can exist:

- between the team member and the leader (e.g. Dirks and Ferrin, 2001);
- between peers (e.g. McAllister, 1995);
- in teams (e.g. De Jong and Elfring, 2010);
- between organisations (e.g. Zaheer, McEvily and Perrone, 1998);
- negotiation context (e.g. Kong, Dirks and Ferrin, 2014).

The level of trust that exists in the team, the intra team trust, has attracted increasing attention from the research community during the last decade (Braun et al. 2013; De Jong and Elfring, 2010; De Jong, Dirks and Gillespie, 2016; Langfred, 2004; Lee et al. 2010). In this study, the author focuses on the trust that an individual has in his/her colleagues, an under researched area. However, the volume of research about trust in teams remains still low, comparing to the research that has been conducted about trust in leadership (De Jong, Dirks and Gillespie, 2016). The author considers the examination of intra team research a very promising field since the trust that the individuals have on their teams is also an indicator of the monitoring that the team is willing to accept. Langfred (2004) support that the higher the level of trust between members, the less the desire for monitoring in the team whereas. Very high levels of trust can also yield opportunism (Granovetter, 1985).

The various forms of trust that have been found in literature should also be underlined. In their comprehensive review, Burke et al. (2007) presented that the forms of trust vary since trust has been conceptualised the last decades as a trait, an emergent state or process.

- Trust as a trait: examines individual's tendency to trust, independently of the context.
- Trust as an emergent state which is about cognitive and affective states which vary as a function of contextual factors and inputs (Marks, Mathieu and Zaccaro, 2001). Trust as an emergent state is an attitude which is developed over time and depending on the context can be perceived either as an input or as an output.
- Trust as a process: Trust is presented as moderator among other important behaviors and relationships.

Welter (2012) summarised the forms of trust based on the characteristics of the object: interpersonal, collective and institutional. Table 2.5 confirms that trust is a multidimensional concept subject to different forms, level and objects. Each form of trust could be an antecedent of the next level of trust. In this study, trust is examined at the micro level which denotes the level of trust that an executive has in the members of the board.

Table: 2.5 Forms of Trust

Forms	Level	Object
Personal Trust	Micro	Dyad, Relationship, Group
Collective Trust	Meso	Community or Organisation
Institutional Trust	Macro	Government, Formal regulations, Cultural rules

Adapted from Welter (2012)

2.4.2.2 Trust and Outputs

The effect of trust on organisational outcomes has been investigated both at individual and group levels. As mentioned above, trust can have multiple referents at the same or different hierarchical levels and reviews on trust show that different referents produce different outputs (Colquitt, Scott and LePine, 2007; Dirks and Ferrin, 2002).

Dirks and Ferrin (2001), in their detailed review, present a list of the positive effects of trust on organisational citizenship behaviour, negotiation process, unit performance, satisfaction and perceived accuracy of information. Trust enhances collaboration between the members of a team (Dirks and Ferrin, 2001), individual's performance (McAllister, 1995; Robinson 1996),

upward information sent to superiors (Roberts and O'Reilly, 1974,) and is a vital part of negotiations within organisations (Kong, Dirks and Ferrin, 2014; Thompson, Wang, and Gunia, 2010).

Trust within the group affects positively group performance (Dirks, 1999; Friedlander, 1970) and fosters team's shared mental model (Fulmer and Ostrof, 2016; Rico et al. 2008). Besides, intrateam trust has been proved to enhance cooperation and teamwork performance (Braun et al. 2013; De Jong and Elfring, 2010; De Jong, Dirks and Gillespie, 2016; Jones and George, 1998). Carmeli, Tishler and Edmondson (2012) urged CEOs to improve TMT strategic decisions by building trust between the members of team which in turn facilitates team learning from failures.

A few negative aspects of trust have also emerged in literature. For example, the study of Langfred, (2004) reported a negative relationship between trust and performance since high level of trust in self-managing work teams could reduce individual's autonomy to perform assigned tasks. Besides, Granovetter (1985) supported that high levels of trust evoke opportunistic behavior. Trust certainly could show its dark sides in the form of relational inertia and over-trusting (Welter, 2012) but the beneficial effects of trust could compensate the negative aspects, especially in cases of uncertainty and information asymmetry (Leifer and Mills, 1996).

2.4.2.3 Concluding Remarks about Trust

Trust within a team can exist among team members or between team members and the leader. Trust between board members is a significant process in the operation and decision-making of the board. Board of directors should maintain trust in their relationships but also maintain some distance so that effective monitoring can be achieved (Dalton et al. 2003). Trust is an important teamwork value that could enhance the cooperation and boost team performance in a team or between teams. For example, trust between the top management team (TMT) and middle managers is important since middle managers will implement the decisions in accordance with the TMT's intent, thus the input of middle managers in strategy formation will reflect an organisation- wide initiative rather than a private interest of an elite group (Raes et al. 2011).

Trust has also been conceptualised in literature as an emergent state and mediating mechanism in team performance models. Various studies treat trust as a mediator in

organisational research. For example, Simons and Peterson (2000) found that in top management teams, trust moderates the relationship between task and relationship conflict.

In this study, trust is treated as input that starts internally with the willingness of the individual to trust and is considered as a psychological state comprising of perceptions of trust that board members have in their peers. For the aims of this research, we want to examine if high levels of trust within a group of executives could result to effective board performance, superior decision quality and improved organisational performance. The role of trust on strategic decision outcomes needs further research (Parayitam and Dooley, 2009) and with this research we hope to offer new insights into the organisational research of group processes.

2.4.3 Conceptualisation of Behavioral Integration

Behavioral integration is an important behavioral processes in this model. Behavioral integration is a group process that depicts “the degree to which the senior management group engages in mutual and collective interaction." (Hambrick, 1997:26). Hambrick (1994), in an attempt to capture how top management teams interact, departed from the research of small groups and produced the meta-construct of behavioral integration which is comprised of three interrelated processes:

(1) level of collaborative behavior in the team that comprises the social dimension of behavioral integration;

(2) quantity and quality of information exchanged that is the task dimension of behavioral integration;

(3) emphasis on joint decision making, which comprises another one task-related dimension of behavioral integration.

Executives at the upper levels should collaborate and cultivate an environment of “teamness” in case they want to improve their performance. Accurate information exchange is of paramount importance in the development of a creative decision-making process that could boost the innovation of the team. Furthermore, participative decision making is beneficial since team members contribute equally in the strategic decision-making process. Behavioural integrated teams are based on a climate of open information exchange and collaborative behaviour which could reduce the level of conflict that exists between the members. Thus, a

behaviorally integrated board is one that shares open and timely information and resources and is involved in interrelated social and task-related processes. Overall, behavioral integration can be considered as a relational governance mechanism that could lead to superior performance (Rosenkranz and Wulf, 2017) and in this research, we seek to examine the perceptions of board members about the level of behavioral integration in their board.

2.4.3.1 Behavioral Integration and Outputs

A number of positive effects have been found to stem from behavioral integrated teams. Behavioral integration enables TMTs to integrate knowledge and develop core competencies according to Hambrick (1998). Mooney and Sonnenfeld (2001) found a negative relation to affective and cognitive conflict whereas Li and Zhang (2002) showed that industry growth was positively related to behavioral integration.

Ou et al. (2014) found that decision quality could be improved by boosting TMT integration which in turn resulted to positive perceptions of middle managers about working in an empowering organisational climate. In the same line, findings from survey data of 116 top management teams linked positively behavioral integration with quality strategic decisions (Carmeli and Schaubroeck, 2006). Behavioural integrated TMTs are positively associated with an ambidextrous orientation (Lubatkin et al. 2006; Luo et al. 2016) through which the organisation pursues both an exploitative and an exploratory orientation that enable it to be flexible enough to change. Moreover, behavioral integration is positively associated with improved firm performance (Simsek et al. 2005; Rosenkranz and Wulf, 2017). Table 2.6 summarizes the main benefits reported in literature from behavioural integrated teams.

Table: 2.6 Main Benefits of Behavioral Integration

Benefits	Authors
Improves decision quality and decision comprehensiveness	Carmeli and Schaubroeck, 2006; Friedman, Carmeli and Tishler; 2016; Lubatkin et al. 2006; Ou et al. 2014;
Integrates knowledge to create core competencies and develop global strategy.	Hambrick, 1998
Relates negatively to affective and cognitive conflict.	Mooney and Sonnenfeld 2001
Contributes to industry growth and marketization.	Li and Zhang, 2002
Enhances group performance	Carmeli and Schaubroeck 2006; Li and Hambrick 2005
Enhances organisational performance	Simsek et al. 2005; Rosenkranz and Wulf, 2017
Mediates the relationship between CEO ambidextrous leadership (orientation toward combining exploration and exploitation-related activities) and TMT-member ambidextrous behavior	Lubatkin et al. 2006; Luo et al. 2016
Organisations adapt promptly and effectively to external challenges	Simsek, 2009
Behaviorally integrated nominating committees facilite the identification and evaluation of new non-executive directors	Walther, Morner and Calabrò, 2017

2.4.3.2 Concluding Remarks about Behavioral Integration

Behavioral Integration should not be confused with the concept of social integration (O'Reilly Caldwell and Barnett, 1989; Smith et al. 1994) that is widely used in literature and is related to the degree that members of a group are psychologically linked to one another. Social integration is not related to collaborative behavior and its effects on decision making could be negative. Lubatkin et al. (2006) support that behavioral integration includes both social TMT dimensions (the level of the team's collaborative behavior) as well as task tendencies (team's quantity and quality of information exchanged and joint decision making.

2.5. Theoretical frameworks for the Processes of the Board

Sections 2.5.1-2.5.3 discuss about three theories which are relevant to the teamwork dynamics and usually are used to explain trust, conflict and behavioral integration in

organisational teams. A coherent presentation will be made in the next sections about upper echelons, information processing and social exchange perspectives.

2.5.1 Upper Echelons Perspective

Hambrick and Mason back into 1984 presented the famous upper echelons (UE) theory which emphasizes the role of top management teams (TMTs) attributes in shaping organisational outcomes. According to the theory, TMT characteristics would affect firm performance directly, as well as indirectly through strategic choices. Because executive cognitions and values are difficult to get measured, the UE perspective suggests that managerial characteristics act as proxies for capturing the differences in executive's values, and perceptions. Hambrick and Mason propose that strategic variables, ranging from product innovation to response time, are expected to reflect executive team characteristics. Although upper echelons perspective has produced mixed results (Carpenter, 2002; Hambrick, Cho and Chen 1996; Michel and Hambrick, 1992; Murray, 1989), this has been considered as the basic framework for exploring the black box of the interrelationships and mediators between TMT group diversity and performance.

In this study, we move beyond demographic characteristics and focus on the interactions and processes that exist in the board and the way these affect board and organisational outcomes. Hambrick Werder, and Zajac (2008) advocated that ''behavioral processes'' comprise main determinants of governance at the micro-level of analysis. Behavioral integration, which is one of the main constructs of the model, has its roots in upper-echelons theory since it has emerged as a meta-construct that encompasses the social and task interactions between the members of the top management team (Hambrick, 1994).

Although that UE has been applied mainly to top management teams, the author considers it as very relevant to the study of the board of directors since board's strategic choices and organisational outcomes can be predicted from demographic and cognitive characteristics. Building on recent research (Krishnan et al. 2011; Nielsen, 2010; Vandenbroucke, Knockaert and Ucbasaran, 2017; Westphal and Zajac, 2013) we argue that TMTs and boards should not be viewed as separate entities. By extending upper echelons theory to members of the board of directors, we could formulate a more comprehensive understanding of why some boards are successful and others not.

2.5.2 Information-Processing Theory

Atkinson and Shiffrin (1968) presented one of the most influential models of memory in the field of cognitive phycology. The authors support that information that comes from the environment is processed by a series of temporary sensory memory systems and then is stored in a short-term or long-term store. Overall our thought receives input with our senses, processes, and delivers output.

In an organisational context, organisational information processing theory (IPT) assumes that firms process information to improve their decision-making process and encounter the uncertainties of the external environment (Tushman and Nadler, 1978). Uncertainty is "the difference between the amount of information required to perform the task and the amount of information already possessed by the organisation" (Galbraith, 1977, pp. 36–37). Tushman and Nadler (1978) argued that formal information systems could effectively process large amounts of information and act as a coordination mechanisms in an organisational setting.

The information-processing approach has been adopted in various studies in which they examine conflict among team members. According to information processing perspective, conflict affects negatively team performance since weakens the processing of information (Carnevale and Probst, 1998; De Dreu and Weingart, 2003; Rispens Greer and Jehn, 2007; Puck and Pregernig 2014). Conflict has also a negative impact on the decision-making quality because it distracts team members from their real task (Carnevale and Probst, 1998; Jehn, Greer and Rupert 2008).

Group literature underlines that a crucial mechanism of a group is that of information processing (Ellis, 2006; Hinsz, Tindale and Vollrath 1997; Kerr and Tindale, 2004). In consistence with previous studies (Boivie et al. 2016; Dalton and Dalton, 2011), the current study conceptualises the board as an information processing group which processes and shares information to perform its various roles and complete its tasks. A board will add value to the organisation as long as it gets the right information, processes it individually as well as collectively, produces the relevant decisions and shares the output with the relevant stakeholders. Conflict will deplete resources, distract board members and will reduce the quality of their decisions. The information processing theory is the base for the line of reasoning and it is supported that conflict alters the way in which executives process cognitive material since it interferes the whole cognitive processing procedure. This research supports that board of

directors can fruitfully be conceptualised as information processing systems which process large amounts of information.

2.5.3 Social Exchange Theory

Under social exchange theory (SET), an individual's focus is on the maximization of his benefits through a social exchange process which grants him fair returns. A large volume of literature in management (e.g. Cropanzano and Mitchell, 2005; Colquitt et al. 2012; Kong, Dirks and Ferrin 2014) utilises the SET to examine the development of trust in work relationships taking a microeconomics perspective as developed by Blau (1964).

> "Social exchange, whether it is in this ceremonial form or not, involves favors that create diffuse future obligations, not precisely specified ones, and the nature of the return cannot be bargained about but must be left to the discretion of the one who makes it ... Since there is no way to assure an appropriate return for a favor, social exchange requires trusting others to discharge their obligations." (Blau 1964, pp. 93-94)

Cropanzano and Mitchell (2006) support that social exchange encompasses interactions and through rules and norms of exchange these interactions have the potential to develop over time into trusting, and loyal commitments. Blau (1964) and Holmes (1981) conceptualised trust as the result of favorable social exchanges.

Trust is the basis upon which the social exchange relationships will be maintained. Trust contributes to the creation of exchange relationships via the boosting of obligations and reduction of uncertainty around reciprocation. Social exchange theories, like Leader–Member Exchange (LMX) theory, postulate that trust is granted by leaders to achieve subordinate's compliance creating a relationship which is based upon certain rules of exchange Kelley and Bisel (2014).

Social exchange theory allows us to link the concept of trust with board of director's performance since it creates the basis for the establishment of exchange relationships and long-term cooperation between the members of the board (Colquitt and Rodell, 2011; Luo, 2002). Under the social exchange framework boards have been treated as a cohesive inner circle of corporate elites (Lorsch and Maclver, 1989; Ma and Khanna, 2016; Pfeffer, 1972; Westphal and Zajac, 1997) in which there is mutual cooperative interchange of favors and privileges. Board operate in a social system of corporate elites of similar status which relies on the existence of

sufficient loyalty and mutual commitments. Trust inside this network will be the outcome of these favorable social exchanges and relationships which in turn will affect board effectiveness.

2.6 Conceptualizing Board and Organisational outcomes

Sections 2.6.1-2.6.3 discuss about the dependent constructs of our study; namely board effectiveness and organisational performance and address their importance in corporate governance and strategic management research.

2.6.1 Conceptualizing Board Effectiveness

Boards share all the common characteristics of other types of teams and when we want to examine board effectiveness we should draw our attention on the literature of team effectiveness (McIntyre, Murphy and Mitchell, 2007). Guzzo and Dickson (1996) suggested a broad definition of team performance effectiveness which could include:

- Outputs such as quantity, quality, satisfaction etc
- The consequences of the group on its members
- The improvement of a team's capability to perform effectively in the future.

Cohen and Bailey (1997) in their review examined the dimensions of group effectiveness, presenting a similar categorisation to the one presented by Guzzo and Dickson (1996) with the exception that they included behavioral outcomes measures in their classification. The dimensions of group effectiveness that presented are:

- Performance effectiveness: includes measures of efficiency, productivity, response times, quality, customer satisfaction and innovation.
- Member attitudes: includes measures of employee satisfaction, commitment, and trust in management.
- Behavioral outcomes: include measures such as absenteeism, turnover, and safety measures.

The evaluation of the performance of each team should be assessed on a case-by-case basis depending on the type of team and the type of teamwork (Slyngstad, DeMichele and Salazar, 2017). For example, for top management teams studies, TMT performance is often

simply equated with firm performance, whereas for manufacturing/projects teams scholars utilise measures related to successful completion of task.

In response to the broad definitions that have been given in literature about team effectiveness, board overall effectiveness is captured as a construct with two elements: a) board performance and b) strategic decision quality. The use of two different items to conceptualise a construct is a good research practice and enhances the confidence that the concept is being captured (Carlson and Herdman, 2012).

Team performance is defined in literature as "the extent to which the productive output of a team meets or exceeds the performance standards of those who review and/or receive the output" (Hackman, 1987: 323). In the board setting, the performance of a BOD is sometimes equated with firm performance. In other studies, board performance, has been considered as the evaluation of the board members in achieving objectives and recognizing key survival factors (Lester, Meglino and Korsgaard 2002). Forbes and Milliken (1999:492) as well as Heemskerk, Heemskerk and Wats (2017) define board task performance as the board's ability to perform its control and service tasks effectively. This study, drawing upon the corporate governance theories (agency, resource dependence, social network theory and stewardship theory), perceives board performance as the evaluation of the board members in performing effectively their multiple roles.

In parallel, various studies in management literature have measured performance effectiveness with the strategic decision quality of a specific decision that the group took. Following Carmeli, Sheaffer and Halevi (2009) and Carmeli and Schaubroeck (2006), strategic decision quality is defined as the extent to which strategic choices made in the TMT have been realistic.

Overall, the author is in fully agreement with Mathieu et al. (2008) who argue that teams perform multiple functions and the assessment of only one aspect of performance may not be an indicator of overall team effectiveness. Thus, a blended composite measure of effectiveness is utilised to capture the overall efficiency of the board based on theoretical foundations from the corporate governance theories presented before. Our knowledge is still limited on the behaviours, skills and processes that individuals possess to cooperate in a knowledge-intensive teamwork context. Thus, this study could enlighten us by presenting us lessons from an upper

level organisational team in which the members cooperate in a dynamic work context (Slyngstad, DeMichele, Salazar, 2017).

2.6.2 Antecedents of Board Effectiveness in Organisational Research

Rebeiz (2016) found that there are three determinants of boardroom's effectiveness in the literature and these are: board composition, leadership configuration and board size. Regarding boardroom composition, research has centered around the rate of independent directors to the total number of directors. In the literature, we find four approaches for measuring independency: inside, outside, affiliated, interdependent/independent directors (Anderson and Reeb 2004; Daily, Dalton, and Cannella, 2003; Hermalin and Weisbach 2003; Lynall, Golden, Hillman, 2003). Inside directors are already members of the top management team or employees of the organisation whereas outside directors are not stakeholders of the organisation and usually are further distinguished as affiliated and not affiliated. According to Pearce and Zahra (1992) affiliated outside directors have close relations with the organisations since they could have been appointed as former executives or consultants. On the other hand, non-affiliated (non-independent) have been appointed due to their reputation, skills and expertise. The findings in this stream of research are mixed since there are studies that find a positive link between increased number of independent directors (e.g. Liu et al. 2015), others conclude that inside directors affect firm value (e.g. Baysinger, Kosnik and Turk, 1991) whereas the remaining studies report no relation between composition and organisational performance (De Andres, Azofra and Lopez 2005; Finegold, Benson and Hecht 2007; Volonté, 2015). Overall, agency theorists support that boards consisting of independent outside directors are more effective in their monitoring role. Supporters of resource dependence theory (e.g. Pfeffer and Salancik, 1978) are in support of more outsiders in regulated industries.

As for the leadership configuration, the studies are focused on CEO duality, namely the situation in which the CEO and Chairman of the board are represented by the same individual. *Should the CEO serve as the Chairman of its board of directors?* The question is still unanswered since there are studies supporting CEO duality (Donaldson and Davis, 1991; Rhoades, Rechner and Sundaramurthy, 2001; Daily and Dalton, 1994) and others which reject it (Finkelstein and D'aveni 1994; Rechner and Dalton, 1991; Rebeiz and Salameh, 2006). Various arguments, fortified by the agency theory, have been raised about the separation of the

two roles. Two of the basic arguments for the separation of the roles are based on the improvement of the financial performance and the enhancement of the BOD's monitoring role over a powerful CEO. Agency theorists support that a powerful CEO could affect negatively the interests of the shareholders since he/she has the power to focus mainly on his/her personal interests. The paradox of CEO duality for agency theorists is that the CEO cannot be the leader of the team that has been created to evaluate his/her own performance. Furthermore, governance scandals such as those of Enron and WoldCom, boosted the arguments for the separation of the two roles. Legislation passed in various countries around the world has affected the quality of corporate governance practices. For example, the Cadbury Report (1992) recommends to UK listed companies to comply with the Code of Best Practice proposed which suggests UK listed companies separate the roles of CEO and Chairman. Weir and Laing (2000) noted substantial differences in the board characteristics from the adoption of the Cadbury Code since there was an increased representation of non-executive directors and a reduction in the duality incidents. Overall, it is evident from this stream of research that supporters of stewardship theory (Donaldson and Davis, 1991; Davis, Schoorman, and Donaldson, 1997) put forward arguments in favour of CEO duality since it provides clear leadership to CEO and higher firm performance.

The third antecedent of board effectiveness, that of board size, has attracted large attention in the corporate governance field. Some researchers have suggested a board between 8 to 10 members (Lipton and Lorsch, 1992) while others suggest that boards should be sufficiently large, but not larger than 7 or 8 members (Jensen, 1993). Daily et al. (2002) as well as Daily and Dalton (1992; 1994) find positive effect of board size on financial performance, whereas Musteen, Datta and Kemmerer (2010) found positive effects on company reputation. However, board size has also been linked to negative organisational performance (Eisenberg, Sundgren and Wells, 1998; Yermack, 1996).

Overall, the three antecedents presented above have been mainly studied within the agency, resource dependence and stewardship perspectives in which examine how board composition (e.g. gender, demographics, size, insider/outsider ratio) or board leadership (duality or non-duality) impact board effectiveness as measured in terms of financial performance. The inconclusive findings of demographic characteristics and structural aspects on board effectiveness lead us to the incorporation of socio-cognitive variables and behavioural patterns into the design of boardrooms (Minichilli, Zattoni and Zona, 2009; Rebeiz, 2016). Forbes and

Milliken (1999) were the first to discuss about the need to analyse the intervening processes as determinants of board effectiveness. Board effectiveness is likely be based on social-psychological processes, such as coordination, information exchange and discussions (Finkelstein and Mooney, 2003; Forbes and Milliken, 1999; Hambrick, Werder and Zajac, 2008; Minichilli, Zattoni and Zona, 2009; Minichilli et. al., 2012; Zona and Zattoni, 2007; Zattoni, Gnan and Huse 2015, van den Heuvel, Gils and Voordecker 2006; Wan and Ong, 2005) which ultimately could affect the financial performance of the organisation. As argued by advocates such as Finkelstein and Hambrick (1996), Lawrence (1997) and Wan and Ong (2005), the author believes that board structure is not as important as it seems; instead the substance of board effectiveness can be found on the board dynamics.

2.7 Organisational Performance

The importance of performance is widely recognised in literature (Combs, Crook, and Shook, 2005; Connolly, Conlon and Deutsch, 1980; Hamann et al. 2013; Singh, Darwish and Potočnik, 2016; Venkatraman and Ramanujam, 1986). The importance of business performance in strategic management is based upon theoretical, empirical and managerial foundations (Cameron and Whetten, 1983). Theoretically, business performance is found in the center of the strategic management since performance is the time test of any strategy (Schendel and Hofer, 1979). Empirically, through business performance, we examine a wide range of content and process issues with the aim to provide useful recommendations to the managers which could improve the overall organisational effectiveness (Nash, 1983).

Although the last three decades there is a remarkable volume on literature about organisational performance, we notice various disagreements on its basic terminology and dimensions. Organisational performance or organisational effectiveness "it is the ultimate dependent variable in organisational research" (Cameron and Whetten, 1983:200). A first basic step is to distinguish between organisational performance and organisational effectiveness because this is an issue that has raised various discussions amongst the researchers. Richard et al. (2009) make a distinction between the two concepts, supporting that organisational effectiveness is a broad domain that includes a mixture of organisational performance, innovation and internal efficiency measures. On the other hand, organisational performance is an amalgam of financial, product market based and shareholder return measures. Simply stating,

organisational or business performance, is a subset of the overall concept of organisational effectiveness (Venkatraman and Ramanuja, 1986: 803).

Venkatraman and Ramanujam (1986) provided a schematic for circumscribing the domain of business performance in attempt to narrow the measurement domain for strategic management researchers (Figure 2.4). The authors advised strategic management researchers to focus on the two inner circles of the diagram because organisational effectiveness is a broader term. Most studies in the strategic management field focus either solely on the domain of financial or jointly on the domains of financial and operational performance. The financial performance domain includes measures such as sales growth, profitability, earnings per share and stock market returns. The enlarged domain of both financial and operational performance includes measures like product quality, market share, new product introduction and so on. However, Combs, Crook, and Shook (2005) disagree with Venkatraman and Ramanujam in that financial measures cannot be considered as a subgroup of operational performance. Operational performance should be treated as a separate multidimensional construct which is outside the domain of organisational performance.

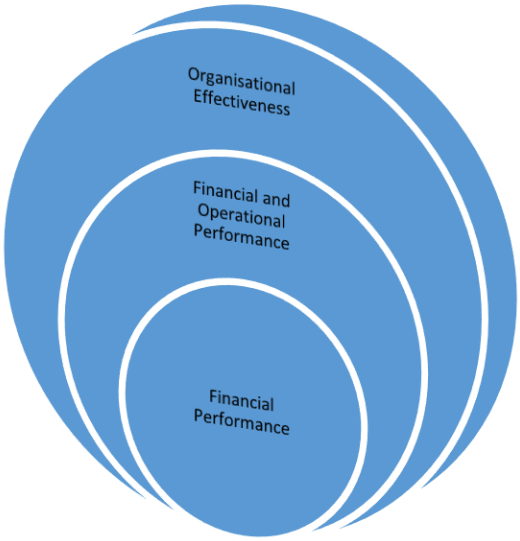


Figure: 2.4: Circumscribing the domain of business performance.
Source: Venkatram and Ramanujam (1986)

2.7.1 Dimensions of Organisational Performance

Organisational performance is a multidimensional construct but there is no common agreement upon its dimensions. Shenhav Shrum and Alon (1994) described the use of performance as "generally problematic", Rowe and Morrow (1999) characterize it as a "messy

issue" whereas Miller, Washburn and Glick (2013) argued researchers to enhance the scientific rigor of the field since the various critiques published (Combs, Crook and Shook, 2005; Hult et al. 2008; Richard et al. 2009) have not produced the desired outcomes.

Singh, Darwish and Potočnik, (2016) mention that organisational performance has been conceptualised with financial rations (ROA), market outcomes (Tobin's Q), human relations-related outcomes (job satisfaction) or organisational outputs such as quality and innovation. Devinney, Yip and Johnson (2010) support that in management field there is a common agreement that financial measures are the most integral part in in understanding the organisational performance. Despite this tacit agreement, we notice that there is no clear agreement on which financial measures are the most appropriate for measuring business performance. In the strategic management field, there are studies which utilise one measure such as return on investment, change in market value or Tobin's Q (Hawawini, Subramanian and Verdin, 2003; Spanos, Zaralis and Lioukas, 2004), others that use several different measures (e.g. Peng, 2004) and others that aggregate different dependent variables (e.g. Cho and Pucik, 2005) producing a new performance construct which is comprised of a set of correlated measures.

The following table (Table 2.7) depicts the various dimensions of financial performance that have been presented by various management scholars since 2000. These dimensions depend upon the research method employed (qualitative vs. quantitative), and measures utilised. For example, Combs, Crook, and Shook in 2005 found that there are three dimensions in financial performance (accounting returns, growth, and stock market performance) whereas in 2013 Hamann and colleagues identified four dimensions by splitting the accounting return dimension into liquidity and profitability.

Table: 2.7: Organisational Performance as defined in terms of Financial Measures in Management Research

Author	Number of Dimensions	Dimensions	Sample
Tosi et al. 2000	8	Absolute financial performance levels, changes in financial performance, stock performance, return on equity-short term, return on assets, return on equity-long term. market returns, internal performance indicators.	137 articles that analyse CEO pay.
Maltz, Shenhar, and Reilly, 2003	5	Financial, market, process, people, and future.	180 completed, usable surveys that stem from field interviews with a group of selected CEOs and other executives, followed by a mail survey to alumni of a major university, who were identified as senior managers within their organisations.
Combs, Crook, and Shook, 2005	3	Accounting returns, growth, and the stock market.	238 studies published in the Strategic Management Journal
Richard et al. 2009	3	Financial performance, shareholder return, product market performance.	213 papers from Management Journals.
Devinney, Yip and Johnson 2010	4	Accounting measure dimension, a market value dimension, a sales measure dimension and a negative cash flow and a fourth not very clear dimension that of profitability dimension.	Not reported.
Hamann et al. 2013	4	Growth, stock, market liquidity and profitability.	37,262 firm-years for 4,868 listed U.S. organisations from 1990 to 2010.

Adapted from Hamman et al. 2013

The extremely high number of measures that is employed in management research is evident at the work of Richard and colleagues (2009) who among the 213 papers that examined, they found 207 different performance measures. What stands out from this examination is the lack of clarity in the theoretical definition of performance and the absence of methodological consistency in the formulation of the construct(s) used Richard et al. (2009: 719).

From the analysis, it is evident that financial measures such as accounting returns, ROA and growth are the most prevalent measures when examining organisational performance. The last two decades, multi-dimensional performance frameworks such as the Balanced Scorecard of Kaplan and Norton, have emerged to measure organisational success by combining both financial and operational measures. Maltz, Shenhar and Reilly (2003) developed the Dynamic

Multi-Dimensional Performance framework to measure organisational success and utilised twelve measures across five major success dimensions: financial, market, process, people, and future.

Richard et al. (2009) based on the multidimensionality of performance made 3 important conclusions. When measuring performance, the organisations and managers should consider the:

1. Relevance of performance measurements to the key stakeholders.
2. Heterogeneity of environments, strategies, resources, capabilities and management practices that exist in each organisation.
3. Time series properties relating organisational activity to performance.

2.8 Measurements

In the next sections, we will present the measures that have been utilised in literature to capture conflict, trust, behavioral integration, board effectiveness and organisational performance.

2.8.1 Measurement of Conflict in Literature

The intragroup conflict literature has broken down conflict as a phenomenon with three dimensions: relationship (termed also emotional or affective conflict), task-based (cognitive) and process conflict. Relationship conflict is about person-related disagreements, task-based is related to conflict in group's tasks whereas process conflict is about differences in the logistical accomplishment of the task.

Despite the critical role that process conflict can play in group effectiveness, it has not attracted enough attention from the research community (Behfar et al. 2011). The majority of management researchers (e.g. Amason, 1996; Amason and Sapienza, 1997; Amason and Mooney, 1999; Behfar et al. 2010; Janssen, de Vliert, and Veenstra 1999; Langfred, 2007; Olson Parayitam and Bao, 2007; Parayitam and Dooley, 2007; Pelled, 1996; Pelled, Eisehardt and Xin, 1999; Simons and Peterson, 2000) have utilised the Intragroup Conflict Scale (ICS) developed by Jehn (1994, 1995,1997) to measure relationship and task conflict. Jehn's scales remain the most widespread scales of conflict and in the recent meta- analysis of de Wit, Greer, and Jehn, (2012) found that 91 out of the 116 studies have utilised Jehn's scales, which are presented in Table 2.8.

Table 2.8: Operationalisation of Conflict in Literature

Operationalisation of Conflict	Researchers
Relationship Conflict (Emotional or Affective Conflict)	
1. There is emotional conflict among team members. 2. There is often friction among team members. 3. Personality conflicts are evident. 4. There is often tension among team members.	Scales developed by Jehn (1994,1995,1997) and utilised by: Amason, 1996; Amason and Sapienza, 1997; Amason and Mooney, 1999; Auh et al. 2014; Behfar et al. 2011; Janssen, de Vliert and Veenstra, 1999; Langfred, 2007; Olson Parayitam and Bao, 2007; Parayitam and Dooley, 2007; Pelled, 1996; Pelled, Eisehardt and Xin, 1999; Simons and Peterson, 2000; Van De Vliert and Veenstra, 1999.
Task Conflict (Cognitive Conflict)	
1. There is often conflict about the work we do. 2. There are differences of opinion. 3. People often disagree about opinions regarding the work being done. 4. There are frequently conflicts about ideas.	
Process Conflict	
1. We disagree about the way to do things in our team. 2. There is disagreement about procedures in our work group. 3. There are frequent disagreements about who should do what in our work group.	

Jehn (1994, 1995, 1997) initially used the scales to study organisational groups: management teams and production units. Conflict in the top management team context has largely utilised Jehn scales (Amason, 1996; Amason and Sapienza, 1997; Amason and Mooney, 1999; Olson, Parayitam and Bao 2007, Simons and Peterson, 2000) to capture intragroup conflict.

Although the Jehn Scales are the most widely used in literature, there are suggestions for improvement. To contribute to the research of management and especially on the corporate governance field, minor adjustments were made to increase precision in the board context, following the recommendations made by Bendersky and colleagues (2014), Behfar et al. (2011) and Simons and Peterson (2000) and in this study:

- Process conflict is included since it is considered of paramount importance the way that the board utilises group resources and time to accomplish a task.
- Distinguishment made between amount and frequency of conflict in two separate questions to increase precision (Bendersky et al. 2014). The first question included the wording ‘how much’ to capture the level of conflict that exists in the board whereas the second one asked ‘how often’ in an attempt to capture the frequency of conflict.

- The items were tailored to reflect precisely the board of director's context and board meetings (Bendersky et al. 2014) and in the questionnare there were used terms such as board meetings and strategic decisions.
- The word Conflict was avoided. For example, the question "*how much are personality conflicts evident*? *"* was modified to "*How much are there personality clashes"*.

Concluding it should be mentioned that intragroup conflict is usually self-reported and is operationalised at the individual level of analysis and then researchers use aggregate measures to present conflict at the group level. However, this aggregation raises concerns because in every group exist members who do not agree to the shared notion of conflict (Korsggaard et al. 2008).

2.8.2 Measurement of Trust in Literature

McEvilya and Tortoriello (2011) in their research of 171 articles in a 48 years' period noted that despite the convergent on theoretical conceptualisations, the operationalisation of trust has produced 129 different measures. A majority of management researchers has operationalised trust as a multidimensional construct, taking a psychometric approach and utilizing multi-item questionnaires.

Table 2.9 presents some of the most famous psychometric measures of trust in management research, mainly based on the meta-analysis of McEvilya and Tortoriello. Given the heterogeneity of measures, the choice of the most appropriate instrument for a particular study varies and is based on the type and level of trust. For example, if the intention is to measure trustworthiness beliefs in an organisational context or characteristics of the trustee, then the researcher can utilise the measures developed by McAllister (1995), Cummings and Bromiley (1996), and Mayer and Davis (1999). The authors examined trust between managers and professionals in organisations (McAllister, 1995), between units of an organisation (Cummings and Bromiley, 1996) and between organisations (Mayer and Davis, 1999).

If the intention is to measure the decision to trust and willingness of the trustor to be vulnerable, then the measures of Currall and Judge (1995) are more appropriate. The authors examined relationships among district superintendents and presidents of local teacher's unions and operationalized trusting behavior with four dimensions: Communicating openly, entering informal agreements, task coordination and maintaining surveillance with the counter-part. In

this study, in order to operationalize the level of trust that an executive has in his/her board, the questions of De Jong and Elfring (2010) were utilised which were developed to capture trust in an organisational context. The main focus of this research is the level of trust that an individual has in the team and not the measurement of trustworthiness; thus, all the measures were excluded which are related to trustworthiness. We followed De Jong and Elfring (2010) measures because their items reflect individual members' confident positive expectations by using phrases such as "I am confident" and "I am able to count on."

Table 2.9: Operationalisation of Trust in Literature

Level of Trust	Dimensions and items	Researchers
Interpersonal trust among managers and professionals in organisation	1.Affect based trust (5 items) 2.Cognition-based trust (6 items)	McAllister, 1995 Replicated by: Colquitt et al. 2012; Kirsch, Ko and Haney, 2010; Olson, Parayitam and Bao 2012; Parayitam and Dooley 2009
Interpersonal trust in the inter-organisational context: Trust between individuals working across organisational boundaries	1.Communicating openly (5 items) 2.Entering Informal Agreements (5 items) 3. Task coordination (5 items) 4. Maintaining Surveillance (5 items)	Currall and Judge, 1995
Organisational trust Inventory: The degree of Trust between units of an organisation or between organisations	1.Good-faith efforts to behave in accordance with any commitments 2.Honesty in exchange 3.No opportunistic behavior The Long Form included 62 items and the Short Form 12 items	Cummings and Bromiley, 1996
Organisational trust in a variety of organisational relationships	1.Trustworthiness-Ability (6 items) 2.Trustworthiness-Benevolence (5 items) 3.Trustworthiness-Integrity (6 items) 4. Trust (4 items)	Mayer and Davis, 1999. Replicated by Kaltiainen, Lipponen, and Holtz 2016
Working relationships across multiple domains of organisational activity	1.Reliance (5 items) 2.Disclosure (5 items)	Gillespie, 2003
Intrateam trust in an organisational context	Intrateam Trust (5 items)	De Jong and Elfring (2010) Replicated by DeJong and Dirks (2012)

Adapted from of McEvilya and Tortoriello, 2011

2.8.3 Measurement of Behavioral Integration in Literature

Hambrick (1994) first discussed the concept of behavioral integration in the top management teams and defined it as a meta-construct of three interrelated elements:

(1) level of collaborative behavior in the team

(2) quantity and quality of information exchanged, and

(3) emphasis on joint decision making.

Simsek et al. (2005), building upon the work of Hambrick, developed a measure to capture behavioral integration's three dimensions. The measured is utilised in almost all of the studies which examine behavioral integrated teams (Table 3.3).

Table 2.10: Operationalisation of Behavioral Integration in literature

Operationalisation of Behavioral Integration	Researchers
Collaborative Behavior 1. When a team member is busy, other team members often volunteer to help manage the workload. 2. Team members are flexible about switching responsibilities to make things easier for each other. 3. Team members are willing to help each other complete jobs and meet deadlines.	Simsek et al. (2005) Replicated by Carmeli, and Schaubroeck, 2006; Chiu, Lin and Chien, 2009; Friedman, Carmeli and Tishler, 2016; Lubatkin et al. 2006; Luo et al. 2016; Ou et al. 2014; Raes et al. 2011; Raes, Bruch, and De Jong, 2013; Rosenkranz and Wulf, 2017.
Quantity and Quality of Information 1. Quantity of ideas. 2. Quality of solutions. 3. Level of creativity and innovation.	
Joint Decision Making 1. Team members usually let each other know when their actions affect another team member's work. 2. Team members have a clear understanding of the joint problems and needs of other team members 3. Team members usually discuss their expectations of each other.	

2.8.4 Measurement of Team Effectiveness in Literature

Boards share common characteristics with other types of teams and when we want to examine board effectiveness, we should draw our attention on the literature of team effectiveness (McIntyre, Murphy and Mitchell, 2007). Table 2.11 presents the operationalisation of team effectiveness in literature.

Team effectiveness is a broad construct and according to the review of Cohen and Bailey (1997) its dimensions are the following:

- Performance effectiveness: includes measures of efficiency, productivity, response times, quality, customer satisfaction, and innovation.
- Member attitudes: includes measures of employee satisfaction, commitment, and trust in management.
- Behavioral outcomes: such as absenteeism, turnover, and safety measures.

Table 2.11: Operationalisation of Team Effectiveness in Literature

Operationalisation of Team Effectiveness	Researchers
Organisational-level performance	Bunderson and Sutcliffe, 2002
Management team's actual profitability relative to its targeted profitability.	
Team performance behaviors and team level outcomes	Edmondson, 1999; Jehn and Shah, 1997; Kirkman, et al. 2004; Tesluk and Mathieu, 1999; Tjosvold, Tang and West, 2004
Team processes improvement and team learning behaviors, supervisors' ratings of the quality of the work performed, satisfaction with the work of the team, team innovativeness.	
Role-based performance	Chen et al. 2007; Chen, 2005; Welbourne, Johnson and Erez, 1998
The level that individuals possess the competencies to perform their tasks.	

Adapted from Mathieu et al. (2008)

In addition to the measures presented in Table 2.11, there are various studies that have used blended measures of team effectiveness (Hiller, Day and Vance 2006; Lester, Meglino and Korsgaard, 2002; Van der Vegt and Bunderson, 2005). These researches use a variety of measures to assess team effectiveness and these include items such as quality, quantity, initiative, interpersonal skills and knowledge.

The limited research on board effectiveness has operationalised effectiveness in different ways. In various studies, the performance of a BOD is often simply equated with firm performance. On the other hand, a large volume of literature captures board performance as the ability of the board to perform effectively either one of its roles (e.g. monitoring or advising role) or a combination of them. Other researchers, such as Adams and Ferreira (2009), use

financial measures to capture board effectiveness. Clements, Neill and Wertheim (2015) used internal control weaknesses identified in the Audit Analytics database as a proxy for corporate governance effectiveness. Table 2.12 summarizes some widespread conceptualisations of Board Effectiveness in the last decade.

Table 2.12: Operationalisation of Board Effectiveness in Literature

Operationalisation of Board Effectiveness	**Researchers**
Financial Measures *ROA, proxy for Tobins Q, Return on Equity (ROE)*	Adams and Ferreira, 2009; Khanna, Jones and Boivie, 2014
A firm's number of reported material internal control weaknesses as a proxy for directors' governance effectiveness.	Clements, Neill and Wertheim, 2015
A rating system which assigns companies constituting the S&P/TSX Composite Index an overall grade: AAA+ [highest] to C [lowest].	Conheady et al. 2015.
Board members assessed their performance using the BPSAQ Self-Assessment Questionnaire (BPSAQ).	Harrison and Murray, 2015
CEO was asked to rate the 'control task performance' and 'service task performance' of the board or the 'control task performance' and 'advisory task performance' or the Control task performance' and 'strategy task performance.	Minichilli, Zattoni and Zona, 2009; Minichilli et al. 2012; Zattoni, Gnan and Huse, 2015
Directors were asked to rate the effectiveness of their board in 11 different areas on a 1 to 5scale. *Combined survey and archival sources of data for 210 Fortune 1000 companies.*	Payne, Benson and Finegold, 2009. Replicated by Veltrop et al. 2015
Two constructs: (1) the ability of the directors to perform their monitoring, strategy, service and resource dependence roles (2) transparency of company to public was operionalised with secondary data from the Transparency Index computed by the Business Times newspaper.	Wan and Ong, 2015

As supported by Rosen and Dietz (2017) team effectiveness operationalisation has been centered around two methods for collecting data: self-reports, in which individuals are asked to assess their teams, and observation. The authors state that self -reports, which is the method of this research for collecting data for the boards, are very appropriate for collecting information about collective orientation and teamwork since these constructs are totally subjective in nature.

2.8.5 Measurement of Organisational Performance

Organisational performance is a multidimensional construct but there is no common agreement upon its dimensions. Singh, Darwish and Photonic, (2016) argue that organisational performance has been conceptualised with financial rations (ROA), market outcomes (Tobin's

Q), human relations-related outcomes (job satisfaction) or organisational outputs such as quality and innovation.

Despite the absence of agreement about the dimensions of organisational performance there is strong evidence that the financial measures are the most important in capturing organisational performance in management field (Devinney, Yip and Johnson, 2010). There are studies which utilise one measure such as return on investment, change in market value or Tobin's Q (e.g. Hawawini, Subramanian and Verdin, 2003; Spanos, Zaralis and Lioukas, 2004), others that use several different measures independent of one another (e.g. Peng, 2004) and others that aggregate different dependent variables (e.g. Cho and Pucik, 2005) producing a new performance construct which is comprised of a set of correlated measures.

Various dimensions of financial performance have been presented in literature. For example, Combs, Crook and Shook (2005) found that there are three dimensions in financial performance (accounting returns, growth, and stock market performance) whereas Hamann et al. (2013) identified four dimensions (growth, stock, market liquidity and profitability) splitting this way the accounting return dimension identified by Combs into liquidity and profitability.

Some of the basic measures of organisational performance that have been utilised in strategic management research have been identified by Hamann et al. (2013) and are summarised in Table 2.13.

Table 2.13: Measures of organisational performance as defined in terms of financial measures in Strategic Management Field

Operationalisation of Board Effectiveness	Researchers
Financial Measures *ROA, proxy for Tobins Q, Return on Equity (ROE)*	Adams and Ferreira, 2009; Khanna, Jones and Boivie, 2014
A firm's number of reported material internal control weaknesses as a proxy for directors' governance effectiveness.	Clements, Neill and Wertheim, 2015
A rating system which assigns companies constituting the S&P/TSX Composite Index an overall grade: AAA+ [highest] to C [lowest].	Conheady et al. 2015.
Board members assessed their performance using the BPSAQ Self-Assessment Questionnaire (BPSAQ).	Harrison and Murray, 2015
CEO was asked to rate the 'control task performance' and 'service task performance' of the board or the 'control task performance' and 'advisory task performance' or the Control task performance' and 'strategy task performance.	Minichilli, Zattoni and Zona, 2009; Minichilli et al. 2012; Zattoni, Gnan and Huse, 2015
Directors were asked to rate the effectiveness of their board in 11 different areas on a 1 to 5scale. *Combined survey and archival sources of data for 210 Fortune 1000 companies.*	Payne, Benson and Finegold, 2009. Replicated by Veltrop et al. 2015
Two constructs: (1) the ability of the directors to perform their monitoring, strategy, service and resource dependence roles (2) transparency of company to public was operionalised with secondary data from the Transparency Index computed by the Business Times newspaper.	Wan and Ong, 2015

Apart from the financial measures, some studies use operational performance measures such as product quality, market share, new product introduction and innovation. The last two decades, multi-dimensional performance frameworks such as the Balanced Scorecard of Kaplan and Norton, have also emerged in an attempt to measure organisational success by combining both financial and operational measures. For example, the Balanced Scorecard views vision and the strategy from four different perspectives: the financial, the customer, the internal business processes and learning & growth perspectives. Maltz, Shenhar and Reilly (2003) developed the Dynamic Multi-Dimensional Performance framework to measure organisational success and utilised twelve measures across five major success dimensions: financial, market, process, people, and future.

Richard et al. (2009) based on the multidimensionality of performance made 3 important conclusions. When measuring performance, the organisations and managers should consider the:

4. Relevance of performance measurements to the key stakeholders.

5. Heterogeneity of environments, strategies, resources, capabilities and management practices that exist in each organisation.
6. Time series properties relating organisational activity to performance.

The current study combined both financial measures and operational measures to capture better the multidimensional nature of organisational performance.

2.8.5.1 Subjective Vs Objectives Measures of Performance

Objective measures of performance, which are commonly used in management studies, are independent of the observer and reduce the probability of common method variance (Wall and Wood, 2005). Apart from the objective, subjective measures have been also utilised in the management field by asking key respondents their view on specific measures of organisational performance. Richard et al. (2009) grouped subjective measures into fully subjective and quasi-objective measures. For quasi-objective measures the respondents are asked to rate the performance of the organisation in relation to some objective measures such as Return On Investment. Fully subjective self-report questions, instead of asking for opinions on some objective measure, evaluate the underlying performance construct itself. For example, the respondents may be asked to compare organisational performance to their competitors. One drawback of the fully subjective measures is that cognitions and cognitive biases could manipulate the results of the study.

Various studies support that there is strong correlation between subjective and objective measures (i.e. Dess and Robinson1984; Powel, 1992; Carmeli, Sheaffer and Halevi, 2009). Dess and Robinson back in 1984 advised researchers to use subjective measures when accurate objective measures are not available. Interesting to note that Singh, Darwish and Potocnik (2016) found strong evidence that subjective measures can be successfully used to evaluate organisational performance since reliable and comparable objective data on organisational performance is difficult to get obtained, especially for companies of different sectors and size. In the same spirit, Powel (1992) in his study justified the use of subjective reasons in the following cases:

1. Differences in accounting methods in areas such as depreciation does not guarantee the accuracy of objective measures.

2. When the respondents are CEOs, then they are the most knowledgeable persons about the financial performance of the organisation.
3. Private firms do not usually provide confidential information.
4. When no survey identification numbers are used, then the respondents do not have the motive to give misleading information.

2.9 Model of the Study

Figure 2.5 depicts the model which is comprised of all the different constructs that have been analysed above. The model tries to explain how three different team dynamics (conflict, trust and behavioral integration) affect board and organisational outcomes. In this model, in line with Yang (2014), trust is perceived as an input, not as an emergent state, which is the common approach in literature (e.g. Mathieu et al. 2008). Trust, like conflict and behavioral integration, is an input of the team which will yield positive or negative feelings that they will in turn determine team outcomes. Board processes are the inputs, the mediator is board effectiveness and the outcome is the organisational performance. Trust, conflict and behavioural integration are perceived as primary attitudes behaviors and cognitions that take place within the board and encompass the core aspects of teamwork.

In the model, boards are perceived as information processing groups in which their processes affect organisational outcomes. The model is about the perceptions of these executives about the level of trust, conflict, behavioral integration that exists in their boards. Besides, they assess the effectiveness of the board as well as the organisational performance.

Upper-echelons, social exchange and information processing theories are the frameworks that help us guide this research. Besides, to conceptualise board effectiveness and understand the complexity of board roles we draw our attention upon corporate governance perspectives (agency, resource dependence, stewardship, institutional, social network and stakeholder theories).

By extending the upper echelons approach to the board of directors, as per the suggestion of Finkelstein, Hambrick and Cannella (2009, the study aims to shed light on important issues that could help the field of corporate governance to formulate a more comprehensive understanding of why some organisations are successful and others not. The author moves beyond the studies of board diversity on performance and focus on the way that upper echelon

processes and perceptions affect outcomes. With the exception of few studies researchers still to move inside the "black box" of the upper echelons processes and understand how team members interact (Heemskerk, Heemskerk and Wats, 2017; Kisfalvi, Sergi and Langley, 2016; Minichilli, Zattoni and Zona, 2009). The limited volume of management research that exists about the upper echelons processes has mainly focused on top management teams and not on the board of directors and the way their members share information and help each other to solve problems.

A limited number of researchers have examined what makes boards function well as groups and the role that board group effectiveness plays in organisation performance (Daily, Dalton and Cannella, 2003; Hermalin and Weisbach, 2003; Ruigrok et al. 2006; Stiles, 2001; Payne, Benson and Finegold, 2009). Researchers encounter difficulties in granting access in boards rooms and in parallel executives are reluctant to share information about their boards (Daily, Dalton and Cannella, 2003; Payne, Benson and Finegold, 2009). The current model seeks to extend our knowledge on board of directors as strategic and information processing groups and contribute to this stream of research.

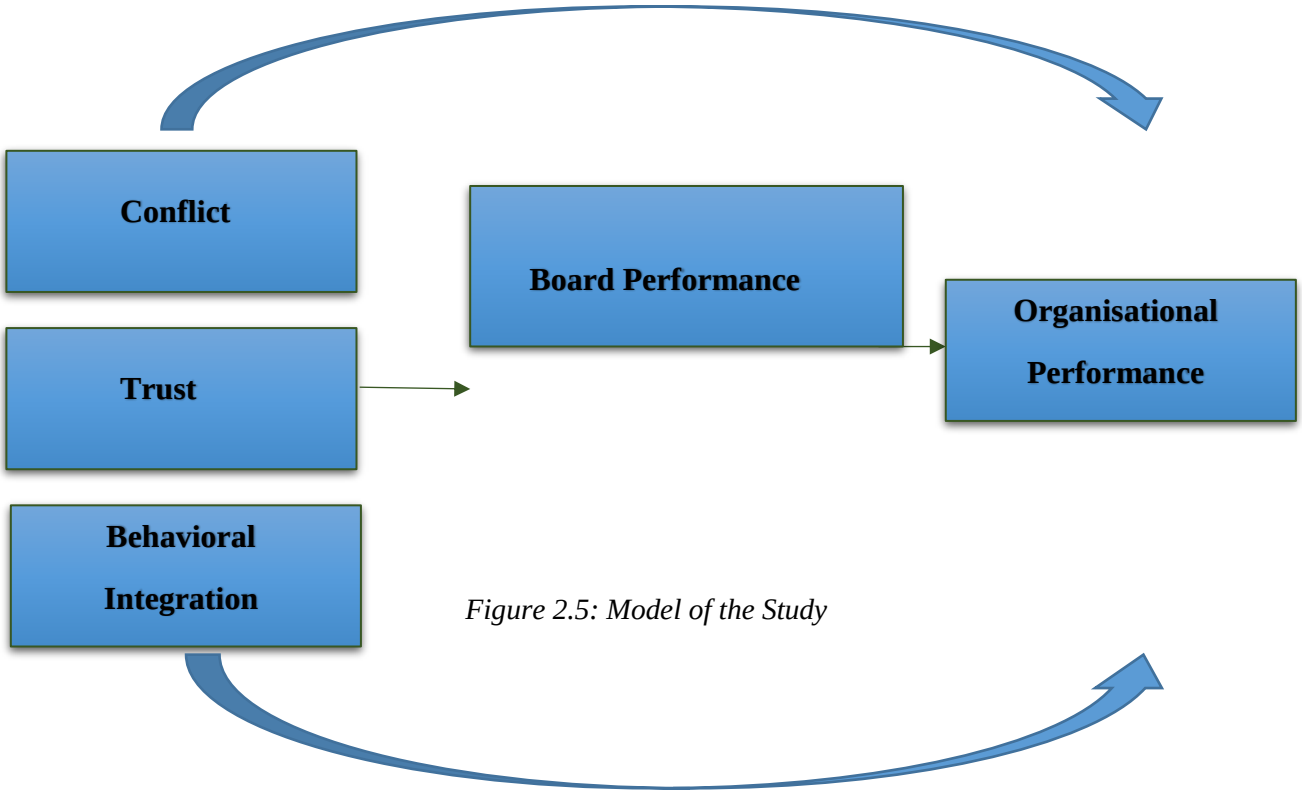


Figure 2.5: Model of the Study

2.10 Summary

This chapter made a coherent analysis of the role of board of directors, discussing also the main theoretical perspectives of corporate governance literature (agency, resource dependence, upper echelons, stewardship, institutional, social network theory and stakeholder's theories). The chapter presented the three basic team dynamics of the model (conflict, trust and behavioral integration) and made connections to upper echelons, social exchange and information processing perspectives. Besides, the terms of board effectiveness and organisational performance were conceptualised as well.

A bulk volume of research on board effectiveness, mainly within the framework of upper echelons theory, has focused on the role of demographic characteristics on organisational performance (Aguilera, Filatotchev and Jackson, 2008; Daily, Dalton and Cannella, 2003). However, the findings have produced mixed results because diversity seems to be dependent on the context and the design of the study (Homberg and Buiu, 2013). Another possible explanation for the mixed findings may lie on the inability of researchers to examine meaningful dimensions of heterogeneity and to look at each one separately and with special treatment (Naranjo-Gil, Hartmann and Maas, 2008). Research in corporate governance lacks understanding of the behavioral processes and group interactions that determine board effectiveness (Roberts, McNulty and Stiles, 2005). Forbes and Milliken back in 1999 had already underlined that the effectiveness of the board lies on various social-psychological processes and high levels of interpersonal attraction. Similarly, recent studies support that we still need to move inside the "black box" of the upper echelons processes and understand how group members interact (Minichilli, Zattoni and Zona, 2009; Minichilli et al. 2012; Kisfalvi, Sergi and Langley, 2016; Rebeiz, 2016; Heemskerk, Heemskerk and Wats, 2017). Our knowledge about boards has been based mainly on secondary data and research based on primary data remains extraordinarily rare (Crow and Lockhart, 2016).

In this competitive era, investors and regulatory pressures, as well as global challenges such as digitalisation, put additional pressures on the work of the board. McKinsey & Company Report in 2016, examining 1.119 board members, found that comparing to 2011 these executives spend approximately five more days per year on board work and especially on setting the organisational strategy. The report showed that a value creating board is the one that has strong dynamics such as respect and trust. The pressure of executives for improved corporate

governance has led the researchers to understand what makes a board effective and identify which are these parameters that are related to board effectiveness. Considering these gaps in the board research, the author supports that the three processes of the model appear particularly interesting in understanding the dynamics of the board of directors and open the black box of board and organisational performance.

The attention is turned now on Chapter 3 in is made a presentation of the assumptions and hypotheses of this study.

CHAPTER 3: HYPOTHESES DEVELOPMENT

3.1 Introduction

In the previous chapter a large stream of substantial literature published on the field under consideration was presented along with the theoretical framework of this thesis. This chapter introduces the operationalisation of the constructs of the model and more specifically it is presented how conflict, trust, behavioral integration, board effectiveness and organisational performance have been operationalized in literature. The various hypotheses stem from the model and discuss the linkage between board processes, effectiveness and organisational performance will be also analysed extensively.

3.2 Developing Research Hypotheses

Having developed an understanding of the relevant literature about board dynamics, team effectiveness and organisational performance, the following sections will present the hypotheses that we develop to explain the expected relationships between the constructs.

3.2.1 Conflict and Outcomes

Conflict researchers at the beginning of the 20th century found usually that relationship (emotional) conflict to be detrimental to group performance (Amason 1996; Amason and Schweiger, 1994; Jehn 1995, 1997). Recent research investigating the consequences of process, task and relation types of conflict noted a decrease in group performance and member satisfaction and an increase in the amount of negative emotions (Behfar et al. 2008; De Dreu and Weingart, 2003; Greer, Jehn and Mannix, 2008)

More specifically, for relationship conflict, which is about emotions and personal incompatibilities, there is a consistent stream of research which has concluded that this type has deleterious effects on team outcomes (see the reviews of De Dreu and Weingart, 2003; Jehn and Bendersky, 2003), can obstruct the exchange of information between team members and erode strategic decision making (Amason and Sapienza, 1997).

Process conflict has a negative effect on group outcomes (Greer and Jehn, 2007; Hinds and Bailey, 2003), as well. Both process and relationship types of conflict (affective forms of conflict) were found to have a long-term impact on the group interactions (Greer, Jehn and

Mannix; 2008) in a sense that high levels of these two types of conflict in the initial interactions of the team members predict high levels of conflict in the lifecycle of the group.

Task-based conflict (cognitive conflict), which is about judgmental differences on achieving common goals, is the only type of conflict which has produced mixed findings since there has been found evidence for positive effects on group performance. However, the meta-analysis of De Dreu and Weingart (2003) did not support its beneficial effects since this type could lead to poorer information processing (Carnevale and Probst, 1998), reduce group effectiveness, creativity and decision-making (De Dreu, 2006).

Overall there is an extensive stream of research that has underlined the negative effects of conflict on group performance (Auh et al. 2014; DeDreu, 2008; De Dreu and Weingart, 2003; de Wit et al. 2012; Jehn et al. 2008; Langfred, 2007). Despite the positive effects that have been found from task-based conflict, the author supports that cognitive conflict does not exist in isolation from relationship conflict and that the beneficial effects of task conflict are mitigated by the losses arising relationship conflict (Forbes and Milliken, 1999; Heemskerk, Heemskerk and Wat, 2017; Zona and Zattoni, 2007).

Besides, through the lenses of information processing theory and consistent with other studies on boards of directors, it is proposed that board processes, such as conflict, have adverse effect both on board effectiveness and organisational performance (Forbes and Milliken, 1999; Van den Heuvel, Gils and Voordeckers, 2006; Zona and Zattoni, 2007; Zattoni, Gnan and Huse, 2015). Despite that there are not many empirical studies that examine directly the effect of conflict on organisational performance, the author supports that conflict in the highest organisational team, that of the board of directors, affects negatively some crucial parameters of organisational performance. This study examines the perceptions of board members about the overall level of intragroup conflict that exists in the board and not each time of conflict since in most of the studies it has been found that task conflict and relationship conflict are consistently correlated (Simons and Peterson, 2000). In light of the above arguments it is assumed that:

Hypothesis1: *Conflict in the Board of Directors is negatively related to Board Performance*

Hypothesis 1.1: *Conflict in the Board of Directors is negatively related to Strategic Decision Quality*

Hypothesis 2: *Conflict in the Board of Directors is negatively related to Organisational Performance.*

3.2.2 Trust and Outcomes

This reseach study examines the perceptions of board members about the level of trust that individuals have in their board and its effect on board and organisational outcomes. The beneficial effects of trust on the organisation have been found to compensate negative outcomes in cases of uncertainty and information asymmetry (Leifer and Mills, 1996). Trust certainly could show its dark sides in the form of relational inertia and over-trusting (Welter, 2012) and may also have an inverted-U-shaped association with performance (Villena, Choi and Revilla, 2016). However, in this study it is supported that the beneficial effects of trust on the team and organisational level could compensate the negative aspects.

Trust enhances collaboration between the members of a team (Dirks and Ferrin, 2001), individual's performance (McAllister, 1995; Robinson 1996) and upward information sent to superiors (Roberts and O'Reilly, 1974). Negotiations, which is a vital part of board meetings, could be enhanced with an appropriate level of trust because this paves the way for a longstanding success of a partnership (Kong, Dirks and Ferrin, 2014; Thompson, Wang, and Gunia, 2010; Yao, Zhang and Brett, 2016).

Intra team trust is considered as one of the 5 most important characteristics that contribute to team effectiveness (Salas et al. 2005). Besides, intra team trust has been proved to enhance cooperation and teamwork performance (Braun et al. 2013; De Jong and Elfring, 2010; De Jong, Dirks and Gillespie, 2016; Jones and George, 1998). Carmeli, Tishler and Edmondson (2012) urged CEOs to improve TMT's strategic decisions by building trust between its members which in turn facilitates team learning from failures. The meta-analysis of De Jong, Dirks and Gillespie (2016) in 112 studies over the past two decades confirms that trust has a direct impact, and not only an indirect one as previous researchers claim (Dirks, 1999; Dirks and Ferrin, 2001).

Apart from the benefits that trust has on team performance, it is expected that trust will affect organisational performance. Trust is a social mechanism that saves time in the transaction processes, enabling the firm to react promptly and with flexibility to changing market conditions, setting the foundations for achieving competitive advantage (Ingenhoff and Sommer, 2010). Similarly, with Payne, Benson and Finegold (2009), the author supports that group attributes contribute to effective board functioning which in turns contributes to corporate financial performance. Trust in the highest organisational team that of board of directors, can yield

beneficial outcomes both at the team and organisational levels. Considering the above arguments, it is assumed that:

Hypothesis 3: *Trust in the Board of Directors is positively related to Board Performance*

Hypothesis 3.1: *Trust in the Board of Directors is positively related to Strategic Decision Quality*

Hypothesis 4: *Trust in the Board of Directors is positively related to Organisational Performance.*

3.2.3 Behavioral Integration and Outcomes

In this study are examined the perceptions of board members about the overall level of behavioral integration that exists in the boardroom and its effect on board and organisational outcomes. A number of positive effects have been found in literature to stem from behavioral integrated teams. Behavioral integration enables TMTs to integrate knowledge and develop core competencies as per Hambrick (1998). Ou et al. (2014) found that decision quality could be improved by boosting TMT integration which in turn resulted in positive perceptions of middle managers about working in an empowering organisational climate. In the same line, findings from survey data of 116 TMTs linked behavioral integration with quality strategic decisions (Carmeli and Schaubroeck, 2006). Behavioral integrated TMTs are positively associated with an ambidextrous orientation (Lubatkin et al. 2006; Luo et al. 2016) through which the organisation pursues both an exploitative and an exploratory orientation that gives flexibility and a superior adaptability to organisational change. Researchers also support that behavioral integration enhances firm's performance (Rosenkranz and Wulf, 2017; Simsek and colleagues, 2005).

The minimisation of information asymmetry in the boardroom produces efficient decision making that it leads to enhanced firm profitability (Charas, 2016). Overall, we find evidence that the more the level of team integration, the better the team effectiveness and organisational performance. On the basis of the above arguments, it is initially hypothesised that in upper echelons:

Hypothesis 5: *Behavioral integration in the Board of Directors is positively related to Board Performance.*

Hypothesis 5.1: *Behavioral integration in the Board of Directors is positively related to Strategic Decision Quality*

Hypothesis 6: *Behavioral integration in the Board of Directors is positively related to Organisational Performance.*

3.2.4 Board Effectiveness and Organisational Performance

Scholars of corporate governance have found connections about the way that boards contribute to organisational effectiveness (e.g. Forbes and Milliken, 1999). For example, taking a resource-based perspective and considering boards as resource providers, we notice that effective boards enhance strategy formulation (Sundaramurthy and Lewis, 2003; Westphal, 1999). Within an agency theory framework of board of directors, we notice a plethora of studies which link demographic characteristics of the executives (i.e. gender, education, age) as well as structural characteristics of the board (size, independency and CEO duality) to organisational performance. For example, age diversity in boardroom is associated with higher return on assets (Mahadeo, Soobaroyen and Hanuman, 2012) and Tobin's Q ratio in Thai listed firms (Sitthipongpanich and Polsiri, 2013). The positive linear association between the ratio of female directors and financial and financial performance is depicted in various studies (i.e. Bonn, Yoshikawa and Phan 2004; Mahadeo and colleagues, 2012).

Rebeiz (2016) concluded that the inconclusive findings of the structural aspects of board effectiveness lead us to the incorporation of socio-cognitive variables and behavioral patterns into the design of boardrooms. Board effectiveness is likely be based on social-psychological processes, such as coordination, information exchange and discussions (Finkelstein and Mooney, 2003; Forbes and Milliken, 1999; Hambrick, Werder and Zajac, 2008; van den Heuvel, Gils and Voordecker, 2006; Zona and Zattoni, 2007; Zattoni, Gnan and Huse, 2015) which ultimately could affect the financial performance of the organisation.

However, there is a lack of research that empirically examines board effectiveness to organisational performance. Payne, Benson and Finegold (2009:713), in one of the rare studies which addresses this gap, argues that there are hardly any studies which directly measure board effectiveness from inside the boardroom in a way that might be used to directly examine the theoretical 'black box' between board practices and performance. Payne and colleagues found that group attributes contribute to effective board functioning which in turn contributes to corporate financial performance. In the same line, Minichilli et al. (2012), Conheady et al.

(2015), Charas (2016) and Zattoni Gnan and Huse (2015) showed that board task performance affects corporate financial performance.

Given the number of previous studies that have tied many of the board attributes to company performance and the importance of the board in warranting the survival of the firm, it is expected that board effectiveness is positively associated to organisational performance. Besides, in line with Payne, Benson and Finegold (2009), it is assumed that board effectiveness will act as a mediator of the board processes/dynamics (conflict, trust and behavioral integration) and performance relationships. The initial hypotheses stemming from the above arguments are the following:

Hypothesis 7: *Board Performance is positively related to Organisational Performance.*
Hypothesis 7.1*: Strategic Decision Quality is positively related to Organisational Performance.*
Hypothesis 8: *Board Performance mediates the relationship between Conflict and Organisational Performance.*
Hypothesis 8.1: *Strategic Decision Quality mediates the relationship between Conflict and Organisational Performance.*
Hypothesis 9: *Board Performance mediates the relationship between Trust and Organisational Performance.*
Hypothesis 9.1: *Strategic Decision Quality mediates the relationship between Trust and Organisational Performance*
Hypothesis 10: *Board Performance mediates the relationship between Behavioral integration and Organisational Performance.*
Hypothesis 10.1: *Strategic Decision Quality mediates the relationship between Behavioral integration and Organisational Performance.*

3.3 Summary

Following a comprehensive literature review, this chapter focused on the operationalisation of the processes on the board (conflict, trust and behavioral integration), board effectiveness and organisational performance. Furthermore, 17 initial hypotheses were framed (Table 3.1) which will guide us in addressing the research questions. The hypotheses developed will be tested in Chapter 7 with the use of Structural Equation Modeling (SEM). The next Chapter, Chapter 4, discusses in detail the research methodology of this study, addressing several important issues, such as the research design; the development of the questionnaire instrument; the process of data collection; the sampling frame and the response rate attained.

Table 3.1: Initial Hypotheses of the Model

Hypothesis	*Statement*
1	*Conflict in the Board of Directors is negatively related to Board Performance*
1.1	*Conflict in the Board of Directors is negatively related to Strategic Decision Quality*
2	*Conflict in the Board of Directors is negatively related to Organisational Performance.*
3	*Trust in the Board of Directors is positively related to Board Performance*
3.1	*Trust in the Board of Directors is positively related to Strategic Decision Quality*
4	*Trust in the Board of Directors is positively related to Organisational Performance.*
5	*Behavioral integration in the Board of Directors is positively related to Board Performance.*
5.1	*Behavioral integration in the Board of Directors is positively related to Strategic Decision Quality*
6	*Behavioral integration in the Board of Directors is positively related to Organisational Performance.*
7	*Board Performance is positively related to Organisational Performance.*
7.1	*Strategic Decision Quality is positively related to Organisational Performance.*
8	*Board Performance mediates the relationship between Conflict and Organisational Performance.*
8.1	*Strategic Decision Quality mediates the relationship between Conflict and Organisational Performance.*
9	*Board Performance mediates the relationship between Trust and Organisational Performance.*
9.1	*Strategic Decision Quality mediates the relationship between Trust and Organisational Performance*
10	*Board Performance mediates the relationship between Behavioral integration and Organisational Performance.*
10.1	*Strategic Decision Quality mediates the relationship between Behavioral integration and Organisational Performance.*

CHAPTER 4: Research Design and Methodology

"Although research methodologies evolve over time, there has been little change in the fundamental principles of good research design: match your design to your question, match construct definition with operationalisation, carefully specify your model, use measures with established construct validity or provide such evidence, choose samples and procedures that are appropriate to your unique research question." (Bono and McNamara, 2011:659)

4.1 Introduction

In the previous Chapter a presentation of the hypotheses were made to demonstrate the association between the constructs of the theoretical model. The main aim of this chapter is to identify the appropriate methodology, namely to specify the general research strategy that will frame the way in which the current research will be undertaken. The methodology will define the methods to be used. For the identification of the appropriate methodology we need to discuss in advance various philosophical issues in management research and specify whether we are using qualitative, quantitative or a mixed methods approach. An analysis of the research design, data sources, scales and survey techniques will also be made in this Chapter.

4.2 Philosophy in Management Research

"Management or organisational research is a systematic inquiry that provides information to guide managerial decision" (Cooper and Schindler, 2008). Management research is the organized process of investigating and solving organisational problems. Bitektine and Miller (2015:115) define organisational research as 'a process driven by researcher's adaptations to institutional pressures and resource constraints'.

Philosophy is "the quest for truth" (Litzinger and Schaefer, 1966) and encompasses critical thinking and questioning about the nature of the world. The use of philosophy is applied to management practice to enable practitioners and scholars to conceptualise organisational phenomena, business ethics issues and the place of business in society.

Every researcher who is involved in management research should consider basic philosophical issues pertaining to management science because the choice of the methodology and methods should be based upon ontological and epistemological assumptions. Ontology and epistemology are about the nature of knowledge gained throughout the research process whereas methodology and methods are about the approach that will be followed to capture the knowledge.

In Figure 4.1 we note that ontology reasonably precedes epistemology and can be considered as the starting point of the research (Grix, 2002; Hay, 2006). Grix (2002) notices that every researcher should be aware of the things that can be investigated (ontological position), connect it to the knowledge that currently exists (epistemological position) and proceed to the general research strategy which will yield new knowledge (methodology).

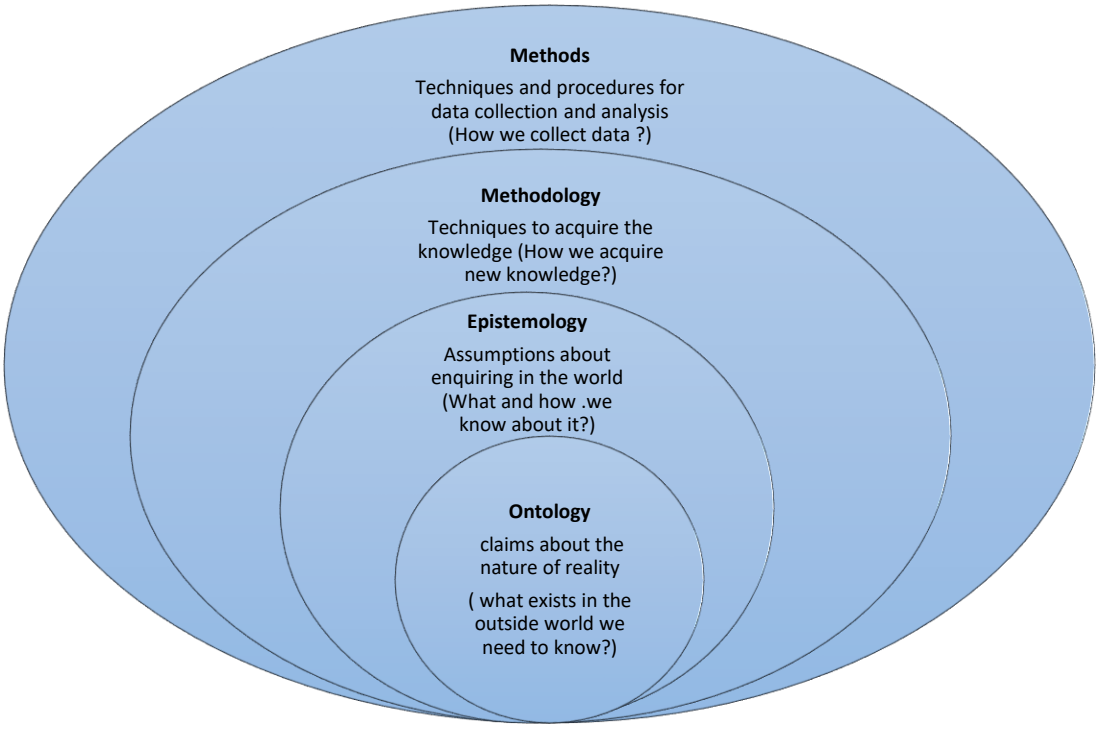


Figure 4.1: Connections between Ontology, Epistemology, Methodology and Methods

4.2.1 Ontology

The word ontology comes from the Greek words: ontos = being and logos = study, thus we can conceptualise the term as the study or of being. Ontology can be perceived as a philosophical approach about the nature of reality which relates to questions such as, ‘‘What is existence?’’ or ‘‘Is there a God?’’. Answers to these questions are not an easy task since they touch upon fundamental issues concerning matters such as the kinds of things that have existence.

An important issue when discussing about ontology is the understanding of the term realism, namely any position that encompasses belief in the reality of an object. Realism is

about the mind independent existence of the world and contradicts to 'idealism' which postulates a mind-dependent approach. Realism enable researchers to undertake a scientific approach to the generation of knowledge. In the context of science, Hunt (2005:131) presented the four basic tenets of scientific realism:

- ''Classical realism (or external realism) states that the outside world exists independently of our representations; thus, the world is real and science could theorise.
- Fallibilistic realism is opposite to classical realism and postulates that genuine knowledge about the outside world can be achieved with science but this knowledge will never be gained with certainty due to our limited perceptual capabilities. The facts cannot always be revealed.
- Critical realism, recognizing out limited perceptual capabilities, supports that the role of science is to critically evaluate the knowledge.
- Inductive realism argues that that the long-lasting success of a scientific theory could lead us to believe that the findings of the theory really exist''. Hunt (2005:131)

Hunt (2005) concluded that scientific realism has in its heart the role of the science which is the mode that yields true but uncertain knowledge about our world and noted that management researches can find some relief in its positive epistemic attitude since they could generate knowledge that could be considered worthy of others' trust.

In a research setting the conceptualisation of ontology can be made with the definition of Goertz and Mahoney (2012:207): ''Yet, most concepts are intended to represent phenomena in the empirical world as they actually exist. Thus, when one asks about the meaning of a concept, one is asking about the nature of reality''. The current study is concerned with the meaning of concepts such as trust, conflict and behavioral integration.

4.2.2 Epistemological Considerations: Positivism Vs Social Constructionism

Epistemology is a term derived from an Ancient Greek word and we can decompose it into two parts: *epistēmē,* which means knowledge and *logos* which can be approximated to the word study; thus, epistemology is the study of knowledge. Epistemology, a significant branch of philosophy, is the theory of knowledge (Marsh and Stoker, 2002) which discusses the ways of enquiring into the nature of the world. Example of questions relevant to the epistemology are "How can I know reality" or "How we know what we think we know?".

Epistemology enables the researcher to generate theories and frameworks and identify new ways of gaining the knowledge. The epistemological assumptions that are made have significant methodological implications for every research in the management field (Platts and Harris, 2011). Epistemology, the philosophy of knowledge, is based on two contrasting philosophical stances: positivism and social constructionism (or interpretivism).

Positivism, which is very popular in social sciences, advocates the use of objective methods in the study of social reality and the collection of facts to generate laws. From the first decade of the 20th century, positivism became so popular in the management field that led researchers to be more concerned with the definition of the concepts and their methodology approach than the philosophical assumptions that underlie their research (Leitch, Hill and Harrison, 2010).

On the other hand, social constructionism assumes that the research subject cannot be examined objectively since the reality can be studied through the sharing of experiences via the medium of language. Social phenomena are studied through social interactions, examining the feelings and emotions of individuals of groups. The main differences between positivism and social constructionism can be seen in Table 4.1.

Table: 4.1: Differences between Positivism and Social Constructionism

Positivism (The empiricist position)	Social-constructionism (the interpretivist position)
The social phenomena are based on observable facts and can be conceptualised beyond our beliefs and perceptions	The social phenomena cannot be detached from our own beliefs and are grounded in individual's perceptions
The researcher is independent	The researcher is part of the study and perceptions affect the way the study is conducted
The observation is theory neutral	All observation is theory
The study is based on hypothesis stemming from a theory about the phenomenon and scientific research is to identify law-like generalizations	The study is based upon collection of data
Each one concept should be clearly defined and operationalized	Concepts are based upon researcher's and participant's views
The main research methods are laboratories, surveys and quasi-experiments	The main research methods are in depth interviews
Large samples are required for the generalization of results	In depth study of a small sample

Adapted from Leitch, Hill and Harrison, 2010

In the current study, a positivist approach is utilized so as to gain knowledge about board of director's dynamics through data collection of a large sample of respondents. At the same time, minimal personal interaction is maintained with the participants throughout the research processes. Various assumptions are generated from the theories and then we test these theories through an empirical approach. The observations will be quantifiable and will be used as the input of our statistical analysis. Overall, the current study aims to understand social phenomena based on assumptions, numbers and correlations and utilise different group theories relevant to the board of directors.

Having examined ontology and epistemology which are about the nature of knowledge that has to be gained throughout the research process, then the researcher turns its attention on the methodology of the specific research and uses appropriate techniques to examine the reality. Within the context of a positivism paradigm, casual associations are usually achieved with the use of statistical techniques. Regarding current thesis, this research will perform a series of statistical techniques which will be presented analytically in Chapters 5, 6, 7 and 8.

4.2.3 Research Approaches: Deductive VS Inductive Approach

The two broad methods of reasoning which affect the theoretical position and the collection of data are the deductive and inductive. Deductive and inductive approaches are related to the logic of the research. Their fundamental difference lays on the selection of theory. Following a deductive approach, the researcher uses a specific theoretical framework, develops specific predictions and hypotheses from general principles and then moves to the collection of the data. The collection of data is quantitative and the researcher tries to identify causal relationships between variables. The deductive theory testing is linked to a positivist paradigm of scientific research and quantitative research methods (Bitektine, 2008).

On the other edge of the deductive research lies the inductive approach for which data collection precedes theory and generalisations are developed from the observation of empirical reality. An inductive approach gives emphasis on alternative explanations and may generate alternative theories. Researchers who follow an inductive approach usually collect qualitative data from a relevant small sample of population. Induction and deduction approaches can also be combined into the same research and produce various beneficial outcomes.

In this thesis, the deductive approach has been adopted since there is a wealth of literature about teams and board of directors from which a clear theoretical framework is developed to base the hypotheses. The emphasis of this research is on the causal relationships that exist between the constructs of the theoritical model; thus, the deductive approach is considered as more appropriate for this study.

4.2.4 Philosophy and Methodology in the Current Research

Figure 4.2 summarises the philosophical and methodological approach that will be used in this research. The study will gain a deep knowledge of board processes testing causal relationships via the use of assumptions and hypotheses. Taking a deductive perspective, the author will define a clear theoretical framework on which she will base he hypotheses. Quantitative tools will be utilised to acquire knowledge and a series of statistical techniques will be conducted in Chapters 5, 6 7 to analyse our findings.

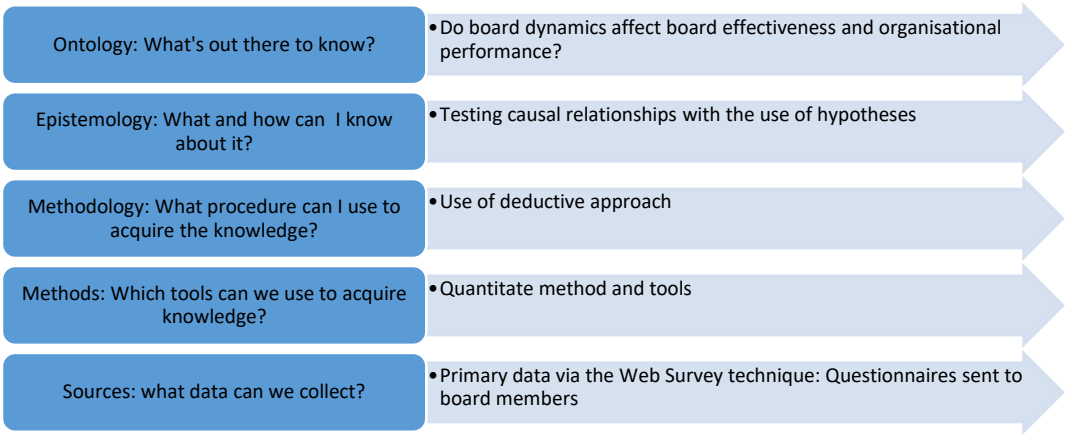


Figure: 4.2: Relationships between ontology, epistemology, methodology, methods and sources

Adapted from Hay (2002)

4.3 Theory in Management Research

In the following subsections, a discussion will be made about the role of the theory in management research, Grand and Middle-range theories as well as about constructs and variables.

4.3.1 The Role of Theory in Management Research

Bacharach (1989:498) supported that theory is a "system of constructs and variables in which the constructs are related to each other by hypotheses and the variables are related to each

other with hypotheses" and the two indispensable elements of this system for the evaluation of each theory are falsifiability and b) utility. Falsifiability, a term introduced by Popper (1963; 1980), is the possibility that a statement could be proved false when tested. This means that scientists should formulate a general theory that seems to be valid but at the same time, this theory should be open to empirical test. Popper's famous example about the scientific statement that "All swans are white" demonstrates the discrepancy that exists between what is expected and what can be found since the next swan to be observed may be black and the initial statement false. On the other hand, utility is about the usefulness of the theory in explaining and predicting the social or individual phenomena of interest.

Organisational researchers have paid significant attention to what constitutes a theory and what cannot be considered as a theory (Whetten 1989; DiMaggio, 1995; Bacharach, 1989; Sutton and Staw, 1995). Sutton and Staw (1995) specified "what theory is not" and clarified that references, data, variables, diagrams and hypotheses are not theory. Whetten (1989) suggested that the building blocks for theory development were:

- What: Which factors (variables, constructs, concepts) should be considered as part of the explanation.
- How: How the identified factors are connected.
- Why: What are the underlying psychological, economic or social dynamics that justify the selection of factors and the proposed causal relationships.
- Who, Where, When: These conditions place limitations on the propositions generated from a theoretical model.

Management research enables the understanding of organisational phenomena, examines if specific theories can be applied to comprehend these phenomena and identifies solutions for the organisational problems. Most of the theories that have been developed in management research lay upon on the fields of psychology, sociology and economics, whereas management scholars have been mainly focused on the process by which they write theory rather than creating new theory (Birkinshaw et al. 2014). This has not come without problems since social science fields are very specialised and we have been led to a fragmentation of knowledge. Birkinshaw et al. (2014) bring the example of psychology where psychologist researchers examine individual and group processes concentrating on theories of this field, missing out theories and observations from formal organisations.

Since the 1960s all the fields in business give special emphasis to theory. Hambrick (2007) talked about an extreme devotion of management to theory since all the top management journals expect from manuscripts to contribute to the theory whereas all the other sister fields (i.e. marketing, economics) have relaxed their approach. This obsession with theory deters individuals to build upon logic, concepts and ideas.

Edwards (2010) also noticed the great emphasis that have been given by organisational and management researchers on theory since a large amount of scholarly work is devoted to theory development, generation and evaluation. Despite the great volume of published work, there is still a great need for theoretical progress. Drawing upon on the content of four articles published in 2010 in the Organisational Research Methods journal (Davis, 2010; Edwards and Berry, 2010; Gray and Cooper, 2010; Leavitt, Mitchell and Peterson, 2010), Edward notices that the need for theoretical progress in management research in a sense that theories should become more precise and more susceptible to falsification. Edwards (2010), based on the four articles of Organisational Research Methods journal, urged researchers to contribute to the organisational and management theory with one of the following ways:

- Instead of focusing on theory building its preferable to identify when, how, and why the theories fail.
- Compare alternative and compatible theories by forming hypotheses which make contradictory predictions.
- Identify tactics for making theories more precise.
- Conduct detailed empirical research to reveal important organisational processes, even if that research contributes little to theory.

Professor Suddaby, the editor of the most cited journal in management *Academy of Management Review*, raised his concerns about the lack of reflexivity with theory and presented the dissatisfaction that writers have expressed about the role of theory in management. In his article, he presented the four subgroups that exist between management scholars:

1. ‘‘Empiricists: Most scholars fall within this category and perceive management as science and theory as the outcome of empirical observations. Various theories emerge in the field and the one that predicts reality is established as a unified theory. When a single theory fails to predict reality, then empiricists tend to reject the value of theory entirely and focus exclusively on the collection of data.
2. Rationalists: They value theory for its logic and support that theory occurs prior to empirical observation, enabling individuals to organize their thoughts and cognitively pre-organise their observation.

3. Normative theorists: They develop theories that usually deny well-studied phenomena presented by empiricists and rationalists and pave the ways for novelties in organisational and managerial behaviour.
4. Theorists that support that the value of theory lies in its ability to legitimate knowledge means and protect jurisdiction''. Suddaby (2015: 1-5)

Concluding his article Suddaby supports that none of the above-mentioned categories will prevail since true knowledge stems from the rivalry that exists between the subgroups. Birkinshaw and colleagues in their discussion about the future of management research, underlined that the field requires for a joint commitment towards management phenomena:

> ''The focus on management phenomena, first of all, suggests that we have to get our hands dirty and closely observe and study, or even live with, people organisations – rather than relying on arm's length, or at worst ivory tower, approaches that are based on lab data or proxies''. (Birkinshaw et al. 2014: 52:53)

4.3.2 Grand Theories (General theories)

Two types of theories exist: grand theories (general theories) and middle-range theories. "General theories operate like paradigms-broad explanations that might help explain a variety of different outcomes" (Whetten and Rodgers, 2013:4). A paradigm can be described as "a set of scientific habits" (Masterman, 1970, p. 66) or as a as a cluster of beliefs that enables researchers to comprehend what needs to be researched and how this research should be conducted. Paradigms can be established by scholars around a theory or approach and can be also abandoned in case of the emergence of a better theory or in case of falsification (Bitektine and Miller, 2015).

Grand theory is predicated on ''the notion that the purpose of social research is to uncover preexisting and universal explanations of social behavior'' (Suddaby, 2006, p. 633).

Grand theories do not typically guide management research, cannot be systematically tested and cannot influence the collection of empirical evidence. Examples of grand theories are structural-functionalism, poststructuralism and structuration theory. Marx's work around the term of mode of production is also used as an example of a grand theory which attempts to cover the evolution of human societies. There is not a grand unified theory of management (Fendt and Sachs, 2008) which could encompass all the parameters that could make a firm successful. In the article of Birkinshaw and colleagues (2014:51), Klaus Weber talked about the reasons that management and organisational scholars are difficult to build grand theories:

> ‘‘As a community, we are not very good social theorists, and poor philosophers. The reason is simple: we concern ourselves with – in the grand scheme of things – a fairly narrow set of phenomena, namely formal organisations, almost exclusively in commercial contexts, during a relatively short historical era, and mostly in market economies of Western democratic societies’’. Birkinshaw et al. (2014:51)

4.3.3 Middle-Range Theories

Theories of the middle-range fall somewhere between grand theories and empirical findings. Robert Melton in the late 1940s developed the theories of middle-range with the ultimate aim to integrate theory and empirical research so as to create the basis upon which the sociology could stand. Melton’s approach of theory building, in contrast to Grand theories, was to create general statements which could be verified by data. In his book in 1949 urged sociological theorists to develop theories applicable to specific conceptual constructs and from these to create hypotheses that could be tested empirically. This way a broader conceptual scheme would emerge that encompasses all these special theories. “Theories that lie between the minor but necessary working hypotheses that evolve in abundance during day-to-day research and the all-inclusive systematic efforts to develop a unified theory that will explain all the observed uniformities of social behavior, social organisation, and social change’’ (Merton, 1949:448).

Whetten and Rodgers (2013:852) view middle-range theory as being compatible with the goal of organisational leaders in boosting of organisational performance, group creativity and employee satisfaction. The authors present the difference between middle range and general theories below: ‘‘If one thinks of general theories as “omnibus Xs” looking for particular Ys to explain, middle-range theories can be thought of as “particular Ys” looking for suitable explanations’’ (Whetten and Rodgers, 2013:852). Management scholars build their work on middle-range theories to encounter the organisational peculiarities in a more flexible way (Birkinshaw et al. 2014). Examples of middle-range theories are the resource-based view (RBV) view of the firm, strategic choice and contingency theory.

In this study, our aim is not to develop a new theory; instead, there should be a theory downstream approach to particular contexts. Through the lenses of various theoretical perspectives (such as upper echelons, information-processing, resource dependence perspectives) we develop our hypotheses which aim to open the black box of board dynamics and identify what causes what, why and under what conditions. Even though the current study

is centered around the board of directors, the results are expected to be applied to multiple cases (top management teams, work groups, cross-functional teams, virtual teams etc.). In this specific research, we create a theoretical model as a starting point and apply it to the study of board of directors with the ultimate aim to understand the connections between trust, conflict, behavioral integration and organisational effectiveness.

Our knowledge in the field of corporate governance could be advanced with the development of middle-range theories. Middle-range theory does not consider the theory as the answer to any problem, instead, the focus is on the "processes" and the examination of outcomes.

4.3.4 Theoretical Frameworks

A term used continuously in management research is that of theoretical framework. Researchers present their theoretical framework which comprises the basis upon which the research questions and hypotheses will be developed. A proper confined theoretical framework is the map that sets the limits of the research, tests the relevant theories, and guides the design of the methodology. Bitektine and Miller (2015:117) support that ''the theoretical framework, determines the scope of relevant research questions that can be posed within a given research paradigm''. The theoretical framework of this research is presented below and comprises the "blueprint" for the entire research process which is developed a priori our data. It serves as the guide to structure the current study and which will determine the philosophical, epistemological, methodological and analytical approach of this research.

In this research, focusing on various theoretical perspectives (upper echelons, information processing theory, social exchange and on various corporate governance theories presented in chapter 2) the theoretical framework pursues to study the dynamics of the board of directors. The theoretical framework sets the boundaries of our work for the discussion of the literature review, methodology and findings.

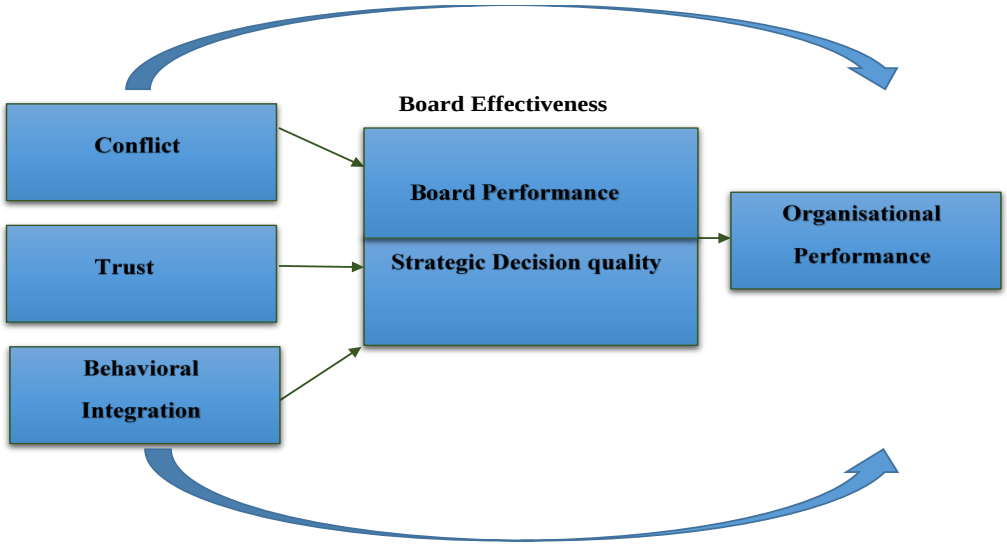


Figure 4.3: Theoretical framework of the current study

4.3.5 Constructs and Variables

Kerlinger (1973:39) conceptualised construct as concept that has "been deliberately and consciously invented or adopted for a special scientific purpose". Constructs are abstract statements that comprise the basis for theory building (Priem and Butler, 2001; Suddaby, 2010). As for the variables. Lazarsfelf (1955) defines them as an objective and quantitative way of describing constructs. Figure 4.4 encompasses all the components of a theory as presented by Bacharach (1989). The hypotheses can be considered as the link between two or more constructs whereas hypotheses are the statements connecting two or more variables that have derived from constructs.

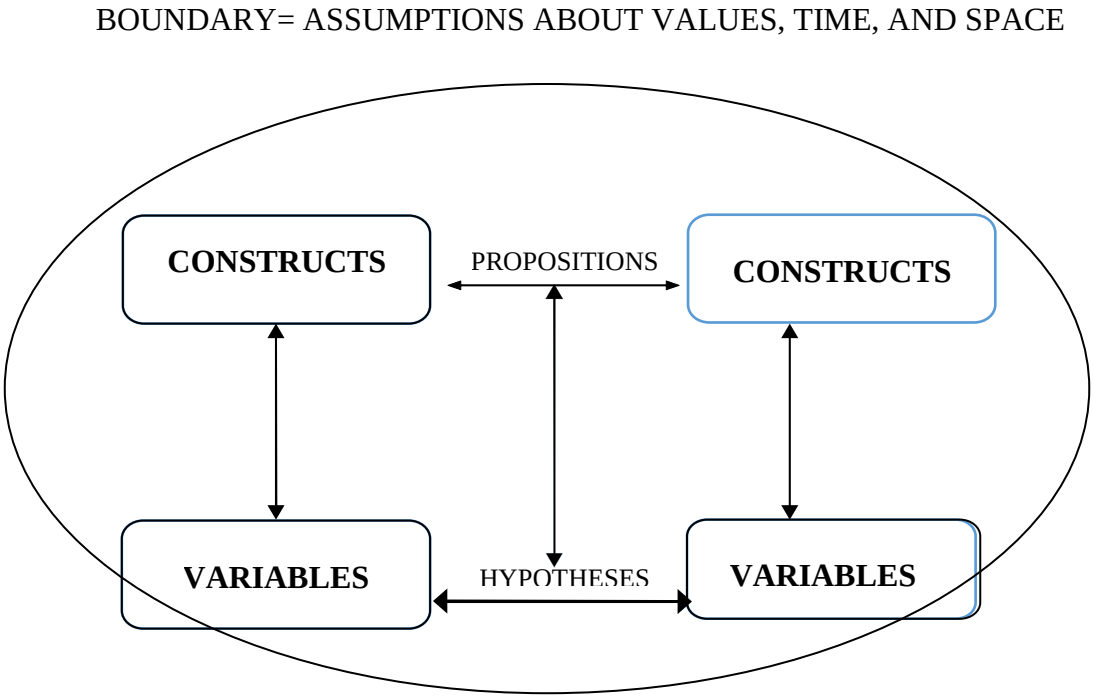


Figure: 4.4: Components of a Theory
Source: Bacharach (1989:499)

4.3.5.1 Construct Measurement and Trends in the Strategic Management Field

A very important step in every research is the operationalisation of the constructs and the presentation of the relevant measures that will be used to capture the relevant concepts. The operationalisation should take into account issues such as reliability and validity. Construct validity is crucial in theory testing and is usually described as the extent to which an operationalisation measures the concepts that is supposed to measure (Cook and Campbell, 1979, Bagozzi, Yi and Phillips, 1991; Carlson and Herdman, 2012). No single test of the construct validity exists and validity should be demonstrated with a number of approaches (Schwab, 1980). Even if exists a solid theoretical framework, a measurement error could lead to confirmation of fallacious hypothesis and vice versa. Based on the work of Venkatraman and Grant (1986: 79) the five components of construct validity are presented in Figure 4.5.

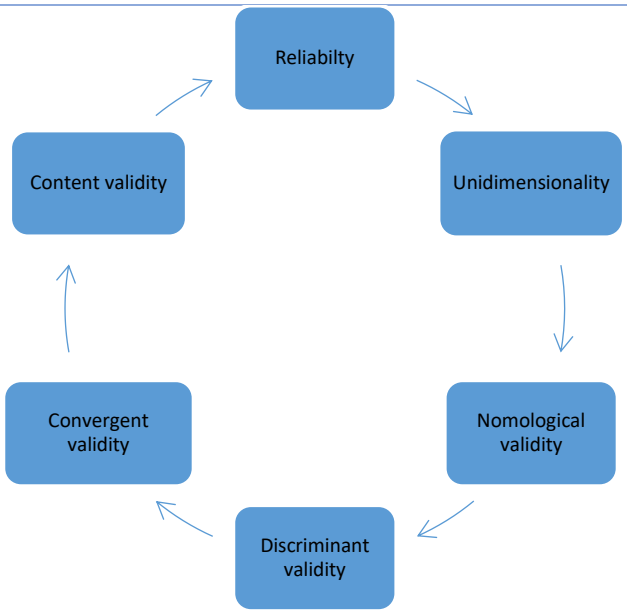


Figure 4.5: Concepts relevant to Construct Validity

Adapted from: Venkatraman and Grant, 1986

- Content Validity is about the extent that an empirical measurement reflects a specific construct (Venkatraman and Grant, 1986). "Content validity asks how closely a chosen indicator meshes with the theoretical framing of a construct "(Boyd et al. 2013:6). In the current study, content validity and clarity have been addressed by asking executives and academics to comment on the content of our research tool
- Internal consistency includes the concepts of unidimensionality and reliability. Unidimensionality is the degree to which the various items reflect only one underlying construct and for the aims of the study we have used exploratory factor analysis to identify the items loading on a single factor. Reliability is about the extent to which the measure diminishes errors of measurement so that in cases of different assessments, the same results would be yielded (Carlson and Herdman, 2012). Cronbach's (1951) Alpha, is the most famous measure of internal consistency. The bond that exists between the term Alpha and internal consistency is so strong that sometimes researchers substitute the term internal consistency to Alpha (Hogan, Benjamin and Brezinski, 2000). Cho and Kim (2015) characterise Alpha as an inferior method for assessing scale reliability for each factor and proposed researchers the use of structural equation modeling (SEM) reliability estimators. Despite the various criticisms, the use of Alpha exceeds all other tools for

assessing reliability in social research. For the purpose of this study, the minimum accepted score for the coefficient alpha was decided to be 0.6 (Hair et al. 2010).

- Convergent validity refers to the degree of which multiple measures capture the same concept (Bagozzi, Yi and Phillips, 1991; Boye et al. 2013; Carlson and Herdman, 2012; Venkatraman and Grant, 1986). This means that if we had two measures, both should be in agreement when measuring the same construct so as to produce a substantive conclusion. High convergence is achieved with correlated measures which are close to 1, whereas a value that reaches close to 0 impacts negatively the interpretability of research findings (Nunnally, 1967; Carlson and Herdman, 2012); thus, convergent validity is shown when the indicator variables of a construct share a high proportion of variance in common. All items in each construct of the model will be examined to show if they converge to establish convergent validity, namely to check when the indicator variables of a construct converge or share a high proportion of variance in common. In Chapter 6, convergent validity will be tested using the measure of Average Variance Extracted (AVE) which is the average amount of variance in indicator variables that a construct is managed to explain. Convergent validity is achieved when loadings in are high and between the range 0.7 and 0.9 (Carlson and Herdman, 2012) with the minimum acceptance level to be 0.5.
- Discriminant validity is the extent to which a concept or variable differs from other concepts or variables (Venkatraman and Grant, 1986). The main logic of discriminant validity is that a construct (latent variable) should explain better the variance of its own indicators than the variance of other constructs. In this research, the criterion is that the square root of AVE for each construct should be greater than inter-correlations with other constructs (Bhattacherjee and Sanford, 2006; Kim and Malhotra, 2005; Sweeney and Soutar, 2001).
- Finally, nomological validity is the degree to which predictions from a theoretical network are confirmed (Venkatraman and Grant, 1986). Simply stating, nomological validity is a reflection of the extent that the relationships of our constructs in the model are consistent with theoretical expectations. In this study, it will be tested through the significance of the path estimates in the Structural Model and the variance explained in each construct.

In the field of strategic management, which is an integral discipline of management, Venkatraman and Grant (1986) were the first who emphasised the importance of sound measurement of constructs and addressed the problems that rise with the lack of measurement accuracy. Amongst others, the authors criticised strategic management scholars about their reliance on single indicators and about the inadequate assessment of construct reliability. Boyd, Gove and Hitt (2005), examining articles from the Strategic Management Journal for a twelve years' period, concluded that minimal progress has been made in the measurement of constructs since the period of Venkatraman and Grant. Key issues such as measurements of variables with single indicators and absence of reliability and validity of data reports remained a thorny issue. Boyd et al. (2013) by providing a critical review of 6 excellent articles that address construct validity issues in the strategic management research (Dalton and Aguinis, 2013; Gove and Junkunc, 2013; Gioia, Corley and Hamilton, 2013; Hamann et al. 2013; Ketchen, Ireland and Baker, 2013; Sharp, Bergh and Li, 2013) advised strategic management researchers to take into consideration the following issues:

a. Avoidance of archival data sources.
b. Causal models usually are not discussed in the literature. Clear discussion should be made to explain whether there is a causal direction that flows from the construct to indicator (reflective model) or vice versa (causal model).
c. Adoption of qualitative or mixed methods approaches to generate new options to existing measures.
d. Vigilance on the utilisation of American survey instruments to other contexts. The translation of the instrument to another language may affect construct validity; the applicability of measures to different context should be reassessed.

4.4 Research Design

Research design is the holistic plan that will enable the researcher to conduct the study and properly address the research questions. In Chapter 1 we presented the research questions and the research design will be the means for answering and testing the research questions.

Matching the research questions to research design encompasses various challenges and amongst them the researcher should take into consideration issues such as cross-sectional vs longitudinal data, appropriate sample and data collection, careful adaptation of existing

measures and common methods variance (Bono and McNamara, 2011). In this part, we will give special attention to the research design since this is a very crucial step that affects the data collection and research strategy approaches. The two different research design approaches are: design based on objectives of the study and design based on the time frame employed in the research.

4.4.1 Research Design Approach based on Aims and Objectives

There are four approaches of research depending on the aims of a study and these are: exploratory, descriptive, explanatory and predictive (Hussey and Hussey, 1997). Exploratory research seeks for patterns, ideas and hypothesis to gain familiarity with the subject. The researcher can conduct an exploratory study via focus groups, searching of the literature or interviews to examine an issue that lacks previous research, taking the chance define new terms and build new theory and paradigms. A descriptive approach is more compatible with quantitative designs in which the researcher collects data by gathering information on the characteristics of the variables in an attempt to describe "what really exists". For the explanatory research (causal research), which is quantitative in nature, the researcher measures the interrelationships among the various concepts and defines the cause and effect relationships between variables. As the predictive research is a concerned, it endeavours to give an efficient explanation of what is happening in a specific situation, enabling the researcher to forecast the possibility of a similar situation happening in the future. In the current thesis, the descriptive and explanatory approaches are employed. For the current study, we have a clear picture of the phenomena on which we wish to study prior to the collection of the data. The emphasis in the current research is to explain the causal relationships that exist between board processes, board outcomes and organisational performance.

Besides, at this point it should be mentioned that the two most prominent approaches for gathering data are the qualitative and quantitative method. In this study, we take a quantitative research approach to collect our data with is is generally associated with the positivist paradigm and the deductive reasoning.

The qualitative approach aims to extract detailed information through interviews, observation and diary methods to formulate new theories whereas a quantitative design utilises more rigor procedures to test and verify hypothesis and predict the probability of an outcome.

On the one hand, qualitative studies are based on a rich variety of methods and offer rich findings, but on the other hand they are bounded by the cognitive information processing capabilities of the researcher to capture the behavior of the participants (Currall et al. 1999). There have been so many arguments about the differences between qualitative and quantitative methods than almost any other methodological topic in social research. The debate about the correct methodology for social research looks back many decades where researchers emphasised the incompatibility of the two different epistemological positions underlying these research traditions.

Quantitative and qualitative approaches differ on ontological and epistemological assumptions about concept development and operationalisation. Goertz and Mahoney (2012) support that concept development is directly linked to ontological and epistemological considerations. Regarding the ontological considerations, qualitative scholars strive with definitions and the identification of the intrinsic attributes of a concept. On the other hand, a quantitative researcher adopts an abstract construct (latent variable) and tries to identify reliable factors and indicators that will be related with this variable. Quantitative scholars give special attention on the operationalisation and quality of their quantitative measures.

As for the epistemological considerations, Goertz and Mahoney (2012) support that in quantitative approaches, the challenge of knowledge generation is indispensably linked to measurement error which comprises an indicator of the quality of our knowledge whereas in qualitative research knowledge generation is conducted in a fuzzy-set analysis. The paradox is that qualitative scholars are confident about their results when working with cases that have extreme values whereas quantitative scholars want results with middle values. Overall, qualitative research is related both to the social constructivist paradigm which emphasises the socially constructed nature of reality and on a research inductive approach. On the other edge, quantitative research relies on deductive reasoning which tends to move from the general to the specific.

Despite the long-standing debate, there are studies that integrate qualitative and quantitative methods together, offering illuminating findings. There is a considerable discussion about the integration of qualitative and quantitative methods ranging from general methodological considerations to practical guidelines for mixing methods and models in one research design. There are management researchers who urge researchers to adopt a mixed

methods approach (Currall et al. 1999; Daft and Lewin, 1990; Edmondson and McManus, 2007) to improve the methodological rigor of the study and achieve superior research findings. Molina-Azorin (2012) who examined 1431 article articles from the Strategic Management Journal noticed that the studies who combine qualitative and quantitative data collection and analysis achieve higher citations and attraction.

In this study, the data was being collected with the use of quantitative research because it offers us flexibility in the treatment of data in terms of statistical and comparative analysis. Besides, time and resource constraints made it extremely difficult to approach upper level executives and conduct interviews. Quantitative data was gathered through online questionnaires because it is considered as the most feasible means in approaching a large and more representative sample of elite executives. Our quantitative research processes comprised of five steps as per (Swanson and Holton, 2005) which are depicted in Figure 4.6.

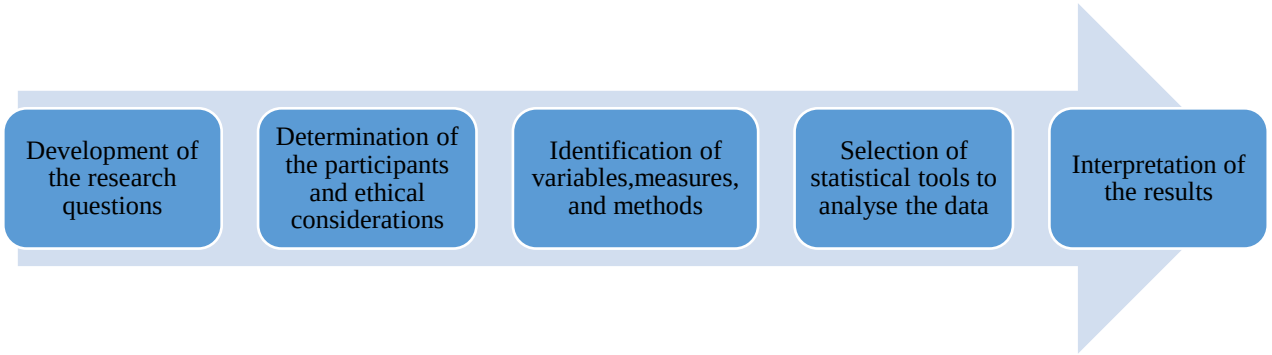


Figure 4.6: The Five Steps of Quantitative Research
Source: Swanson and Holton (2005)

4.4.2 Research Design Approach based on Time Frame Employed

One of the research design dilemmas is based on the time frame since the researcher should choose between a cross-sectional and a longitudinal approach. In the positivist tradition, the cross-sectional research design approach is usually utilised and the researcher collects the sample with the use of questionnaires and survey tools in one specific point in time. In the longitudinal design approach, the observations are repeated periodically and spread over several years. Cross-sectional data was employed in this study since we collect data from a representative population at one specific point in time. Given the temporal nature that

organisational teams have in this new dynamic and competitive era, there is a need for research and frameworks that focus on temporality.

4.5 Sample

In the following sections, we will examine various sampling issues and these concern the sampling frame, sample collection, key informants and survey errors. Besides, a detailed presentation will be made about the cultural and business environment of Nordic region as well as about the Nordic Corporate Governance model.

4.5.1 Deciding the Sampling Frame

Web surveys are conducted to collect data about a population. Time and resource constraints make it impractical for the researcher to reach the whole population; thus, a sample of the population was selected. Survey sampling is categorised as: probability-based sampling and non-probability sampling. In the probability-based sampling, the participants are chosen randomly with the use of probabilistic mechanisms whereas in the non-probability samples it is at the discretion of each researcher to choose the participants (Fricker, 2012).

The study follows the probability sampling approach using a list-based sampling frame as a form of random selection. In this random selection method, the researcher uses pre-specified procedures which assure that the different units in the population have equal probabilities of being selected. The sample is representative of the population and during the statistics analysis confidence intervals are estimated. The information given from Largest Companies (http://www.largestcompanies.com/) was used for the medium and large sized companies in Nordic Region. The preconditions were that the companies should operate in Nordic Region, have a board of directors, employ 50 employees and above and operate in various industries so that the external validity of the findings could be reinforced.

4.5.2 Sample Collection

The sample of this study was board members who have been appointed in medium and large size companies in Nordic Region. For one month, the author approached every global company she know which could have access to the email addresses of board members in Nordic Region. Despite all the efforts, no private or governmental company had email data about board members. Especially for Denmark, the Act on Processing of Personal Data (Act No. 429 of 31

May 2000) has set strict rules about the way that personal data can be processed and stored in electronic databases.

As a result, the author came into contact with the Largest Companies (www.largestcompanies.com) which possesses financial and market data from the 500,000 largest companies in the Nordic countries. Largest companies gave us two lists with information: One list of all the web pages, market data and a few Chairman addresses of all the 909 listed companies in the Nordic Region. The list included information from traditional stock exchanges (Nasdaq Stockholm, Nasdaq Copenhagen, Nasdaq Helsinki, Nasdaq Iceland, Olso Bors, Nordic Growth Market) and trading platforms (First North Stockholm, Nordic MTF and Aktietorget) which are usually called Multilateral Trading Facilities. Besides, a second list was given with 1276 medium and large size non-listed companies for which the company had market information and email addresses of Chairmen.

For the two lists received, the author visited the web pages of the organisations and tried to identify the names and surnames of all the board members in each board. For a three-month period, an email database was created with possible 9214 email addresses of board members. Each email addressed was created by using the first and last name of the executive as well as the name of the organisation (i.e. first name.lastname@company.se). The efforts were aimed to identify an appropriate sample for data analysis that could allow us to generalise the findings of this study.

The response rate of the survey is 16.22% (including incomplete answers) and 8.02 (excluding incomplete answers). The large volume of wrong email addresses and the difficulty of finding email addresses, especially for countries such as Denmark and Iceland, reduced the possibilities of a higher response rate. Cummings, Savitz and Konrad (2001) support that there is no such thing such as an optimal benchmark for an acceptable response rate. Besides, Dillman, Smyth and Christian (2014) notice that response rates have remained low for most surveys which utilise the web and are not combined with other modes, such as mail surveys. In the field of corporate governance, the low responses rates in approaching board of directors are well noted (Daily, Dalton and Cannella 2003; Leblanc and Schwartz, 2007; Machold and Farqular, 2013; Minichilli, Zattoni and Zona, 2009; Minichilli, et al. 2012,) since these executives are extremely busy individuals.

Table: 4.2: Survey time-frame and response rates

TIMEFRAME	EMAILS SENT	EMAILS FAILED	CORRECT EMAILS	INCOMPLETE RESPONSES AND REFUSALS	COMPLETE ANSWERS	RESPONSE RATE (including incomplete answers)	RESPONSE RATE (excluding incomplete answers)
Email Invitation (18.02.2016) and two Reminders (25.02.2016 and 03.03.2016)	7375	5532	1843	142	139	15.24%	7.54%
Second Waive (01.04.2016)	1139	944	195	40	29	35.3 %	14.87%
Last Call (02.05.2016)	700	420	280	8	18	9.28%	6.42%
TOTAL	**9214**	**6896**	**2318**	**190**	**186**	**16.22%**	**8.02%**

4.5.3 The Nordic Context

The sample is based on data from board members in Nordic Region. The five Nordic countries (Denmark, Finland, Iceland, Norway and Sweden) with approximately 26,700,000 citizens offer ample opportunities for entrepreneurial activity, innovation, research social welfare and education. The business-friendly environment and the high levels of transparency create a dynamic market in which a large number of world-leading companies thrive and various mergers and acquisition are taking place creating this way a network of large pan-Nordic companies.

Based on the Hofstede's (2001) cultural dimensions and on the Hofstede's 6D Model (information can be found at: https://geert-hofstede.com) we make a brief analysis of the cultural profile of the Nordic countries. Figure 4.7 shows the scores that each country achieves in the 6 cultural dimensions of Power Distance, Individualism. Masculinity, Uncertainty Avoidance, Long-term Orientation and Indulgence.

- **Power Distance** expresses the attitude of individuals towards inequalities that exist in the society. Nordic countries are characterised by low power distance showing little emphasis on hierarchy and authority and great emphasis on equal rights. Power is

decentralised and managers count on the experience, views and skills of their employees. Communication is direct and participative. Especially Denmark has a very low score on power distance and shows the highest employee autonomy amongst the EU27 countries.

- **Individualism** measures the level of interdependence between the members of a society. These countries are mainly individualist societies in which the social ties are loose and the focus is on the care of immediate family. People stress on personal achievements and the employer/employee relationship is a contract based on mutual benefits. Nepotism in the fields of politics, entertainment, business, sports, and religion is not encouraged.
- **Masculinity** shows the extent that a society is driven by competition and personal achievements. The score of each country gives us a picture of what motivates people: be the best (Masculine) or liking what you do (Feminine). These countries achieve a low score in the masculinity index showing that the dominant cultural values are related to the quality of life. These Feminine societies place emphasis on the life-work balance. Incentives such as free time and flexible working hours are crucial parameters of the organisational environment. Both managers and employees are trying to reach consensus and conflicts are resolved through long discussions and constructive dialogue.
- **Uncertainty Avoidance** score is about the way that members of a society deal with unknown situations and the low scores in Sweden and Demark show the very low preference of these two countries for avoiding uncertainty. People feel comfortable with uncertainty and set no more rules than necessary. In organisations, there are a few rule-oriented mechanisms and governing structures for uncertainty mitigation and employees are open to change. On the other hand, Finland shows a high preference for avoiding uncertainty by maintaining rigid codes of belief and behavior. Norway's and Iceland's intermediary 50 scores show a focus on planning but things can change at short notice. Besides, they are open to innovation and there is a large degree of acceptance for new ideas.
- **Long-term Orientation** is about the way that each society maintains links with its own past to encounter the challenges of the present and future. Low scores indicate a

preference for traditions and norms whereas high scores show the tendency of a society towards future-orientated goals. Denmark, Finland, Norway and Finland achieve low scores, showing that people exhibit great respect for traditions and a focus on achieving quick results. Sweden is somewhere in the middle and does not express a clear preference on this dimension.

- **Indulgence** as a cultural value relates to the degree that individuals try to control their impulses based on the way they were raised. Indulge indicates if the simple joys are fulfilled. Nordics exhibit a high score in this dimension, show positive attitude towards life, pursue leisure activities and enjoy life.

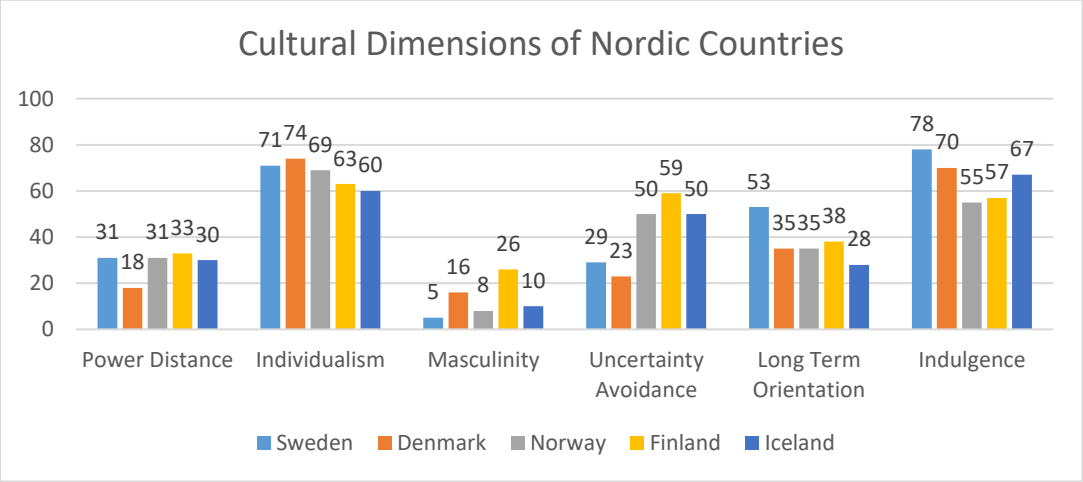


Figure 4.7: Cultural Dimension on Nordic Countries

Source: Hofstede's 6D Model (https://geert-hofstede.com)

It is astonishing the fact that Nordic countries ranked at the top of global league tables in economic competitiveness, innovation, transparency and gender equality. For example, the *Global Gender Gap Report 2016* of the World Economic Forum (Leopold, Ratcheva and Zahidi, 2016) which measures gender differences in economy, political representation, health and education, found that Nordic countries have reduced substantially their gender gaps especially in the areas of educational attainment and political empowerment. Iceland, Finland, Norway and Sweden are the 4 leaders of the Global Index since they have closed above 80% of their overall gender gap.

The Nordic Countries in the *World Happiness Report 2016 Update* (Helliwell, Layard and Sachs, 2016) achieved the highest scores, among 156 countries, regarding the measurement of their happiness levels. The measure of happiness includes parameters such as per capita gross domestic product, life expectancy, trust in government and businesses as well as freedom. Denmark ranks first, Iceland second, Norway fourth, Finland fifth and Sweden tenth. Furthermore, the Corruption Perception Index (2016) of Transparency International in Table 4.3, which assess the perceived level of public sector corruption in 176 countries on a scale of 0 (highly corrupt) to 100 (very clean), confirms that although corruption is a global thorny issue, the Nordic Countries have managed to tackle it effectively.

Table: 4.3: Corruption Perceptions Index, 2016

Rank	Country	2016 Score	2015 Score	2014 Score	2013 Score	2012 Score
1	Denmark	90	91	92	91	90
1	New Zealand	90	88	91	91	90
3	Finland	89	90	89	89	90
4	Sweden	88	89	87	89	88
5	Switzerland	86	86	86	85	86
6	Norway	85	87	86	86	85
7	Singapore	84	85	84	86	87
8	Netherlands	83	87	83	83	84
9	Canada	82	83	81	81	84
10	Germany	81	81	79	78	79
10	Luxembourg	81	81	82	80	80
10	United Kingdom	81	81	78	76	74
13	Australia	79	79	80	81	85
14	Iceland	78	79	79	78	82
15	Belgium	77	77	76	75	75

Source: Transparency International

The *Inclusive Growth and Development Report 2017* of the World Economic Forum (Samans et al. 2017) examines the state of economic development between 109 economies creating the Inclusive Development Index (IDI) which takes into account National Key Performance Indicators such as GDP, Labor Productivity, Household Income and public debt. Norway is ranked first in the global league of the IDI showing remarkable high median living standards, low inequality, social protection, low unemployment and high female labor force participation.

The drivers of the ICT revolution among 139 economies are measured in the *Global Information Technology Report 2016* and a benchmark is given, based on the Networked

Readiness Index (NRI), between the preparedness of each country to reap the benefits of emerging technologies. Finland, Sweden and Norway have managed successfully to boost competitiveness and innovation via the use information and communications technologies and they have moved towards the creation of a digital economy. Nordic population is demonstrating high ICT literacy by using heavily digital technologies in their interactions.

The *Human Capital Report (*Leopold, Ratcheva and Zahidi, 2016*)* which quantifies how 130 countries are developing and deploying their human capital, showed that Norway and Finland utilise successfully about 85% of their full human capital potential. For example, Finland, the first country in the human index, benefits greatly from its well-educated young population and the astonishing quality of education of primary schools. The ranking of Nordic countries in 8 studies for 2016 and 2017 are presented in Table 4.4.

Table 4.4: Ranking of Nordic Countries in 8 Studies of 2016, 2017

	Happiness levels (World Happiness Report 2016 Update, n=156)	**Happiness levels (World Happiness Report 2017 Update, n=156)**	**Public sector corruption (Corruption Perception Index, 2016, n=176)**	**Gender Gaps (The Global Gender Gap Report 2016, n=144)**	**The Global Information Technology Report 2016, n=139)**	**Economic development *(The Inclusive Growth and Development Report 2017, n=109)***	**Approach to Human Capital (Human Capital Index (2016 n=109)**	**Best countries for Business (Forbes Ranking, 2016 n=139)**
Denmark	1	2	1	19	11	5	7	6
Sweden	10	9	4	4	3	6	5	1
Finland	5	5	3	2	2	11	1	8
Norway	4	1	6	3	4	1	2	9
Iceland	2	3	14	1	16	4	20	22

Turning our attention to the stock markets, we can note that there are both traditional regulated stock exchanges (Nasdaq Stockholm, Nasdaq Copenhagen, Nasdaq Helsinki, Nasdaq Iceland, Olso Bors, Nordic Growth Market) and trading platforms (First North Stockholm, Nordic MTF and Aktietorget) which are usually called Multilateral Trading Facilities. Stock

exchanges of Sweden, Denmark, Finland, Sweden and Iceland are operated by the Nasdaq Nordic which is the subsidiary of the US-based Nasdaq Group Inc. As shown in the Table 4.5 the primarily regulated markets of the Nordic countries, excluding MTFs, comprised of approximately 900 companies in January 2017.

Table: 4.5: Companies listed in Regulated Stock Exchanges in Nordic Region as of 25.01.2017

Stock Exchange	**Companies**
Stockholm - NASDAQ OMX NORDIC	342
Copenhagen - NASDAQ OMX NORDIC	143
Helsinki - NASDAQ OMX NORDIC	137
Iceland - NASDAQ OMX NORDIC	18
Oslo Børs	192
Nordic Growth Market NGM AB	58
Sum	890

Regarding the Nordic Corporate Governance Model, which was presented in chapter 2, is a remarkable system of governance which aims to create incentives for shareholders to be engaged in the governance of the organisation and take a long-term approach to the companies that they own. The Nordic Corporate Governance Codes that have been introduced in each country, create a common Nordic approach that constitutes an example of good corporate governance practice in listed companies. According to a recent study of the Boston Consulting Group (BCG) in 2016, it was found that Nordic companies could set an example to the rest of the world on the way that these organisation can promote long term value and success and create boards with active owners and involvement in strategy.

The Board of Directors is considered as the shareholders' agents who establish the overall goals and strategy of the company, are responsible for the management, evaluate the performance of CEO and focus on the long-term value creation. The boards are obliged to follow the directives passed by the Shareholders' Meeting. Major shareholders are usually sitting on the board. This implies that major shareholders have close ties with the majority of the board members and major owners take active part in the governance of the organisation (Lekvall, 2014).

The study of the board in Nordic Region could give us useful lessons for the operation of these companies. The Nordic corporate governance model remains still the less known outside the Nordic region (Thomsen 2016). As Lekvall (2014) supports this model is the solution to the agency problems of ownership since it creates actives owners. The rationale of this model is that if a major shareholder has the incentives to spend time and skills into the organisation, then he creates a sufficient condition for the long-term value creation to the benefit of all shareholders. "The Nordic board is a superior management and strategy setter for the corporation, which sits on top of the ancillary executive board and controls the latter at will. In addition, it is also charged with supervision of the executive board's activities." (Ringe, 2016:33).

4.5.4 Key Informants

Key informant is any individual who has a deep knowledge about the organisation, his/her team and acts as the link between the researcher and the organisation. The competency of key informants can be measured by the tenure they have in their position and the knowledge they possess. Key informants are chosen for their familiarity with the organisation, their willingness to offer important information (Kumar, Andreson and Stern, 1993) and usually are found at the upper levels of organisational hierarchy (Gupta, Shaw and Delery, 2000). The key informants for this study are any upper-level executives who sit on the board of their organisation. Any director in the board is possessing deep knowledge of the processes, tasks and routines of the board.

In the literature, there have been presented various drawbacks from the use of key informants, including bias, reliability & validity issues, as well as common method variance (CMV). CMV is a crucial issue in the social and behavioral sciences and affects studies that include questionnaires and interviews by inflating relationships between variables measured by self-reports questionnaires (Conway and Lance, 2010; Richardson, Simmering and Sturman, 2009; Reio, 2010). CMV is created when one individual fills the questionnaire (Podsakoff et al. 2003) since the risk of affecting the validity of the relationships between the measures of different constructs is increased (Reio, 2010). Common method variance in responses is created by the instrument itself and can be related to the way that questions are presented, the media used to reach participants, the context or timeframe of the study. Following the suggestions of

Reio (2010:408) and Conway and Lance (2010), the author took the following measures to reduce the possibility of CMV:

a) Guaranteed the anonymity and confidentiality of the executives.

b) Elaborated on the potential benefits of participation and gave rewards to motivate key informants to offer their views.

c) Utilised clearly-written scale times to avoid bias.

d) Pretested the online instrument with corporate governance experts from Sweden, Denmark, Norway, USA and UK to avoid complicated wording and syntax errors and clear instructions for completing the questionnaire.

e) Examined statistically the construct validity of all the measures.

Various researchers in an attempt to enhance the precision of key informant data, employ triangulation techniques and supplemental data sources to complement information acquired from the key participants in the study (Homburg et al. 2012). On the other hand, there are voices that support key respondents approach. According to Conway and Lance (2010), no post hoc statistical correction controls, such as Harman's single-factor test, are recommended in key respondent's studies since they have significant drawbacks and sometimes show poor empirical results. Conway and Lance, in line with various authors, argue that objective measures are not always superior to subjective ones. Besides, time and budget concerns limit the researcher's ability for a multi-respondent approach (Spector, 2006). Considering the busy schedule of these executives, as well as the numerous invitations they receive for study participation, we conclude that their approach is an extremely difficult task for every researcher (Gupta, Shaw and Delery, 2000).

The nature of this study, which seeks to examine perceptions of the board members, allows us to use one key informant approach and not a multiple-informant research. Board members are the sole key knowledgeable informants of the processes of the board and often have a long tenure in the focal board. Besides, all these informants hold a similar position in all the surveyed organisations. For example, the sample does not include different levels of managers such as Marketing managers and Chief Financial Officers who could give us totally different perspectives in measuring organisational effectiveness. The multiple-key-informant design is more appropriate when there are various key informants for a specific construct. For

example, when measuring employee's satisfaction, for which a large number of employees can be considered as key informants (Bou-Llusar et al. 2016), then the multiple-key-informant approach seems to be the most appropriate. In board research, scholars are finding difficult to grant access and collect primary data for board members (Daily, Dalton, and Cannella, 2003; Pettigrew, 1992; Wan and Ong, 2005) and the few studies that manage to utilise primary data, collect data from a single respondent (Minichilli, Zattoni and Zona, 2009; Minichilli et al. 2012; Pearce and Zahra, 1991; Zahra, 1996; Zahra, Neubaum and Huse, 2000; Zattoni, Gnan and Huse, 2015) who is usually the CEO.

4.5.5 Addressing Sample and Survey Errors

Nowadays, respondents fill self-administered questionnaires through computers and telephones, without having negative effects on response rates (Dillman, 2007). Researchers who conduct surveys via emails, online modes and telephones should be familiar with the four types of errors that are possible to encounter:

- **Sampling error**: This type of error refers to the degree to which a survey statistic is based on a subset or sample of that population without reflecting the true value. Sampling cannot define the characteristics of a whole population and for this reason, the difference between the sample and population values is knowns as *sampling error*. Sampling error is "the result of attempting to survey only some, and not all, of the units in the survey population" (Dillman, 2007, p. 9). To avoid this type of error, the author tried to reach all the board members of the companies given by Largest Companies Database (http://www.largestcompanies.com/)
- **Coverage error** appears when the list from which the sample members are drawn does not include all elements of the population (Dillman, Smyth and Christian, 2014:3). The sample of the populations does not adequately represent the underlying population being measured and this type of error is a common problem in telephone landlines. Nowadays, the widespread use of internet has reduced this type of error in online surveys and has made it possible to accurately represent many target populations. In the current survey, the the author tried to reach all the board members of medium and large sized companies in Nordic Countries that exist in list of the Largest Companies Database (http://www.largestcompanies.com/) which comprises the best search and selection engine for

companies in the Nordic countries. In the database of Largest companies, all medium and large size companies based in Nordic Region are included.

- **Measurement error** arises when the answer of a participant is inaccurate and the errors are mainly from imperfections in the question wording and questionnaire design (Dillman, 2007). In this study, as described in the previous errors, the author took every step to create a quality and user-friendly question design which includes reliable measurements.
- **Non-Response Error**, which is a typical type of error in online surveys, occurs when the targeted individuals included in the sample do not respond and have different characteristics from those who respond (Dillman, 2007). Web research should perform tests to make sure that their survey in conducted in an appropriate manner. The respondents of the study all serve as board members and persons who do not sit on a board of directors were requested not to fill out the survey.

In this study, the Tailed Design Method of Dillman (2014) was followed to minimise the 4 types of errors in this survey. TDM of Dillman is a method which encompasses a set of survey procedures for contacting and communicating with the targeted individuals. The survey tried to reduce individual's reluctance to respond with the use of social exchange methods such as building trust, increasing the benefits of survey participations, rewards and asking interesting questions (2014).

4.6 Online Survey Design

The various surveying techniques that exist range from face-to-face, telephone, mail or electronic surveys (Simsek and Veiga, 2000). The advantages of survey techniques in management research have well documented in literature (e.g. Mellahi and Harris, 2016) and among others include the possibility of obtaining a large sample with low cost and limited resources. On the other hand, the most basic disadvantage of survey techniques are the low response rates (Baruch and Holtom, 2008; Mellahi and Harris, 2016; Rungtusanatham et al. 2003) which in turn threatens the quality of data (Schoeni et al. 2013).

Printed questionnaires to reach executives is becoming an archaic process and the trend is towards online questionnaires. The decline of telephone interviewing and the booming of electronic surveying tools (Dillman, Smyth and Christian, 2014) turned researcher's interest in pursuing an online survey design. As Dillman and colleagues support, we are in an era of tailored

design and we should use different methods for approaching different populations. For the current study, the author considers the method of web survey as the best means for approaching board members in Nordic Region. These executives comprise a highly-educated target group, use the web in most of their daily activities and are familiar with the capabilities of mobile devices. Especially in the Nordic Region, there is a high degree of access to internet. For example, in 2016, 93% of the Swedish population, aged 16 to 85, has access to the internet at home (Statistics Sweden, 2016). According to the *Global Information Technology Report* of World Economic Forum (Baller, Dutta. and Lanvin, 2016), the Nordic population is demonstrating the highest ICT literacy in the world by using heavily digital technologies in their interactions.

The Enalyzer software (https://www.enalyzer.com/), one of the leading survey tools, was chosen for the design of the survey and collection of the data. The software provides numerous advantages and amongst others is its compatibility with all mobile platforms without downloading applications. Surveys can be accessed anytime on any device and the design is based on simplicity and aesthetics. A simple and user-friendly layout of the online questionnaire makes it easier to complete and increases the response rates (Dillman, Smyth and Christian, 2014). The visual aspects of the online questionnaire such as images, graphics, brightness and color, affect survey responses (Schaeffer and Dykema, 2011) and for this reason special emphasis was given on the colors, logos, photos and online template.

During the design of the online survey, every measure was taken to increase the chances of receiving a satisfactory sample of returning completed questionnaires from our participants. Based on the social exchange theory that characterizes the relationship between the participant and the researcher, the study supports that this relationship is based on exchange of information resources, rewards and affection (Dillman, 2007; Dillman, Smyth and Christian, 2014; Gupta Shaw and Delery, 2000). Consequently, all the steps taken in the online survey design gave emphasis on the quality of the procedures to be followed in order to involve the board members in a trusty relationship with the researcher.

Following the guidelines of Dillman (2007) and Dillman, Smyth and Christian (2014), the Table 4.6 provides a summary of the steps taken during this survey process in an attempt to increase the response rates and build a trusty relationship. These initiatives are also analysed in the following sections of Chapter 4.

Table 4.6: Steps for Establishing Trust in the Current Online Survey

✓ Reduction of the length and complexity of the online questionnaire via pilot testing with corporate governance experts and technical advisors of Enalyser.
✓ Good visual design and user-friendly interface achieved with the use of Enalyser Software, the leading online survey tool. The survey was compatible with smartphones, desktops and widescreens. Interesting welcome and closing web pages gave clear instructions for the steps of the survey. Photos and logos of the Brunel University uploaded to appeal those in the target population.
✓ Questionnaire was convenient to response: by providing a unique link and password in which answers were saved automatically, executives had the option to stop the survey and return to it any time they wanted.
✓ Multiple responses were avoided in the online questionnaire by sending to each one respondent a unique link produced by Enalyser system.
✓ The use of rewards and incentives aimed to enhance response rates.
✓ The Research Participant Information study document assured the confidentiality of the data and the ways this will be used.
✓ Targeted participants were informed that they were the only individuals who possess the knowledge and experience to help us understand the board processes in Nordic Region.
✓ Legitimate Organisations which supported the aims of the study (Board Governance, Norwegian Business School) were included in the cover letter to induce trust.
✓ Provision to participants of the contact details of the researchers in case they wanted to assess the authenticity of survey and ask questions about it.
✓ Cooperation with Board Governance (http://www.board-governance.com/) to gain access to Danish executives.
✓ Design of communications with professionalism in mind making each contact appear important via the use of personalized cover letters.
✓ The technical team of Enalyzer ensured that the emails are not flagged as spams.

Adapted from Dillman (2007) and Dillman, Smyth and Christian (2014)

4.6.1 Pilot Study

Pilot studies are a very important tool because they enable the testing of the whole survey process (Dillman, Smyth and Christian, 2014). The survey instrument was pretested by academics who are experts in the field of corporate governance. aim in the whole pre-testing procedure was to increase the motivation of the participants by creating an online instrument that would give clear instructions and would use precise wording (Dillman, 2007). The instrument was pre-tested by academics and practitioners who are experts in the field of corporate governance in Sweden, Denmark, Norway, USA and United Kingdom. Consequently, several questions were revised to reduce ambiguity. To avoid any technical problem with the online questionnaire, tests with the support of the technical team of Enalyser software were

conducted. The Pilot testing enabled the researcher to confirm that the survey is accessible and functional from any online device.

4.6.2 Pre-notification

A pre-notification email was sent to targeted board members on 9th February 2016 (Appendix 4.1) because it has been found that pre-notification emails seem to increase response rates (Anseel et al. 2010; Duncan, 1979; Yammarino, Skinner and Childers, 1991). The participants were informed that next week they would receive the link of the online survey, which would take approximately 10 minutes of their time to complete. We informed the board members that their participation in this study could help us to open the black box of board processes and gain a comprehensive understanding of the Nordic corporate governance model. Information about the purposes of the study, participants, confidentiality and ethics policy were included in the pre-notification letter.

In the pre-notification letter, as well as in the subsequent emails, the Research Participant Information study document was attached (Appendix 4.2) and included a 3-page detailed information about the scope, confidentiality and integrity of the research. We informed the executives that their answers will be treated as strictly confidentially and that the Brunel University is committed to compliance with the Universities UK Research Integrity Concordat. Ensuring confidentiality and anonymity of respondents is positively linked to higher response rates (Dillman, 2007; Dillman, Smyth and Christian, 2014; Mellahi and Harris, 2016). For any complaints with the study, participants were advised to contact via email the Chair of the College of Business, Arts and Social Sciences Research Ethics Committee.

The board members were informed that the research is organized in conjunction with the Business School, Brunel University. Besides, they were notified that the research had the kind support of a) Board Governance (http://www.board-governance.com/), one of the most famous organisations in Nordic Region in the provision of leadership training to board members and b) Dr. Siri Terjesen from Norwegian School of Economics, an expert in corporate governance in Nordic Region. All the above initiatives were taken because it has been shown that participants are more likely to fill questionnaires which come from legitimate and well-established organisations (Dillman 2007; Dillman, Smyth and Christian, 2014) and the inclusion of the above-mentioned names would help us to stabilise credibility and trustworthiness.

4.6.3 Personalisation

An important issue is the personalisation of each person of the target group. There are studies that find a positive link between personalisation and the response rate of mail surveys (Andreasen 1970; Chidlow et al. 2015; Duncan, 1979; Eisinger et al. 1974) as well as between web surveys and personalization (Cook, Heath and Thompson, 2000; Heerwegh et al. 2005). Heerwegh et al. (2005) found that personalisation of e-mail invitations increases the response rate by 7.8 percentage points. Mellahi and Harris (2016) examining 1093 survey-based papers published between 2009 and 2013 in business and management journals confirmed that personalization and responses rates are positively associated. In the pre-notification letter, survey invitation and reminder emails a personalised salutation was included. The personal salutation was achieved with the help of the Enalyzer software that was used for this study.

4.6.4 Email Invitation and Reminders of the online survey

On 18th February 2016, an email invitation was sent to board members along with the link for the study (Appendix 4.3). Besides, the Research Participant Information documents (Appendix 4.2) were attached and included the purposes of the study, participants, benefits, confidentiality and ethics policy. The email invitation aimed to persuade executives to participate in the study. The respondents were given a username and a password, allowing them to return to the survey and completing it any time they wanted as their answers were saved automatically. An official letter was written and included the name of the researchers, using Brunel's university email address. Besides, the subject line was written carefully to avoid the mail to be rejected by the spam filter of the company (Porter and Whitcomb, 2003)

Throughout the research process were maintained good relationships with the participants of the study. In line with Dillman (2007) and Dillman, and colleagues (2014), the study supports that the social exchange theory, that addresses the exchange relationship between the researcher and participant, requires for rewards to participants. Various researchers have found a strong positive link between incentives and higher response rates (Anseel et al. 2010; Baruch and Holtom, 2008; Fan and Yan, 2010), thus, the participants were informed that after the completion of the study and successful submission of the thesis, they would receive a summary of the results. Besides, we informed them that an in-depth presentation of the findings and suggestions for their board effectiveness could be provided upon request. We also notified them that a workshop relevant to the findings of the study, in the field of corporate governance,

will be arranged with the cooperation of Board Governance (http://www.board-governance.com/) in Denmark. The participants were informed that the results of the study would be presented in conferences and workshops to help the academic and business community gain a deep understanding of the Nordic Corporate Governance model.

Overall, every effort was taken to make the questionnaire interesting by providing a very good online layout and design which included questions easy to understand (Dillman, 2007). The online questionnaire was user friendly and easy to be filled out. Enalyser software enabled us to upload different types of multimedia such as pictures and logos of the university and affiliated organisations which made the current research more interesting. To be regarded as trustworthy by the targeted participant, the contact details of the main researcher were sent in case there for any inquiries that may arise (Dillman, 2007).

Besides, two reminders were sent (Appendix 4.4) to the board members because these are considered as a means of inducing compliance with the rules of social engagement (Gupta, Shaw and Delery, 2000). Reminders have been found to increase response rates (e.g. Martin, Duncan and Sawyer, 1984) and with the use of Enalyser Survey software two automatic reminders were set at pre-specified dates to the respondents who had not completed the survey.

4.6.5 Web Survey Timeframe and Response Rates

The survey began on 9th February and closed on 6th May 2016. The Participants received also two reminders (25th February 2016 and 3rd March 2016) through which wertr notified that the researchers of the study would be grateful if they could take approximately 10 minutes of their precious time to complete the questionnaire (Appendix 4.4). A second wave of survey invitations with corrected email addresses was sent on 1st April 2016 in an attempt to increase the response rates. In this second wave, we tried to fix the undelivered email address and try another email format. A final last reminder sent on 2nd May 2016 and the survey closed on 6th May 2016.

4.6.6 Length and Structure of the Questionnaire

The length of the questionnaire plays an important role in its completion. The length of the questionnaire was kept as short as possible (Dillman 2007; Dillman, Smyth and Christian, 2014) and the participants were informed that the study would take approximately 10 minutes of their valuable time. Galesic and Bosnjak (2009) in their study assigned respondents to three

different conditions regarding the announced length of the questionnaire and the introductory page stated that "the survey lasts 10 or 20 or 30 minutes". Their results confirm that in an online survey the longer the stated length, the fewer respondents filled the questionnaire. The questionnaire for the data analysed specifically for this thesis is comprised of 5 sections, 36 questions and 81 items (Appendix 4.5).

4.6.7 Scales and Types of Questions

There are different scales of measurement and these are nominal, ordinal, interval and ration scales:

a) Nominal scales use symbols, numbers or labels in order to classify an object, person or characteristic which is categorical in nature. In board of directors' literature, demographic constructs that are mainly measured with nominal scales are that of ethnicity (Asia, Americans, etc.) and gender (male, female). An easy way to distinguish a nominal scale is to remember that there is no true zero (Jackson, 2014). For instance, we cannot argue that somebody has no ethnicity.

b) Ordinal or ranking scales have a hierarchy in a continuum but differences between successive values are not the same. These scales lack equal unit size and absolute zero (Jackson, 2014) and can be used mainly as a benchmark to show that one value is larger than another. A well-known scale that has been adopted by many researchers was that first developed by Likert (1932) who managed to create a scale on which the respondent has the ability to select his choice from a variation of points. Likert scales are a widespread tool of researchers used for measuring attitudes such as preferences and opinions (Göb, McCollin and Ramalhoto, 2007). Multiple-item measures like Likert scales produce ordinal variables (Bryman and Bell, 2003; Göb, McCollin and Ramalhoto, 2007). The respondent is asked to show his attitude towards a specific statement, mainly by choosing on a five-grade or seven-grade Likert scale. For example, in a 5-grade Likert scale the respondents may be asked to show their agreement with respect to a value statement and these grades could be interpreted as: strongly disagree (1), disagree (2), neutral (3), agree (4), strongly agree (5). Dawes (2008) confirmed that the five and seven-point scales produce the same mean score in case they are rescaled.

c) Interval scales share common characteristics with nominal and ordinal scales, providing also additional information on the extent of the difference between individual data items within a set of groups. A very common use of the interval scales is in the measurement of temperature (Celsius or Fahrenheit). These scales use an arbitrary zero point (i.e. 0 Celsius degrees).

d) A ratio scale has the same characteristics of interval scales, having additionally true zero points as their origins. They represent the highest level of precision and one common example of their use is when we measure time, height or weight.

The questionnaire of this study was mainly comprised of closed-ended questions with ordered answered choices in seven-point (7). Besides, nominal, ordinal and interval scales have also been used for the data collection of demographic and organisational data. Close-ended questions allow the participant to choose from a selection of possible answers (Dillman, Smyth and Christian, 2009). Following the advice from Dillman and colleagues, a 'not applicable' option was included in every Likert-scale question to capture all the possible answers and deter the participants to reply falsely in one question. To capture also the profile of the respondents, demographic characteristics of the executives were gathered in the format of yes/no, multiple choice or numerical formats. The questionnaire included also open-ended questions where the respondents had the option to provide their comments and give us important information about the processes of the board. The questions and statements were kept as short as possible to avoid respondents 'comprehension difficulty (Holbrook, Cho and Johnson 2006).

4.7 Measuring Instrument

Researchers come across with the dilemma of collecting subjective or objective data. For the objective data researchers collect numerical information which has a clearly defined mathematical meaning. Objective data is quantitative and the numbers help in the analysis of the concepts and ideas. Subjective measures are based on perceptions of respondents over a specific construct and offer interpretations of reality by focusing on respondent's thoughts, views and feelings. In Chapter 2, the use of objective and subjective measures were discussed in the measurement of organisational performance. Subjective measures have been utilised in the strategic management field by asking key respondents their view on specific measures of

organisational performance (i.e. ROE, ROA). Objective data for organisational performance can be found for example in the annual reports of these companies in which numerical data or information exists for various financial measures.

The current study seeks to examine the perceptions of board members and all the measurements used are subjective in nature. Various studies support that there is strong correlation between subjective and objective measures (e.g. Dess and Robinson, 1984; Powel, 1992; Carmeli, Sheaffer and Halevi, 2009). Interesting to note that Singh, Darwish and Potocnik (2016) found strong evidence that subjective measures can be successfully used to evaluate organisational performance since reliable and comparable objective data on organisational performance is difficult to achieved, especially for companies of different sectors and size.

A detailed analysis of the constructs and their operationalisation will be made in the following sections.

4.7.1 Operationalisation of Conflict

Although the Jehn Scales are the most widely used in literature, there are suggestions for improvement. To contribute to the research of management and especially on the corporate governance field, minor adjustments were made to increase precision in the board context, following the recommendations made by Bendersky and colleagues (2014), Behfar et al. (2011) and Simons and Peterson (2000):

- Although that many studies omit the study of process conflict, it is included in this research since the author considers of paramount importance the way that the board organises and utilises group resources and time to accomplish a task. As Behfat and colleagues state, process conflict should be included more often.
- The author distinguished between amount and frequency of conflict in two separate questions to increase precision (Bendersky et. al, 2014). The first question included the wording ‘how much’ so as to capture the level of conflict that exists in the board whereas the second one asked, ‘how often’ in an attempt to capture the frequency of conflict.
- The items were tailored to reflect precisely the board of director’s context and board meetings (Bendersky et. al., 2014). We used terms such as board meetings and strategic decisions.

- The author avoided as much as we could the word conflict. For example, the question *"how much are personality conflicts evident?"* was modified to "*How much are there personality clashes"*.

Overall, four items were used to measure relationship, four items for task-based and four items for process types of conflict (Table 4.7). The responses for question 1 were measured on seven-point Likert scales, with responses ranging from (1) not at all - (7) very much and for question 2 from (1) very frequently - (7) never.

Table 4.7: Operationalisation of Conflict in the Current Research

Question	Items
Question 1: Please indicate the level that board members are prone to task-based, relation-based and process-based disagreements, by answering the following questions.	*a.* How much personal friction is there among directors at the board meetings? *(Relationship Conflict)* b. How much are personality clashes evident at the board meetings? *(Relationship Conflict)* c. How much tension is there among directors at the board meetings? *(Relationship Conflict)* d. How much emotional conflict (interpersonal incompatibilities which typically includes animosity, and annoyance) is there among directors at the board meetings? *(Relationship Conflict)* e. How much do board members disagree about the content of strategic decisions*? (Task-based Conflict)* f. To what extent are there differences of professional opinions at board meetings? *(Task-based Conflict)* g. To what extent do you disagree about the way to do things at your meetings? *(Process Conflict)* *h.* How much disagreement is there about procedures at your meetings? *(Process Conflict)* **Measures on seven-point Likert scales, with responses ranging from (1) not at all - (7) very much*
Question 2: Please indicate the frequency that board members are prone to task-based, relation-based and process-based disagreements, by answering the following questions. How frequently:	i. Do the members of the board of directors disagree regarding the company's strategic decisions? *(Task-based Conflict)* j. Are there disagreements about ideas at your boards' meetings? *(Task-based Conflict))* k. Are there disagreements about who should do what at your meetings? *(Process Conflict)* l. Do the board members disagree about the optimal amount of time to spend in the meetings? *(Process Conflict)* **Measures on seven-point Likert scales, from (1) very frequently -(7) never.*

4.7.2 Operationalisation of Trust in Current Research

The multidimensional nature of trust and its dependency on the level and context raises importance challenges for the researchers since many scales are designed for specific contexts and cannot be replicated. The recommendations of Gillespie were followed for the choice of the instrument measure of trust:

- ‘‘Does the instrument match the chosen definition and theoretical conceptualisation of Trust?
- Is the instrument well-validated and psychometrically sound? (assessment of its construct, divergent and convergent validity, as well as the instrument’s reliability and stable factor structure across studies)
- Is the instrument applicable to the chosen referent and context?’’ Gillespie (2015:232)

The study utilised the measure of De Jong and Elfring (2010) to operationalize trust in an organisational context (Table 4.8). The main focus of this research is the level of trust that executives have into their board and not the measurement of trustworthiness; thus, we excluded all the measures which are related to Trustworthiness. De Jong and Elfring (2010) measures were adopted because their items reflect individual members’ confident positive expectations by using phrases such as “I am confident” and “I am able to count on.” Besides, in line with other measures of intra-team trust (e.g., Langfred, 2004), the scale included explicitly the word ‘Trust’. Furthermore, the items were worded properly to reflect the board context.

Table 4.8: Operationalisation of Intrateam Trust in the Current Research

Question	Items
To what extent do you agree or disagree with each one of the following statements?	a. I am able to count on the members of the board of directors for help if I have difficulties with my tasks. b. I am confident that members of the board of directors will take my interests into account when taking strategic decisions. c. I am confident that the members of the board of directors will keep me informed about issues that concern my work. d. I can rely on the members of the board of directors to keep their word. e. I trust the members of the board of directors. ** Measures on a Likert scale 1 (strongly disagree) to 7 (strongly agree)*

4.7.3 Operationalisation of Behavioural Integration in this Research

The study utilised the sole measure of behavioral integration in management research; that of Simsek et al. (2005). The survey asked board members to assess the level of behavioral integration inside the board over the past two years. Board member's behavioral integration was assessed using the nine-item measure and a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). The questions of the study are presented in Table 4.9 which capture the level of collaborative behaviour, information exchange and joint decision-making inside the boardrooms.

Table 4.9: Operationalisation of Behavioral Integration in the Current Research

Dimension	Question	Item
Collaborative Behaviour	Question 1: Having in mind the board member's collaborative behavior over the past two years, please indicate the extent to which you agree or disagree with the following statements:	a. When a board member is busy, other board members often volunteer to help manage the workload, b. Board members are flexible about switching responsibilities to make things easier for each other, c. Board members are willing to help each other complete jobs and meet deadlines. ** Measures on a Likert scale 1 (strongly disagree) to 7 (strongly agree)*
Quantity and Quality of Information exchange	Question 2: Think about situations over the past two years when the board of directors made important decisions regarding the firm's future and assess the board on:	d. Quantity of ideas, e. Quality of solutions, f. Level of creativity and innovation. ** Measures on a Likert scale 1 (Low effectiveness) to 7 (High Effectiveness)*
Joint Decision Making	Question 3: By indicating the level of agreement or disagreement with the following statements, please assess the level of joint decision making that exist in the board of directors:	g. Board members usually let each other know when their actions affect another board member's work, h. Board members have a clear understanding of the joint problems and needs of other board members, **i.** Board members usually discuss their expectations of each other. ** Measures on a Likert scale 1 (strongly disagree) to 7 (strongly agree)*

4.7.4 Operationalisation of Board Effectiveness in Current Research

There is evidence in literature that scholars apply the literature of team effectiveness to board of directors to conceptualise board interactions (Payne, Benson and Finegold, 2009). In this research, in line with the view of Mathieu et al. (2008), it is firmly believed that a composite measure of team effectiveness is a much better indicator of the multiple functions and interactions of a team. In the light of the above evidence, as well as based on the broad definitions that have been given about team effectiveness, board overall effectiveness is captured as a construct with two elements: board performance and strategic decision quality.

Board performance is operationalised using the items adopted from Payne, Benson, and Finegold (2009) and replicated by Veltrop et al. (2015). These measures are appropriate in capturing properly the boardroom's multiple key functions. Drawing upon agency, resource dependence, stewardship, social network, institutional and stakeholder theoretical perspectives, our questions reflect the multiple roles of the board in this dynamic and competitive era. The specific items included questions such as: 'how effective is your board in shaping the long-term strategy?', 'how effective is your board in monitoring the execution of the top management team?'. Overall, board performance was operationalized using 12 questions that asked directors to rate the effectiveness of their board in specific areas on a 1 to 7 scale.

Furthermore, strategic decision quality was captured with the measures of Amason (1996). Having in mind the most recent strategic decision of the board, respondents were asked to assess its effectiveness, on a 7 point Likert scale ranging from 1 (poor) to 7 (excellent). To avoid misunderstanding, respondents were informed that: decisions are said to be strategic when they: (i) involve commitment of substantial resources, (ii) occur rarely and (iii) have organisation-wide consequences (e.g. restructuring, diversification, plant location, strategic alliances, mergers, launching a competitive attack or responding to a rival's competitive attack, choosing core capability-technology- products to pursue).

Overall, the operationalisation of board effectiveness made with 15 items and based on corporate governance theories (Table 4.11) the multiple roles of the boards are presented in Table 4.10.

Table 4.10: Roles of the Board

Theories	Role	Example of Tasks
Agency Theory	Control and Monitor	monitoring strategy implementation, managing during a crisis, planning for top management succession, discussing top management performance with top management team
Resource Dependence Theory	Service and Advisory	anticipating threats to company survival, building networks with strategic partners
Stewardship Theory	Advisory, Fiduciary, Strategic	shaping long-term strategy, providing leadership
Institutional Theory	Maintenance role	anticipating threats to company survival
Social Network Theory	Social role	bolstering the company's image in the community, enhancing government relations
Stakeholder Theory	Coordinating role	balancing interests of different stakeholders

Table 4.11: Operationalisation of Board Effectiveness in Current Study

Question	Items
Question 1: Please rate the effectiveness of the board in relation to the items presented below. How would you rate the effectiveness of the board in:	a. providing leadership? b. shaping long-term strategy? c. monitoring strategy implementation? d. anticipating threats to company survival? e. managing during a crisis f. planning for top management succession? g. balancing interests of different stakeholders? h. bolstering the company's image in the community? i. building networks with strategic partners? j. enhancing government relations? k. discussing top management performance with top management team? l. total (overall effectiveness of the board)? **Measures on seven-point Likert scales, with responses ranging from (1) not effective - (7) very effective*
Question 2: Having in mind the most recent strategic decision of the Board of Directors, assess its effectiveness based on the items presented below:	a. the effect of the strategic decision on the company has been b. relative to our expectations, the results of the strategic decision have been c. overall, the Board Members feel that strategic decision has been **Measures on seven-point Likert scales, with responses ranging from (1) poor - (7) excellent*

4.7.5 Operationalisation of Organisational Performance in Current Research

Upper level executives are the most knowledgeable persons about the financial situation of the organisation and for this reason subjective measures of performance were utilised. Based also on previous studies, the author assumes that there is strong correlation between subjective and objective measures (e.g. Carmeli, Sheaffer and Halevi, 2009; Dess and Robinson, 1984; Powel, 1992). Respondents were asked to assess their company's performance relative to that of competitors over the past three years based on 13 measures (Table 4.12). Our measures are a combination of items which aim to capture profitability, growth, stock market performance as well as innovation, corporate social performance and the ability of the organisation to attract and retain talented employees. Due to multidimensional phase of organisational performance, we need measures that capture multiple dimensions of organisational performance. Consistent with management literature, the first eight items of the questionnaire are based on financial measures of profitability and growth (Gupta and Govindarajan, 1986; Ling. Zhao and Baron, 2007; Lubatkin, Simsek Ling and Veiga, 2006) whereas the rest items try to capture overall effectiveness with measures such as corporate social performance, innovation of products and services, ability to attract and retain talented people, quality of products and services.

Table 4.12: Operationalisation of Organisational Performance in Current Research

Question	Items
Based on the following metrics, how would you describe your company's performance relative to that of competitors over the past three years?	a) Growth in sales b) Growth in market share c) Return on Assets (ROA) d) Return on Equity (ROE) e) Growth in number of employees f) Ability to fund growth from profit g) Profit margin on sales h) Growth in profitability i) Total Shareholder Return (TSR) j) Corporate Social Performance k) Innovation of products and services l) Ability to attract and retain talented people m) Quality of Products and Services **Measures on seven-point Likert scales, with responses ranging from (1) Much Worse- (7) Much better*

Table 4.13 presents a summary of the operationalisation of the basic constructs of our model.

Table 4.13: Measurements of the constructs of the model

CONSTRUCTS	ITEMS	OPERATIONALISATION (Questions and Statements)	SCALE
CONFLICT	12	**LEVEL OF CONFLICT** **Emotional Conflict** • How much personal friction is there among directors at the board meetings? • How much are personality clashes evident at the board meetings? • How much tension is there among directors at the board meetings? • How much emotional Conflict (interpersonal incompatibilities which typically includes animosity, and annoyance) is there among directors at the board meetings? **Task Based Conflict** • How much do board members disagree about the content of strategic decisions? • To what extent are there differences of professional opinions at board meetings? **Process Conflict** • To what extent do you disagree about the way to do things at your meetings? • How much disagreement is there about procedures at your meetings? **FREQUENCY OF CONFLICT** **Task Based Conflict** • Do the members of the board of directors disagree regarding the company's strategic decisions? • Are there disagreements about ideas at your boards' meetings? **Process Conflict** • Are there disagreements about who should do what at your meetings? • Do the board meetings disagree about the optimal amount of time to spend in the meetings?	Likert scale 1 (not at all) to 7 (very much) Likert scale 1 (very frequently) to 7 (never)

TRUST	5	• I am able to count on the members of the Board of Directors for help if I have difficulties with my tasks. • I am confident that members of the Board of Directors will take my interests into account when taking strategic decisions. • I am confident that the members of the Board of Directors will keep me informed about issues that concern my work. • I can rely on the members of the Board of Directors to keep their word. • I Trust the members of the Board of Directors.	Likert scale 1 (strongly disagree) to 7 (strongly agree)	
BEHAVIORAL INTEGRATION	9	**COLLABORATIVE BEHAVIOUR** • When a board member is busy, other board members often volunteer to help manage the workload. • Board members are flexible about switching responsibilities to make things easier for each other. • Board members are willing to help each other complete jobs and meet deadlines. **QUANTITITY AND QUALITY OF INFORMATION EXCHANGE** • Quantity of ideas, • Quality of solutions, • Level of creativity and innovation. **JOINT DECISION MAKING** • Board members usually let each other know when their actions • affect another board member's work, • Board members have a clear understanding of the joint problems and needs of other board members, • Board members usually discuss their expectations of each other.	Likert scale 1 (strongly disagree) to 7 (strongly agree) Likert scale 1 (Low effectiveness) to 7 (High Effectiveness)	

BOARD EFFECTIVENESS	12	**BOARD PERFORMANCE** • The overall effectiveness of the board • In providing leadership? • In shaping long-term strategy? • In monitoring strategy implementation? • In anticipating threats to company survival? • In managing during a crisis • In planning for top management succession? • In balancing interests of different stakeholders? • In bolstering the company's image in the community? • In building networks with strategic partners? • In enhancing government relations? • discussing top management performance with top management team **STRATEGIC DECISION QUALITY** • Overall Effectiveness • Effect Strategic Decision • Results of the Strategic Decision	Likert scale ranging from 1 (not effective to 7 (very effective). Likert scale ranging from 1 (poor) to 7 (excellent).	
PERCEIVED ORGANISATIONAL PERFORMANCE	13	• Growth in sales • Growth in market share • Return on Assets (ROA) • Return on Equity (ROE) • Growth in number of employees • Ability to fund growth from profit • Profit margin on sales • Growth in profitability • Total Shareholder Return (TSR) • Corporate Social Performance • Innovation of products and services • Ability to attract and retain talented people • Quality of Products and Services	Likert scale ranging from 1 (much worse) to 7 (much better).	

4.7.6 Operationalisation of Demographic and Organisational Data

Besides, demographic data was collected to capture the demographic profile of the respondents since this a common approach and crucial step in psychometrics research. Organisational and board structure information was also collected. This type of data helps us make various controls and identify if there are parameters that strongly influence the results. An extremely high volume of corporate governance literature supports that demographic attributes and structural characteristics of the board affect board effectiveness.

Table: 4.14: Operationalisation of Demographic and Organisational Data

Variable Name	Operationalisation and measures	Examples of researchers
Gender	Executives were asked about their gender: Male/Female.	Naranjo-Gil, and Maas, 2008, Ararat, Aksu and Cetin, 2015
Age	Date of birth was recorded and then used to calculate age as of current year.	Jackson et al. 1991, Murray, 1989
Nationality	Three pieces of information (citizenship, nation of birth, and native language), which provided a reliable measure of nationality.	Dahlin, Weingart and Hinds, 2005
Education Background	We recorded both a) the educational level and b) educational specialisation (or background). The level of education attained was assessed as a. no college degree b) Bachelor degree c), Master degree (d) Doctoral degree e) Other (Ordinal Scale). For educational background, we used thirteen different disciplines to code each executive's educational background. Each respondent could choose up to three options (Ordinal Scale). Furthermore, we asked for the name of the universities they had attained their degrees.	Hambrick, Cho and Chen, 1996; Jackson et al. 1991; Shin and Zhou, 2007
Functional Background	We used 7 fields to code boards' members functional background. Respondents could choose up to three options.	Bantel and Jackson, 1989; Heyden, et al. 2015; Michel and Hambrick, 1992
International experience (Board human capital)	We asked board members if they had attained any of their degrees abroad and if they appointed in an international assignment as Director of another company.	Oxelheim et al. 2014
Tenure (in the board and organisation)	We asked executives a) the number of years they have appointed into the Board of Directors of the focal organisation b) the number of years spent serving as Director on other corporate boards?	Murray, 1989
Cross directorships	Number of directorships (including focal company's) they hold.	Zona, Zattoni and Minichilli, 2013.
Independency	Executives were asked if they were members of the TMT of the focal organisation. If the answer is no, then the respondents should specify if they considered theirselves as Independent in relation to a) the focal organisation and its executive management b) the shareholders of the focal organisation	
Social Capital	We asked executives in how many companies are they currently serving as the CEO (including the focal organisation).	Melkumov & Khoreva, 2015

Organisational and board structure information was also collected. Respondents were asked if their company was listed in the stock exchange. Besides, the number of full-time employees working in the company gave us an operationalisation of organisation size (Finkelstein and Hambrick 1990, Koufopoulos et al. 2010). The country in

which the company based was also asked and the sector in which the organisation was classified was based on the Industry Classification Benchmark, 2016. The size of the board was captured by asking the number of the members of their board. Open questions were also utilised in the whole questionnaire which enabled the respondents to give us any information they would like to add about their board. For example, respondents were asked if the board functions effectively as a team and if there were ways to improve its performance.

4.8 Methodology Adopted for Data Analysis

The data analysis method chosen by the researcher depends on whether the data will be qualitative or quantitative. In this study, the quantitative approach is taken and the analysis is based on the collection of numerical data using questionnaires. The data from the on-line survey in Enalyser was extracted in an excel spreadsheet which was copied to a file in the SPSS software for further statistical analysis. The techniques used for the analysis and presentation of the data are: Descriptive Analysis, Principal Component Analysis Confirmatory Factor Analysis and Structural Equation Modeling. Descriptive statistics, which are presented in chapter 5, describe what the data shows, produce summaries about our measures and let us simplify large amounts of data in a practical way. The tables from the SPSS software give us useful information, such as the mean and standard deviation of each variable in the data set. Along with the creation of diagrams, we build the basis of virtually every quantitative analysis of data.

In Chapter 6 Principal Components Analysis (PCA) will be utilised to reduce a large set of variables into a smaller one. PCA can be conceptualised as an alteration of a set of correlated variables (e.g. x1, x2,….,xn) in terms of a new set of uncorrelated variables, the principal components (y1, y2, …,yn), each of which is a linear combination of the x variables (Everitt and Hothorn, 2011). PCA is an appropriate approach for the current analysis since the author wishes to reduce the data, identify the linear components and understand how particulars variables contribute to the components.

After the completion of PCA, this research utilises the Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) techniques. CFA will be utilised to test the hypotheses about the underlying structure of the variables. After the completion of Confirmatory Factor Analysis, SEM will examine the interrelationship between the multiple independents and

dependent variables. Analysis of moment structure (AMOS) software will be used to conduct both CFA and SEM.

4.9 Research Ethics

Ethics are the 'norms or standards of behavior that guide moral choices about our behavior and our relationships with others' Cooper and Schindler (2008:34). Research ethics are about the way we define our topic, design the research and collect data. Every research that includes human participants should ensure that the research is methodologically sound and morally defensible to all those who are involved (Saunders et al. 2009).

The Research Ethics Committee of Brunel University agreed that there was no objection on ethical grounds to the proposed study. Approval was given and the Research Participant Information Sheets (Appendix 4.2) sent to the recipients included a clear statement that research ethics approval has been obtained from the Research Ethics Committee. The Research Participant Information Sheets included a clear statement that queries should be directed to the main researcher whereas complaints should be forwarded to the Chair of the Research Ethics Committee. Besides, the Research Participating Information document that the participants received in the pre-notification email as well in the main email invitation of the survey, addressed a number of key ethical issues that relate to the: voluntary nature of participation, maintenance of the confidentiality of data, benefits, disadvantages and risks related to the participation of this study. The current research has taken into account the:

- Brunel University Research Integrity Code.
- Brunel University Research Data Management Policy.
- Brunel University Open Access Policy.
- Provisions of the Data Protection Act 1998 and the University Data Protection Policy.
- University Health and Safety practice and procedures.

4.10 Overview of Chapter 4

In this Chapter, it was made a coherent analysis of philosophical, epistemological and theoretical issues pertinent to management research. Besides, we discussed the research design of the current study, sampling procedures, as well as issues relating to web survey implementation. In the current study, the author utilises a positivism perspective to gain knowledge about the causal relations between board of directors' processes, board effectiveness and organisational performance. The research aims to understand social phenomena based on hypotheses, numbers and data collection of a large sample of respondents.

Besides, the chosen measures that were utilised in this study were presented. Overall, the independent variables comprised with 26 items. Conflict had 12 items, trust 5 items and behavioral integration 9 items. The mediating variable, that of board effectiveness was conceptualised with 15 items and the dependent variable of organisational performance with 13 items.

Figures 4.8 and 4.9 give as a holistic picture of some of the main points discussed in this Chapter. This research will perform a series of statistical techniques which will be presented analytically in Chapters 5, 6 and 7. In the following Chapter, the descriptive findings are presented and discussed.

Figure 4.8: Links between epistemology, methodology and methods in this study

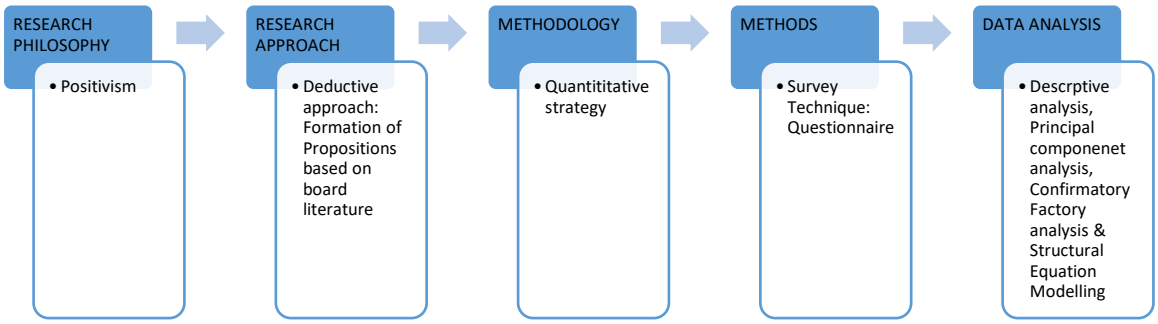
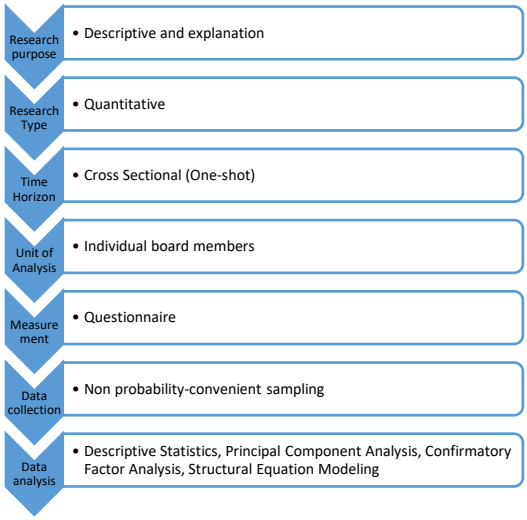


Figure 4.9: Research purpose and design in the current study



Chapter 5: Descriptive Statistics

5.1 Introduction

This chapter presents the descriptive findings from 186 usable responses, collected via the utilisation of a web survey. The questionnaire for the data analysed specifically for this thesis is comprised of 5 sections, 36 questions and 81 items. Summaries of the measures along with tables and diagrams will form the basis of the descriptive analysis (Appendix 5.1). Initially in this chapter, the author will present the demographic characteristics of the participants. Besides, they will be presented the perceptions of these executives about the level of conflict, trust and behavioral integration that exist in their board. The perceptions of the executives about board effectiveness and organisational performance will also be discussed. Finally, the author will present the general characteristics of the organisations in which these board members serve.

5.2 Board Member Characteristics

In the following subsections, the demographic characteristics and profile of the participants are discussed. The following variables were collected for the respondents of the sample: gender, age, nationality, country of birth, citizenship, international experience, educational and professional background.

5.2.1 Gender, Age and Nationality

Regarding the gender of the participants, 150 men participated comparing to 36 women (19.4%). Despite the voluntary or mandatory schemes that exist in various countries around the world, the boards of directors remain still male dominated. For example, female board representation at the S&P 500 has not increased significantly in the last 10 years and female board representation remains at 19.9% (Catalyst, 2017). The last decade there is strong evidence that boards of directors remain male-dominated and consequently the composition of the sample was close to the author's expectations and research findings (Figure 5.1).

Various Western countries have taken initiatives to boost the participation of women in the board. The country which has taken the most drastical measures is Norway which has imposed a 40% female quota in the board of directors of public listed companies. Germany and Iceland are some of the countries which have adopted mandatory quotas whereas Finland, Sweden and UK have set voluntary schemes. The European Commission proposes

to break the glass ceiling with legislation that will impose on publicly listed companies 40% percentage of women in non-executive board-member positions.

Figure 5.1: Gender (n=186)

The **age** of the board members was captured by deducting the current year (2016) from their year of birth. The youngest director was 34 years old whereas the oldest board member was 77. For a better representation of the results, the age variable was recoded into five groups: 30-39, 40-49, 50-59, 60-69, 70-79 years old. As it can be seen from Figure 5.2 a large number of board members (37.1%) are between 50-59 years old. Just a few members serve as board members either in their fourth (4.8%) or eighth decade (5.4%) of their life.

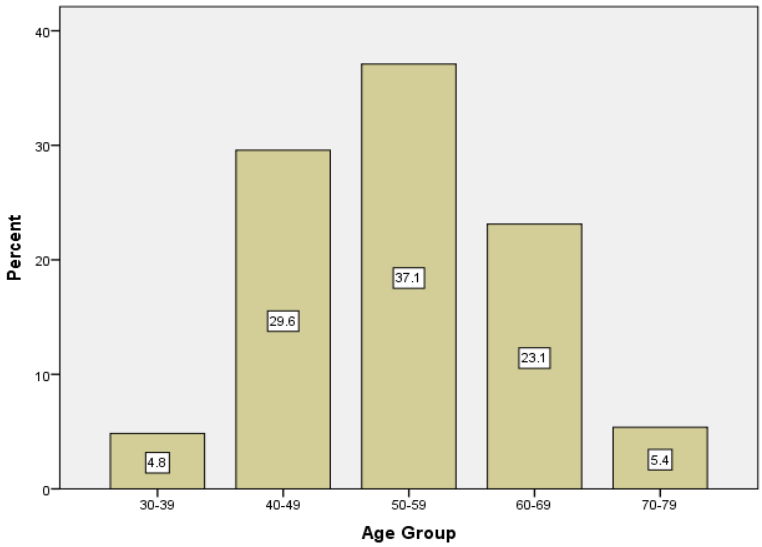


Figure 5.2: Grouped Age (n=186)

To capture the **Nationality** of the respondents three pieces of information were collected: nation of birth, citizenship and native language. Almost half of the board members (47.3%) were born in Sweden whereas 21.5% born in Denmark, 24% in Finland and overall the whole Nordic Region is the place of birth of most of the respondents (89.8%). Only 19 members were born outside the Nordic region, either in European region (UK, Italy, Serbia, Iceland, Estonia, France and Germany) or in one of the following countries: India, Turkey, Taiwan, Australia, US, South Africa and Iran. Besides, most of the Board Members hold Swedish citizenship and in total Nordic Citizens comprise the largest percentage (91.4%) of the sample. Besides, the majority of the respondents has one of the Nordic languages as a native language (89.2%) with the Swedish language being the most common one.

Tables 5.1-5.3: Nationality (N=186)

Table 5.1: Country of Birth

	Frequency	%
Sweden	88	47.3
Denmark	40	21.5
Finland	24	12.9
Norway	15	8.1
UK	3	1.6
Italy	2	1.1
US	2	1.1
Iceland	2	1.1
Turkey	1	.5
India	1	.5
Australia	1	.5
Serbia	1	.5
Taiwan	1	.5
South Africa	1	.5
Irak	1	.5
Estonia	1	.5
France	1	.5
Germany	1	.5
Total	186	100

Table 5.2: Citizenship

	Frequency	%
Swedish	92	49.5
Danish	40	21.5
Finnish	23	12.4
Norwegian	15	8.1
UK	3	1.6
US	2	1.1
Icelandic	2	1.1
Italian	2	1.1
German	1	.5
Turkish	1	.5
French and Swedish	1	.5
Swedish and Finish	1	.5
South Africa	1	.5
Taiwan	1	.5
Swedish and British	1	.5
Total	186	100

Table 5.3: Language

	Frequency	%
Swedish	95	51.1
Danish	39	21.0
Norwegian	16	8.6
Finnish	16	8.6
English	8	4.3
Italian	2	1.1
Icelandic	2	1.1
Turkish	1	.5
German Danish	1	.5
Mandarine Chinese	1	.5
Armenian/ Swedish	1	.5
French	1	.5
Swedish/ English	1	.5
Estonian	1	.5
Servo-croatia	1	.5
Total	186	100.0

5.2.2 Educational and Professional Background

We conducted an in-depth investigation of the **educational background** of the respondents asking them about a) their educational level and b) specialisation. For the educational level, the respondents were asked to select the highest educational degree they have attained and we notice that 28% of the board members holds a bachelor degree whereas the majority of the respondents (54.8%) is well educated and has gained a master degree. PHD graduates are only 10 board members (5.4%), whereas 13 (7%) board members hold no college degree. In the "other category" there were members who had professional qualifications in accounting or marketing, military education or specialization as nurses (Figure 5.3).

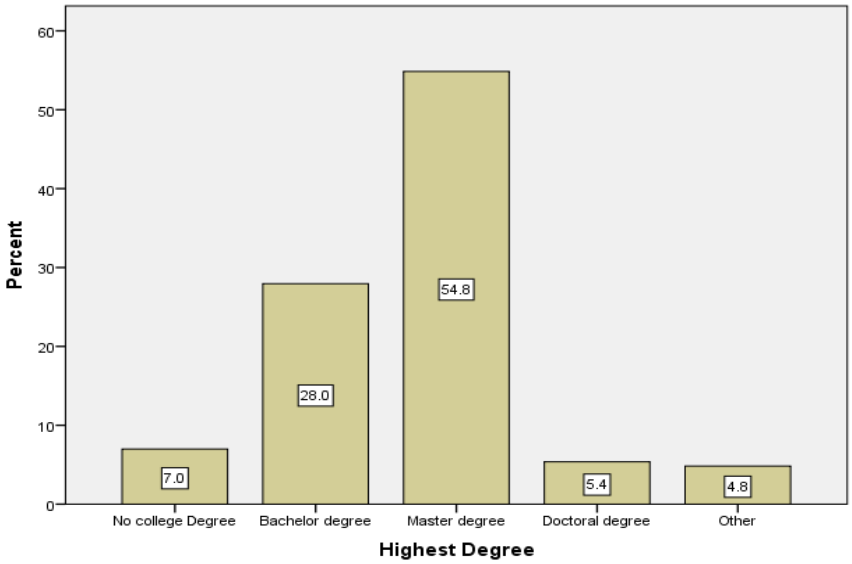


Figure 5.3: Level of Education (n=186)

The **educational specialisation** was measured by asking the respondents (excluding those who didn't have a college degree) to choose, from a range of 11 fields, up to three areas in which they have gained their highest degrees. These 11 fields were: Engineering and Technology b) Science, c) Business Administration, d) Economics, e) Liberal Arts, f) Law (LL.B./J.D., g) Business (other than administration, e.g. accounting, finance), h) Computer Science i) Health and Life Science j) Environment & Sustainability k) Architecture & Design. An open answer was also included which enabled respondents to write about specialisations which were not included in the list.

For a better categorisation of the multiple answers received, 9 major fields of education recreated: The following fields were produced based on the curriculum of leading universities (i.e. Lund University) in Nordic Region: 1) Business Administration and

Economics 2) Engineering 3) Law 4) Science 5) Health Studies 6) Social Sciences 7) Humanities 8) Liberal Studies and Fine Arts 9) Environmental Studies. Besides, in Table 5.4 (after the ninth row) a combination made of all the responses of the members who had chosen more than one educational specialization.

From the Table 5.4 it is evident that most respondents (41.6%) have earned a highest degree in Business Administration & Economics whereas 14.5% have specialised in Engineering. Based a significant amount (16.2%) holds a higher degree both in Business Administration and Engineering.

Table 5.4: Educational Specialisation (n=173)

	Field	Specialisations	Percentage
1	Business Administration and economics	Business Administration, Economics, Finance, Human Resource Management Marketing and Sales, Leadership	41.6%
2	Engineering	Architecture and Built Environment, Computer Science, Construction Sciences, Food Technology, Engineering and Nutrition, Industrial Management, Supply Chain and Logistics, Mechanical Engineering, Technology and Society.	14.5%
3	Law	Legal Science, Sociology of Law, European law	3.5%
4	Science	Astronomy, Biology, Chemistry, Geology, Mathematics, Physics	3.5%
5	Health Studies	Medicine, Biomedicine, Public Health, Sport Sciences, Nursing	2.9%
6	Social Sciences	Communication and media, psychology, sociology, political science	2.3%
7	Humanities	History, anthropology, Education	1.7%
8	Liberal Studies and Fine Arts	Art, Culture, Music, Writing Literature, Languages	1.2%
9	Environmental Studies	Sustainability Science, Earth Science, Environmental Health, Environmental Care and Protection	0.6%
10	Business Administration & Engineering		16.2%
11	Business Administration & Law		2.9%
12	Business Administration, Engineering & Science		1.2%
13	Business Administration & Health Studies		1.2%
14	Business Administration & Science		1.2%
15	Business Administration & Social Sciences		0.6%
16	Business Administration, Engineering & Liberal Studies		0.6%
17	Business Administration & Liberal Studies		0.6%
18	Engineering & Science		0.6%
19	Military Studies & Business Administration		0.6%
20	Military Studies		0.6%
21	Environmental Studies		0.6%
22	Engineering and Health Studies		0.6%
23	Business Administration, Engineering and Health Studies		0.6%
24	Social Studies and Health Studies		0.6%
25	Environmental Studies and Business Administration		0.6%
	TOTAL		**100%**

For the **functional background**, respondents were asked in which field they have gained the most experience during their professional career by choosing up to three options from a list of eight predefined options. From Table 5.5 is evident that most of the respondents, as expected, have at least one professional background in Business and Administration (59.7%).

Table 5.5: Functional Background, Eight Predefined Options (n=183)

Professional Background	Frequency	Percent
Business and Administration	111	59.7%
Marketing and sales	68	36.6%
Productions-operations	40	21.5%
R&D and Engineering	37	19.9%
Accounting and Finance	36	19.4%
HRM	24	12.9%
Law	11	5.9%

However, in order to depict all the possible combinations of the professional background of the respondents, a new variable was created in which included all the possible combinations of the respondent's answers (Table 5.6).

Table 5.6: Functional background (combination of all the responses)

Professional Background	Frequency	Percent
Business and administration	30	16.1%
Marketing & Sales	22	11.8%
Business, Marketing	17	9.1%
R&D and engineering	12	6.5%
Productions-operations	10	5.4%
R&D, Business, Marketing	10	5.4%
Business, Accounting	10	5.4%
Productions, Business	7	3.8%
Productions, accounting and business	7	3.8%
Business, Accounting, Marketing	6	3.2%
Accounting & Finance	4	2.2%
Law	4	2.2%
Productions, R&D	4	2.2%
Productions, R&D, Business	4	2.2%
Business, Marketing, HRM	3	1.6%
Business, HRM	3	1.6%
HRM	2	1.1%
Productions, Business, Marketing	2	1.1%
Business, Marketing, Law	2	1.1%
Accounting and IT	2	1.1%
Business, Accounting, HRM	2	1.1%
R&D, Marketing	2	1.1%
R&D, Business, HRM	2	1.1%
Accounting, Marketing, HRM	1	.5%
Business, Law, HRM	1	.5%
Business, Accounting, Law	1	.5%
Productions, Marketing	1	.5%
Sports Medicine	1	.5%
Productions, R&D, Marketing	1	.5%
Public Services	1	.5%
R&D, Marketing, Law	1	.5%
Accounting and CSR	1	.5%
R&D, Accounting, Business	1	.5%
Business, Government	1	.5%
Productions, Law, HRM	1	.5%
Marketing, Law, HRM	1	.5%
Pharmaceutical	1	.5%
R&D, HRM	1	.5%
HRM and Military Studies	1	.5%
Business and Content development	1	.5%
Productions, Business, HRM	1	.5%
Productions, Marketing, HRM	1	.5%
Total	**186**	**100.0**%

5.2.3 International Experience

The **International experience** of the Board members was captured with two ways a) by asking them if they have gained a degree abroad and b) if they had worked abroad in an international assignment.

Regarding the degrees gained abroad. we notice in Figure 5.4 that a remarkable percentage (76.3%) of the 173 respondents who hold a higher degree are educated from an institution in the country they live.

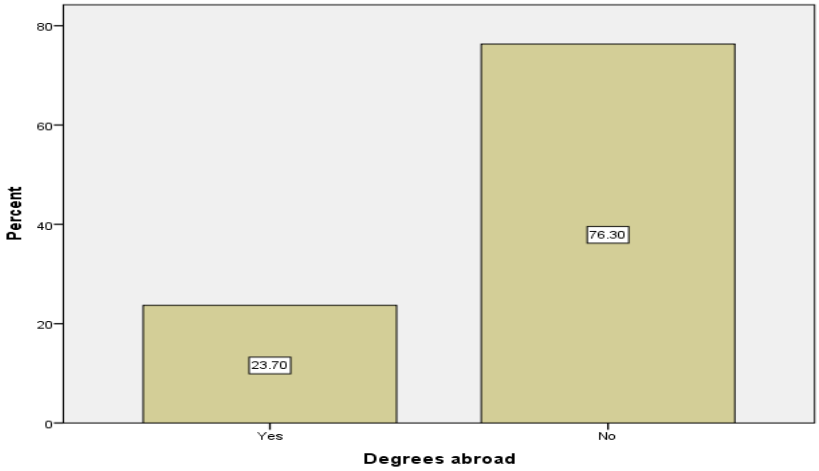


Figure 5.4: Degrees abroad (n=173)

In order to depict more properly the region of the 41 respondents who are educated abroad, a new variable was created based on the following categories: Degree gained in another Nordic Country b) Degree gained outside Nordic Region but inside European region c) Degree gained outside the European Region. Degrees in one European Country and degree outside Europe (i.e. USA or Australia).

Examining Table 5.7, we notice that 46.3% of the executives gained a degree inside European Region and the same percentage (46.3%) holds a degree outside European Region. Overall, we can deduce that board members in Nordic Region do not possess international experience from studies abroad since only 20.4% of the 186 respondents have gained a degree outside Nordic Region.

Table 5.7: Regions for Degrees Abroad (n=41)

Region	Frequency	Percent
Nordic Region	3	7.3
Europe	19	46.3
Outside Europe	19	46.3
TOTAL	41	100.0

For the respondents who have worked abroad, it is noted that although the majority has not been appointed in an international assignment, there is still a significant percentage (46.2%) which has gained international experience (Table 5.8). Up to five years of

international experience has the 48.15% of the 86 respondents, whereas a large percentage (33.33%) has an experience between 6 and 10 years (Figure 5.5).

Table 5.8: International Assignment (n=186)

	Frequency	**Percentage**
Yes	86	46.2
No	100	53.8
Total	186	100.0

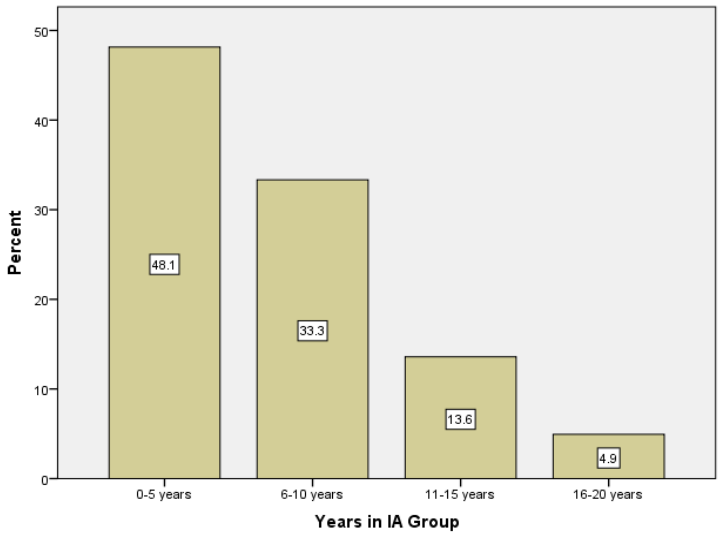


Figure 5.5: Years in International Assignment (n=86)

The following Figure (5.6) offers a holistic presentation of all countries that the board members gained their international experience. The regions were categorised as follows: a) Nordic Region b) European Region c) Outside European Region. A high percentage of the respondents who have worked in an international assignment (43.02% have been appointed in regions such as USA, Asia, Middle East or Australia.

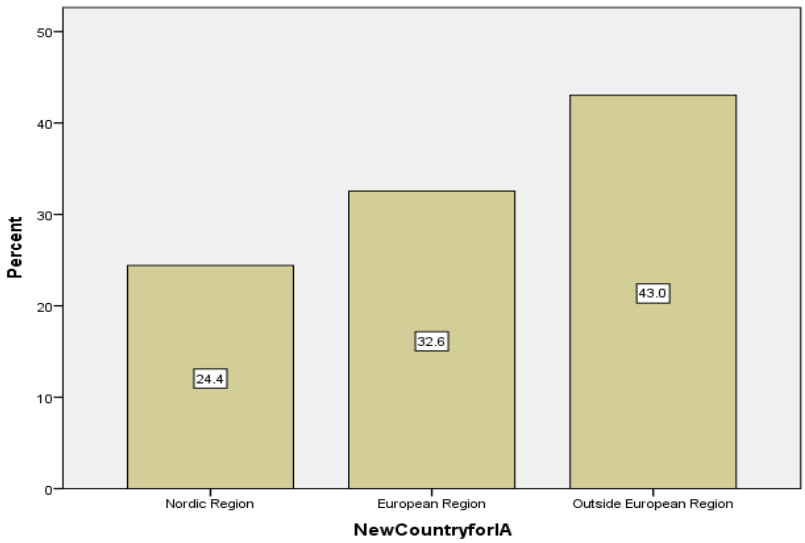


Figure 5.6: Country of International Assignment

5.2.4 Organisational Tenure and Board Tenure

Board members were asked to report how many years they have served a) as a board member in the focal organisation and b) as board member in other organisations. It was found that the average tenure of respondents being in the focal company is approximately 8 years with a standard deviation of approximately 7 years and the average tenure of sitting in the boards of other organisations is approximately 13 years with a standard deviation of 9 years.

Table 5.9: Tenure in current and other Boards (n=186)

	Years in current Board	Years in Boards
Mean	7.61	13.16
Std. Deviation	6.737	9.469
Minimum	1	1
Maximum	40	40

Figures 5.7 and 5.8 present the grouped tenure of the boards in the current company and other boards, based on the following categories: a) = up to five years; b) = six to ten years; c) =eleven to fifteen years; d) = sixteen to 20 years; e) =above 21. As it can be seen from figure 5.7 nearly half of the respondents (49.5%) work in the organisation for up to 5 years and this could be an indication of some independence in the boards, as it is advisable that board members to be replaced after a few years of service. However, 42% of the respondents demonstrate a tenure in the focal board from 6-15 years. The tenure of the respondents in the focal board boosts the view that these members are the most knowledgeable individuals about the dynamics and processes of this upper-echelons team since they have spent so many years in the same board.

Besides, Figure 5.8 demonstrates that experience of executives in various boards varies significantly since 26.9% have board experience up to five years, 21% from 6-10 years, 22% 11-15 years and 9% between 16 to 20 years. An interesting point is that 20.4% of the respondents demonstrate a high tenure in boards for above 21 years.

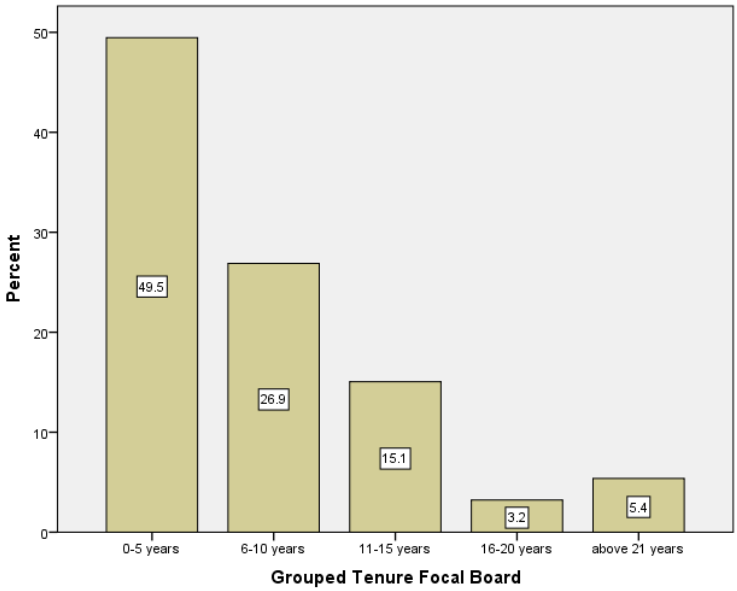


Figure 5.7: Years in Other Boards (n=86)

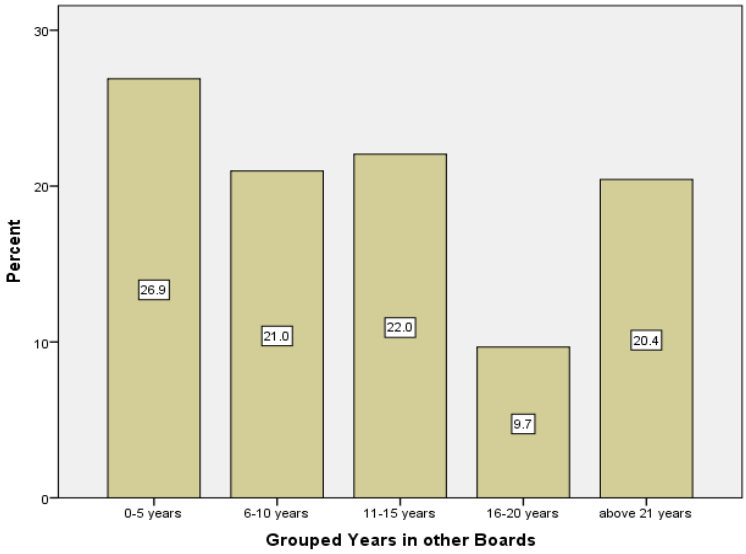


Figure 5.8: Years in Other Boards, Grouped (n=86)

5.2.5 Cross Directorships and CEO appointments

Cross Directorships, which is an indication of the social networks of these executives, measured by asking respondents to show in how many boards they are currently appointed, including the directorship held in the focal organisation. The average number of simultaneous board positions is approximately 4 with a standard deviation of 3 (Table 5.10). One appointment is the most common answer (26.26%), whereas three board appointments have 16.94% of the executives. Interesting to note is that 5.5% holds simultaneously from 10-20 board positions (Figure 5.9).

Table 5.10: Statistics, Cross Directorships

	Board Appointments
Mean	3.81
Std. Deviation	3.035
Minimum	1
Maximum	20

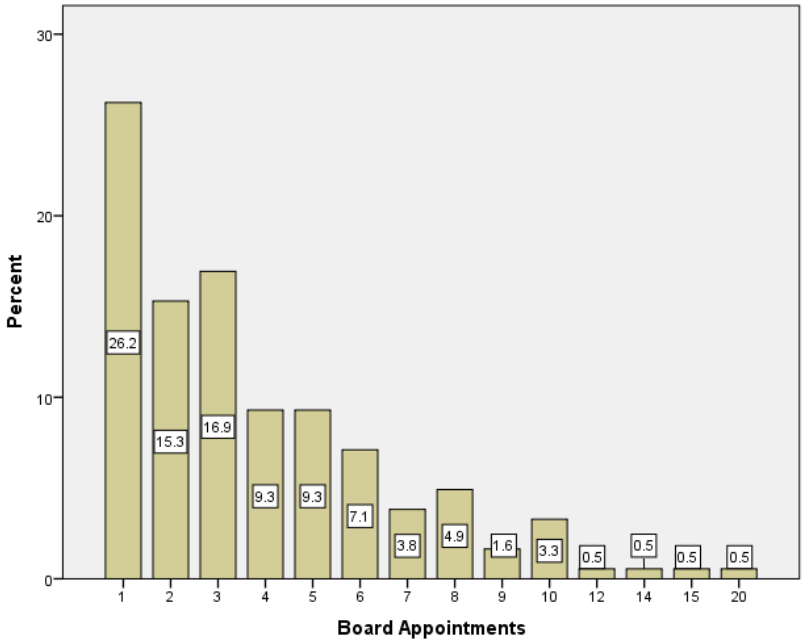


Figure 5.9: Years in Other Boards (n=86)

Moreover, respondents were asked in how many companies serve as CEOS. Although the majority of the respondents (53.2%) does not serve as CEO in another company, a significant percentage (29.2%) of respondents who serve as CEO in one company, either in the focal organisation or in another one.

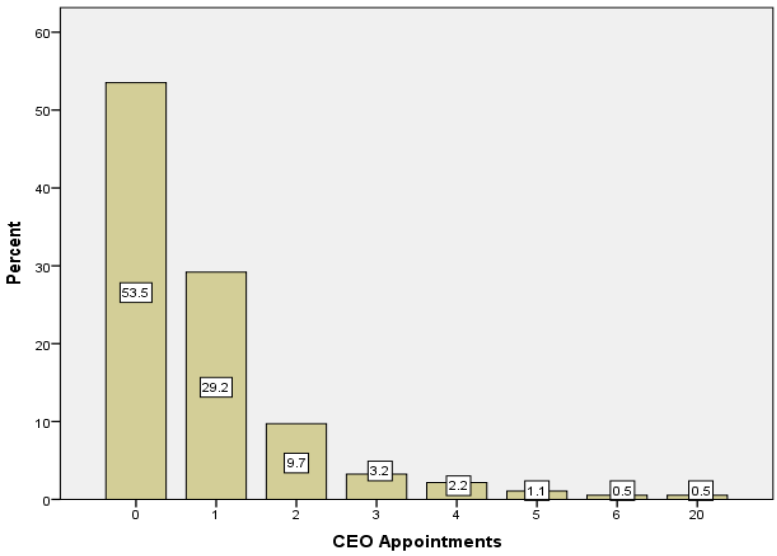


Figure 5.10: CEO appointment (n=185)

5.2.6 Independency

The **independency** of these executives was also examined and almost half of them are members of the top management team (TMT). 97 respondents (52.2%) of the respondents are not members of the TMT, namely they are non-executive board members (Figure 5.11).

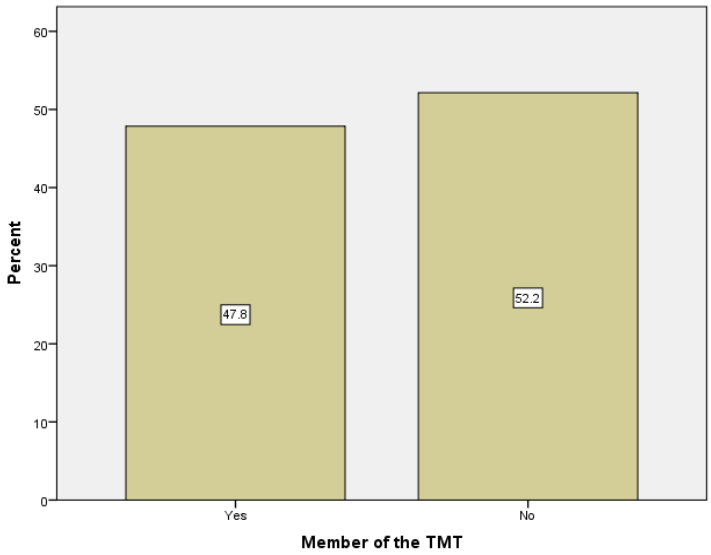


Figure 5.11: Member of Top Management Team (n=186)

For the 97 non-executive board members, two additional questions were asked to gain a deeper understanding of their independency with the organisation. Firstly, they were asked if they consider themselves as independent to the focal organisation and its executive management and secondly if they perceive themselves as independent to shareholders.

75.3% consider themselves as independent to focal organisation whereas 76.3 % are independent to shareholders (Table 5.11). A new variable was also created to capture the overall independency of the members (both from management and shareholders) and we deduce clearly that only 63 out of the 97 non-executive board members can be considered as totally independent. Overall, from the analysis it is concluded that out of the 186 respondents 89 are executive board members, 34 are affiliated and 63 are totally independent.

Table 5.11: Statistics, Independent Directors (n=97)

	Independent to Management	**Independent to Shareholders**	**Independent to All**
Yes	73 (75.3%)	74 (76.3%)	63 (64.9%)
No	24 (24.7%)	23 (23.7%)	34 (35.1%)
Total	**97**	**97**	**97**

5.3 Dynamics of the board

Conflict, trust and behavioral integration are the independent variables of the model and a detailed analysis of the results of each one process are depicted in the next sections.

5.3.1 Conflict

The study examines both the level and the frequency of conflict and the results are presented in sections 5.3.1.1 and 5.3.1.2

5.3.1.1 Level of Conflict

Intrateam trust was conceptualised with three dimensions: relationship, task-based and process conflict. The level of conflict was examined with eight questions on a 7 point Likert scale. For the level of conflict (Table 5.12), we overall notice a low level of task-based (cognitive), relationship (emotional) and process conflict in the Nordic Board of Directors. More specifically for relationship conflict there are low personal frictions at the board meetings (mean= 2.78, sd= 1.34), personality classes in board meetings (mean= 2.62, sd= 1.36), tension (mean= 2.81, sd= 1.38), interpersonal incompatibilities (2.32 sd= 3.15).

For the process based conflict, the respondents do not have special disagreements about the way to do things at the meetings (mean= 2.8, sd= 1.3) and procedures at the meetings (mean= 2.21, sd= 0.98).

However, an interesting finding is that the level of disagreement increases when board members discuss about the content of strategic decisions (mean=3.15, sd= 1.22) and it is evident that there are differences of professional's opinions at board meetings (mean= 4.03, sd= 1.29). This implies that the level of task-based (cognitive) conflict is considered as a relatively high in Nordic Boards.

5.3.1.2 Frequency of Conflict

Apart from the level of conflict, the frequency of task-based and process-based conflict was measured with 4 questions in a 7-point reverse Likert scale (1=very frequently, 7=never). The means of the 4 items are above the mode demonstrating that the frequency of conflict is very low (Table 5.13). The members of the board have infrequent conflicts about the strategic decisions of the company (mean= 4.93, sd= 1.40) and ideas at board meetings (mean=3.15, 4.30, sd= 1.35). Besides, there are infrequent disagreements on who should do what (mean 5.52, sd= 1.57) and the optimal amount of time to spend in meetings (mean 4.97, sd=1.64).

The low level of conflict found in the study study seems to be compatible with the conflict resolution mechanisms that exist in the society. For example, before one political decision is taken by the government, there are consensus building mechanisms between government, trade unions and other interested parties. The *2016 Global Peace Index* of the Institute of Economics and Peace, which measures peace in 163 countries, found that Iceland is the most peaceful country in the world, followed by Denmark. Nordic countries seem not to engage in any conflicts either internally or externally and Nordic countries strive to sustain peaceful societies. Consistent with Minichilli et al. (2012: 209), the author supports that task conflict in board could be a reflection to the national institutional context.

Table 5.12: Level of Conflict (n=186 including N/A responses)

	(1)* Not at all	(2)	(3)	(4)	(5)	(6)	(7)Very Much	N/A	N	Mean***	SD
RELATIONSHIP CONFLICT											
Personal friction	22 (11.8) **	84 (45.)	25(13.4)	26 (14)	20(10.8)	7(3.8)	0	2(1.1)	184	2.78	1.34
Personality clashes	33(18.8)	77(41.4)	26(14)	21(11.3)	19(10.2)	6(3.2)	0	2(1.1)	184	2.62	1.36
Tension	24(12.9)	75(40.3)	34(18.3)	25(13.4)	16(8.6)	9(4.8)	1(0.5)	2(1.1)	184	2.81	1.38
Emotional conflict	46(24.7)	83(44.6)	24(12.9)	16(8.6)	12(6.5)	3(1.6)	0	2(1.1)	184	2.32	1.21
TASK BASED CONFLICT											
Disagreements strategic decisions	10(5.4)	52(28)	59(31.7)	34(18.3)	23(12.4)	5(2.7)	1(0.5)	2(1.1)	184	3.15	1.22
Differences professional opinions	0	25(13.4)	43(23.1)	45(24.2)	47(25.3)	20(10.8)	4(2.2)	2(1.1)	184	4.03	1.29
PROCESS CONFLICT											
Disagreements about way	23(12.4)	71(38.2)	38(20.4)	29(15.6)	15(8.1)	7(3.8)	0	3(1.6)	183	2.80	1.3
Procedures	41(22)	86(46.2)	42(22.6)	8(4.3)	6(3.2)	1(0.5)	0	2(1.1)	184	2.21	0.983

**Scale: (1)=Not at all; (7)= Very much . **numbers in brackets indicate percentages. ***mean and standard deviation are calculated by excluding the N/A responses*

Table 5.13: Frequency of Conflict (n=186 including N/A responses)

	(1)* Very Frequently	(2)	(3)	(4)	(5)	(6)	(7) Never	N/A	N	Mean***	SD
TASK BASED CONFLICT											
Strategic decisions	4(2.2) **	10(5.4)	19(10.2)	20(10.08)	49(26.3)	72(38.7)	10(5.4)	2(1.1)	184	4.93	1.40
Ideas	6(3.2)	11(5.9)	34(18.3)	44(23.7)	54(29)	30(16.1)	5(2.7)	2(1.1)	184	4.30	1.35
PROCESS CONFLICT											
Who should do what	4(2.2)	11(5.9)	8(4.3)	17(9.1)	21(11.3)	67(36)	55(29.6)	3(1.6)	183	5.52	1.57
Amount of time	4(2.2)	13(7)	25(13.4)	20(10.8)	31(16.7)	54(29)	33(17.7)	6(3.2)	180	4.97	1.64

**Scale: (1)=Very frequently; (7)= Never . **numbers in brackets indicate percentages. ***mean and standard deviation are calculated by excluding the N/A responses*

5.3.1.3 Additional Comments About Conflict

With an open-ended question, respondents were also asked to offer additional comments about the types of disagreements that arose the current term in their board and their answers are included in Table 5.14. From the answers of the respondents we conclude that although there is a normal level of task-based conflict, which stems from the different skills and experiences these executives possess, the meetings end up with consensus.

Table 5.14: Verbatim Comments from Board Members about Types of Conflict

Changes in procedure and team members.
Organisation, finance structure, strategy, growth level - use of consultants.
There have been disagreements on what risk to take when deciding on size of clinical registration studies as very large studies cost much more money but give a statistically safer study outcome.
Disagreements come often due to personal interests and relations.
We almost always end with consensus.
There is often a fruitful discussion based on the fact that not everybody agrees by default. After these discussions, there is generally an acceptance for the discussions.
Concrete issues on Capital structure.
Appointing new CEO, CFO, new organisation -sustainability issues.
Disagreement about how much time to spend on control - back and visions – forward.
Directors that represent large shareholders have a heavier return driven view of their director responsibilities.
Normal, professional interaction on ideas and processes.
It's key to electronic board members with different skills, experiences, backgrounds to create a board with tension and a climate of innovation and development.
We have a lot of discussions but usually come to agreement in the end.
Board members have diverse backgrounds and look at topics being discussed from different perspectives when contributing to the discussions. This is what is required from a board.
I am part of a small, dynamic and diverse (from professional background point of view, I am the only female) Board of Directors.
Very little Conflict.
Disagreements when they happen are usually caused by individuals having asymmetric information and different experiences. When gaps are bridged the board members.
Mostly Health Conflicts. if no Conflict, no good decision making will happen.
The board works fine according to my understanding.
At the company you are asking about, we have very little conflicts (negative) but there is a fair amount of different opinions (positive), which helps the company to develop since we then have healthy discussions about the pros and cons of various alternatives/suggestions. At other boards, there are more conflicts.

5.3.2 Trust

The level of trust that exists between members was captured by asking respondents to express the level of their agreement with the five questions made to them (Table 5.15). For all the items the mean is above the mode demonstrating that board members can count on each other if they have difficulties with their tasks, feel confident that the colleagues will take their interests into account when taking strategic decisions and know that they will be kept informed about issues relevant to their work. Boards substantially rely on their colleagues and feel confident that they keep their word and promises. A surprisingly high level of agreement achieved when the word "Trust" is included explicitly in one of the questions in which the executives were asked to show the extent that they trust the members of the board (mean= 6.14, sd= 1.03).

Trust has been considered as an important parameter of the Nordic economic and social welfare system and boards seem to follow a similar approach and demonstrate an astonishingly high level of trust to their colleagues. As noted by Welter (2012) collective trust that is generated in an organisation at the meso level could be fostered by the institutional trust that exists in the society. Sweden, Denmark and Finland are the best performers worldwide regarding the remarkably high levels of trust that demonstrate in national institutions. For example, the high level of trust in national parliament reaches the amount of 69% in Sweden, a percentage remarkably above the 29% EU average according to the report of ERCAS (Mungiu-Pippidi, Dadašov. and Fazekas, 2016). The high level of trust among citizens and in public institutions probably has disseminated a feeling of trust inside organisations. The absence of corruption also fortifies the attitude that "most people can be trusted''.

Jonnergård and Larsson-Olaison (2016) support that the Nordic corporate governance system is based on the notion of 'Trust in controlling owners for solving problems'. These active and concentrated owners are eligible to participate in the board of directors. The current study seems to confirm that the culture of trust that exist in Nordic organisations is not only towards controlling owners but also between board members.

Table 5.15: Trust to the board (n=186 including N/A responses)

	(1)* Strongly Disagree	(2)	(3)	(4)	(5)	(6)	(7) Strongly Agree	N/A	Mean***	SD
Count on members	1 (0.5)**	2(1.1)	7(3.8)	18(9.7)	30(16.1)	71(38.2)	50(26.9)	7(3.8)	5.72	1.20
Take my interests into account when taking strategic decisions	2(1.1)	11(5.9)	16(8.6)	25(13.4)	42(22.6)	61(32.8)	21(11.3)	8(4.3)	5.03	1.43
Keep me informed about issues that concern my work	0	3(1.6)	8(4.3)	17(9.1)	30(16.1)	68(36.6)	52(28)	8(4.3)	5.73	1.2
Keep their word	0	2(1.1)	6(3.2)	10(5.4)	28(15.1)	70(37.6)	64(34.4)	6(3.2)	5.94	1.1
I trust them	0	2(1.1)	3(1.6)	10(5.4)	18(9.7)	69(37.1)	80(43)	4(2.2)	6.14	1.03

Scale: (1) =Strongly disagree; (7) = Strongly agreenumbers in brackets indicate percentages. ***mean and standard deviation are calculated by excluding the N/A responses*

5.3.3 Behavioral Integration

The team-level measure of behavioral integration was captured with nine items. Likert scales from (1) strongly disagree to strongly agree (7) were utilised to capture the collaborative behavior of the board the past two years, the level of information exchange over the past two years as well as the joint decision making of the board members (Table 5.16).

The level of collaboration among the members is high and the members are very much willing to help each other to complete jobs and meet deadlines (mean= 5.16, sd= 1.37). An interesting point is that a substantial number of participants considered the 3 questions of collaborative behavior non-applicable. Board members have predefined tasks and responsibilities and may not feel flexible about switching responsibilities to make things easier for each other.

Besides, the level of information exchange was captured and all three items of the dimension of information exchange were above the mode showing that the past two years the decisions taken by boards had a relatively high effectiveness in relation to the quantity of ideas (mean= 4.77, sd= 1.38), quality of solutions (mean= 5.19 sd= 1.20) and creativity and innovation (mean= 4.77, sd= 1.41).

Finally, board members demonstrate a high level of joint decision making in which they let each other know when their actions affect another member work (mean= 4.86, sd= 1.28) have a clear understanding of the joint problems (mean= 4.99, sd= 1.1) and discuss their expectations of each other (mean= 4.14, sd= 1.6).

The Nordic model builds on the social capital of trust and cohesion (Thomsen 2016, Andersen et al. 2007). Cohesion in the Nordic countries comprise the success of the whole societal structure and there is a general feeling that we all have the same rights, quality of entitlements and obligations. Thus, in the organisations seems to exist a similar attitude in which executives demonstrate a collaborative behavior with equal access in information and joint decision making.

Table 5.16: Behavioral integration (n=186 including N/A responses)

	(1)* Strongly Disagree	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7) Strongly Agree**	**N/A**	**N**	**Mean*** **	**SD**
COLLABORATIVE BEHAVIOUR											
Volunteer to help	5(2.7)	14(7.5)	13(7)	27(14.5)	36(19.4)	37(19.9)	10(5.4)	44(23.7)	142	4.59	1.54
Switching responsibilities	1(0.5)	13(7)	15(8.1)	23(12.4)	38(20.4)	44(23.7)	13(7)	39(21)	147	4.82	1.45
Willing to help	1(0,5)	8(4.3)	10(5.4)	21(11.3)	30(16.1)	59(31.7)	17(9.1)	40(21.5)	146	5.16	1.37
INFORMATION EXCHANGE											
	(1)* Low effectiveness	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7) High Effectiveness**	**N/A**	**N**	**Mean *** **	**SD**
Quantity of ideas	3(1.6)	11(5.9)	17(9.1)	38(20.4)	54(29)	45(24.2)	15(8.1)	3(1.6)	183	4.77	1.38
Quality solutions	2(1.1)	5(2.7)	8(4.3)	31(16.7)	47(25.3)	76(40.9)	14(7.5)	3(1.6)	183	5,19	1.20
Creativity	3(1.6)	14(7.5)	16(8.6)	30(16.1)	57(30.6)	47(25.3)	14(7.5)	5(2.7)	181	4.77	1.41
JOINT DECISION MAKING											
	(1)* Strongly Disagree	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7) Strongly agree**	**N/A**	**N**	**Mean*** **	**SD**
Actions affect others	3(1.6)	5(2.7)	13(7.0)	30(16.1)	48(25.8)	45(24.2)	8(4.3)	34(18.3)	152	4.86	1.28
Understanding of joint problems	1(0.5)	3(1.6)	15(8.1)	31(16.7)	55(29.6)	53(28.5)	10(5.4)	18(9.7)	168	4.99	1.1
Discuss expectations	6(3.2)	33(17.7)	17(9.1)	43(23.1)	36(19.4)	30(16.1)	10(5.4)	11(5.9)	175	4.14	1.6

*Scale: (1)= Strongly Disagree; (7)= Strongly Agree. **numbers in brackets indicate percentages. ***mean and standard deviation are calculated by excluding the N/A responses

5.4 Effectiveness of the Board

In this research, board overall effectiveness is captured as a construct with two elements: board performance and strategic decision quality. Board performance is conceptualised as an evaluation of the board members in achieving objectives and recognising key survival factors, whereas decision quality as the extent to which strategic choices made in the board have been realistic.

5.4.1 Board Performance

The performance of the board was captured in a 7 point Likert scale (ranging from not effective to very effective) in which respondents were asked to rate the effectiveness of the board in relation to 12 items (Table 5.17). Interestingly all the means were above the mode and the highest score received "the effectiveness of the board in shaping long term strategy". This could be an interesting finding for the field of corporate governance in which there are still serious calls about the increase of the role of the board in strategy and strategic decision making (Crow and Lockhart, 2016; Parsons and Feigen, 2014; Zhu, Wang and Bart, 2016). The board's role in strategy formulation and implementation is "an empirically understudied phenomenon" (Bordean, Borza and Maier, 2011: 987). The findings are consistent with that of Ingley and Van Der Walt (2005) suggesting that board effectiveness requires focus more on strategic matters rather than operational and compliance tasks. The lowest average score was given for the effectiveness of board in enhancing government relations (mean= 4.15, sd= 1.60), bolstering the company's image (mean= 4.49, sd= 1.38) in the community and planning for top management team succession (mean= 4.51, sd= 1.47). In general, board members are content with the overall effectiveness of their boards (mean= 5.22).

5.4.2 Strategic Decision Quality

Three items were used to measure the extent to which the board's most recent strategic decision had been effective (Table 5.18). The 7-point response scale ranged from 1 = Poor to 7= Excellent. No one member perceived the strategic decision effectiveness as poor and all of the three items of the measure have means that exceed the mode. Overall, the board members feel that the effect of the strategic decision has been very good. An open-end question was also included in which board members were asked to name the strategic decision they had accessed and the 60 responses are presented in Table 5.19. Merges and acquisitions is the most common strategic decision that board members assessed.

Table 5.17: Board Effectiveness (n=186 including N/A responses)

	(1) * Not effective	(2)	(3)	(4)	(5)	(6)	(7) Very effective	N/A	N	Mean***	SD
Leadership	0	8(4.3)	16(8.6)	19(10.2)	55(29.6)	60(32,3)	27(14,5)	1(0,5)	185	5.21	1.30
Shaping Strategy	0	7(3,8)	11(5,9)	19(10,02)	55(29.6)	63(33,9)	30(16.1)	1(0,5)	185	5.33	1.25
Monitoring Strategy	0	9(4.8)	9(4.8)	32(17.2)	49(26.3)	71(38.2)	13(7)	3(1.6)	183	5.11	1.21
Anticipating threats	2(1.1)	4(2.2)	16(8.6)	33(17.7)	51(27.4)	62(33.3)	17(9.1)	1(0.5)	185	5.06	1.26
Managing Crisis	1(0.5)	5(2.7)	13(7)	28(15.1)	41(22)	58(31.2)	22(11.8)	18(9.7)	168	5.17	1.29
Succession	2(1.1)	17(9.1)	27(14.5)	43(23.1)	39(21)	37(19.9)	15(8.1)	6(3.2)	180	4.51	1.47
Balancing Interests	0	5(2.7)	20(10.8)	34(18.3)	54(29)	49(26.3)	16(8.6)	8(4.3)	178	4.96	1.23
Image	2(1.1)	12(6.5)	29(15.6)	50(26.9)	43(23.1)	31(16.7)	14(7.5)	5(2.7)	181	4.49	1.38
Networks	1(0.5)	14(7.5)	24(12.9)	44(23.7)	43(23.1)	40(21.5)	15(8.1)	5(2.7)	181	4.62	1.40
Government Relations	7(3.8)	24(12.9)	29(15.6)	38(20.4)	31(16.7)	30(16.1)	11(5.9)	16(8.6)	170	4.15	1.60
Top Management Performance	5(2.7)	17(9.1)	18(9.7)	33(17.7)	32(17.2)	53(28.5)	23(12.4)	5(2.7)	181	4.77	1.62
Overall Effectiveness	0	3(1.6)	13(7)	30(16.1)	53(28.5)	69(37.1)	18(9.7)	0	186	5.22	1.14

*Scale: (1) =Not effective; (7) = Very effective. **numbers in brackets indicate percentages. ***mean and standard deviation are calculated by excluding the N/A responses

Table 5.18: Strategic Decision Quality (n=186 including N/A responses)

	(1)* Poor	(2)	(3)	(4)	(5)	(6)	(7) Excellent	N/A	N	Mean ***	SD
Effect of SD company	0	2(1.1)	9(4.8)	23(12.4)	60(32.3)	65(34.9)	24(12.9)	3(1.6)	183	5.36	1.08
Results of SD	0	3(1.6)	8(4.3)	34(18.3)	66(35.5)	49(26.3)	22(11.8)	4(2.2)	182	5.19	1.11
Overall, Boards feel	0	3(1.6)	6(3.2)	35(18.8)	55(29.6)	62(33.3)	20(10.8)	5(2.7)	181	5.25	1.09

*Scale: (1)=Poor; (7)= Excellent. **numbers in brackets indicate percentages. *** mean and standard deviation are calculated by excluding the N/A responses

Table 5.19: Strategic Decision Types

Type of Strategic Decision	Frequency	Percentage
Mergers, Acquisitions and Joint Ventures	20	33.3
Restructuring	10	16.7
Diversification (Entering New Markets)	3	5.0
Market Development	1	1.7
Product Development	3	5.0
New Strategy and goals	2	3.3
Growth of memberships	1	1.7
Sale of a Company, assets, business area	3	5.0
Expansion and growth	3	5.0
Choosing routes to market and financing.	1	1.7
Delisting from Stock exchange	1	1.7
Downsizing personnel	1	1.7
Equity raising	1	1.7
Major investment	2	3.3
In house production	1	1.7
Focus on core business, products and capabilities	5	8.3
Choosing pricing strategies	1	1.7
Total	60	100.0

5.5 Organisational Performance

The respondents were asked to compare their organisational performance over the past three years to that of other organisations in the same industry (i.e. major rivals). Performance was assessed with 13 items on a Likert Scale ranging from 1 “much worse,” to 7 “much better.” Performance was measured in terms of financial performance (i.e. ROA (return on assets), ROE (return on equity), in terms of market share and overall organisational effectiveness. Interestingly all the items exceed the mode with the quality of products and services to receive the highest mean.

Board members seem to have a high ability to attract and retain talented people (mean= 5.17, sd= 1.60 and develop innovative products or services (mean= 5, sd= 1.60). Room for the improvement of performance seem to exist in the growth in number of employees, corporate social responsibility and growth in sales. At this point it should also be mentioned that growth in sales received a high level of non-applicable answers (32 respondents).

Table 5.20: Perceived Organisational Effectiveness (n=186 including N/A responses)

	(1)* Much worse	(2)	(3)	(4)	(5)	(6)	(7) Much better	N/A	N	Mean***	SD
Growth Sales	0	4(2,2) **	17(9.1)	36(19.4)	53(28.5)	44(23.7)	0	32(17.2)	154	4.75	1.06
Market share	0	5(2.7)	19(102)	38(20.4)	44(23.7)	55(29.6)	18(9.7)	7(3.8)	179	5	1.26
ROA	0	3(1.6)	23(12.4)	36(19.4)	55(29.6)	38(28.4)	16(8.6)	15(8.1)	171	4.88	1.22
ROE	0	3(1.6)	23(12.4)	39(21)	45(24.2)	41(22)	22(11.8)	13(7)	173	4.95	1.29
Growth Employees	2(1.1)	8(4.3)	28(15.1)	66(35.5)	44(23.7)	19(10.2)	7(3.8)	12(6.5)	174	4.3	1.19
Fund growth	2(1.1)	12(6.5)	16(8.6)	33(17.7)	37(19.9)	44(23.7)	31(16.7)	11(5.9)	175	4.98	1.52
Profit margin sales	2(1.1)	6(3.2)	20(10.8)	35(18.8)	40(21.5)	48(25.8)	22(11.8)	13(7)	173	4.95	1.39
Growth profitability	3(1.6)	7(3.8)	20(10.8)	27(14.5)	51(27.4)	49(26.3)	21(11.3)	8(4.3)	178	4.95	1.40
TSR	2(1.1)	8(4.3)	19(10.2)	42(22.6)	44(23.7)	28(15.1)	28(15.1)	15(8.1)	171	4.84	1.45
CSP	1(0.5)	5(2.7)	22(11.8)	60(32.3)	46(24.7)	30(16.1)	8(4.3)	14(7.5)	172	4.55	1.17
Innovation	0	3(1.6)	12(6.5)	49(26.3)	56(30.1)	42(22.6)	20(10.8)	4(2.2)	182	5	1.16
Attract talents	0	5(2.7)	13(7)	32(17.2)	52(28)	60(32.3)	22(11.8)	2(1.1)	184	5.17	1.21
Quality	0	0	5(2.7)	25(13.4)	48(25.8)	76(40.9)	31(16.7)	1(0.5)	185	5.56	1.01

**Scale: (1)=Much Worse; (7)=Much Better. **numbers in brackets indicate percentages. ***mean and standard deviation are calculated by excluding the N/A responses*

5. 6 Organisational and Board Characteristics

Organisational and board structure data was also collected for the purposes of this research. Based on theoretical considerations, this type of data helps us make various controls and identify if there are parameters that are significant for these findings.

5.6.1 Organisational Characteristics

The sample was based on companies operate in Nordic region and the majority of them is based in Sweden (Figure 5.12). Above half of the companies (57.5%) are listed in the stock exchange (Figure 5.13) and their size, is defined by the number of the employees. 26.9% of the companies have 50 -249 employees, 26.9% have above 1000 employees whereas 17.7% have 10-49 employees (Figure 5.14). Another 23.6% of the respondents have employees close to 50 (e.g. 48) and after a careful examination the author noticed that these companies fulfilled the criteria for inclusion into the sample. Technology Sector is the most popular sector, following by Industrial Goods & Services (Tables 5.21 and 5.22).

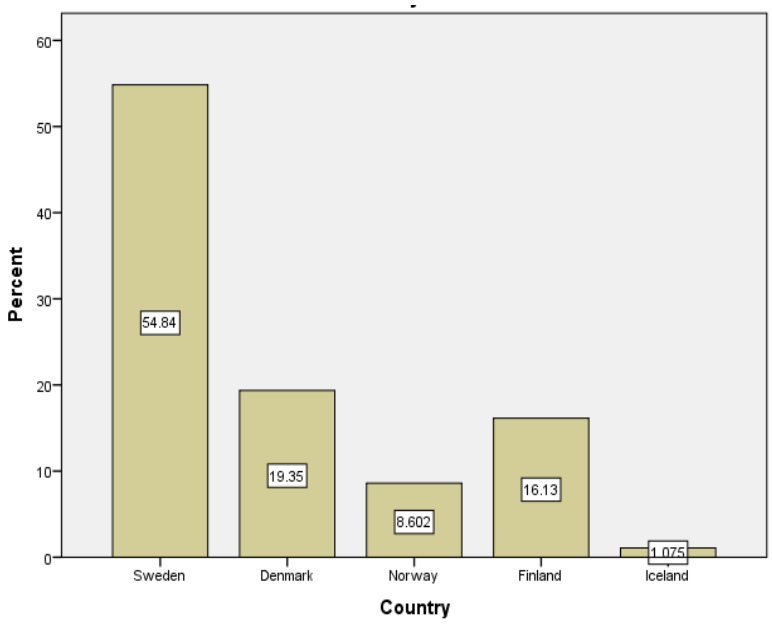


Figure 5.12: Country (n=186)

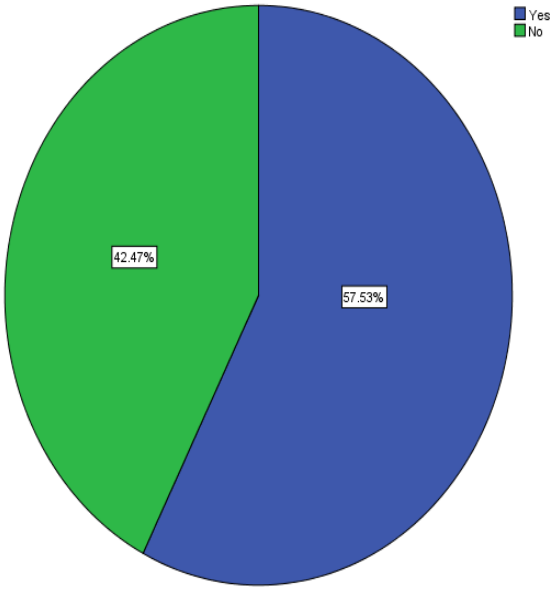


Figure 5.13: Listed in the Stock Exchange (n=186)

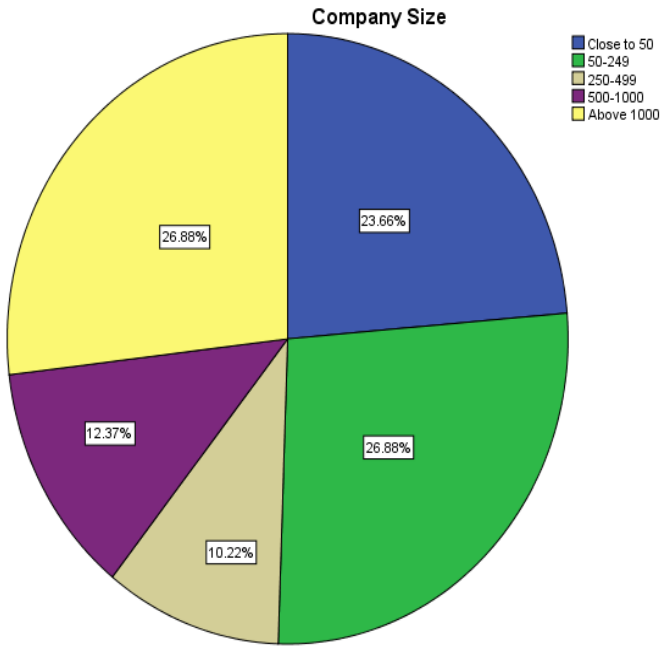


Figure 5.14: Company Size (n=186)

Table 5.21: Sector of the organisation n=186

Sector	Frequency	Percent
Technology [9500]	31	16.7
Industrial Goods & Services [2700]	22	11.8
Health Care [4500]	16	8.6
Basic Resources [1700]	11	5.9
Construction & Materials [2300]	11	5.9
Telecommunications [6500]	8	4.3
Food & Beverage [3500]	7	3.8
Personal & Household Goods [3700]	7	3.8
Oil & Gas [0500]	7	3.8
Financial Services [8700]	7	3.8
Retail [5300]	6	3.2
Chemicals [1300]	5	2.7
Media [5500]	4	2.2
Automobiles & Parts [3300]	3	1.6
Utilities [7500]	3	1.6
Banks [8300]	3	1.6
Travel & Leisure [5700]	2	1.1
Other	34	18.2%

Table 5.22: Sector and Organisational Size Crosstabulation

Crosstabulation		Company Size					**Total**
		Aprox. 50	50-249	250-499	500-1000	Above 1000	
SECTOR	Oil & Gas [0500]	4	1	0	0	2	**7**
	Chemicals [1300]	3	0	0	0	2	**5**
	Basic Resources [1700]	2	0	1	3	5	**11**
	Construction & Materials [2300]	2	4	1	0	4	**11**
	Industrial Goods & Services [2700]	2	6	3	4	7	**22**
	Automobiles & Parts [3300]	0	1	0	0	2	**3**
	Food & Beverage [3500]	1	2	0	1	3	**7**
	Personal & Household Goods [3700]	1	3	1	0	2	**7**
	Health Care [4500]	9	4	2	0	1	**16**
	Retail [5300]	1	0	0	1	4	**6**
	Media [5500]	1	1	0	1	1	**4**
	Travel & Leisure [5700]	1	0	0	0	1	**2**
	Telecommunications [6500]	1	2	0	2	3	**8**
	Utilities [7500]	1	1	0	0	1	**3**
	Banks [8300]	0	1	2	0	0	**3**
	Financial Services [8700]	1	2	3	0	1	**7**
	Technology [9500]	6	11	2	6	6	**31**
	Other	8	11	4	5	5	**33**

5.6.2 Board Characteristics

The average board size of is 6 with a high standard deviation of 2. Figure 5.15 shows that most boards are comprised of 5 members whereas a board member with 7 members is the second most common choice. The board size of the sample ranks from 3 to 13 members.

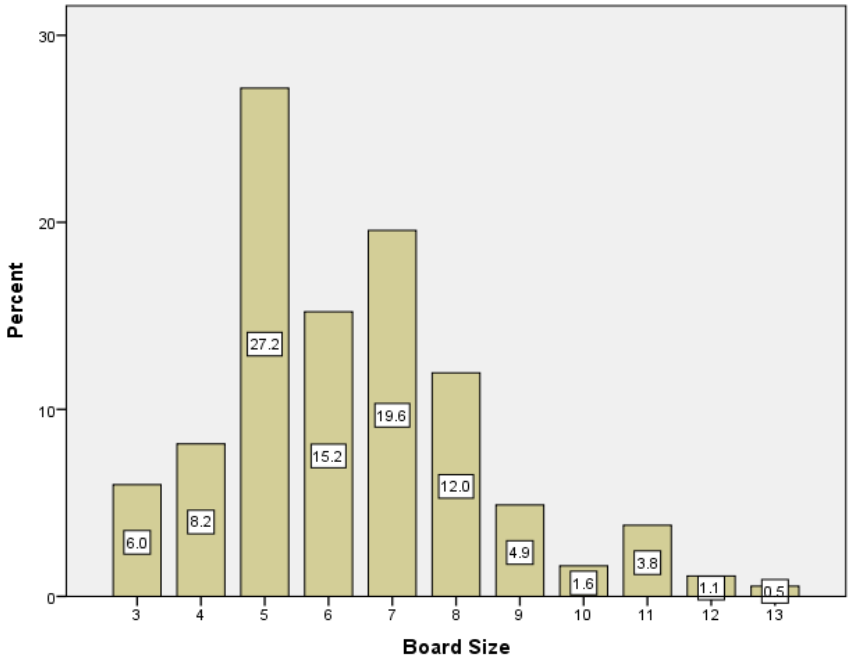


Figure 5.15: Board Size (n=184)

5.7 Summary

In this Chapter, a detailed descriptive analysis was made of all the responses received. Regarding the demographic profile of the participants, 150 men participated comparing to 36 women. A large number of board members (37.1%) are between 50-59 years old. With the exception of 19 executives, all of them were born inside the Nordic region. The majority of the respondents (54.8%) is well educated and has gained a master degree. From the findings is also evident that most respondents (41.6%) have earned their highest degree in Business Administration & Economics. It is also noticed that that a remarkable percentage (76.3%) of the 173 respondents who hold a higher degree are educated from an institution in the country they live.

The average tenure of respondents in the focal company is approximately 8 years with a standard deviation of approximately 7 years. Nearly half of the respondents (49.5%) work in the focal organisation for up to 5 years. Board experience varies significantly since we notice that 26.9% have board experience up to five years, 21% from 6-10 years, 22% 11-15 years and 9% between 16 to 20 years. The interesting point is that 20.4% of the respondents demonstrate a high tenure of above 21 years. The average number of simultaneous board positions is approximately 4 with a standard deviation of 3. One appointment is the most common answer

(26.26%), whereas three board appointments have 16.94% of the executives. Interesting to note is that 5.5% holds simultaneously from 10-20 board positions.

Moreover, respondents were asked in how many companies serve as CEOs. Although most of the respondents (53.2%) does not serve as CEO in another company, we find a significant percentage (29.2%) who serves as CEO in one company, either in the focal organisation or in another one. It is also found that out of the 186 respondents, 89 members belong to the top management team, 34 are affiliated and 63 are totally independent (both from shareholders and management).

The average board size of is 6 with a high standard deviation of 2. Most boards are comprised of 5 members whereas a board member with 7 members is the second most common choice.

Intrateam conflict is conceptualised with three dimensions: task-based, relation-based and process conflict. We overall notice a low level of relational and process conflict in the Nordic boardrooms. However, an interesting finding is that the level of disagreement increases when discussing about the content of strategic decisions, giving evidence to us that there are differences of professional's opinions at board meetings. This implies that the level of task-based conflict is considered as relatively high in Nordic boards. Apart from the level, regarding the frequency of conflict, we found that conflict episodes are infrequent.

The level of trust to the board that exists was high and for all the items the mean is above the mode demonstrating that board members can count on each other if they have difficulties with their tasks, feel confident that the board will take their interests into account when taking strategic decisions and know that they will be kept informed about issues relevant to their work. Regarding behavioral integration, board members demonstrate a high level of collaborative behavior, information exchange and joint decision making.

In this research, board overall effectiveness is captured as a construct with two elements: board performance and strategic decision quality. For board performance, we notice that board members consider their boards very effective in achieving objectives and recognizing key survival factors. For strategic decision quality board members feel that the effect of the recent strategic decision that the board took has been very good. Moreover, the respondents were asked to compare their organisational performance over the past three years to that of other organisations in the same industry and from the findings it is evident that these executives are

satisfied with their organisational performance. Interestingly all the items exceed the mode with the quality of products and services to receive the highest score.

Focusing on the three basic constructs of the model: conflict, trust and behavioral integration we notice that in an organisational context these concepts are compatible with the general perceptions that exist in the society. For example, the low level of conflict found in the study seems to be compatible with the political and social consensus building mechanisms that exist in the society. The Nordic countries avoid any conflicts either internally or externally and strive to build peaceful societies which promote conflict resolution mechanisms.

Trust has also been considered as an important parameter of the Nordic economic and social welfare system. As noted by Welter (2012) collective trust that is generated in an organisation at the meso level could be fostered by the institutional trust that exists at the macro level. Sweden, Denmark and Finland are the best performers worldwide regarding the remarkably high levels of trust that demonstrate in national and political institutions. Furthermore, the cohesion that exists in the society is compatible with the high level of behavioral integration in the board members. The Nordic citizens demonstrate a collaborative behavior with equal access in information, rights, obligations and decision making.

Having presented the descriptive statistics, the attention is now turned on the in-depth statistical analysis of the constructs. Chapter 6 and 7 will present respectively the findings of Exploratory Factor Analysis, Confirmatory Factor Analysis and Structural Equation Modeling.

Chapter 6: Principal Component Analysis

6.1 Introduction

In this Chapter, the results of Principal Components Analysis (PCA) will be presented. PCA was performed for the constructs of trust, conflict, behavioral integration, board performance, strategic decision quality and organisational performance. The aim of this analysis was to reduce the dimensions and create a simpler structure for the data. The input that will be produced will be used for the Confirmatory Factor Analysis (CFA) and Structural Equation Modelling (SEM) in Chapter 7.

6.2 Confirmatory vs. Exploratory Factor Analysis

Hair et al. (2010, p.93) define factor analysis as: "*a generic name given to a class of multivariate statistical methods whose primary purpose is to define the underlying structure in a data matrix*". The authors support that the main goal of a Factor Analysis is to summarize the data contained into the variables and present them into new factors with the minimum possible loss of information. Two types of analyses can be performed and these are: Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA).

As an exploratory procedure, factor analysis examines the underlying structure in the variables whereas the confirmatory approach assesses the similarity of the actual structure of the data in relation to the expected one. In the confirmatory method, there are pre-developed hypotheses about the underlying structure of the variables. Child (2006) clarifies the distinction by stating that CFA aims to confirm hypotheses and utilises path analysis diagrams for the depiction of variables and components, whereas EFA explores the data and tests predictions.

This study utilises both methods. First the Exploratory Factor Analysis (EFA) technique will be used in this Chapter to search for the underlying structure among the variables and investigate how board member's perceptions contribute to organisational effectiveness. CFA will be utilised in Chapter 7 to confirm whether the data fits the theoretical model.

Fabrigar et. al. (1999) support that the use of both EFA and CFA is useful since with the use of EFA we can produce the basis for specifying a CFA model. EFA prepares the researcher in the testing of hypothesis (Conway and Huffcatt, 2003). With CFA, we actually develop two different models: a) a Measurement model and b) a Structural Model to test the hypotheses**.** The overall aim of this research is not concerned with theory generation but with theoretical background enhancement, thus in line with Peterson (2016), the study is based on both techniques with the aim to develop conceptual backgrounds and advance our knowledge about board processes.

6.3 Exploratory Factor Analysis: Common Factor Analysis Vs. Principal Component Analysis

EFA is widely used both in organisational research (Conway and Huffcut, 2003) and psychological research (Fabrigar et al. 1999; Peterson, 2016). EFA enables us to get a measurement model that presents the relations between the observed variables (items) and the factors (latent variables); thus, we do not use this technique to generate hypotheses or theories (Peterson, 2016).

Fabrigar et al. (1999:273) support that there are five important methodological issue that every research should consider when conducting an EFA and these are:

a) The variables that will be included in the sample and the adequacy of the sample size.
b) The compatibility of EFA with the goals of the project.
c) Selection of a procedure to fit the model to the data.
d) Number of factors that will be included in the sample.
e) Selection of a rotation method.

When designing the current study, the author gave special emphasis on above mentioned issues which will be discussed adequately in the subsequent sections.

Common Factor and Principal Component Analysis are two dimensionality reduction methods of EFA which aim to diminish a large set of variables to a small number of factors. Their main difference lies on the way of calculation of the common variance and the distinction between the common and unique variance of a variable in correlation matrix.

Common variance (or communality) is the variable's variance shared with other variables whereas unique variance is the variance attributed to one variable or measure. Field

(2013:667) presents coherently the main differences of the two approaches supporting that common factor analysis pursues parsimony via the explanation of the maximum *common variance* in a R-matrix (correlation matrix), using the minimum explanatory constructs (factors). On the other hand, PCA does not distinguish between common and unique variance but instead identifies the maximum amount of *total variance* in the correlation matrix by just transforming the data into liner components. Explaining the difference Fabrigar et al. (1999:275) support that "in the common factor model each measured variable is a linear function of one or more common factors and one unique factor. Common factors are unobservable latent variables that influence more than one measured variable whereas unique factors are latent variables that influence only one measured variable''.

The choice for the most appropriate method depends on conceptual and contextual parameters. Hair et al. (2010: 106) offer practical recommendations for the choice between PCA and CFA. Component Factor Analysis is most appropriate when:

a) *''data reduction is a primary concern, focusing on the minimum number of factors needed to account for the maximum portion of the total variance represented in the original set of variables.*
b) *Prior knowledge suggests that specific and error variance represent a relatively small proportion of total variance.*

Common Factor Analysis is most appropriate when:

a) *the primary objective is to identify the latent dimensions or constructs represented in the original variables, and*
b) *the researcher has little knowledge about the amount of specific and error variance and therefore wishes to eliminate this variance."* Hair et al. (2010: 106).

Some authors conclude that these two statistical techniques are not totally different and in many cases produce similar results (Conway and Huffcutt, 2003; Fabrigar et al. 1999; Goldberg and Digman, 1994; Velicer and Jackson, 1990).

In the analysis PCA seems a more appropriate approach since the author wants to reduce the data, identify the linear components and understand how particulars variables contribute to the components. PCA will give us a simpler data structure which will be used as input to CFA. In line with Fabrigar et al. (1999) and Conway and Huffcutt (2003) , the author found evidence that PCA is more appropriate for the current study since she want a) to specify the linear

combinations of measured variables that maintain the maximum possible amount of information from the original measured variables and b) generate a simple structure of the data set.

6.4 Principal Component Analysis

Principal Components Analysis can be conceptualised as an alteration of a set of correlated variables (e.g. x1, x2,….,xn) in terms of a new set of uncorrelated variables, the principal components (y1, y2, …,yn), each of which is a linear combination of the x variables (Everitt and Hothorn, 2011). The components that will be formed will be able to account for a sufficient amount of the variation in the original x variables and will give us representative dimensions.

Various assumptions should be satisfied before conducting PCA and these are presented in Table 6.1. All the assumptions are satisfied for the data set. PCA is based on Pearson correlation coefficients and as a result the most basic assumption is the linear distributed of the data. Besides, there should be sampling adequacy and the researcher should proceed to PCA with a sample size of at least 100 respondents. Hatcher (1994) uses another criterion which supports that the number of subjects should be greater of 5 times the number of variables, or 100. The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy is a common test used in statistics for the overall data set which testifies the adequacy of the sample.

Table 6.1: Checklist for data before PCA

Assumptions for PCA
✓ Continuous variables (i.e., ratio or interval variables)
✓ Normality of the distribution of the data. Checking of the skewness value of each variable (acceptable values for kurtosis between -2 and +2)
✓ The number of subjects should be greater of 5 times the number of variables but no less than 100 (Gorsuch, 1983). The higher ratios the more effective the criterion. The number of variables should never be greater than the number of participants.
✓ Each of the variables in the correlation matrix should be correlated at a moderate level (at least 0.3) with some of the other variables.
✓ The Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy is 0.50 or higher
✓ The Bartlett test of sphericity is statistically significant.

6.4.1 Steps of Principal Component Analysis

Before performing PCA for each one construct, careful data examination was made to address the issue of multicollinearity and missing data. We notice that there is no missing data for the constructs that we will perform PCA since the online instrument required from the respondents to answer each one question before they proceed to the next one. We also monitored the matrix for correlations for values above 0.8 to examine the chance of coming across with the problem of multicollinearity, the Correlation matrix (the R-matrix) was produced to identify significant relationships among the variables to ensure that the analysis will extract representative factors. Correlations above 0.8 may be problematic and should be excluded from the analysis (Cooper and Schindler, 2008; Field, 2013). The Table was also examined for low correlations below 0.3. Taking into account the suggestions of Fabrigar and colleagues (1999) Conway and Huffcutt (2003), the steps taken for each one of the constructs are described in sections 6.4.1.1-6.4.1.6.

6.4.1.1 Sampling adequacy and Bartlett's Test of Sphericity

We check the adequacy of the sample with the use of **Kaiser-Meyer-Olkin Measure of Sampling adequacy** (Kaiser, 1970) which varies from 0 to 1. Values below 0.5 indicate potential problems with the sample size. According to Hutcheson and Sofroniou (1999), the values between 0.5 and 0.7 are mediocre, between 0.7 and 0.8 are good, between 0.8 and 0.9 are great and values above 0.9 are superb. Overall, the closer the value is to 1, the more reliable factors will be produced from the PCA. A value of 0 indicates that the sum of partial correlations is large comparing to the sum of correlations and as a result the principal component analysis may be inappropriate. A value close to 1 assures that the analysis could produce reliable factors.

Besides, the **Bartlett's Test of Sphericity** examines the overall significance of all correlations within a matrix. It tests the null hypothesis, which states that the correlation matrix is an identity matrix. In the analysis, we want to reject the null hypothesis and confirm that significant correlations exist between the variables.

The Anti-Image Correlation Matrix of covariance's and correlations presents partial correlations, with the main diagonal elements of the matrix being 1, and the off diagonal elements closer to zero. According to Field (2013), items below 0.5 should be eliminated otherwise the Principal Component Analysis should not be conducted.

KMO, Barlett's Tests and correlation matrix are considered as the lowest standards before proceeding to the PCA.

6.4.1.2 Monitoring of Communalities

Communalities help us to understand the amount of each variable's variance that can be explained by the principal components. The communalities for each variable are the sum of the squared loadings for that variable. According to Hair et al. (2010), communalities should be above 0.5 and a value that approaches 1 shows that the factors explain adequately the original data. Besides, MacCallum et al. (1999) argue that as communalities decrease, the importance of sample size increases and for low communalities (below the 0.5) the researcher may use samples above 500. In the case, with a sample size of 186 responses, the 0.5 threshold is accepted for communalities.

6.4.1.3 Extraction of factors

The Eigenvalues in the Total Variance Explained Table are monitored to enable the researcher to decide with factors to keep. Eigenvalues specify the linear components of the data and demonstrate the variance captured by each one component. The SPSS calculates a factor's eigenvalue as the sum of its squared factor loadings for all the variables. SPSS is set by default to use Kaiser's criterion (1960) which proposes to keep factors that have eigenvalue above 1. This is called the 'latent root criterion'. The section "Rotation Sums of Squared Loadings," in the "Total Variance Explained Table" demonstrates only the factors that meet the cut-off criterion. Besides, Cattell (1966) presented the scree plot criterion when taking a decision about the factors to retain. This is a graph of each eigenvalue (y axis) against the factor with which it is associated. With visual inspection of the scree plot we can identify the point which first the curves straighten out. However, in the current analysis the author decided to use to the latent root criterion, following Kaiser's criterion since the scree plot is more reliable for a sample of more than 200 participants (Stevens, 2002). Furthermore, the Component Matrix produced in SPPS includes the component loadings, which are the correlations between the variables and the components. Special emphasis should be given on elements with high loadings on two different factors and action could be taken for possible deletion of these items.

6.4.1.4 Reproduced Correlation Matrix

The Reproduced Correlation Matrix includes two tables from which the first one presents all the correlation coefficients between extracted components. The values in the reproduced matrix should be as close as possible to the values in the original correlation matrix. The second part relates to the residuals and represent the differences between original and reproduced correlations. The percentage should be below 50%. This implies that for a good model fit we should have less than 50% of the non-redundant residuals with absolute values that are greater than .05

6.4.1.5 Rotation

Although the Component Matrix includes the loadings for each component, those original loadings hardly ever help us to interpret the factors. For this reason, we often 'rotate' the factor loadings to obtain simple structure and among infinite explanations to end up with a single solution. Inspection of rotated solutions such as orthogonal or oblique enable us to gain a better interpretation of the variables so as to determine how many components to retain. A rotation method attempts to produce a clear categorisation of the different factors and enable researchers to allocate variables only on one factor.

In Orthogonal factor rotation (Varimax, Quartimax, and Equamax) the axes of the factors are maintained at 90 degrees and there is no dependency between the different factors. On the contrary, during oblique rotation (Direct Oblimin and Promax) the factors are connected and the extent of their correlation can be identified. Hair et al. (2010) support that the choice of one rotation method over another is subjective and dependent on the context of the study.

For the aims of the current study the Oblique rotation has been utilised because it offers flexibility and more realistic results as the different dimensions can be correlated (Hair et al. 2010). Oblique rotations give us a more accurate representation of the way that constructs are related and provide more quality information than orthogonal rotations (Conway and Huffcutt, 2003; Fabrigar et. al, 1999; Ford, MacCallum and Tait, 1986; Gorsuch, 1997). Two tables need to be examined with the oblique rotation technique: a) the Structure Matrix which calculates the correlation coefficients between each variable and factor as well as b) the Pattern Matrix which shows all the regression coefficients for each variable on each factor.

6.4.1.6 Reliability of the Scale and Convergent Validity

After the completion of PCA, it is examined if the items reflect adequately the construct that they are measuring. Cronbach's Alpha (1951), which is the most famous measure of internal consistency, was used to assess scale reliability for each factor. The test is expressed as a number between 0 and 1 an alpha value above 0.7 is considered as acceptable, between 0.8 and 0.9 is good, and more than 0.9 is excellent. Overall, consistent with the arguments of Fabrigar et al. (1999), reliabilities below 0.7 should be excluded from further analysis in this study.

All items in each construct will be examined to show if they converge to establish convergent validity, Convergent validity will be tested using the measure of Average Variance Extracted (AVE) which is the average amount of variance in indicator variables that a construct is managed to explain. Convergent validity is achieved when loadings in are high and between the range 0.7 and 0.9 (Carlson and Herdman, 2012) with the minimum acceptance level to be 0.5.

Discriminant validity is the extent to which a variable differs from other variables. If one variable is distinct from another, then the measures should not correlate highly. In this research, the criterion for uniqueness of a construct is that square root of AVE for this construct should be greater than inter-correlations with other constructs (Bhattacherjee and Sanford, 2006; Kim and Malhotra, 2005; Sweeney and Soutar, 2001).

6.5 Component Analysis of Conflict

6.5.1 Sampling Adequacy and Bartlett's Test of Sphericity

During the survey process Board Members were instructed to indicate with 8 items the level of task- based, relationship and process-based levels of conflict in their board. Apart from the level, the frequency of conflict was also examined with the use of 4 items. The Kaiser–Meyer–Olkin measure was 0.814 and verified the sampling adequacy for our data. Bartlett's Test of Sphericity rejects the null hypothesis, demonstrating the existence of significant correlations among the variables (Table 6.2). The anti-image correlation matix of covariances and correlations shows that all diagonal elements are greater than 0.5; confirming that the sample is sufficient.

Table 6.2: KMO and Bartlett's Test for Conflict

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.814
Bartlett's Test of Sphericity	Approx. Chi-Square	904.713
	df	66
	Sig.	.000

6.5.2 Monitoring of Communalities

All the Communalities for the 12 items of Conflict, were above 0.5 (Table 6.3) showing that the factors explain adequately the original data and there is no error variance.

Table 6.3: Communalities for Conflict

Item	Communality
Personal friction among directors	.820
Personality clashes	.780
Tension	.698
Emotional Conflict	.728
Content of strategic decisions	.688
Differences professional opinions	.697
Disagreements about ways to do things at meetings	.767
Disagreement procedures	.742
Disagreements strategic decisions	.738
Disagreements ideas	.695
Disagreements who should do what	.757
Disagreements time	.674

6.5.3 Extraction of factors

The Eigenvalues in the Total Variance Explained Table (Table 6.4) extract four factors with eigenvalues above 1. The fourth component of conflict construct shows the minimum acceptable value for this component which is 1.073.

Table 6.4: Eigenvalues for Conflict

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.382	36.515	36.515	4.382	36.515	36.515	3.012	25.097	25.097
2	2.101	17.507	54.021	2.101	17.507	54.021	2.493	20.778	45.876
3	1.230	10.250	64.271	1.230	10.250	64.271	1.723	14.361	60.237
4	1.073	8.939	73.210	1.073	8.939	73.210	1.557	12.973	73.210
5	.598	4.980	78.190						
6	.576	4.797	82.986						
7	.455	3.794	86.781						
8	.391	3.259	90.040						
9	.376	3.130	93.169						
10	.346	2.883	96.052						
11	.257	2.142	98.194						
12	.217	1.806	100.000						
Extraction Method: Principal Component Analysis.									

The Component Matrix (Table 6.5) shows the loadings on the four factors extracted. All the loadings below 0.5 were suppressed so as to make the table readable. Besides, the problem with the two factors that have similar loadings in two components (disagreement procedures and content of strategic decisions) will be solved with the use of the rotation method.

Table 6.5: Component Matrix for Conflict

	Component			
	1	2	3	4
Emotional conflict	.800			
Personal friction among directors	.795			
Tension	.760			
Personality clashes	.744			
Disagreements about way to do things	.612			.589
Disagreement procedures	.599			.556
Disagreements who should do what		.708		
Disagreements strategic decisions		.683		
Disagreements time		.639		
Disagreements ideas		.585		
Differences professional opinions			.709	
Content of strategic decisions	.546		.547	
Extraction Method: Principal Component Analysis.				
a. 4 components extracted. b. We suppressed all loadings less than 0.5				

6.5.4 Reproduced Correlation Matrix

From the reproduced correlation matrix, which presents all correlation coefficients between extracted components, it was noticed that the percentage of residuals is below the accepted threshold of 50%, representing properly the differences between original and

reproduced correlations. There are 23 (34%) non-redundant residuals with absolute values greater than 0.05.

6.5.5 Rotation / Factors Extraction

The use of oblique rotation (Table 6.6) helped us to determine how many components to retain and the 4 factors produced are consistent with literature. The fist factor was named as *Relationship Conflict*, which is fully consistent with literature, and comprised of 4 items (friction, personality clashes, tension and emotional conflict) which all were related to the level of relational and emotional conflict that exists between members in a team.

The second factor was named *Task Conflict* and comprised of two items (content of strategic decisions and differences of professional opinions) both of which are related to the level of disagreement that exist between members about professional opinions and decisions.

The third factor, *Process Conflict*, is consisting of two items (disagreements about way and disagreements about procedures) and is associated with the way that the board organizes and utilises group resources and time to accomplish a task.

The fourth factor, *Frequency of Conflict*, is comprised of 4 items (frequency of disagreements about: strategic decisions, ideas, who should do what, time).

In this research, in an attempt to improve the questions in the Conflict Jehn's scales and taking into account the recommendations made by Bendersky and colleagues (2014), Behfar et al. (2011) and Simons and Peterson (2000), the study differentiated between the level and frequency of conflict.

Table 6.6: Pattern Matrix for Conflict

Pattern Matrix				
	Component			
	1	2	3	4
RELATIONSHIP/RELATIONAL CONFLICT				
Friction	.897			
Personality clashes	.927			
Tension	.796			
Relationship Conflict	.776			
TASK BASED CONFLICT				
Content of strategic decisions			.691	
Differences professional opinions			.802	
PROCESS CONFLICT				
Disagreements about way				.836
Disagreement procedures				.811
FREQUENCY OF CONFLICT				
Disagreements strategic decisions		.822		
Disagreements ideas		.681		
Disagreements who should do what		.845		
Disagreements time		.765		
Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization.				
a. Rotation converged in 5 iterations.				

6.5.6 Reliability of the Scale and Convergent Validity

Regarding the Reliability of the Scale, Cronbach's Alpha was above the 0.7 acceptable threshold for Relationship Conflict, Process Conflict and Frequency of Conflict (Table 6.7). However, the Alpha was not acceptable for Task Conflict and as a result it was decided to remove this item. Convergent validity was tested using AVE statistic. The results revealed that convergent validity for all the constructs was attained (> .50).

Table 6.7: Reliability and Convergent Validity for Conflict

FACTOR	ALPHA	ITEMS	AVE
Relationship Conflict	0.892	4	0.724
Task-based Conflict	0.568	2	0.560
Process Conflict	0.716	2	0.678
Frequency Of Conflict	0.796	4	0.609

6.6 Component Analysis of Trust

6.6.1 Sampling Adequacy and Bartlett's Test

The Construct of trust was conceptualised in the questionnaire with 5 items. KMO with a value of .794 confirms the adequacy of the sample whereas Bartlett's Test of Sphericity is significant (.000), showing that correlation matrix is not an identity matrix. Besides in the correlation matrix no issue of possible multicollinearity is identified and in the anti-image matrix all diagonal elements are greater than 0.5.

Table 6.8: KMO and Bartlett's Test for Trust

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.794
Bartlett's Test of Sphericity	Approx. Chi-Square	354.633
	df	10
	Sig.	.000

6.6.2 Monitoring of Communalities

Examining the Table 6.9 of communalities, two items were eliminated (a) I can count on board members and b) Board members will take my interests into account) since their score was below the threshold of 0.5 suggested by Hair et al. (2010). Running again the Factor Analysis with the three remaining items, we notice that all of the communalities were above 0.661 (Table 6.10).

Table 6.9: Communalities of Trust, 5 items

	Initial	Extraction
Count on BOD	1.000	.459
Board will take my interests into account	1.000	.427
Board keep me informed	1.000	.649
Members keep their word.	1.000	.731
Trust	1.000	.735
Extraction Method: Principal Component Analysis.		

Table 6.10: Communalities of Trust, 3 items

	Initial	Extraction
Board keep me informed	1.000	.661
Members keep their word.	1.000	.828
Trust	1.000	.835
Extraction Method: Principal Component Analysis.		

6.6.3 Extraction of Factors

In the Total Variance Table (Table 6.11), one factor is extracted with eigenvalue above 1 which explains the 77.45% of variance accounted by this first factor.

Table 6.11: Total Variance Explained for Trust

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.324	77.453	77.453	2.324	77.453	77.453
2	.474	15.784	93.238			
3	.203	6.762	100.000			
Extraction Method: Principal Component Analysis.						

Besides, in the Component Matrix (Table 6.12) all the items have high loadings, above 0.813, on the one factor extracted. Overall, the analysis revealed one factor solution named as *Trust* to the board and is comprised of three items (Trust, members keep their word, and boards keep me informed) all of which are related to the concept of Trust and Trustworthiness.

Table 6.12: Component Matrix for Trust

Component Matrix	
	Component
	1
Trust	.914
Members keep their word.	.910
Board keep me informed	.813
Extraction Method: Principal Component Analysis.	
1 components extracted.	

6.6.4 Reliability of the Scale and Convergent Validity for Trust

The reliability of the scale is .848 and all three items measure adequately the construct of Trust (Table 6.13). The results also revealed that convergent validity for all the constructs was attained (.77).

Table 6.13: Reliability and Convergent Validity for Trust

FACTOR	ALPHA	ITEMS	AVE
Trust	.848	3	.77

6.7. Component Principal Analysis of Behavioral Integration

6.7.1 Sampling Adequacy and Bartlett's Test

Overall nine items were used in the measurement of the level of behavioral integration of the board. Three items capture collaborative behavior, three joint decision making and three information exchange. The KMO was 0.831 and according to Hutcheson and Sofroniou, (1999) the result is considered meritorious. The Bartlett's Test of Sphericity was significant (p=0.000), showing the existence of significant correlations among the variables (Table 6.14). In addition, in the anti-image correlation matrix, which contains the negative partial covariances and correlations, all elements on the diagonal of this matrix are above 0.5.

Table 6.14: KMO and Bartlett's Test for Behavioral integration

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		
Bartlett's Test of Sphericity	Approx. Chi-Square	630.965
	df	36
	Sig.	.000

6.7.2 Monitoring of Communalities

The lowest communality in Table 6.15 was 0.610 well above the cut-off point of 0.5 specified by Hair et al. (2010). All the 9 items show that the factors explain adequately the original data.

Table 6.15: Communalities for Behavioral Integration

Item	Communality
Volunteer members	.823
Flexible switching responsibilities	.842
Willing to help	.819
Quantity of ideas	.839
Quality of solutions	.696
Creativity and innovation	.748
Actions affect others	.788
Joint problems	.774
Discuss expectations	.610

6.7.3 Extraction of factors

Running the analysis to obtain eigenvalues for each factor, it is noticed that there are 3 factors with eigenvalues above 1 and these underlying dimensions explain the 77.1% of the overall variance (Table 6.16).

Table 6.16: Directors' Roles Deleted Items from Cross-Loadings

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4.626	51.402	51.402	4.626	51.402	51.402	3.557
2	1.239	13.768	65.170	1.239	13.768	65.170	3.037
3	1.074	11.930	77.100	1.074	11.930	77.100	3.264
4	.547	6.078	83.178				
5	.454	5.041	88.219				
6	.368	4.088	92.308				
7	.258	2.863	95.171				
8	.245	2.720	97.890				
9	.190	2.110	100.000				

Furthermore, the Component Matrix which includes the correlations between the variables and the components (Table 6.17), shows that all the components were above the accepted .5 threshold. It was also noticed that there are two components with high loadings on two different factors and this issue will be tackled via the use of rotation technique.

Table 6.17: Component Matrix for Behavioral integration

	Component		
	1	2	3
Volunteer members	.722		
Flexible switching responsibilities	.781		
Willing to help	.784		
Quantity of ideas	.593	.628	
Quality of solutions	.747		
Creativity and innovation	.730		
Actions affect others	.642		.579
Joint problems	.776		
Discuss expectations	.650		
Extraction Method: Principal Component Analysis, 3 components extracted **Values below 0.5 are deleted*			

6.7.4 Reproduced Correlation Matrix

The differences between original correlations and the reproduced correlations were detected in the reproduced correlation matrix and the residuals are below the cut-off point of 50%. Furthermore, for the residuals checked in the reproduced correlation matrix, there were only 36.0% non-redundant residuals with absolute values greater than 0.05.

6.7.5 Rotation

Oblimin rotation produces 3 components which fit perfectly to the measurements used in literature. Fully consistent with the literature on behavioral integration the first factor captures the *Collaborative Behavior* of the board with the use of three items (volunteer members, flexible switching responsibilities and willing to help). The second factor denotes the level of *Information Exchange* between the board members and is comprised of 3 items (Quality of ideas, creativity and innovation, quality of solutions). The third factor is about the *Joint Decision Making* and it is captured with 3 items, as well (actions affects others, joint problems, discuss expectations). Table 6.18 presents the loadings of the components produced in SPSS along with the name given to each Factor.

Table 6.18: Rotation for Collaborative Behaviour

Pattern Matrix			
	Component		
	1	2	3
Collaborative Behaviour			
Volunteer members	.939		
Flexible switching responsibilities	.893		
Willing to help	.844		
Information Exchange			
Quantity of ideas		.960	
Creativity and innovation		.746	
Quality of solutions		.677	
Joint Decision Making			
Actions affect others			.909
Joint problems			.768
Discuss expectations			.733
Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization.			
a. Rotation converged in 6 iterations.			

6.7.6 Reliability of the Scale and Convergent Validity

The Cronbach Alpha's scores for Collaboration Behavior and Information Exchange were very good and above .85 whereas for joint decision making this was slight lower (.781). Convergent validity (AVE) was achieved for the three items with a value of .797.

Table 6.19: Reliability and Convergent Validity for Behavioral Integration

FACTOR	ALPHA	ITEMS	AVE
Collaborative Behavior	0.885	3	0.797
Information Exchange	0.851	3	0.645
Joint Decision Making	0.781	3	0.651

6.8 Component Analysis of Board Effectiveness

Two constructs were utilised to capture board effectiveness and these are board performance and strategic decision quality. Board performance includes 12 items which examine the perceptions of the executives about the effectiveness of their board in areas such as strategy and development of networks. The second construct is comprised of 3 items and investigates the decision quality of the board members based on their evaluation of the most recent strategic decision that the board took.

6.8.1 Board Performance

6.8.1.1 Sampling adequacy and Bartlett's Test of Sphericity

For the board performance construct the sample is adequate since the value of KMO value is greater than 0.5 whereas the Bartlett's Test of Sphericity rejects the null hypothesis. The Correlation matrix (the R-matrix) does not produce correlations above 0.8. Besides, the anti-image correlation of covariance's and correlations shows that all elements on the diagonal of this matrix are greater than 0.5; thus, the sample is adequate.

Table 6.20: KMO and Bartlett's Test Loadings for Board Performance

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.917
Bartlett's Test of Sphericity	Approx. Chi-Square	990.611
	df	66
	Sig.	.000

6.8.1.2 Monitoring of Communalities

The Table of Communalities (Table 6.21) shows that all communalities are above .501 and the factors explain adequately the original data. The items with the lowest communality is providing leadership with a value of .671.

Table 6.21: Communalities for Board Performance

Item	Communality
Providing leadership	.671
Shaping Strategy	.808
Strategy implementation	.737
Anticipating threats	.717
Managing crisis	.772
Succession	.677
Balancing interests	.521
Image	.501
Networks	.696
Government relations	.812
Top Management performance	.656
Overall effectiveness	.824

6.8.1.3 Extraction of Factors

Besides, the Total Variance Explained Table (Table 6.22) lead us to retain 3 factors which overall explain 69.91% of the total variance. Besides, the summary of the percentage of the non-redundant residuals at the Reproduced Correlation Matrix confirms a model with good fit as there are 36.0% of the non-redundant residuals with absolute values greater than .05.

Table 6.22: Total Variance for Board Performance

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	6.255	52.121	52.121	6.255	52.121	52.121	5.284
2	1.099	9.161	61.283	1.099	9.161	61.283	4.125
3	1.036	8.636	69.918	1.036	8.636	69.918	3.503
4	.773	6.438	76.357				
5	.531	4.425	80.781				
6	.427	3.561	84.342				
7	.391	3.257	87.599				
8	.356	2.964	90.563				
9	.351	2.923	93.485				
10	.333	2.779	96.264				
11	.264	2.196	98.460				
12	.185	1.540	100.000				
Extraction Method: Principal Component Analysis.							
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.							

6.8.1.4 Reproduced Correlation Matrix

The Reproduced Correlation Matrix showed as a good model fit since we have less than 50% of the non-redundant residuals with absolute values that are greater than .05. More specifically there are 24 (36%) non-redundant residuals with absolute values greater than .05

6.8.1.5 Rotation

The three factors produced by the Oblimin rotation make sense and are easy to interpret (Table 6.23). The first factor is titled *Strategic Leadership* and is comprised of 6 items (providing leadership, shaping strategy, strategy implementation, balancing interests, top management performance and overall effectiveness). All these items are related mainly to the concept of strategic leadership namely to the effectiveness of the board in taking decisions that enhance the prospects for the organisation's long-term success. The *Strategic Leadership* included roles relevant to the agency and stewardship theories.

The second factor, that's of *Readiness*, is comprised from 3 items (anticipating threats, managing crisis and succession) which all are linked to the ability of the board for planning ahead and anticipating future events; namely *Readiness* can be linked to resource dependence,

agency and institutional theoretical perspectives. The third factor is titled *Networks* encompasses 3 items (image, networks and governments relations) which are all fully related to the effectiveness of the board in creating networks and strong influence via the maintenance of connections and interpersonal relations. The third factor is closely relevant to social network and resource dependence theories.

Table 6.23: Pattern Matrix for Board Performance

Pattern Matrix			
	Component		
	1	2	3
Strategic Leadership			
Providing leadership	.701		
Shaping Strategy	.965		
Strategy implementation	.824		
Balancing interests	.534		
Top Management performance	.541		
Overall effectiveness	.737		
Readiness			
Anticipating threats		.822	
Managing crisis		.915	
Succession		.689	
Networks			
Image			.429
Networks			.697
Government relations			.918
Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization.			
a. Rotation converged in 9 iterations.			

6.8.1.6 Reliability of the Scale and Convergent Validity

The reliability of the measurements was assessed through the use of Cronbach Alpha and the coefficients for the three factors were above 0.732, showing that the factors measure sufficiently the same underlying concept. Besides, Convergent validity (AVE) was achieved for all the three items (Table 6.24).

Table 6.24: Reliability and Convergent Validity for Board Performance

FACTOR	ALPHA	ITEMS	AVE
Strategic Leadership	0.855	6	0.537
Readiness	0.793	3	0.662
Networks	0.732	3	0.504

6.8.2 Strategic Decision Quality

6.8.2.1 Sampling Adequacy and Barlett Test

The Strategic Decision Quality was captured with 3 items and KMO Test shows that out sample is appropriate for Principal Component Analysis, whereas the Barlett's Test rejects the null hypothesis (Table 6.25). In the anti-image correlation matrix, we also notice all elements on the diagonal of this matrix are above 0.5.

Table 6.25: KMO and Bartlett's Test for Decision Quality

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.674
Bartlett's Test of Sphericity	225.560	990.611
	3	66
	.000	.000

6.8.2.2 Monitoring of Communalities

The communalities (Table 6.26) indicate that the amount of variance in each variable is above 0.639 well above the acceptable threshold of 0.5.

Table 6.26: Communalities for Decision Quality

Communalities		
	Initial	**Extraction**
Overall effectiveness	1.000	.639
Effect SD	1.000	.831
Results of the strategic decision	1.000	.767
Extraction Method: Principal Component Analysis.		

6.8.2.3 Extraction of Factors

From the Eigenvalues Table (Table 6.27) we notice that one item could be extracted which explains the 74.56% of the whole variance. The one item extracted is titled *Strategic Decision Quality,* is comprised of 3 items (effect of strategic decision, results of the strategic decision and overall effectiveness) and is related to the ability of the board to take good strategic decisions (Table 6.28).

Table 6.27: Total Variance Explained

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.237	74.568	74.568	2.237	74.568	74.568
2	.518	17.262	91.830			
3	.245	8.170	100.000			
Extraction Method: Principal Component Analysis.						

Table 6.28: Component Matrix for Decision Quality

Component Matrix[a]	
	Component
	1
Effect SD	.912
Results of the strategic decision	.876
Overall effectiveness	.799
Extraction Method: Principal Component Analysis.	
a. 1 components extracted.	

6.8.2.4 Reliability of the Scale and Convergent Validity

The scale is reliable (Table 6.29) and the result of Cronbach's Alpha is excellent (.904). Besides, Convergent validity (AVE) was achieved with a value of 0.745.

Table 6.29: Reliability and Convergent Validity for Decision Quality

FACTOR	ALPHA	ITEMS	AVE
Strategic Decision Quality	.904	3	0.745

6.9 Component Analysis of Organisational Performance

6.9.1 Sampling adequacy and Bartlett test of Sphericity

The KMO value was 0.818 and Bartlett's test of sphericity with a p value of .00 indicates that we can proceed with the principal component analysis. Besides, this is confirmed from the anti-image correlation matrix, which encompasses diagonal elements with values above 0.5.

Table 6.30: KMO and Bartlett's Test for Organisational performance

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.818
Bartlett's Test of Sphericity	973.200	990.611
	78	66
	.000	.000

6.9.2 Monitoring of Communalities

Detecting the communalities (Table 6.31), it is noticed that in the case of growth of employees and CSP they are low and below the desired threshold of 0.5. Although the sample size based on Kaiser-Meyer-Olkin measure of sampling adequacy (KMO-test) and anti-image matrix could compensate for this, it was decided to run again the Principal component analysis excluding the growth of employees and CSP. Running again the analysis, the communalities of the variable were all above 0.618 (Table 6.32), denoting that the extracted factors account for a substantial proportion of the variable's variance.

Table 6.31: Communalities for Organisational Performance (13 items)

Item	Communality
Growth in sales	.809
Growth in market share	.775
ROA	.771
ROE	.771
Growth employees	.409
Fund growth	.661
Profit margin	.732
Growth in profitability	.695
TSR	.696
CSP	.443
Innovation	.677
Attract talents	.680
Quality	.519

Table 6.32: Communalities for Organisational Performance (11 items)

Item	Communality
Growth in sales	.891
Growth in market share	.871
ROA	.783
ROE	.795
Fund growth	.664
Profit margin	.730
Growth in profitability	.692
TSR	.698
Innovation	.679
Attract talents	.658
Quality	.618
Growth in sales	.891
Growth in market share	.871

6.9.3 Extraction of Factors

By obtaining the eigenvalues, which is our criterion for the extraction of factors, we retain 3 factors with a value greater than 1.

Table 6.33: Total Variance Explained Table

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	5.338	48.529	48.529	5.338	48.529	48.529	4.833
2	1.637	14.878	63.407	1.637	14.878	63.407	2.503
3	1.106	10.051	73.458	1.106	10.051	73.458	3.177
4	.680	6.185	79.643				
5	.546	4.961	84.604				
6	.504	4.579	89.184				
7	.370	3.368	92.552				
8	.347	3.156	95.708				
9	.210	1.906	97.614				
10	.164	1.490	99.103				
11	.099	.897	100.000				
Extraction Method: Principal Component Analysis.							
a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.							

6.9.4 Reproduced Correlation Matrix

The differences between original correlations and the reproduced correlations were detected in the reproduced correlation matrix and the residuals are below the cut-off point of 50% More specifically, there are 34.0% non-redundant residuals with absolute values greater than 0.05.

6.9.5 Rotation

The explanation of factors was based on oblimin rotation which produced 3 factors which lack complex loadings and are easy to interpret (Table 6.34). The first factor is titled *Financial Performance* and all the 6 items (ROA, ROE, fund growth, profit margin, growth in profitability and total shareholders returns) are linked to accounting and financial measures that the researchers use to capture organisational performance. The second factor, *Operational Performance* contains three parameters of a culture of innovation (Innovation, attract talents and quality). Out third factor, *Growth*, has two items (growth in sales and growth in market share) which are both directly with the growth of an organisation.

Table 6.34: Pattern Matrix Organisational performance

Pattern Matrix			
	Component		
	1	2	3
Financial Performance			
ROA	.931		
ROE	.947		
Fund growth	.702		
Profit margin	.730		
Growth in profitability	.650		
TSR	.811		
Operational Performance			
Innovation		.835	
Attract talents		.797	
Quality		.741	
Growth			
Growth in sales			.930
Growth in Market Share			.901
Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization.			
a. Rotation converged in 6 iterations.			

6.9.6 Reliability of the Scale and Convergent Validity

The scale reliability was measured with the use Cronbach's alpha. The alpha coefficient for the 6 items of accounting and financial measures is 0.929, suggesting that the items have excellent internal consistency. For the organisational effectiveness, we have acceptable reliability coefficient and for growth high reliability coefficient. Convergent validity was achieved for all three items.

Table 6.35: Reliability and Convergent Validity for Organisational Performance

FACTOR	ALPHA	ITEMS	AVE
Financial Performance	0.929.	3	0.797
Operational Performance	0.727	3	0.645
Growth	0.893	3	0.651

6.10 Conclusion

In this Chapter, the results of the Principal Components Analysis for conflict, trust, behavioral integration, board performance, strategic decision quality and perceived organisational performance were presented. A summary of the results of this chapter is presented in Table 6.36 which depicts the formation of 14 reliable factors and 48 items which fully satisfy the statistical and conceptual criteria for proceeding to the next steps of the analysis.

The construct of conflict produced 3 factors (*relationship conflict, process conflict and frequency of conflict*) and 9 items. Trust generated 1 factor (*trust to the board*) with 3 items. Besides, Behavioral Integration produced 3 factors (*collaborative behaviour, information exchange and joint decision making*) with 9 items. For board performance, the analysis ended up with 3 factors (*strategic leadership, readiness and networks*) and 11 items whereas strategic decision quality produced 1 factor (*strategic decision quality*) with 3 items. Finally, organisational performance produced 3 factors (*financial performance, operational performance and growth*) and 11 items. All factors produced will be utilised during the Confirmatory Factor Analysis that will be performed in Chapter 7. The factors extracted have a simple structure, lack complex loadings can be easily interpreted and are based on solid theoretical conceptualisations.

Table 6.36: Summary of Reliable Factors extracted

Construct	Factors	Items
CONFLICT	Relationship Conflict	Friction
		Personality Clashes
		Tension
		Relationship Conflict
	Process Conflict	Disagreements about way
		Disagreement procedures
	Frequency of Conflict	Disagreements strategic decisions
		Disagreements ideas
		Disagreements who should do what
		Disagreements about time
TRUST	Trust to the board	Trust
		Members keep their word
		Board keep me informed
BEHAVIOURAL INTEGRATION	Collaborative Behaviour	Volunteer members
		Flexible switching responsibilities
		Willing to help
	Information Exchange	Quantity of ideas
		Creativity and innovation
		Quality of solutions
	Joint Decision Making	Actions affect others
		Joint problems
		Discuss expectations
BOARD PERFORMANCE	Strategic Leadership	Providing leadership
		Shaping Strategy
		Strategy implementation
		Balancing interests
		Top Management performance
		Overall Effectiveness
	Readiness	Anticipating threats
		Managing Crisis
		Succession
	Networks	Image
		Networks
		Government Relations
STRATEGIC DECISION QUALITY	Strategic Decision Quality	Overall Effectiveness
		Effect of Strategic Decision
		Results of the Strategic Decision
ORGANISATIONAL PERFORMANCE	Financial Performance	ROA
		ROE
		Fund Growth
		Profit Margin
		Growth in Profitability
		TSR
	Operational Performance	Innovation
		Attract Talents
		Quality
	Growth	Growth in Sales
		Growth in Market Share

Chapter 7 Confirmatory Factor Analysis

7.1 Introduction

In the previous Chapter, Exploratory Factor Analysis (EFA) was performed to reduce a large set of variables into a smaller one. The results of the Principal Components Analysis for conflict, trust, behavioral integration, board performance, strategic decision quality and perceived organisational performance generated 14 reliable factors and 48 items which fully satisfy the statistical and conceptual criteria for proceeding to the next steps of the analysis.

In this Chapter, the Confirmatory method will be utilised to test the pre-developed hypotheses about the underlying structure of the variables. Analysis of Moment Structure Software (AMOS) will be utilised to conduct both the Confirmatory Factor Analysis (CFA) and the Structural Equation Modelling (SEM). Two different types of models would be developed in AMOS. The Measurement Model (known as Confirmatory Factor Analysis) will evaluate how well the observed variables fit the model and the Structural Model will test the hypotheses and the relationships between the dependent and independent variables.

7.2 Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis and Structural Equation Modelling are the two statistical techniques that will be discussed in this Chapter. According to Jackson, Gillaspy and Purc-Stephenson (2009:6) "CFA explicitly tests a priori hypotheses about relations between observed variables (e.g., test scores or ratings) and latent variables or factors''. Via the employment of CFA, the researcher refines the measurement instrument and assess construct validity (Brown, 2015). Confirmatory Analysis will investigate the validity of the constructs by examining the level to which a set of measured items actually reflects the construct. In this study, CFA aims to confirm the hypotheses developed in Chapter 3 and utilises path analysis diagrams for the depiction of variables and components. CFA is hypothesis driven, whereas EFA data driven, and enables the researcher to test hypotheses about a particular factor structure.

After the completion of Confirmatory Factor Analysis, the evaluation of the Structural Models will examine the interrelationship between the multiple independents and dependent variables. CFA is the basic precondition for proceeding to Structure Equation Modelling since the researcher first examines whether the measured variables accurately reflect the desired

constructs and then assess the Structural Model. Byrne (2013) states that the CFA provides the measurement model that defines the relations between the observed and unobserved variables whereas the Structural Model defines relations among the unobserved variables and shows the way which latent variables directly or indirectly influence changes in the values of other latent variables.

AMOS program produces schematic representations of confirmatory factor analytic and structural equation models via the use of path diagrams. For example, Figure 7.1 is a path diagram in which the squares (x) represent observed variables and circles (ε) represent the unobserved latent. The single-headed arrows (λ) are used to present linear dependencies. The double-headed arrows (φ) are used to represent covariance between two latent variables. Deltas (d) are measurement errors associated with an observed variable and reflect on their adequacy in measuring the related underlying factors.

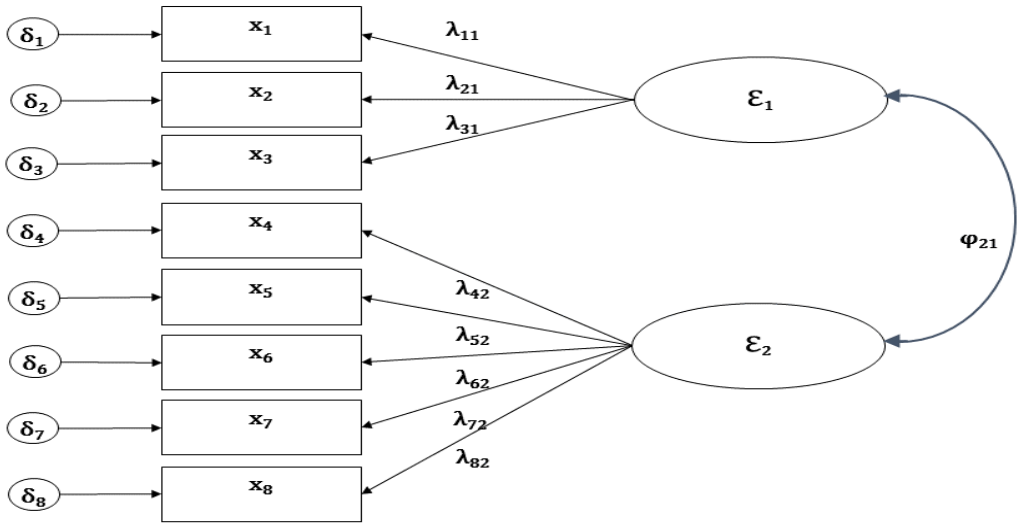


Figure 7.1: Example of Confirmatory Factor Analysis

In the literature, various goodness-of-fit measures have been produced to evaluate the measurement model. The metrics that will be reported in this study are listed in Table 7.1 along with their acceptable thresholds as per suggestions of Hu and Bentler (1999), Bentler (1990) and Schumacker and Lomax (2004). These authors have provided rules of thumb for choosing cut-off values for declaring significance and in this research, we have followed their recommendations.

Table 7.1: Model Fit Indices and Related Terminologies

Indices	Cut of Value	Source	Description
CMIN/DF	**< 3**	Schumacker and Lomax, 2004.	The chi-square value -is called CMIN in AMOS- is the associated degrees of freedom. When CMIN = 0 then it is the best possible fit. For a correct model CMIN should be close to DF. CMIN/DF is the minimum discrepancy and shows if the default model is satisfactory. For a good fitting model the ratio should be less than 3 (Schumacker & Lomax, 2004).
Standardized Root Mean Squared Residual (SRMR)	**< .08**	Hu and Bentler (1998)	SRMR can be viewed as the average discrepancy between the correlations observed in the input matrix and the correlations predicted by the model (Brown, 2015).
Comparative fit index (CFI)	**> .90**	Bentler (1990)	The CFI compares the tested model to a null model having no paths that link the variables and thus the variables are independent of each other. Values range from 0 to 1, the close the value to 1 the better the fit (Olobatuyi, 2006)
Tucker Lewis index (TLI)	**> .90**	Bentler (1990)	The measure is used to compare alternative models to compare a proposed model against a null model (Schumacker & Lomax, 2004).
RMSEA	**< .08**	Hu and Bentler (1998)	RMSEA takes into account the error of approximation in the population and evaluates how well the model fit the population covariance matrix if it were available (Byrne, 2013). A value of about 0.05 or less shows a close fit of the model in relation to the degrees of freedom
Critical Ratio (CR)	**> 1.96**	Bentler (1990)	It is the coefficient divided by its standard error. If CR is > 1.96 for a regression weight, that path is significant at the .05 level

At this point it should also be mentioned that during hypotheses testing with SEM, the focus is on the P Values which examine the probability that the null hypothesis H0 (the alternative hypothesis from those that we developed) is true. Usually researches reject the null hypothesis if the test statistic is smaller than 0.05.

The interpretation of P values are as follows:

- 0.01 <P-value < 0.001 excellent evidence against H0:
- P-value < 0.01 very strong evidence against H0:
- 0.01<P < 0.05 moderate strong evidence against H0:
- P < 0.10 very weak evidence against H0
- P > 0.10 no real evidence against H0

7.3 Confirmatory Factor Analysis for Conflict

In Chapter 6 the EFA showed that the 12 items were loaded in 3 factors. The first factor is named *Relationship Conflict* and comprised of 4 items (friction, personality clashes, tension and emotional conflict among board members) whereas the second factor, *Process Conflict*, is consisting of two items (disagreements about the way of doing things and disagreements about procedures) and is associated with the way that the board organizes and utilises group resources and time to accomplish a task. The third factor produced is *Frequency of Conflict* and is comprised of 4 items (frequency of disagreement about strategic decisions, ideas, who should do what, and time). The factor structure revealed from exploratory factor analysis was subjected to CFA (Fig. 7.2).

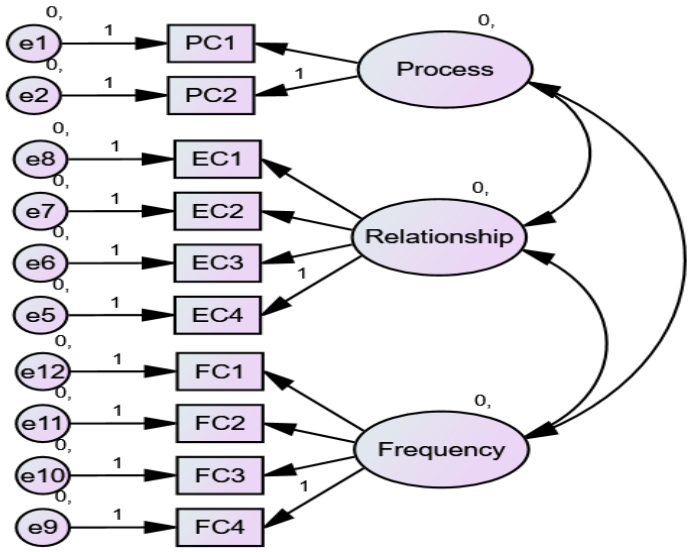


Figure 7.2: CFA for Conflict

All indices in CFA were well within the acceptable range. The results showed a good fit to a three-factor model: (CMIN = 1.624, SRMR = .0389, CFI = .977, TLI = .967,

RMSEA = .058). The items showed good loadings. None of the items were removed from the analysis. Results of CFA along with the proposed model are summarised in the Table 7.2.

Table 7.2: Model Fit Indices for Conflict

Items				Final	
				Standardized Loadings	C.R
Relationship Conflict					
Friction among directors (EC1)				.887	14.219
Personality clashes among directors (EC2)				.809	12.596
Tension among directors (EC3)				.802	12.439
Emotional conflict among directors(EC4)				.825	
Process Conflict					
Disagreements about way of doing things (PC1)				.747	6.943
Disagreements about procedures (PC2)				.797	
Frequency Conflict					
Disagreements about company's strategic decisions (FC1)				.830	14.219
Disagreements about ideas (FC2)				.667	7.604
Disagreements who should do what (FC3)				.782	8.541
Disagreements about optimal amount of time to be spent in the meetings (FC4)				.661	
Attained Fit Indices Conflict					
	CMIN/DF (χ^2/df)	SRMR	CFI	TLI	RMSEA
Final	1.624	.0389	.977	.967	.058

7.4 Confirmatory Factor Analysis for Trust

During Exploratory Factor Analysis 1 factor, *Trust to the board*, with 3 items produced. The 3 items in the Trust scale (Figure 7.3) were subjected to CFA.

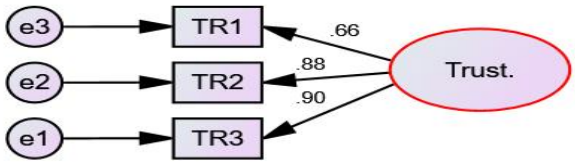


Figure 7.3: CFA for Trust

The results reveal that probability level for the model cannot be computed and the analysis showed an absolute fit for the model. The results of the final model are summarised in the following table (Table 7.3). A total of three items were included for further analysis.

Table 7.3: Model Fit Indices for Trust

Items		Final	
		Standardized Loadings	C.R. (t)
TRUST			
Members will keep me informed about issues that concern my work (TR1)		.702	10.644
Members keep their word (TR2)		.895	13.135
Trust Board Members (TR3)		.702	
Attained Fit Indices Trust			
	CMIN/DF (χ^2/df)	SRMR	CFI	TLI	RMSEA
Final	---	0.00	1.00	--	--

7.5 Confirmatory Factor Analysis for Behavioral Integration

Exploratory Factor Analysis revealed three factors namely: *Collaborative Behavior* (3 items), *Joint Decision Making* (3 items) and *Information Exchange* (3 items). The three-factor structure was subjected to CFA. The initial model showed that the values for RMSEA and CMIN were not within the acceptable range. Modification indices and Standardized Regression Weights were examined and were found to be acceptable. However, Standardized Residual Covariances were analysed and the covariance between *Quality of Ideas* and *Actions affect others* was found to be over the threshold value of 2 (2.303).

Hence, the *board members let each other know that their actions affect others* item from *Joint Decision-Making* Factor was removed from further analysis. CFA was re-run (Figure 7.4) and the results revealed a very good fit, with RMSEA and CMIN well with the good range: CMIN= 1.569, SRMR= 0.0261, CFI= 0.980, TLI= 0.980, RMSEA= 0.055. Results of CFA are summarised in Table 7.4.

Table 7.4: Model Fit Indices for Collaborative Behaviour

Items	Final	
	Standardized Loadings	C.R. (t)
Collaborative Behaviour		
When a member is busy others often volunteer to help manage workload (CB1)	.860	14.201
Board members are flexible switching responsibilities (CB2)	.871	14.400
Willing to help each other to complete job and meet deadlines (CB3)	.858	
Information Exchange		
Creativity and innovation of the board (IE1)	.829	12.715
Quality of solutions of the board (IE2)	.807	12.381
Quantity of ideas of the board (IE3)	.866	
Joint Decision Making		
Discuss their expectations of each other (DM1)	.718	
Members have a clear understanding of Joint problems (DM2)	.818	7.825

Attained Fit Indices Behavioral integration					
	CMIN/DF (χ^2/df)	SRMR	CFI	TLI	RMSEA
Final	1.569	.0261	.980	.980	.055

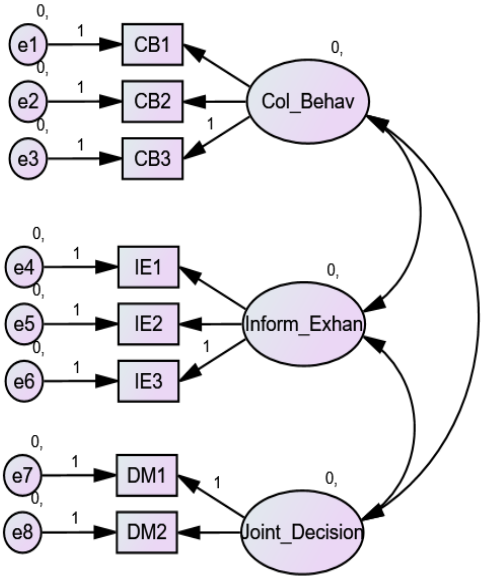


Figure 7.4: CFA for Collaborative Behaviour

7.6 Confirmatory Factor Analysis for Board Effectiveness

Board Effectiveness has been conceptualised with two dimensions: Board Performance and Strategic Decision Quality. The analysis of the CFA is presented in sections 7.6.1 and 7.6.2.

7.6.1 Confirmatory Factory Analysis for Board Performance

EFA produced a total of 3 factors for Board Performance which were subject to CFA: *Strategic Leadership, Readiness and Networks*. EFA produced a total of 3 factors which were subject to CFA.

Initially the results of CFA did not show a good model fit. Modification indices were reviewed and covariance was drawn between two items in strategic leadership construct. Model was re-run and the results shows a good model fit: CMIN= 1.851, SRMR= 0.0576, CFI= 0.950, TLI= 0.933 and RMSEA= 0.068. Although, the loadings for Balancing Interests in the *strategic leadership* factor had loadings less than 0.50, the item is not deleted from further analysis since the model did attain a good fit.

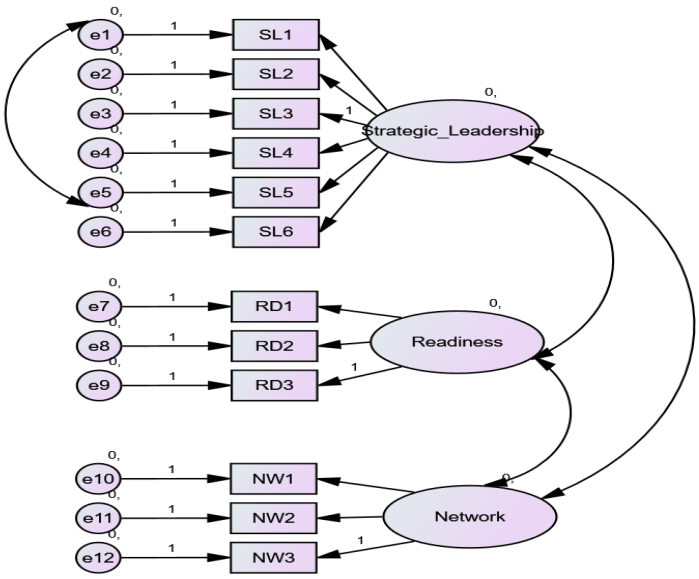


Figure 7.5: CFA for Board Performance

Table 7.5: Model Fit Indices for Board Performance

Items assessing the performance of the board in Strategic Leadership, Readiness and Networks	Final	
	Standardized Loadings	C.R. (t)
Strategic Leadership		
Providing leadership	.716	8.607
Shaping Strategy	.821	9.665
Strategy implementation	.671	
Balancing interests	.463	5.799
Top Management performance	.654	7.941
Overall effectiveness	.873	10.096
Readiness		
Anticipating threats	.669	7.512
Managing crisis	.557	6.448
Succession	.728	
Networks		
Image	.648	6.371
Networks	.668	6.465
Government relations	.657	

Attained Fit Indices Effectiveness					
	CMIN/DF (χ^2/df)	SRMR	CFI	TLI	RMSEA
Final	1.851	.0576	.950	.933	.068

7.6.2 Confirmatory Factor Analysis for Strategic Decision Quality

EFA produced one factor (*Strategic Decision Quality*) with a total of three items (Figure 7.6). The results of CFA reveal that probability level for the model cannot be computed and the analysis showed an absolute fit for the model. The results of the final model are summarised in the Table 7.6.

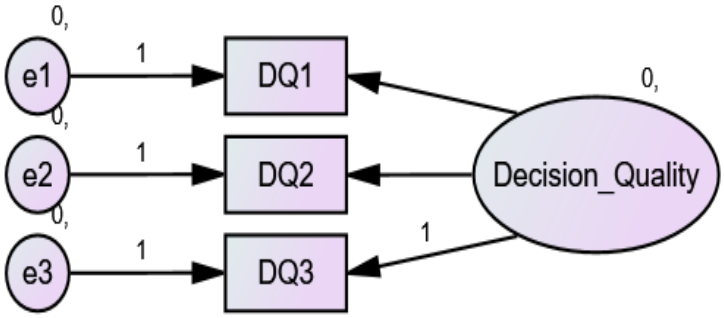


Figure 7.6: CFA for Strategic Decision Quality

Table 7.6: Model Fit Indices for Decision Quality

Items assessing the Strategic Decision Quality of the Board	Final	
	Standardized Loadings	C.R. (t)
Strategic Decision Quality		
Effect SD (DQ1)	.880	14.402
Results of the Strategic Decision (DQ2)	.892	14.570
Overall effectiveness (DQ3)	.840	

Attained Fit Indices Effectiveness					
	CMIN/DF (χ^2/df)	SRMR	CFI	TLI	RMSEA
Final	--	0.000	1.000	--	--

7.7 Confirmatory Factor Analysis for Organisational Performance

Organisational Performance revealed three factors in EFA. The first factor, *Financial Performance*, consists of financial and accounting measures such as ROA and ROE. The second factor, *Operational Performance*, contains three measures: innovation, attract talents and quality, whereas the third factor, *Growth*, is clustered with two items growth is sales and market share.

The three-factor solution was subjected to CFA and initial results did not show a good model fit. Estimates were examined along with modification indices. Covariances were drawn between error terms to improve the model fit. The model was re-run and the model did show that some of the indices did fall within the acceptable range except for RMSEA. Estimates were examined and the loadings were found to be significantly low for Growth in Sales. Growth in Sales was removed whereas Growth in Market Share (FM7) was merged with *Financial Performance* since it is common in the management field to measure Growth in Market Share to capture the overall financial performance of the organisation. Model was re-run and the results showed a good fit for the model. The final model along with the indices and loadings is shown in the Table 7.7 and Figure 7.7.

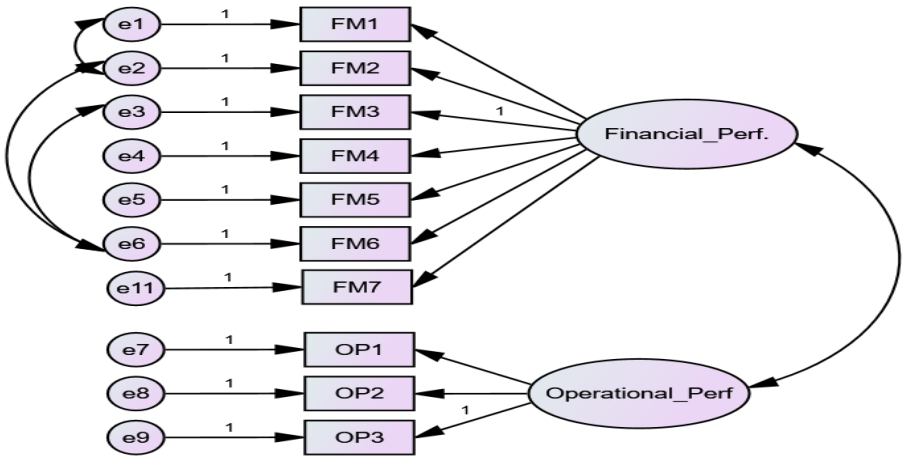


Figure 7.7: CFA for Organisational Performance

Table 7.7: Model Fit Indices for Organisational Performance

Items	Final	
	Standardized Loadings	C.R.
Financial Performance		
ROA (FM1)	.636	8.696
ROE (FM2)	.645	8.829
Fund growth (FM3)	.761	
Profit margin (FM4)	.870	12.373
Growth in profitability (FM5)	.888	12.630
TSR (FM6)	.546	8.287
Growth in Market Share (Growth2)	.765	10.695
Operational Performance		
Innovation (Innov1)	.462	4.160
Attract talents(Innov2)	.497	4.300
Quality (Innov3)	.765	

Attained Fit Indices Performance					
	CMIN/DF (χ^2/df)	SRMR	CFI	TLI	RMSEA
Final	1.918	.05	.97	.956	.07

7.8 Discriminant Validity

Discriminant validity is the extent to which a concept or variable differs from other concepts or variables (Venkatraman and Grant, 1986). Discriminant validity test was performed for all the factors of the analysis to confirm that the measurements that are not supposed to be related are actually unrelated. In this research, the criterion is that the square root of AVE for each construct should be greater than inter-correlations with other constructs (Bhattacherjee & Sanford, 2006; Kim & Malhotra, 2005; Sweeney and Soutar, 2001). The results of our analysis are presented in Table 7.8 and show that discriminant validity was achieved for our variables.

Table 7.8: Discriminant Validity

	1	2	3	4	5	6	7	8	9	10	11	12	13
Collaborative Behaviour	**.892**												
2Information Exchange	.398***	**.803**											
Joint Decision Making	.578***	.594	**.806**										
Emotional Conflict	.061	-.181**	-.010	**.850**									
5Frequency of Conflict	.074	.372***	.290***	-.183**	**.780**								
6Process Conflict	.113	-.318**	-.077**	.622	-.115	**.823**							
7Strategic Leadership	.180**	.715**	.594***	-.392**	.262**	-.461***	**.723**						
8Readiness	.255**	.423**	.465**	-.263**	.149	-.157	.770**	**.813**					
9Networks	.185**	.435**	.456**	-.128	.140	-.111	.620**	.645**	**.709**				
10Trust	.269**	.585***	.628***	-.308**	.530**	-.279**	.537***	.398***	.316**	**.877**			
Financial Performance	-.058	.105	.121	-.113	.114	-.001	.252**	.099	.084	.193**	**.802**		
Operational Performance	.241	.406***	.330**	.088	.204	.032	.402***	.391**	.292	.346*	.463***	--------	
Strategic Decision Quality	.166**	.506**	.332**	-.392**	.142	-.323***	.642**	.562**	.400**	.427**	.222**	.385**	**.863**

7.8 Testing Hypotheses with Structural Equation Modeling

Hair et al. (2010, p.634) define Structural Equation Modelling (SEM) as "a multivariate technique combining aspects of factor analysis and multiple regression that enables the researcher to simultaneously examine a series of interrelated dependence relationships among the measured variables and latent constructs (variates) as well as between several latent constructs". In the next sections, a detailed analysis will be made for the testing of all the hypotheses via the use of SEM.

7.8.1 Hypotheses Testing for Conflict

In this Section, it is examined the effect of overall Conflict on Board Effectiveness and Organisational Performance (Figure 7.8).

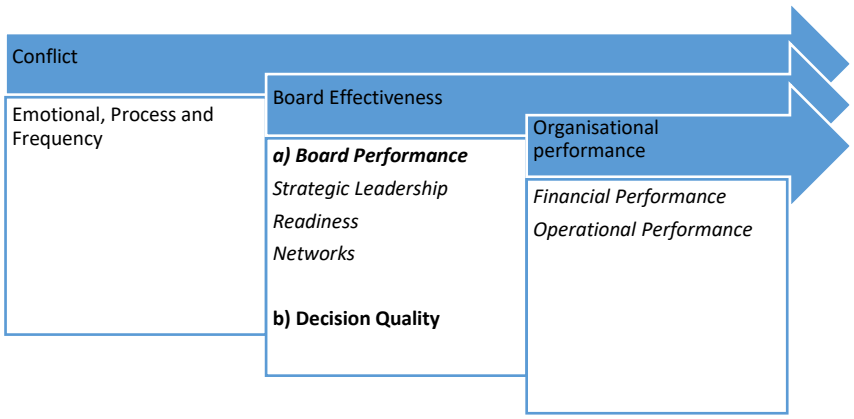


Figure 7.8: Conflict, Board Effectiveness and Org. Performance

The hypotheses that stemmed from EFA and CFA are presented in the Table 7.9. and sections 7.8.1.1-7.8.1.2 discuss clearly their testing.

Table 7.9: Hypotheses for Conflict and Board Effectiveness

H1	**Conflict in the Board of Directors is negatively related to Board Performance**
H1a	*Conflict in the Board of Directors is negatively related to Strategic Leadership*
H1b	*Conflict in the Board of Directors is negatively related to Readiness*
H1c	*Conflict in the Board of Directors is negatively related to Networks*
H1.1	**Conflict in the Board of Directors is negatively related to Strategic Decision Quality**

7.8.1.1 Conflict and Board Effectiveness: Model 1

Structural Model (Figure 7.9) was developed to evaluate the impact of the overall level of conflict on the two dimensions of board effectiveness: board performance and strategic decision quality. The model was subjected to CFA and the results of the initial model revealed appropriate fit and good fit indices (Table 10).

The overall assumption is that: *Conflict in the Board of Directors is positively related to Board Effectiveness*. The results from the hypotheses testing confirm Hypotheses H1a, H1b, H1c and H1.1(Table 7.11) since 97% change in strategic leadership, 63% change in readiness, 40% change in network and 43% change in decision quality can be attributed to conflict.

Table 7.10: Model Fit Indices for Conflict and Board Effectiveness

	CMIN/DF (χ^2/df)	SRMR	CFI	TLI	RMSEA
Final	1.584	.08	.930	.921	.05

Table 7.11: Hypotheses Testing for Conflict and Board Effectiveness

Hypothesis 1 and 1.1: Conflict is negatively related to Board Effectiveness					
Hypotheses	Structural Path	Standardized Loading	C.R	P	Results
H1a	Conflict -> Strategic Leadership	-.984	-3.607	p < .001	Accepted
H1b	Conflict -> Readiness	-.793	-3.591	p < .001	Accepted
H1c	Conflict -> Network	-633	-3.316	p < .001	Accepted
H1.1	Conflict -> Decision Quality	-.657	-3.585	p < .001	Accepted

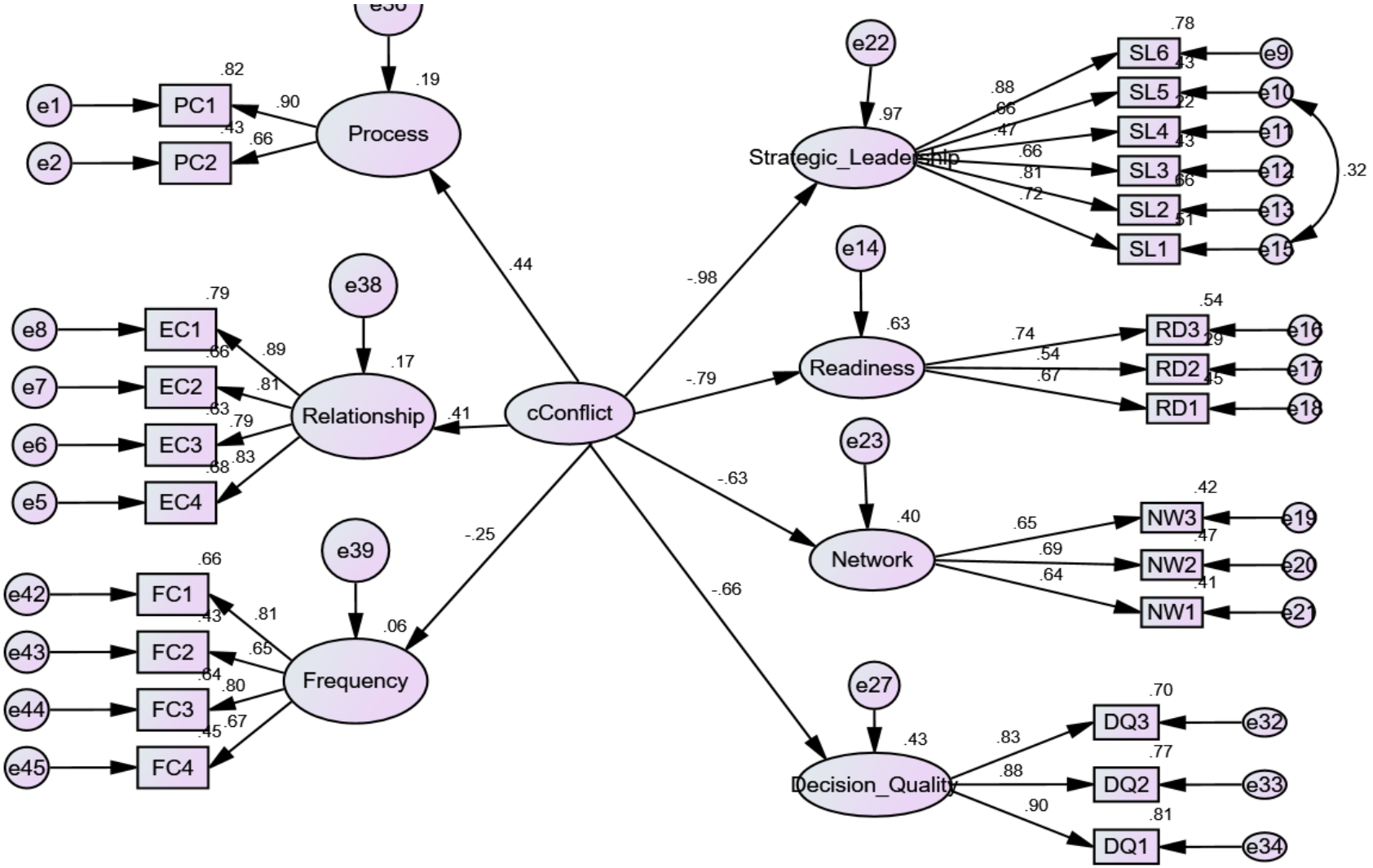


Figure 7.9: SEM for Conflict and Board Effectiveness, Model

7.8.1.2 Conflict and Organisational Performance: Model 2

This section seeks to ascertain the impact of conflict on the two items of organisational performance and it is supported that the overall level of *Conflict in the Board of Directors is negatively related to Organisational Performance.*

Structural Model was developed to evaluate the influence of conflict on each one of the two items of organisational performance (Figure 7.10). The model was subjected to CFA and the results showed that overall the model attained a good fit. All indices were within the required range (Table 7.12). However, the Structural Model showed an insignificant impact of conflict on both financial performance and operational performance (P > .05). The results of hypotheses H2a and H2b are shown in the Table 7.13.

Table 7.12: Model Fit Indices for Conflict and Organisational Performance

	CMIN/DF ($\chi^2/\delta f$)	SRMR	CFI	TLI	RMSEA
Final	1.579	.08	.949	.940	.056

Table 7.13: Hypotheses Testing for Conflict and Organisational Performance

Hypotheses 2: Conflict is negatively related to Board Effectiveness					
Hypotheses	Structural Path	Standardized Loading	C.R	P	Results
H2a	Conflict -> Financial Performance	-.043	-1.875	0.61	Rejected
H2b	Conflict -> Operational Performance	.052	1.805	0.71	Rejected

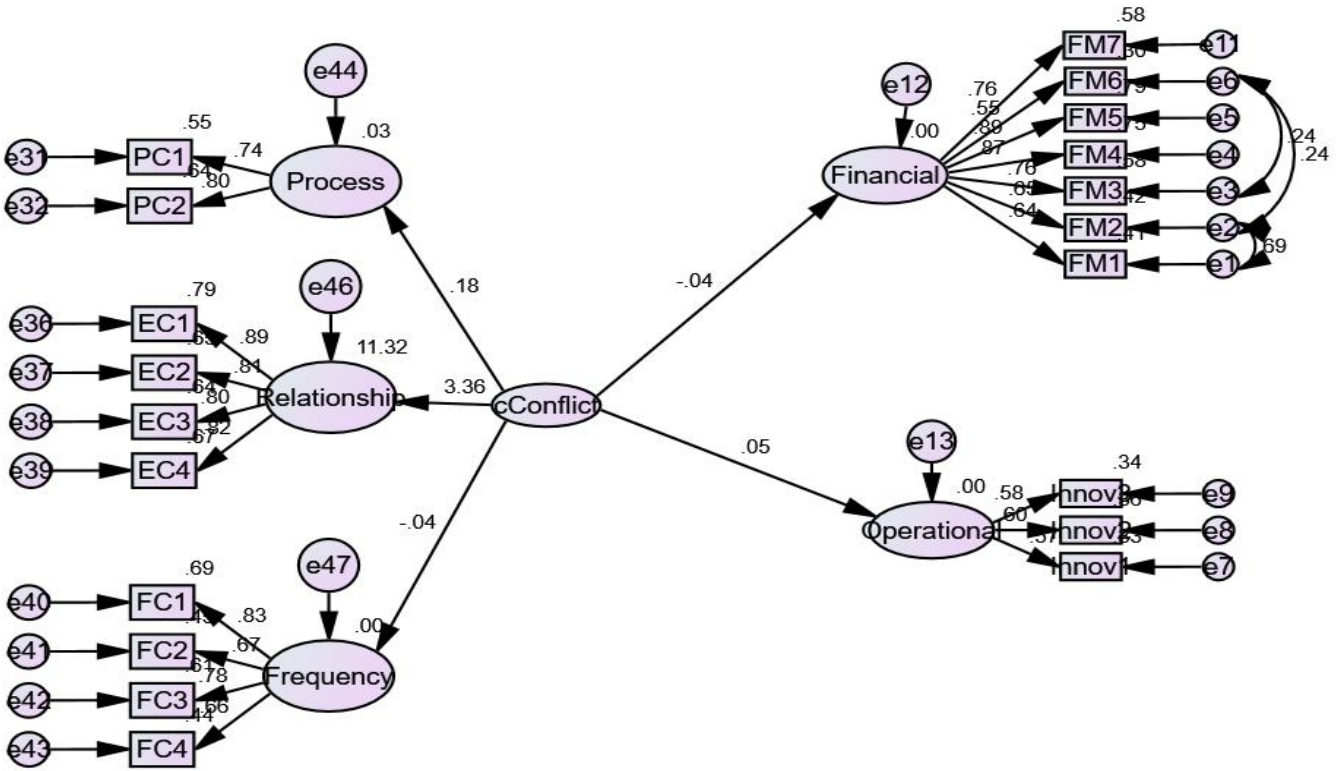


Figure 7.10: SEM for Conflict and Organisational Performance, Model 2

7.8.2 Hypotheses Testing for Trust

In this part, it is examined the effect of trust on the dimensions of board effectiveness and organisational performance (Figure 7.11). Parts 7.8.2.1 and 7.8.2.2 present the models along with the relevant hypotheses.

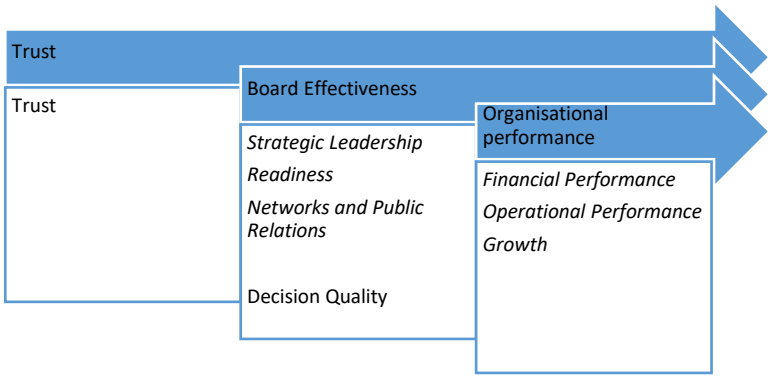


Figure 7.11: Trust, Board Effectiveness and Org. Performance

A summary of hypotheses about trust, board effectiveness and organisational performance can be found in Table 7.14.

Table 7.14: Hypotheses about Trust, Board Effectiveness and Organisational Performance

H3	***Trust in the Board of Directors is positively related to Board Performance***
H3a	*Trust in the Board of Directors is positively related to Strategic Leadership*
H3b	*Trust in the Board of Directors is positively related to Readiness*
H3c	*Trust in the Board of Directors is positively related to Networks*
H3.1	***Trust in the Board of Directors is positively related to Strategic Decision Quality***
H4	***Trust in the Board of Directors is positively related to Organisational Performance***
H4a	*Trust in the Board of Directors is positively related to Financial Performance*
H4b	*Trust in the Board of Directors is positively related to Operational Performance*

7.8.2.1 Trust and Board Effectiveness: Model 3

Model 3 (Figure 7.12) was utilised to evaluate the impact of trust on each of the sub-dimensions of board effectiveness. The third overall assumption was that*: Trust in the Board of Directors is positively related to Board Effectiveness.* The overall assumption was confirmed with hypotheses H3a, H3b, H3c and H3.1 (Table 7.16). The results of the Structural Model revealed that trust has a significant impact on each of the four dimensions of board effectiveness (strategic leadership, readiness, networks, and decision quality). The results of the model

showed that 38% change in strategic leadership, 25% change in readiness, 15% change in networks and 24% change in strategic decision quality can be attributed to trust. Although the model was found to be average fit (Table 7.15) the intention was to evaluate if the impact on the sub-dimensions of board effectiveness is significant.

Table 7.15: Model Fit Indices for Trust and Board Effectiveness

	CMIN/DF (χ^2/df)	SRMR	CFI	TLI	RMSEA
Final	2.569	.14	.875	.852	.09

Table 7.16: Hypotheses Testing for Trust and Board Effectiveness

Hypotheses 3 and 3.1: Trust is positively related to Board Effectiveness					
Hypotheses	Structural Path	Standardized Loading	C.R	PValue	Results
H3a	Trust -> Strategic Leadership	.613	6.874	p < .001	Accepted
H3b	Trust -> Readiness	.504	5.303	p < .001	Accepted
H3c	Trust -> Network	.393	4.055	p < .001	Accepted
H3.1	Trust -> Decision Quality	.494	6.237	p < .001	Accepted

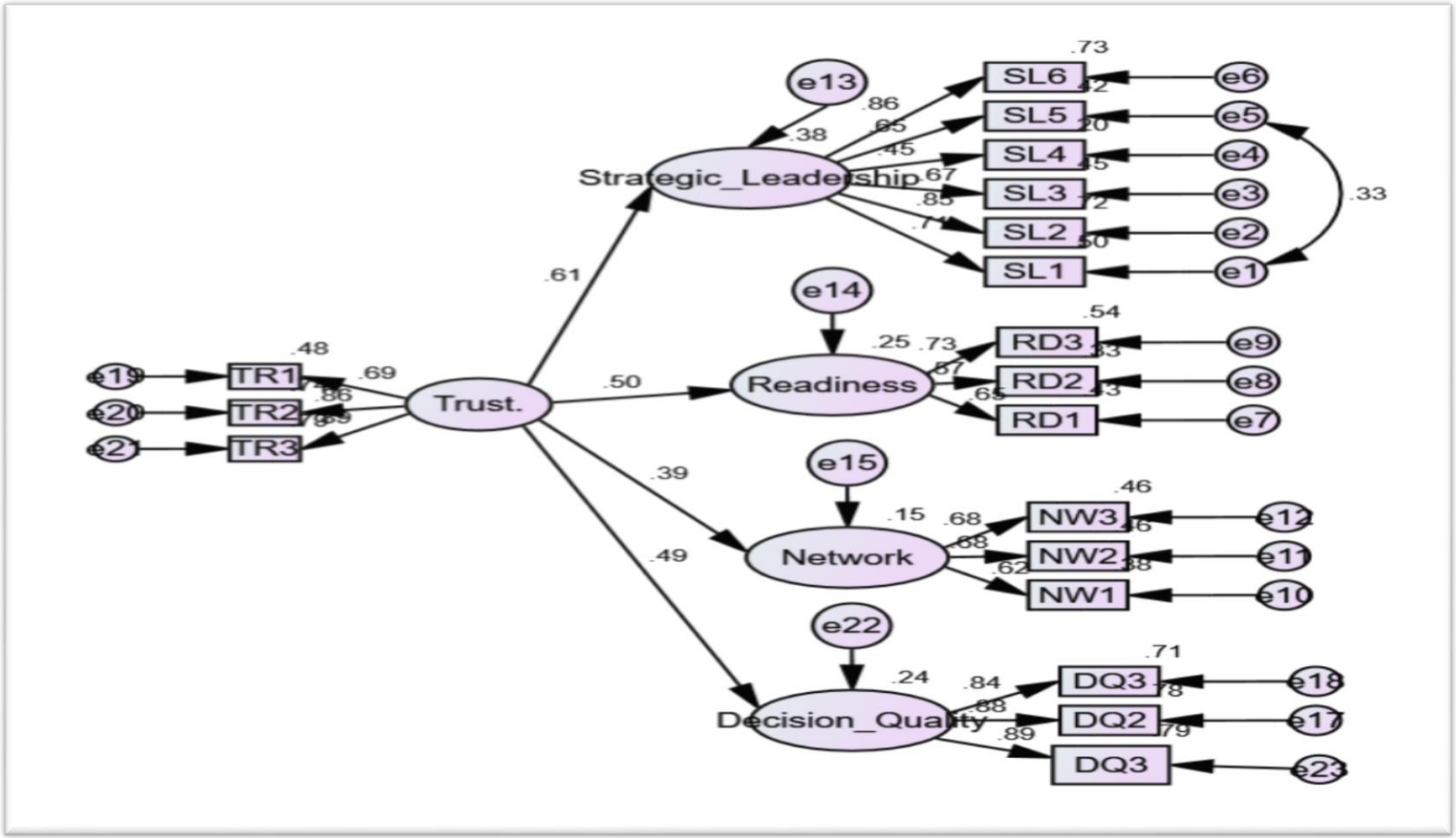


Figure 7.12: SEM for Trust and Board Effectiveness, Model 3

7.8.2.2 Trust and Organisational Performance: Model 4

The fourth overall assumption was that: *Trust in the Board of Directors is positively related to Organisational Performance.* Structural Model was developed to evaluate the impact of Trust on the two items of Organisational Performance. CFA was performed and the results revealed a very good model fit for the proposed model. All the indices, except for SRMR, were well within the recommended range to achieve a good model fit. The results of the model fit are presented in the Table 7.17.

The results of Table 7.18 confirm the generated hypotheses 4a and 4b since the results show that trust has a significant impact on both financial performance and operational performance. 4% change in financial performance can be attributed to trust, while 13% change in operational performance is explained by trust.

Table 7.17: Model Fit Indices for Trust and Organisational Performance

	CMIN/DF (χ^2/df)	SRMR	CFI	TLI	RMSEA
Final	1.686	.09	.967	.957	.06

Table 7.18: Hypotheses Testing for Trust and Organisational Performance

Hypotheses 4a and 4b: Trust is positively related to Organisational Performance					
Hypotheses	Structural Path	Standardized Loading	C.R	P	Results
H4a	Trust -> Financial Performance	.200	2.452	p < .05	Accepted
H4b	Trust -> Operational Performance	.356	3.377	p < .001	Accepted

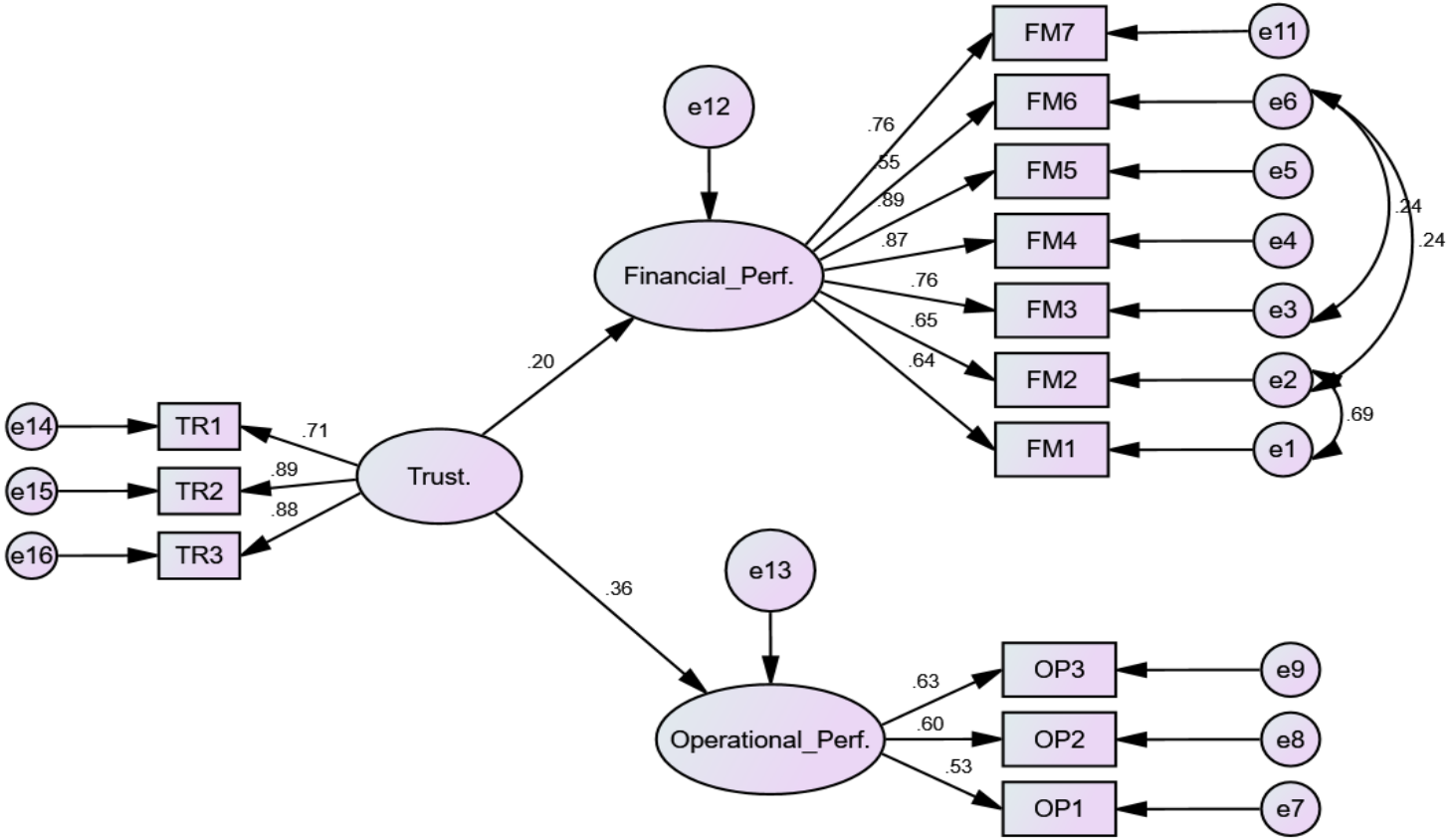


Figure 7.13: SEM for Trust and Organisational Performance, Model 4

7.8.3 Hypotheses Testing for Behavioral Integration

In this section, it is examined the effect of behavioral integration on the dimensions of Board Effectiveness and Organisational Performance (Figure 7.14).

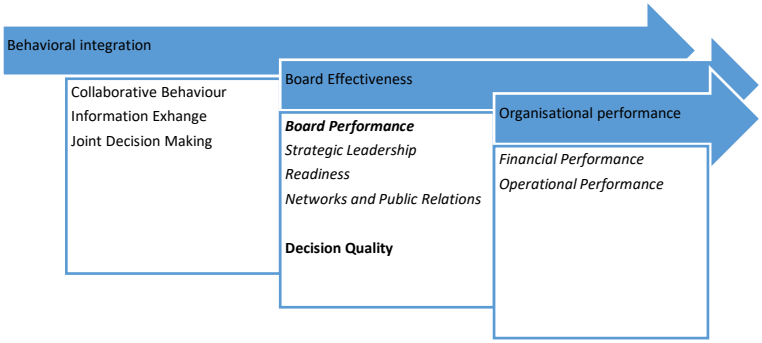


Figure: 7.14: CFA Conflict, Board Effectiveness and Org. Performance

Table 7.19 summarises the hypotheses along that will be tested in the following two sections.

Table 7.19: Hypotheses about Behavioral Integration

H5	**Behavioral integration in the Board of Directors is positively related to Board Performance**
H5a	*Behavioral integration in the Board of Directors is positively related to Strategic Leadership*
H5b	*Behavioral integration in the Board of Directors is positively related to Readiness*
H5c	*Behavioral integration in the Board of Directors is positively related to Networks*
H5.1	**Behavioral integration in the Board of Directors is positively related to Strategic Decision Quality**
H6	**Behavioral integration in the Board of Directors is positively related to Organisational Performance**
H6a	*Behavioral integration in the Board of Directors is positively related to Financial Performance*
H6b	*Behavioral integration in the Board of Directors is positively related to Operational Performance*

7.8.3.1 Behavioral integration and Board Effectiveness: Model 5

A Structural Model (Figure 7.15) was designed to evaluate the impact of behavioral integration on the sub-dimensions of board effectiveness. The fifth assumption postulates that: *Behavioral integration in the Board of Directors is positively related to Board Effectiveness.*

Model 5 was subject to CFA and the results of model fit indices revealed a good fit. All indices were within the acceptable and recommended range (Table 7.20). The results of Structural Model revealed a significant impact of behavioral integration on all the sub-dimensions of board effectiveness, confirming thypotheses H5a, H5b, H5c, H5.1 (Table 7.21). The results revealed that 87% change in strategic leadership, 63% change in readiness and 46% change in networks can be attributed to behavioral integration. Besides, 45% change in decision quality can be attributed to behavioral integration.

Table 7.20: Model Fit Indices for Behavioral Integration and Board Effectiveness

	CMIN/DF (χ^2/df)	SRMR	CFI	TLI	RMSEA
Final	1.647	.07	.935	.926	.05

Table 7.21: Hypotheses Testing for Behavioral integration and Board Effectiveness

Hypoytheses 5 and 5.1: Behavioral integration is positively related to Board Performance and Strategic Decision Quality					
Hypotheses	Structural Path	Standardized Loading	C.R	P	Results
H5a	Behavioral Integration -> Strategic Leadership	.932	3.411	p < .001	Accepted
H5b	Behavioral Integration -> Readiness	.796	3.381	p < .001	Accepted
H5c	Behavioral Integration -> Network	.676	3.176	p < .05	Accepted
H5.1	Behavioral Integration -> Decision Quality	.673	3.377	p < .001	Accepted

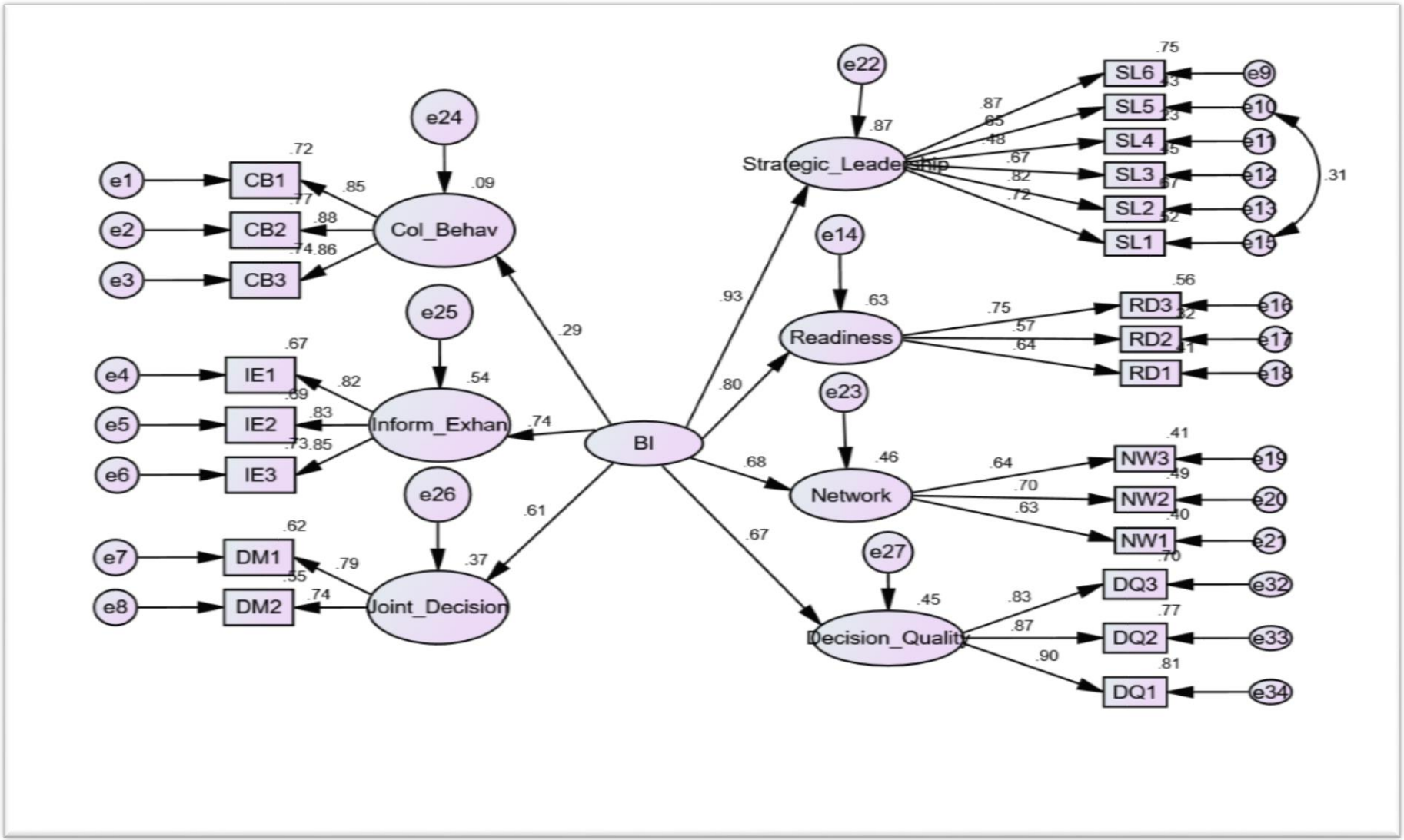


Figure 7.15: SEM for Behavioral Integration and Board Effectiveness, Model 5

7.8.3.2 Behavioral Integration and Organisational Performance: Model 6

Structural Model 6 was designed to evaluate the impact of Behavioral Integration on the sub-dimensions of Organisational Performance (Figure 7.16). In the current study, the author assumes that: *Behavioral n Integration in the Board of Directors is positively related to Organisational Performance.* Model 6 was subject to CFA and the results of model fit indices revealed a good fit. All indices were within the acceptable and recommended range (Table 7.23).

The results of Structural Model revealed a significant impact of behavioral integration on the operational performance ($P < .001$) while the influence of behavioral integration on financial performance was found to be insignificant ($P > .05$). The results showed that 21% change in operational performance can be attributed to behavioral integration. From the findings of model 6, we can conclude that hypothesis 6 is partially confirmed since behavioral integration affects only the operational performance.

Table 7.22: Model Fit Indices for Behavioral integration and Organisational Performance

	CMIN/DF (χ^2/df)	SRMR	CFI	TLI	RMSEA
Final	1.617	.08	.955	.946	.05

Table 7.23: Hypotheses Testing for Behavioral integration and Organisational Performance

Hypotheses 6: Behavioral integration is positively related to Organisational Performance					
Hypotheses	Structural Path	Standardized Loading	C.R	P	Results
H6a	Behavioral Integration ->Financial Performance	.141	1.557	.120	Rejected
H6b	Behavioral Integration ->Operational Performance	.458	3.357	p < .001	Accepted

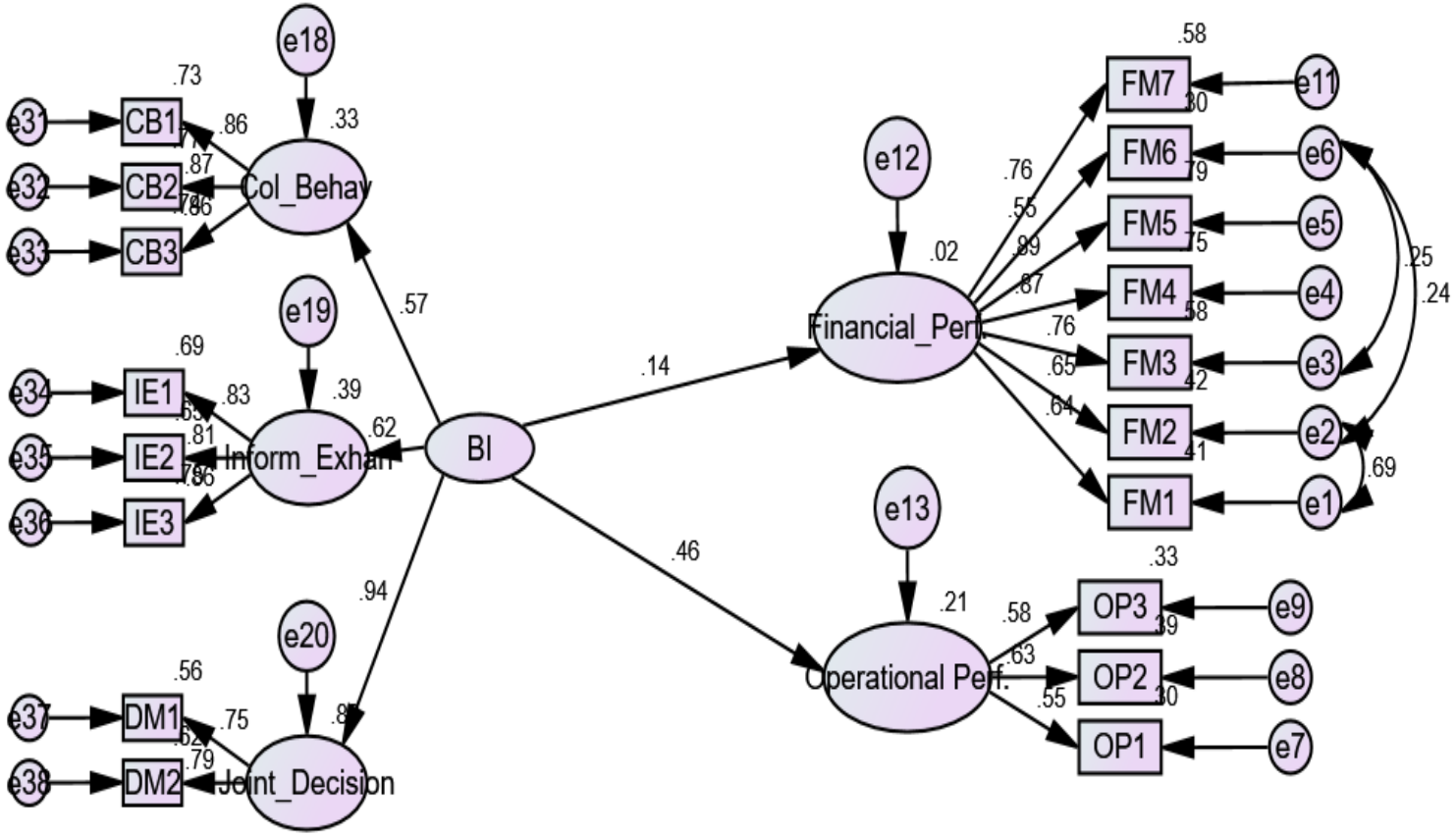


Figure 7.16: SEM for Behavioral integration and Organisational Performance, Model 6

7.8.4 Hypotheses Testing for Board Effectiveness and Organisational Performance: Model 7

The Hypotheses about Board Effectiveness and Organisational Performance are presented in Table 7.24.

Table 7.24: Hypothesis for Board Effectiveness and Org. Performance

H7	**Board effectiveness is positively related to Organisational Performance**
H7a	*Board Performance is positively related to Financial Performance*
H7b	*Board Performance is positively related to Operational Performance*
H7c	*Strategic Decision Quality is positively related to Financial Performance*
H7.1	**Strategic Decision Quality is positively related to Operational Performance**

Structural Model (Figure 7.17) was developed to evaluate the impact of the dimensions of board effectiveness (board performance and strategic decision quality) on organisational performance (financial and operational performance). In the current study, it is assumed that: *Organisations with more Effective Boards will demonstrate higher levels of Organisational Performance.* Model 7 was subjected to CFA and the results showed that overall the model attained an appropriate fit (Table 7.25).

All indices were acceptable, although the value for TLI was slightly lower. Furthermore, the Structural Model showed an insignificant ($p > .05$) impact of board performance on financial performance while the impact of board performance on operational performance was found to be significant ($p < .05$). The impact of decision quality on both financial and operational performance was found to be significant in nature ($p < .05$). Overall, hypothesis 7 is partially partially confirmed whereas hypothesis 7.1 is fully confirmed.

Table 7.25: Model Fit Indices for Board Effectiveness and Organisational Performance

	CMIN/DF ($\chi^2/\delta f$)	SRMR	CFI	TLI	RMSEA
Final	1.928	.13.	.89	.88	.071

Table 7.26: Hypotheses Testing for Board Effectiveness and Organisational Performance

Hypotheses 7: Board Performance is positively related to Organisational Performance					
Hypotheses	Structural Path	Standardized Loading	C.R	P	Results
H7a	Board Performance -> Financial Performance	.134	1.547	.122	Rejected
H7b	Board Performance -> Operational Performance	.344	2.971	$p < .05$	Accepted
Hypotheses 7.1: Strategic Decision Quality is positively related to Organisational Performance					
Hypotheses	Structural Path	Standardized Loading	C.R	P	Results
H7.1a	Strategic Decision Quality -> Financial Performance	.163	2.024	$p < .05$	Accepted
H7.1b	Strategic Decision Quality -> Operational Performance	.216	2.185	$p < .05$	Accepted

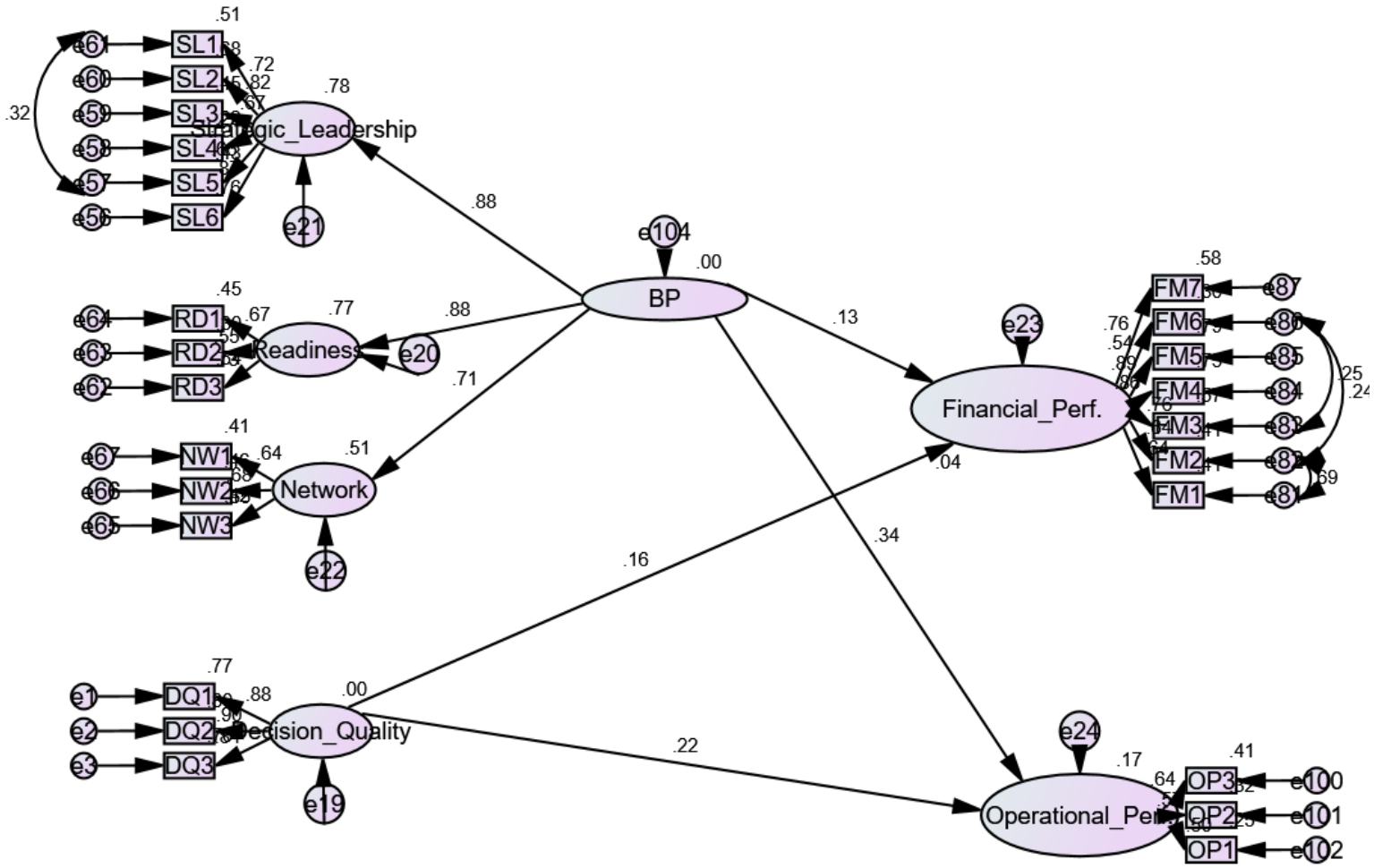


Figure 7.17: SEM for Board Effectiveness and Organisational Performance, Model 7

7.8.5 Summary of Hypotheses based on Models 1-7

A summary with all the hypotheses tested are presented in Table 7.27. In the table, we notice that conflict is negatively related to board performance (strategic leadership, readiness and networks) and strategic decision quality. This implies that the higher the conflict, the less the effectiveness of the board. Conflict affect neither financial nor operational performance.

Trust affects positively both board effectiveness and organisational performance. Trust affects positively all the items of board performance (strategic leadership, readiness and networks) as well as the strategic decision quality. Besides, it has a positive effect on the two items of organisational performance: financial and operational performance.

Behavioral integration has a positive effect on board effectiveness, affecting positively all items of board performance (strategic leadership, readiness and networks) as well as strategic decision quality. Besides, it has a positive effect on one of the two items of organisational performance, that's of operational performance.

Furthermore, it was found an insignificant impact of board performance on financial performance while the impact of board performance on operational performance was significant. The impact of strategic decision quality on both financial and operational performance was significant, as well.

Table 7.27: Summary of Hypotheses (Models 1-7)

Hypotheses	Structural Path	Standardized Loading	C.R	P	Results
H1a	Conflict -> Strategic Leadership	-.984	-3.607	p < .001	Accepted
H1b	Conflict -> Readiness	-.793	-3.591	p < .001	Accepted
H1c	Conflict -> Network	-633	-3.316	p < .001	Accepted
H1.1	Conflict -> Decision Quality	-.722	-3.585	p < .001	Accepted
H2a	Conflict -> Financial Performance	-.043	-1.875	0.61	Rejected
H2b	Conflict -> Operational Performance	.052	1.805	0.71	Rejected
H3a	Trust -> Strategic Leadership	.613	6.874	p < .001	Accepted
H3b	Trust -> Readiness	.504	5.303	p < .001	Accepted
H3c	Trust -> Network	.393	4.055	p < .001	Accepted
H3.1	Trust -> Decision Quality	.494	6.237	p < .001	Accepted
H4a	Trust -> Financial Performance	.200	2.452	p < .05	Accepted
H4b	Trust -> Operational Performance	.356	3.377	p < .001	Accepted
H5a	Behavioral Integration -> Strategic Leadership	.932	3.411	p < .001	Accepted
H5b	Behavioral Integration -> Readiness	.796	3.381	p < .001	Accepted
H5c	Behavioral Integration -> Network	.676	3.176	p < .05	Accepted
H5.1	Behavioral Integration -> Decision Quality	.673	3.377	p < .001	Accepted
H6a	Behavioral Integration -> Financial Performance	.141	1.557	.120	Rejected
H6b	Behavioral Integration -> Operational Performance	.458	3.357	p < .001	Accepted
H7a	Board Performance -> Financial Performance	.134	1.547	.122	Rejected
H7b	Board Performance -> Operational Performance	.344	2.971	p < .05	Accepted
H7.1a	Decision Quality -> Financial Performance	.163	2.024	p < .05	Accepted
H7.1b	Decision Quality -> Operational Performance	.216	2.185	p < .05	Accepted

7.9 Mediation Analysis for Testing Hypotheses 8, 8.1, 9, 9.1, 10 and 10.1

Mediation analyses is performed to evaluate whether the influence of the independent variable on the dependent variable is transmitted through another variable, which it called mediating variable or intervening variables. To avoid any misunderstanding, a brief distinction is made between the terms moderator and mediator. Baron and Kenny (1986: 1174) clearly distinguish the two different terms by stating:

> *"a moderator is a qualitative (e.g., sex, race, class) or quantitative (e.g., level of reward) variable that affects the direction and/or strength of the relation between an independent or predictor variable and a dependent or criterion variable*." Baron and Kenny (1986: 1174)

For the term mediator, the authors support that:

> *"In general, a given variable may be said to function as a mediator to the extent that it accounts for the relation between the predictor and the criterion. Mediators explain how external physical events take on internal psychological significance."* Baron and Kenny (1986: 1174)

Baron and Kenny approach is the most widely method used in organisational, management, and applied psychology fields (Vancouver and Carlson, 2015). In the present study, only a mediation analysis will be performed since the aim is to examine how a particular relationship occurs. More specifically, it is examined how board effectiveness explains the relationship between board processes (conflict, trust and behavioral integration) and organisational performance. The aim is not to examine if a third variable (the moderator) changes the strength of a relationship between two variables. With the current mediation analysis, it is tested if hypotheses 8, 8.1, 9, 9.1, 10 and 10.1 will be confirmed. The two dimensions of board effectiveness, board performance and strategic decision quality, are considered as the mediating variables while trust, conflict, and behavioral integration are the independent variables. Organisational performance, which is conceptualised with the items of financial performance and operational performance, is the dependent variable. Mediation analysis is performed using Baron and Kenny (1986) approach.

In every mediation analysis, significant correlations should be produced in the relationships between the predictor and the criterion variables, the predictor and the mediator variables and between the mediator and criterion variables. The conditions of Baron and Kenny required to satisfy the mediation analysis are the following:

1. The independent variable must significantly predict the dependent variable (c).
2. The independent variable must significantly predict the mediating variable (a).
3. When controlling for IV the mediating variable must significantly predict the dependent variable (b). For complete mediation at this step c' should be insignificant. There is partial mediation if the impact of IV on DV (c') is still significant at step 3.

Further to the Baron and Kenny (1986) approach, Sobel (1982) test is conducted to test the significance of the mediation effect, namely the test examines if the indirect effect of the independent variable on the dependent variable through the mediator is significant.

Model 2 of the SEM analysis revealed that conflict doesn't carry a significant impact on any of the two dimensions of organisational performance. Hence the first condition for mediation is not satisfied and conflict is taken out of the mediation analysis. This implies that we don't find evidence to support hypotheses 8 and 8. Besides, in Model 6 it was noticed that behavioral integration did not have any significant impact on financial performance and consequently mediation will be performed only between behavioral integration and operational performance (COI). The following relations were tested for mediation:

1. Mediation analysis to test for role of Board Performance between Trust and Organisational Performance (FM and COI).
2. Mediation analysis to test role of Board Performance between Behavioral Integration and Operational Performance.
3. Mediation analysis to test role of Decision Quality between Trust and Organisational Performance (FM and COI).
4. Mediation analysis to test role of Decision Quality between Behavioral integration and Organisational Performance (FM and COI).

Overall, the hypotheses that are relevant to mediation analysis are presented in Table 7.28.

Table 7.28: Hypotheses for Mediation

H8	**Board Performance mediates the relationship between Conflict and Organisational Performance**
H8.1	**Strategic Decision Quality mediates the relationship between Conflict and Organisational Performance**
H9	**Board Performance mediates the relationship between Trust and Organisational Performance**
H9a	**Board Performance mediates the relationship between Trust and Financial Performance**
H9b	**Board Performance mediates the relationship between Trust and Operational Performance**
H9.1a	**Strategic Decision Quality mediates the relationship between Trust and Financial Performance**
H9.1b	**Strategic Decision Quality mediates the relationship between Trust and Operational Performance**
H10	**Board Performance mediates the relationship between Behavioral Integration and Organisational Performance**
H10a	**Board Performance mediates the relationship between Behavioral integration and Operational Performance**
H10.1	**Strategic Decision Quality mediates the relationship between Behavioral integration and Operational Performance**

7.9.1 Mediation Analysis to Test the Role of Board Performance between Trust and Financial Performance (H9a)

In this study, it is assumed that board effectiveness mediates the relationship between trust and the organisational performance of the company. Thus, Hypothesis 9a is the following: *Board Performance mediates the relationship between Trust and Financial Performance of the company*. Mediation analysis was performed to test H9a using Baron and Kenny (1986) causal approach. The initial causal variable was trust (IV), the criterion variable was financial performance, and the mediating variable was board performance (MV). The results reveal that the total effect of IV on DV was significant, c = .227, $p < .05$. IV was significantly predictive of hypothesized mediating variable, board performance; a = .384, $p < .001$, when controlling for trust, MV did not significant predict DV, b = .293, $p > .05$. The estimated direct effect of IV on DV, controlling for MV, was c' = .111, P > .05. The results reveal no significant mediation since the MV did not significantly predict DV, when controlling for IV. Consequently, hypothesis 9a cannot be confirmed.

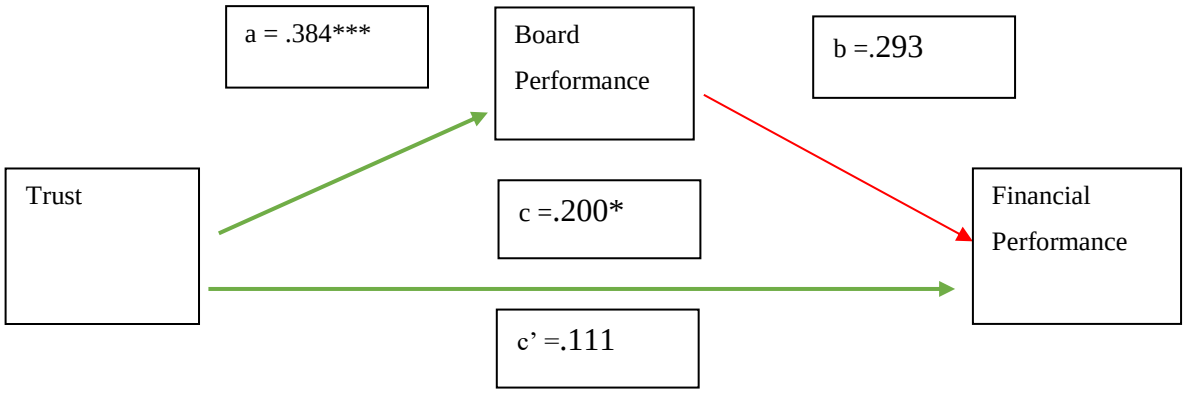


Figure 7.18: Mediation for the Role of Board Performance between Trust and Financial Measures

7.9.2 Mediation analysis to Test for Role of Board Performance between Trust and Operational Performance (H9b)

Hypothesis 9b assumes that: *Board Performance mediates the relationship between Trust and Operational Performance of the company*. Mediation analysis was performed using Baron and Kenny (1986) causal approach. The initial causal variable was trust (IV), the criterion variable was operational performance, and the mediating variable was board performance (MV). The results reveal that the total effect of IV on DV was significant, c = .198, $p < .001$. IV was significantly predictive of hypothesized mediating variable, board performance; a = .384, $p < .001$, when controlling for trust, MV did significantly predict DV, b = .296, $p < .05$. The estimated direct effect of IV on DV, controlling for MV, was c' = .087, P > .05. The results reveal complete mediation since the MV did significantly predict DV, when controlling for IV plus the initial significant relationship between IV and DV (c) was found to be insignificant in the last step (c'). The indirect effect, ab, was .113. This was judged to be statistically significant using Sobel's (1982) test, $z = 2.43$, $p < .0001$. The coefficients for both a and b were found statistically significant, the Sobel test for the ab product was also significant, the direct effect from IV on DV (c') was found to be statistically insignificant, therefore, the effects of IV on DV were completely mediated by board performance (MV). Consequently, Hypothesis 9b was confirmed.

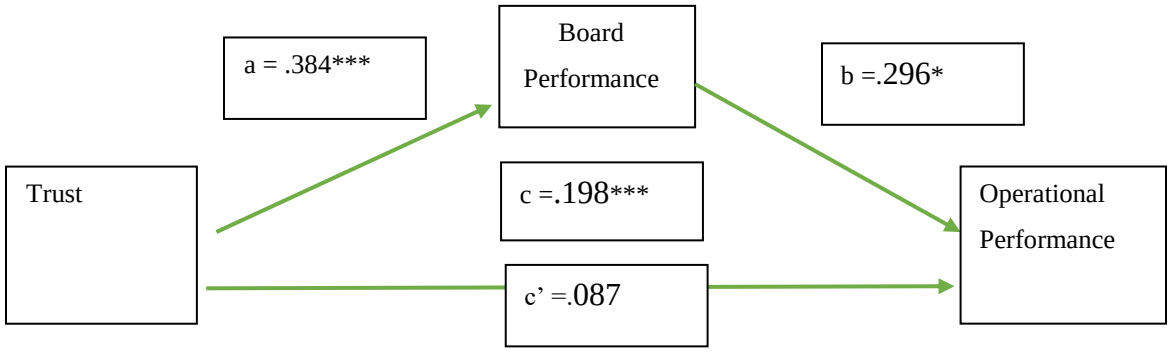


Figure 7.19: Mediation for the Role of Board Performance between Trust and Operational Performance

7.9.3 Mediation Analysis to Test the for Role of Strategic Decision Quality between Trust and Financial Performance (H9.1a)

Hypothesis 9.1a assumes that: *Strategic Decision Quality mediates the relationship between Trust and Financial Performance*. Mediation analysis was performed using Baron and Kenny (1986) causal approach. The initial causal variable was trust (IV), the criterion variable was financial performance, and the mediating variable was strategic decision quality (MV). The results reveal that the total effect of IV on DV was significant, c = .227, $p < .05$. IV was significantly predictive of hypothesized mediating variable, strategic decision quality; a = .405, $p < .001$, when controlling for trust, MV had marginally significant impact on DV, b = .219, p = .050, since the p value was exactly .05. The estimated direct effect of IV on DV, controlling for MV, was c' = .136, P > .05. The indirect effect, ab, was .088. This was judged to be statistically insignificant using Sobel (1982) test, z = 1.83, p > .05. However, the p value was .06 which can be referred to as significant at 10% level of confidence. The results reveal some mediation since the MV did significantly predict DV although partially, when controlling for IV plus the initial significant relationship between IV and DV (c) was found to be insignificant in the last step (c'). Consequently, Hypothesis 9.1a was partially confirmed.

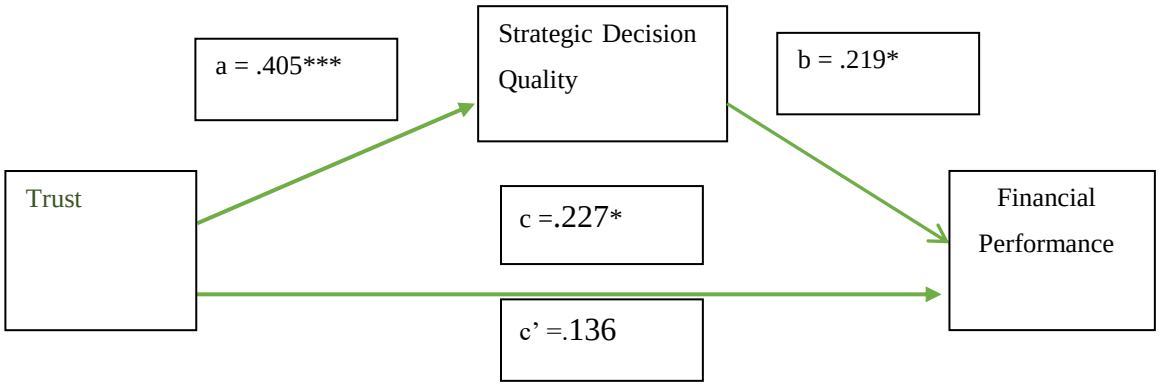


Figure 7.20: Mediation for the Role of Strategic Decision Quality between Trust and Financial Performance

7.9.4 Mediation Analysis to Test the for Role of Strategic Decision Quality between Trust and Operational Performance (H9.1b)

Hypothesis 9.1b assumes that: *Strategic Decision Quality mediates the relationship between Trust and organisational Operational Performance*. Mediation analysis was performed using Baron and Kenny (1986) causal approach. The initial causal variable was trust (IV), the criterion variable was operational performance, and the mediating variable was strategic decision quality (MV). The results reveal that the total effect of IV on DV was significant, c = .198, $p < .001$. IV was significantly predictive of hypothesized mediating variable, strategic decision quality; a = .405, $p < .001$, when controlling for trust, MV had significant impact on DV, b = .173, $p < .01$. The estimated direct effect of IV on DV, controlling for MV, was c' = .129, P < .05. The indirect effect, ab, was .913. This was judged to be statistically significant using Sobel (1982) test, $z = 2.38$, $p < .05$. The results reveal partial mediation since the initial significant relationship between IV and DV (c) was found to be significant in the last step (c'). Consequently, Hypothesis 9.1b was partially confirmed.

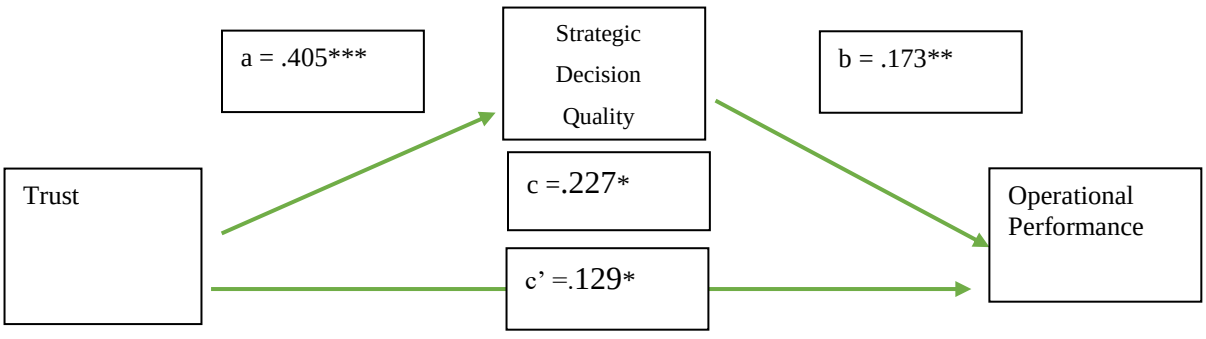


Figure 7.21: Mediation for the Role of DQ between Trust and Operational Performance

7.9.5 Mediation Analysis to Test the for Role of Board Performance between Behavioral Integration and Operational Performance (H10a).

Hypothesis 10a assumes that *Board Performance mediates the relationship between Behavioral integration and Operational Performance*. Mediation analysis was performed using Baron and Kenny (1986) causal approach. The initial causal variable was behavioral integration the criterion variable was operational performance, and the mediating variable was board performance (MV). The results reveal that the total effect of BI on COI was significant, c = .228, $p < .005$. IV was significantly predictive of hypothesized mediating variable, board performance; a = .837, $p < .001$, when controlling for BI, MV did not significant predict DV, b = .060, $p > .05$. The estimated direct effect of IV on DV, controlling for MV, was c' = .341, P > .05. The results reveal no significant mediation since the MV did not significantly predict DV, when controlling for IV. Consequently, Hypothesis 10a was not confirmed.

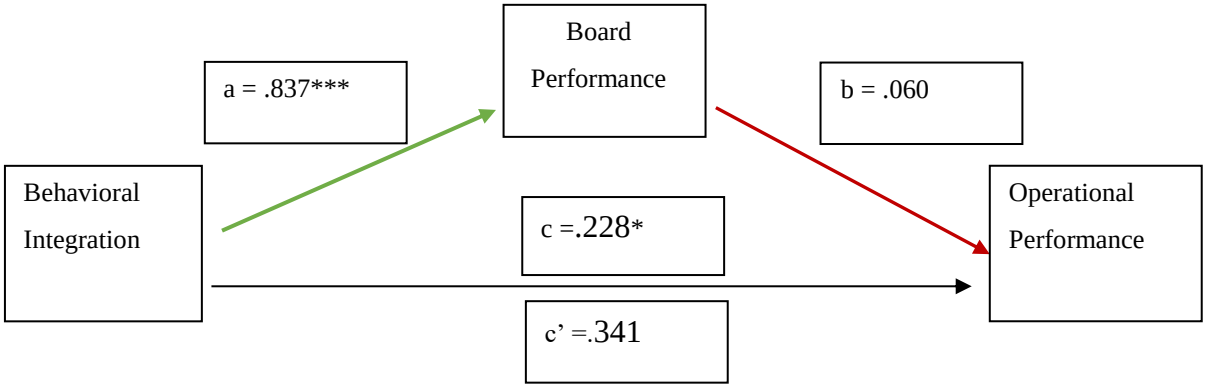


Figure 7.22: Mediation for the Role of BP between BI and COI

7.9.6 Mediation Analysis to Test the for Role of Strategic Decision Quality between Behavioral Integration and Operational Performance (H10.1)

Hypothesis 10b assumes that *Strategic Decision Quality mediates the relationship between Behavioral integration and Operational Performance*. Mediation analysis was performed using Baron and Kenny's (1986) causal approach. The initial causal variable was trust (IV), the criterion variable was operational performance, and the mediating variable was strategic decision quality (MV). The results reveal that the total effect of IV on DV was significant, c = .228, $p < .05$. IV was significantly predictive of hypothesized mediating variable, Decision Quality; a = .469, $p < .001$. When controlling for trust, MV did not significant predict DV, b = .103, $p > .05$. The estimated direct effect of IV on DV, controlling for MV, was c' =

.236, P > .05. The results reveal no significant mediation since the MV did not significantly predict DV, when controlling for IV and hypothesis 10.1 was not confirmed.

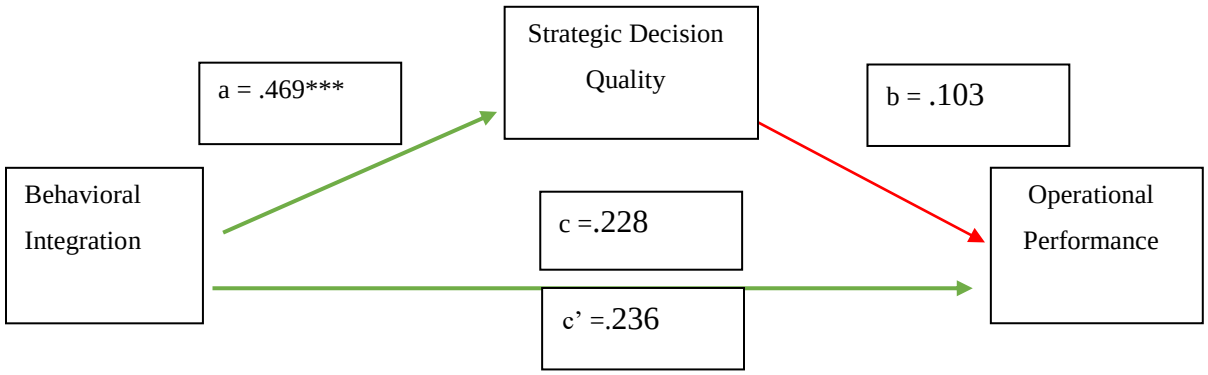


Figure 7.23: Mediation for the Role of DQ between BI and COI

7.9.7 Summary of Mediation Analysis

Overall, the mediation analysis revealed that board performance significantly mediates the relationship between trust and operational performance. This shows that the influence of trust on operational performance is through board performance. However, in the present study the results revealed that board performance does not mediate the relationship a) between trust and financial performance and b) behavioral integration and operational performance. Besides, the results reveal a partial confirmation showing that: strategic decision quality partially mediates the relationship between a) trust and operational performance and b) trust and financial performance. Mediation analysis was not performed between behavioural integration and financial performance because behavioural integration did not have any significant impact on financial performance.

7.10 Overall Model of the Research based on the Initial Models (Model 8)

The model of the research, Model 8 (Figure 7.24), is developed based on the initial model tests (Models 1 to 7). The link of conflict with financial performance and operational performance was removed from the path diagram since the earlier models revealed an insignificant impact. The linkage of behavioral integration with financial performance was also removed. Overall, the results of the model 8 show adequate fit. The fit indices are reported in the Table 7.30. From the findings, we notice that all three independent variables (trust, conflict

and behavioral integration) impact both on board performance and strategic decision quality. This implies that the three independent variables affect significantly the overall effectiveness of the board. Trust affects also the financial performance of the firm whereas behavioral integration affects the operational performance. The results reveal insignificant impact of board performance on operational performance, strategic decision quality on operational performance, and trust on operational performance.

The R^2 value, which summarizes the proportion of variance in the dependent variable explainable by the collective set of the predictors shows that:

- Board performance (BP): is significantly influenced by trust, conflict, and behavioural integration. The results of the Structural Model 8 suggest that 92% variation in BP can be attributed to the aforementioned predictors. Out of the three predictor variables, The Unstandardized Estimate (β = 1.421) for behavioural integration was higher than the other two predictors, showing that behavioural integration is significantly better predictor of BP as compared to the other two predictors.
- Strategic decision quality: is significantly influenced by trust, conflict, and behavioural integration. The results suggest that 45% variation in strategic decision quality can be attributed to the aforementioned predictors. Out of the three predictor variables, The Unstandardized Estimate (β = 1.197) for behavioural integration was higher than the other two predictors, showing that behavioural integration is significantly better predictor of strategic decision quality as compared to the other two predictors.
- Financial performance: is influenced by strategic decision quality.
- Operational performance: is influenced by behavioural integration, strategic decision quality and board performance. This suggests that 40% variation in operational performance can be attributed to these 3 predictors.

Concluding, based on Table 7.29, it was found that:

- **Trust** to the board has a significant relationship on board performance and strategic decision quality and financial performance. However, an interesting finding is that the relationships between trust and board performance as well as

between trust and strategic decision quality are negative. In Model 3, the relationship between trust and board effectiveness found to be positive. In Model 8, the inclusion of conflict and behavioural integration turned the relation between trust and board effectiveness to a negative one. Consequently, the higher the level of trust to the colleagues, the lower the board effectiveness.

- **Conflict** has a significant negative relationship on board performance and strategic decision quality. The level and frequency of conflict affect negatively the overall effectiveness of the board.
- **Behavioural integration** has a significant positive relationship on board performance, strategic decision quality and operational performance. The higher the level of behavioural integration between the board members, the higher the board effectiveness and operational performance.

Table 7.29: Hypotheses Testing for the Overall Model of the Study

Independent Variable	***Dependant Variable***	***Estimate***	***S.E.***	***C.R.***	***P***	***Outcome***
Trust.	Board Performance	-.491	.159	-3.098	.002	Significant negative relation
Trust.	Decision Quality	-.347	.154	-2.250	.024	Significant negative relation
Conflict	Board Performance	-.817	.212	-3.853	p < .001	Significant negative relation
Conflict	Decision Quality	-.668	.218	-3.061	.002	Significant negative relation
Behavioural Integration	Board Performance	1.421	.382	3.712	p < .001	Significant positive relation
Behavioural Integration	Decision Quality	1.197	.332	3.602	p < .001	Significant positive relation
Trust	Financial Performance	.129	.105	1.233	.218	Non-Significant relation
Trust	Operational Performance	-.200	.120	-1.670	.095	No significant relation
Behavioural Integration	Operational Performance	.892	.360	2.477	.013	Significant positive relation
Board Performance	Operational Performance	-.272	.178	-1.530	.126	No significant relation
Decision Quality	Operational Performance	.082	.076	1.073	.283	No significant relation
Decision Quality	Financial Performance	.232	.112	2.063	.039	Significant positive relation

Table 7.30: Model Fit of the Final Model

	CMIN/DF ($\chi^2/\delta f$)	SRMR	CFI	TLI	RMSEA
Final	1.470	.08	.904	.896	.050

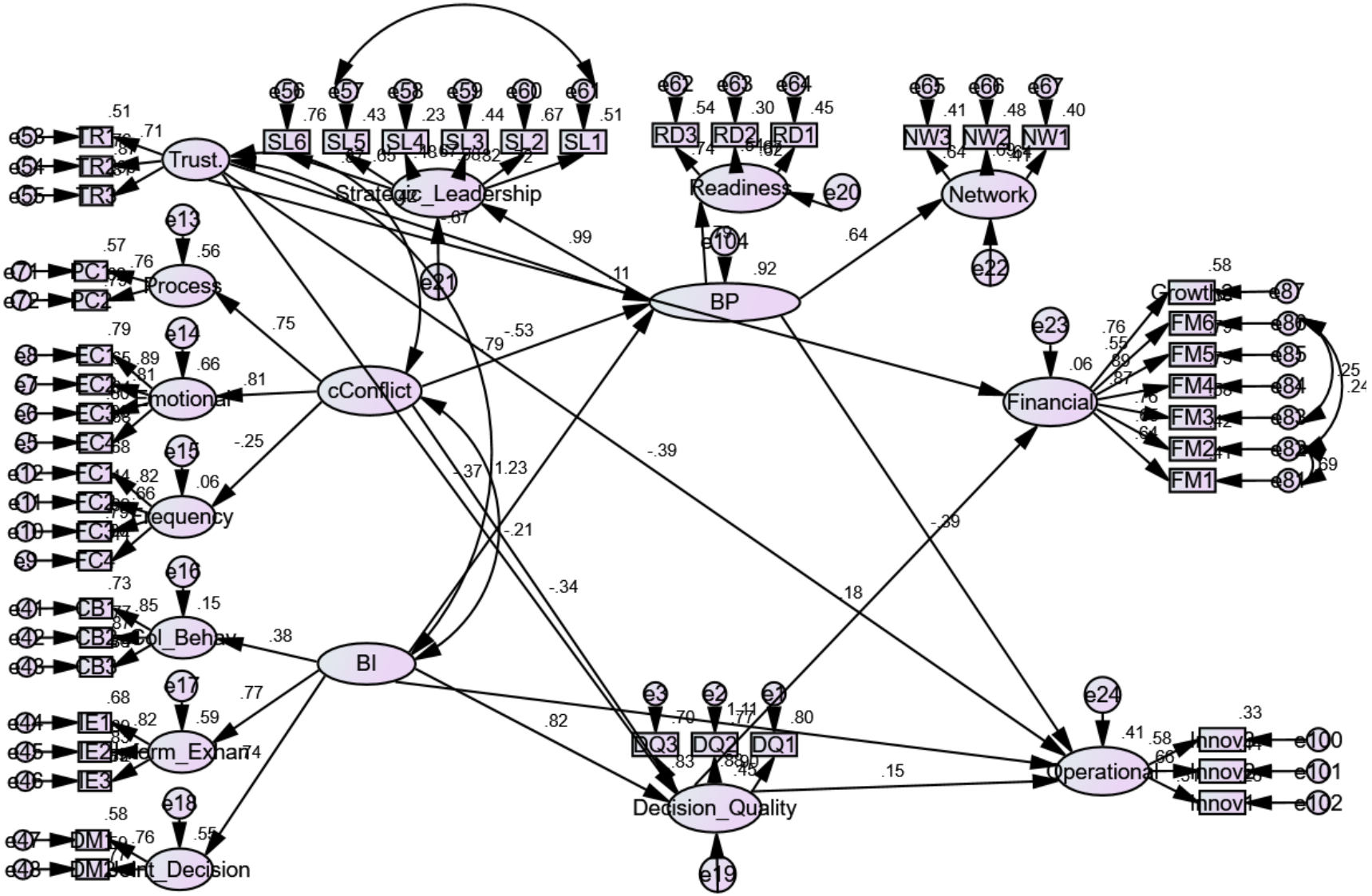


Figure 7.24: Overall Model of the Study (Model 8)

7.10.1 Influence of Control Variables

Several different control variables were also part of the study in an attempt to identify demographic or organisational factors which could potentially influence our results. The controls made are based on the significant volume of literature that supports that demographics characteristics of the executives as well as structural characteristics of the board affect board and organisational outcomes. The controls of the study were:

- Executive Characteristics: *Gender, Age, Years in Boards, Level of Education, Degrees abroad, Professional Experience, International Assignments, Tenure in the Focal Board, Board Appointments, CEO appointments, Member of the TMT, Independent to Shareholders and the organisation*.
- Organisational Characteristics: *Listed in a Stock Exchange, Organisational Size, Sector.*
- Board Structure: *Board Size.*

The results reveal that: Listed Company, Organisational Size, CEO Appointments, Age of the executive, Tenure in the Focal Board and Tenure in Other Boards have a significant impact on the dependant variables. More specifically,

- Age, Listed Company, CEO appointments, Professional Experience, Organisational Size and Tenure in other boards have a significant impact on Board Performance.
- Listed Company, Organisational Size, Age and Tenure in the Focal Board impact on Financial Performance.
- Professional Experience and Tenure in other Boards impact on Operational Performance.

The controls help us understand the importance of these significant variables in the model (Table 7.31). For example, the controls about age (Estimate=1.47) imply that the higher the age of the board the higher the board performance but the less the financial performance (Estimate=-.398). Besides, the higher the tenure in the focal board the higher the financial performance.

Table 7.31: Significant Control Variables

Construct	Control	Estimate	S.E.	C.R.	P
Board Performance	Listed	-.319	.098	-3.257	.001
Board Performance	CEO Appointments	-.078	.027	-2.923	.003
Board Performance	Professional Experience	.014	.005	3.040	.002
Board Performance	Age	.147	.055	2.684	.007
Board Performance	Size	.064	.029	2.224	.026
Financial Performance	Listed	-.447	.214	-2.090	.037
Financial Performance	Size	.167	.064	2.608	.009
Financial Performance	Age	-.398	.122	-3.266	.001
Financial Performance	Tenure Focal Board	.283	.114	2.484	.013
Operational Performance	Tenure in Boards	-.115	.057	-2.026	.043
Operational Performance	Professional Experience	.019	.006	3.036	.002

7.11 Conclusion

In the Chapter, the results of Confirmatory Factor Analysis were presented for conflict, trust, behavioral integration, board effectiveness and organisational performance. The aim of this chapter was to examine both separately and jointly the relations between independent and dependant variables. Besides, seven Structural Equation Models were constructed between each one of the independent variables (trust, conflict, and behavioral integration), the intermediating variable (board effectiveness: board performance and strategic decision quality) and the dependent variable (organisational performance). Overall, all independent variables revealed a significant impact on the overall effectiveness of the board (board performance and strategic decision quality).

More specifically, conflict was found to have a negative effect on board performance. The findings are in line with an extensive stream of research that has underlined the negative effects of conflict on group performance (DeDreu, 2008; De Dreu and Weingart, 2003; Jehn, Greer, and Rupert 2008; Langfred, 2007). However, the Structural Model showed an insignificant impact of conflict on both financial and operational performance.

Trust was found to affect both the overall effectiveness of the board (board performance and strategic decision quality) and the organisational performance (financial performance and operational performance). Consistent with literature (Carmeli, Tishler and Edmondson, 2012; De Jong and Elfring, 2010; Jones and George, 1998) we confirm that intra-team trust improves teamwork's performance and strategic decision quality.

In line with previous findings (Carmeli and Schaubroeck, 2006; Charas, 2016), behavioral integration affects board performance and strategic decision quality. Moreover, it

was also found that behavioral integration impacts only on the operational performance and not on the financial performance of the organisation.

Board performance improves the operational performance of an organisation but not the financial performance. Besides, strategic decision quality affects both operational and financial performance.

The mediation analysis showed that board performance significantly mediates the relationship between trust and operational performance. This shows that the influence of trust on operational performance is through board performance. Besides, strategic decision quality partly mediates the relationship between trust and operational performance as well as between trust and financial performance.

An overall Model (Model 8) was created based in all the previous models. The results of this holistic model are similar to the outcome of the previous models, with the exception of trust (Tables 7.32 and 7.33 for an overall summary of the models). Trust, conflict and behavioral integration impact both on board performance and strategic decision quality. The interesting finding is that in model 8 trust had a significant negative impact on board effectiveness, an issue that raises important theoretical considerations. Besides, in contrast to model 4, trust does not affect the organisational performance of the firm. As for the behavioral integration, it affects the operational performance.

Furthermore, a number of controls was performed based on theoretical evidence and the results of the analysis showed that listed company, organisational size, CEO appointments, age of the executive, tenure in the focal board and tenure in other boards have a significant impact on the dependant variables.

Table 7.32: Results of Hypotheses (Models 1-7)

Hypothesis	Statement	Models 1-7
H1	**Conflict in the Board of Directors is negatively related to Board Performance**	**Accepted**
H1a	*Conflict in the Board of Directors is negatively related to Strategic Leadership*	**Accepted**
H1b	*Conflict in the Board of Directors is negatively related to Readiness*	**Accepted**
H1c	*Conflict in the Board of Directors is negatively related to Networks*	**Accepted**
H1.1	**Conflict in the Board of Directors is negatively related to Strategic Decision Quality**	**Accepted**
H2	**Conflict in the Board of Directors is negatively related to Organisational Performance**	Rejected
H2a	*Conflict in the Board of Directors is negatively related to Financial Performance*	Rejected
H2b	*Conflict in the Board of Directors is negatively related to Operational Performance*	Rejected
H3	**Trust in the Board of Directors is positively related to Board Performance**	**Accepted**
H3a	*Trust in the Board of Directors is positively related to Strategic Leadership*	**Accepted**
H3b	*Trust in the Board of Directors is positively related to Readiness*	**Accepted**
H3c	*Trust in the Board of Directors is positively related to Networks*	**Accepted**
H3.1	**Trust in the Board of Directors is positively related to Strategic Decision Quality**	**Accepted**
H4	**Trust in the Board of Directors is positively related to Organisational Performance**	**Accepted**
H4a	*Trust in the Board of Directors is positively related to Financial Performance*	**Accepted**
H4b	*Trust in the Board of Directors is positively related to Operational Performance*	**Accepted**
H5	**Behavioural Integration in the Board of Directors is positively related to Board Performance**	**Accepted**
H5a	*Behavioural Integration in the Board of Directors is positively related to Strategic Leadership*	**Accepted**
H5b	*Behavioural Integration in the Board of Directors is positively related to Readiness*	**Accepted**
H5c	*Behavioural Integration in the Board of Directors is positively related to Networks*	**Accepted**
H5d	**Behavioural Integration in the Board of Directors is positively related to Strategic Decision Quality**	**Accepted**
H6	**Behavioural Integration in the Board of Directors is positively related to Organisational Performance**	**Partially Accepted**
H6a	*Behavioural Integration in the Board of Directors is positively related to Financial Performance*	Rejected
H6b	*Behavioural Integration in the Board of Directors is positively related to Operational Performance*	**Accepted**
H7	**Board Performance s is positively related to Organisational Performance**	**Partially Accepted**
H7a	*Board Performance is positively related to Financial Performance*	Rejected
H7b	*Board Performance is positively related to Operational Performance*	**Accepted**
H7.1	**Strategic Decision Quality s is positively related to Organisational Performance**	**Accepted**
H7.1a	**Strategic Decision Quality is positively related to Financial Performance**	**Accepted**
H7.1b	**Strategic Decision Quality is positively related to Operational Performance**	**Accepted**
P8	**Board Performance mediates the relationship between Conflict and Organisational Performance**	Rejected
P8.1	**Strategic Decision Quality mediates the relationship between Conflict and Organisational Performance**	Rejected
P9	**Board Performance mediates the relationship between Trust and Organisational Performance**	**Partially Accepted**
H9a	*Board Performance mediates the relationship between Trust and Financial Performance*	Rejected
H9b	*Board Performance mediates the relationship between Trust and Operational Performance*	**Partially Accepted**
P9 .1	**Strategic Decision Quality mediates the relationship between Trust and Organisational Performance**	**Partially Accepted**
H9.1a	*Strategic Decision Quality mediates the relationship between Trust and Financial Performance*	**Partially Accepted**
H9.1b	*Strategic Decision Quality mediates the relationship between Trust and Operational Performance*	**Partially Accepted**
H10	**Board Performance mediates the relationship between Behavioural Integration and Organisational Performance**	Rejected
H10.1	**Strategic Decision Quality mediates the relationship between Behavioural Integration and Operational Performance**	Rejected

Table 7.33: Comparison between Models 1-7 and Overall Model 8

Hypothesis	Statement	Models 1-7	
H1	**Conflict in the Board of Directors is negatively related to Board Performance**	**Accepted**	**Accepted**
H1a	*Conflict in the Board of Directors is negatively related to Strategic Leadership*	**Accepted**	**Accepted**
H1b	*Conflict in the Board of Directors is negatively related to Readiness*	**Accepted**	**Accepted**
H1c	*Conflict in the Board of Directors is negatively related to Networks*	**Accepted**	**Accepted**
H1.1	**Conflict in the Board of Directors is negatively related to Strategic Decision Quality**	**Accepted**	**Accepted**
H2	**Conflict in the Board of Directors is negatively related to Organisational Performance**	Rejected	Rejected
H2a	*Conflict in the Board of Directors is negatively related to Financial Performance*	Rejected	Rejected
H2b	*Conflict in the Board of Directors is negatively related to Operational Performance*	Rejected	Rejected
H3	**Trust in the Board of Directors is positively related to Board Performance**	**Accepted**	**Rejected**
H3a	*Trust in the Board of Directors is positively related to Strategic Leadership*	**Accepted**	Rejected (negative)
H3b	*Trust in the Board of Directors is positively related to Readiness*	**Accepted**	Rejected (negative)
H3c	*Trust in the Board of Directors is positively related to Networks*	**Accepted**	Rejected (negative)
H3.1	**Trust in the Board of Directors is positively related to Strategic Decision Quality**	**Accepted**	Rejected (negative)
H4	**Trust in the Board of Directors is positively related to Organisational Performance**	**Accepted**	**Rejected**
H4a	*Trust in the Board of Directors is positively related to Financial Performance*	**Accepted**	Rejected
H4b	*Trust in the Board of Directors is positively related to Operational Performance*	**Accepted**	Rejected
H5	**Behavioural Integration in the Board of Directors is positively related to Board Performance**	**Accepted**	**Accepted**
H5a	*Behavioural Integration in the Board of Directors is positively related to Strategic Leadership*	**Accepted**	**Accepted**
H5b	*Behavioural Integration in the Board of Directors is positively related to Readiness*	**Accepted**	**Accepted**
H5c	*Behavioural Integration in the Board of Directors is positively related to Networks*	**Accepted**	**Accepted**
H5d	**Behavioural Integration in the Board of Directors is positively related to Strategic Decision Quality**	**Accepted**	**Accepted**
H6	**Behavioural Integration in the Board of Directors is positively related to Organisational Performance**	**Partially Accepted**	**Partially Accepted**
H6a	*Behavioural Integration in the Board of Directors is positively related to Financial Performance*	Rejected	Rejected
H6b	*Behavioural Integration in the Board of Directors is positively related to Operational Performance*	**Accepted**	**Accepted**
H7	**Board Performance s is positively related to Organisational Performance**	**Partially Accepted**	Rejected
H7a	*Board Performance is positively related to Financial Performance*	Rejected	Rejected
H7b	*Board Performance is positively related to Operational Performance*	**Accepted**	Rejected
H7.1	**Strategic Decision Quality s is positively related to Organisational Performance**	**Accepted**	**Partially Accepted**
H7.1a	**Strategic Decision Quality is positively related to Financial Performance**	**Accepted**	**Accepted**
H7.1b	**Strategic Decision Quality is positively related to Operational Performance**	**Accepted**	Rejected

CHAPTER 8:
Theoretical Considerations and Additional Statistical Tests

8.1 Introduction

This Chapter addresses additional theoretical concerns which is beyond our initial propositions. This will be made with a series of statistical tests and analyses. The use of different statistical analyses to demonstrate the robustness of a study's findings is a good research practice (Carlson and Herdman, 2012). The findings of this Chapter may prove valuable for the field of board dynamics and team processes.

8.2 Conflict Types, Board Effectiveness and Organisational Performance

Until now, it was examined the overall level of conflict and its effect on board effectiveness and organisational performance. The three types for conflict yield from CFA was relationship conflict, process conflict and frequency of conflict. The study supports that the overall level of conflict on the factors of board effectiveness and organisational performance is negative since each type of conflict is interrelated with each other. One type of conflict cannot exist in isolation and that the beneficial effects of one type of conflict are mitigated by the losses arising from the other one (Forbes and Milliken, 1999; Heemskerk, Heemskerk and Wat, 2017; Zona and Zattoni, 2007). The findings about conflict were presented with the Models 1 and 2 in Chapter 7.

However, taking into account arguments that support that some types of conflict may have a few positive effects on group performance (Jehn, 1997; Pelled, Eisenhardt and Xin, 1999; Simons and Peterson, 2000; Song, Dver and Thieme, 2006; Wolfe and Murthy, 2005), first order Structural Models, Model 9 and Model 10, were developed to evaluate the impact of each of the sub-dimensions of conflict (relationship, process and frequency of conflict) both on board effectiveness and organisational performance.

8.2.1 Conflict Types and Board Effectiveness

Structural Model 10 was developed to evaluate the influence of the three types of conflict on each one item of board effectiveness (Figure 8.1). The model was subjected to CFA and the results showed that overall the model did not attain a good fit. Both items from process conflict (disagreement about procedures and disagreements about way to do things) failed to load substantially and displayed very low loadings (PC1: 261 and PC2: 361).

However, we note that process conflict had a significant negative impact on strategic leadership (CR = -3.180, p = .001), readiness (CR = -3.188, p= .001), networks (CR = -3.014, p < .003), and strategic decision quality (CR = -3.174, p = .002). Relationship conflict did not have any significant effect on board effectiveness. A significant positive relationship found only on the frequency of conflict on strategic leadership showing some evidence of potential benefits on the ability of the board to provide strategic leadership. However, this result is negligible since the model does not show a good fit.

In an attempt to achieve a better model fit, the two items of process conflict were removed and the model was re-run. Once more the model failed to attain good fit. Hence, based on the model testing it is recommended that first-order Structural Model analysis doesn't lead to a good fit.

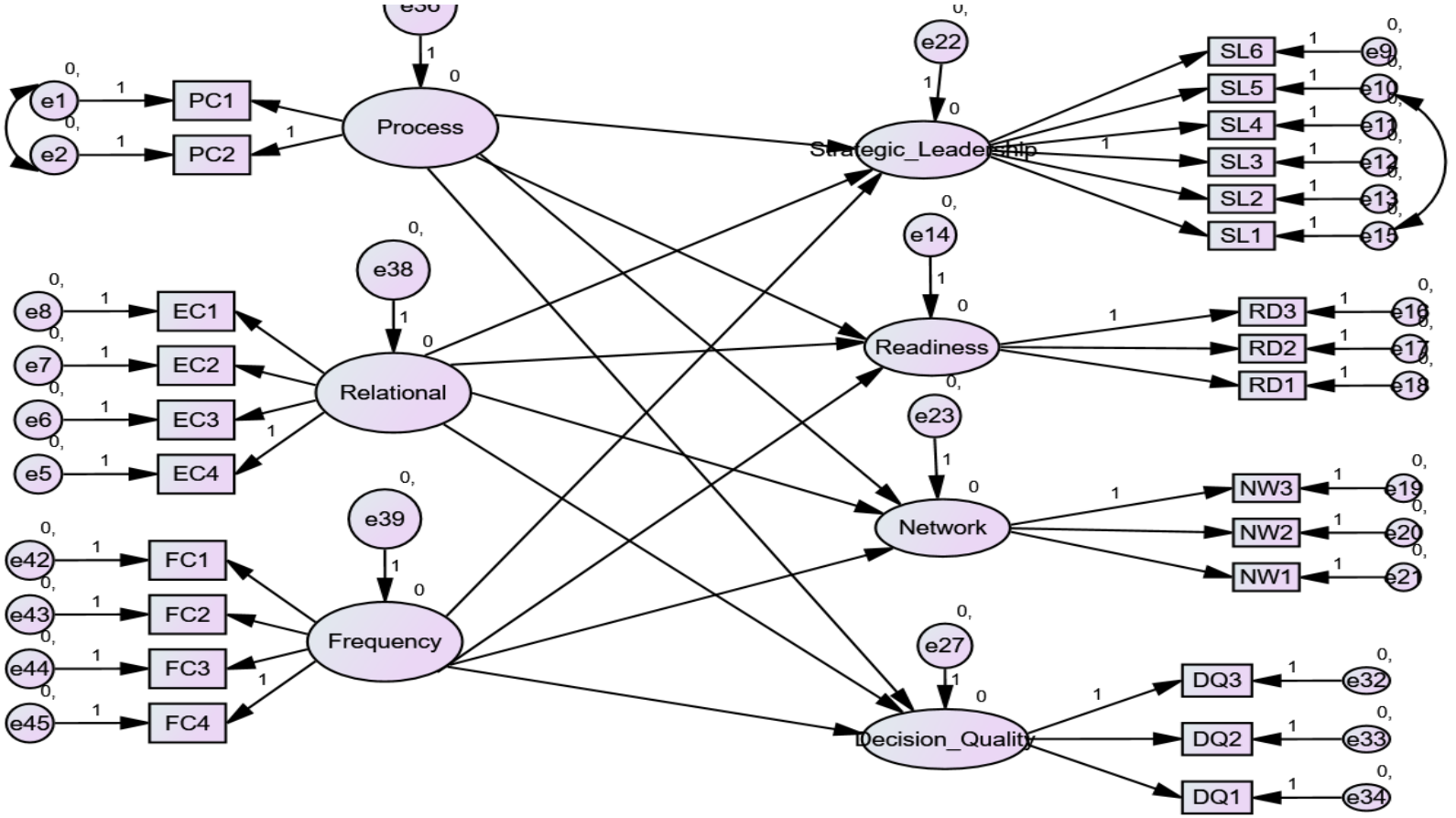


Figure 8.1: Sub-dimensions of Conflict and Board Effectiveness (Model 10)

8.2.2 Conflict Types and Organisational Performance

A first order Structural Model 11 was developed to assess the impact of each of the sub-dimensions of conflict on the sub-dimensions of organisational performance, namely financial and operational performance (Diagram 8.2). The Model was subjected to CFA and the results showed a good fit. All indices were within the required range (Table 8.1). Only the frequency of conflict had a negative significant impact on operational performance and all other relationships were found to be insignificant. In the initial Model 2, Chapter 7, we did not find support for hypothesis 2 which states that conflict has a negative effect on organisational performance. However, in this model it is found evidence that the frequency of conflict (which combines parameters of task-based and process conflict) seems to have a negative significant impact on operational performance, strengthening even more the arguments about the deleterious effects of conflict on organisational effectiveness.

Table 8.1: Model Fit of the Final Model

	CMIN/DF ($\chi^2/\delta f$)	SRMR	CFI	TLI	RMSEA
Final	.1175	.1175	.917	.903	0.071

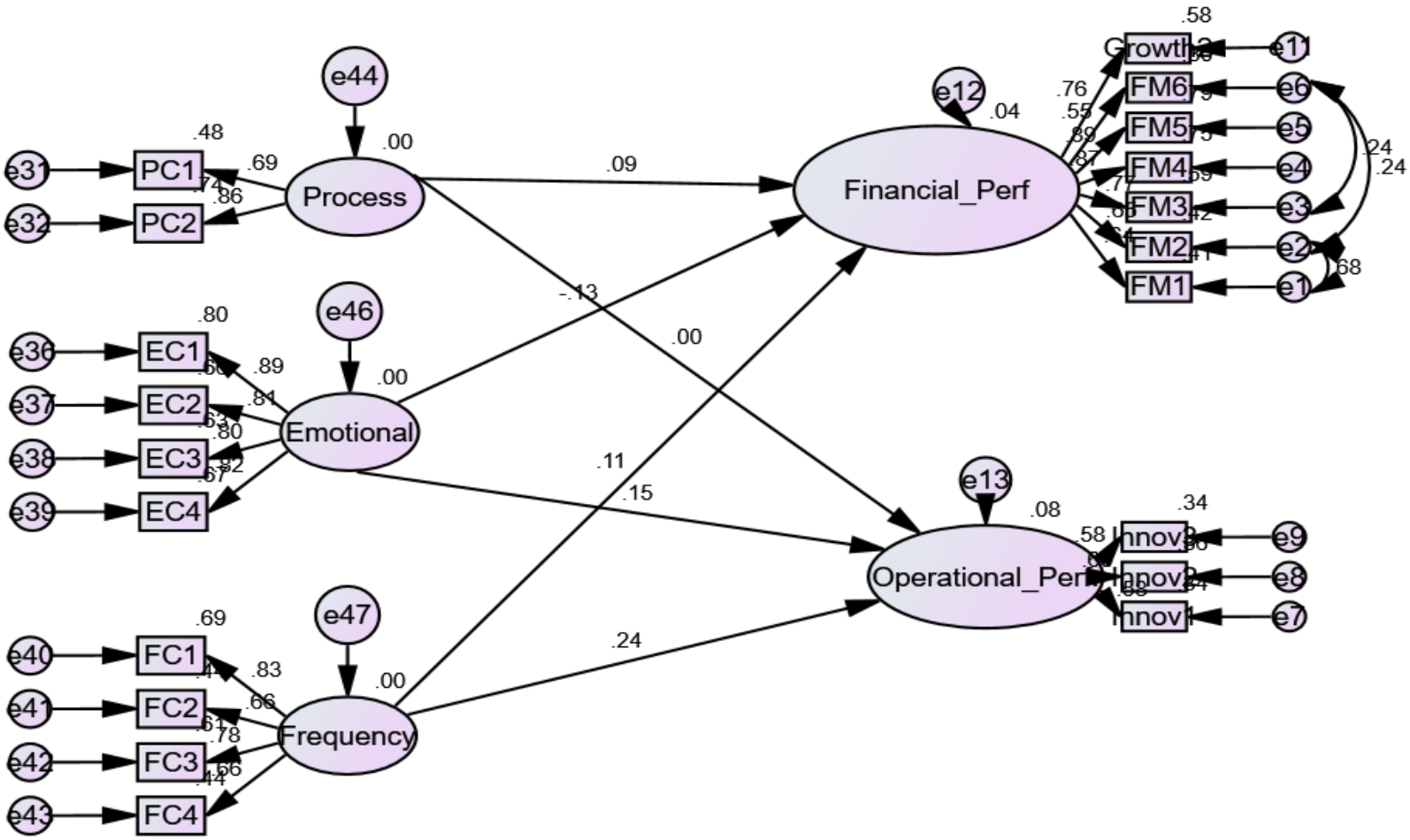


Figure 8.2: Types of Conflict and Organisational Performance (Model 11)

8.3 Confirmatory Factors Analysis Vs Exploratory Factor Analysis

In Chapter 6 Exploratory Factor Analysis (EFA) was performed to reduce a large set of variables into a smaller one. The results of the Principal Components Analysis for conflict, trust, behavioral integration, board performance, strategic decision quality and perceived organisational performance generated 14 reliable factors and 48 items. In Chapter 7 Confirmatory Analysis was utilised to evaluate how well the observed variables fit the model and the Structural Model tested the relationships between the dependent and independent variables.

In this study is supported that EFA and CFA in the current study are complimentary to each other and the testing is based on a combination of prior theory and empirical work. EFA helped us to yield a simple structure for the data set, especially for the constructs of conflict, board effectiveness and organisational performance, and then CFA enabled us to test the hypotheses. EFA is very informative for the evaluation of an instrument, and CFA about the sources of potential misfit. The validation of an instrument in a different context could reveal important findings for theory building. Besides, the author strongly supports that the objective of the researcher should drive the analysis and not the vice-versa. The objective, which was to test the model in a new context, that of board of directors, led to adjustments in prior tested scales and add new items, without knowing their underlying structure.

However, arguments advising that models should not be tested simultaneously with EFA and CFA were taken into consideration. Various tests were performed using only CFA for the constructs and it was noticed that the findings remained the same, boosting the reliability of the results. In sections 8.3.1 and 8.3.2, there are included some examples of CFA which was performed for trust, behavioral integration and conflict.

8.3.1 CFA for Conflict

When developing the operationalisation of conflict, 12 items were included which capture three types of conflict: relationship, task-based and process conflict. The model with these 12 items was subjected to CFA (Figure 8.3, Step 1) based on the theoretical assumption of three dimensions. However, the model did not show a good fit and loadings for a number of items were unacceptable (CMIN= 7.300, SRMR= .1137, CFI .185, TLI =.572, RMSEA= .185).

In Step 2, the two items of process conflict (PC3=disagreements about who should do what; PC4= disagreements about time) and two of task-based conflict (TC3=

disagreements about strategic decisions; TC4= disagreements about ideas), for which the loadings were quite low, were removed to create a separate factor (frequency of conflict) and the model is presented with the Figure 8.4. However, the model still failed to show a good fit since one of the items of task-based conflict (differences of professional opinions) had low loadings. Consequently, in step 3 the same measurement model (Figure 8.5), like the one in Fig. 7.2, was produced.

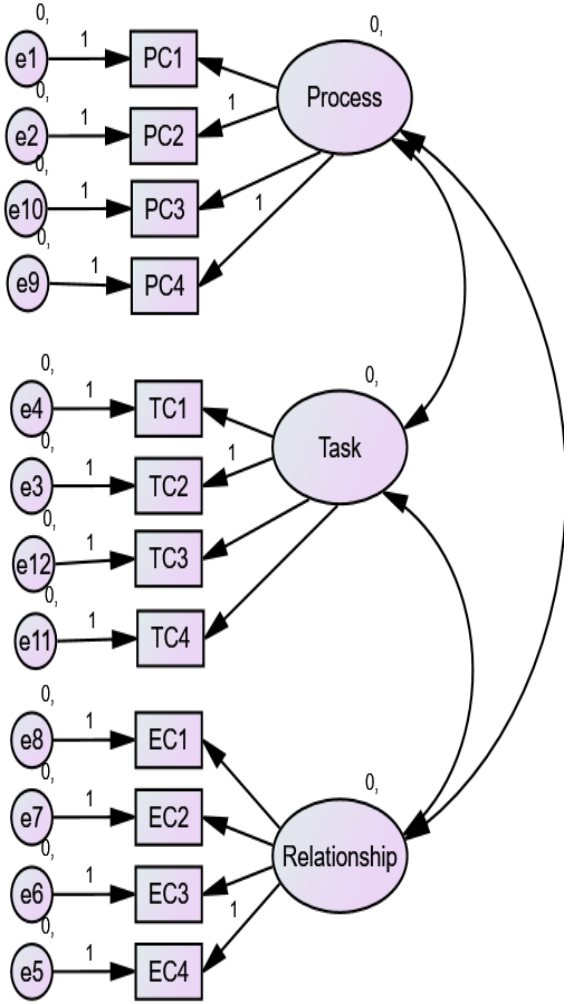


Figure 8.3: CFE for Conflict (12 items), Step 1

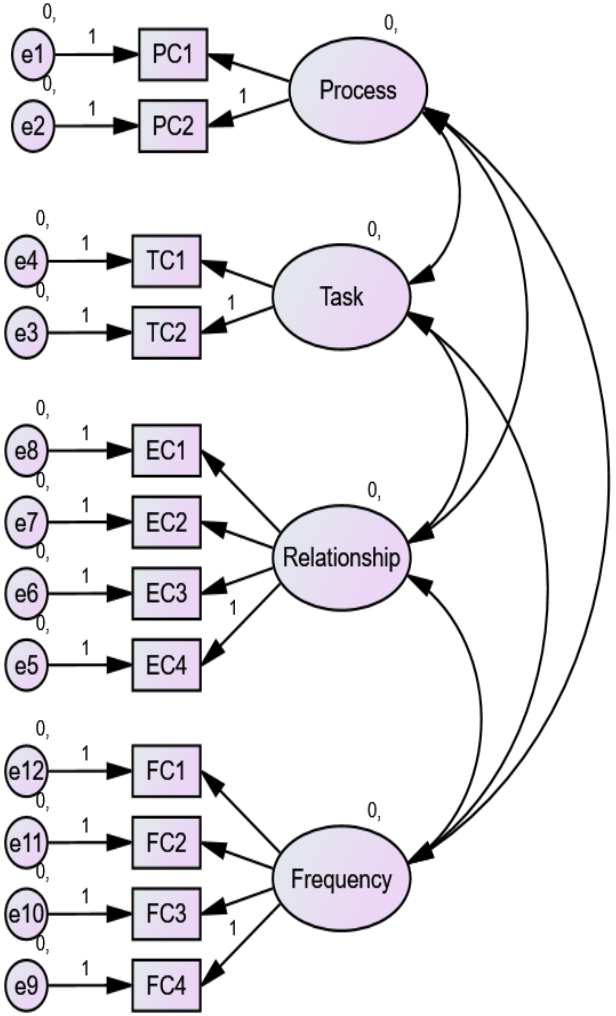


Figure 8.4: CFE for Conflict (12 items), Step 2

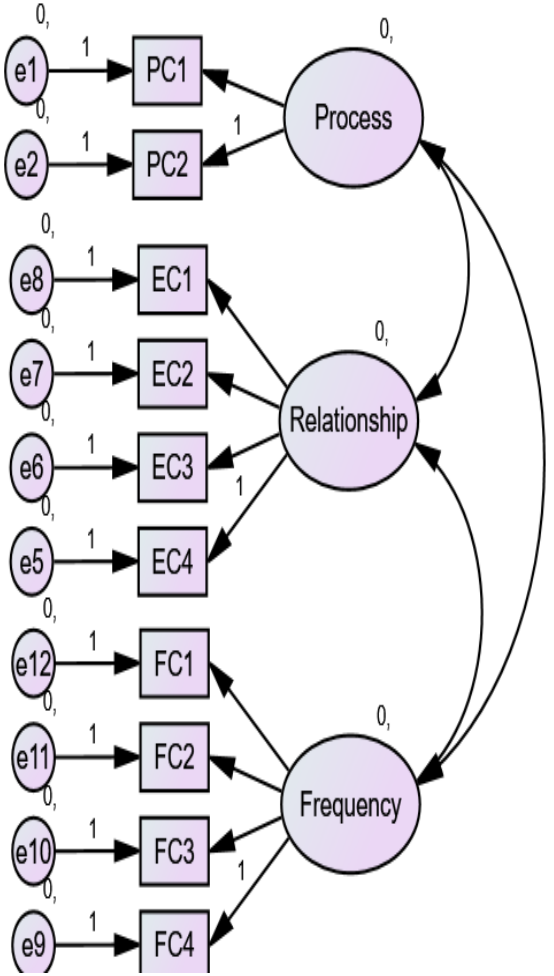


Figure 8.5: CFE for Conflict (10 items), Step 3

8.3.2 CFA for Trust

For trust (the initial construct had 5 items but the indexes in the model did now show a good fit. Running again the model, 3 reliable items were produced (Figure 8.6) with Composite Reliability Calculator=0.87 and Ave 0.69.

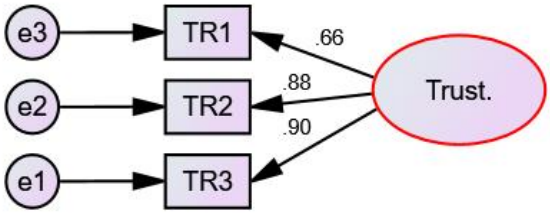


Figure 8.6: CFE for Trust

8.3.3 CFA for Behavioral Integration

For behavioral integration, there were initially 3 dimensions and overall 9 items. CFA did not show a good overall model fit and we end up with exactly the same measurement model as Figure 7.4 CFA for Collaborative Behaviour (Composite Reliability Calculator for all items=0.946).

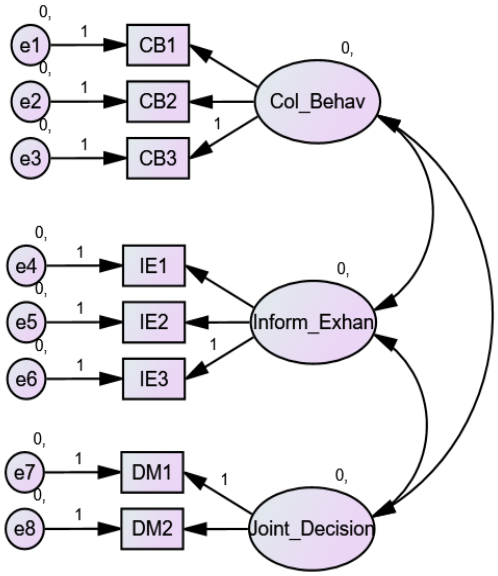


Figure 8.7: CFE for Behavioral integration

8.4 Statistical Tests to Address the Negative Impact of Trust in Model 8

Trust to the team has a significant relationship on board performance and strategic decision quality based on Model 3 in Chapter 7. However, an interesting finding of the final Model 8 was that the inclusion of conflict and behavioral integration into the same model, turned the relation between trust and board effectiveness to a negative one. Thus, it was explored which one of the two processes (behavioral integration or conflict) affect more the level of trust and make it to affect negatively board effectiveness.

8.4.1 Excluding Behavioral Integration from Model 8

A Structural Model (Model 12) was developed to assess the impact of trust and conflict on board effectiveness and organisational performance (Figure 8.8). The model fit was good (Table 8.2) and the results revealed an insignificant but negative impact of trust on board performance and strategic decision quality (Table 8.3). The impact of trust on organisational performance remained insignificant. The results further revealed an interesting statistical output where the correlation between trust and conflict was significantly amplified in presence of all other variables (r = .93) which was originally moderate (r = -.435).

Table 8.2: Model Fit of the Model 12

	CMIN/DF ($\chi^2/\delta f$)	SRMR	CFI	TLI	RMSEA
Final	1.511	.0848	.910	.902	.053

Table 8.3: Estimates of Model 11

Structural Path	Standardized Loading	C.R	P	Relation
Trust -> Board Performance	-1.100	-1.357	.175	Insignificant
Trust -> Strategic Decision Quality	-.774	-1.719	.086	Insignificant
Trust -> Financial Performance	.138	1.349	.177	Insignificant
Trust -> Operational Performance	.079	1.213	.225	Insignificant

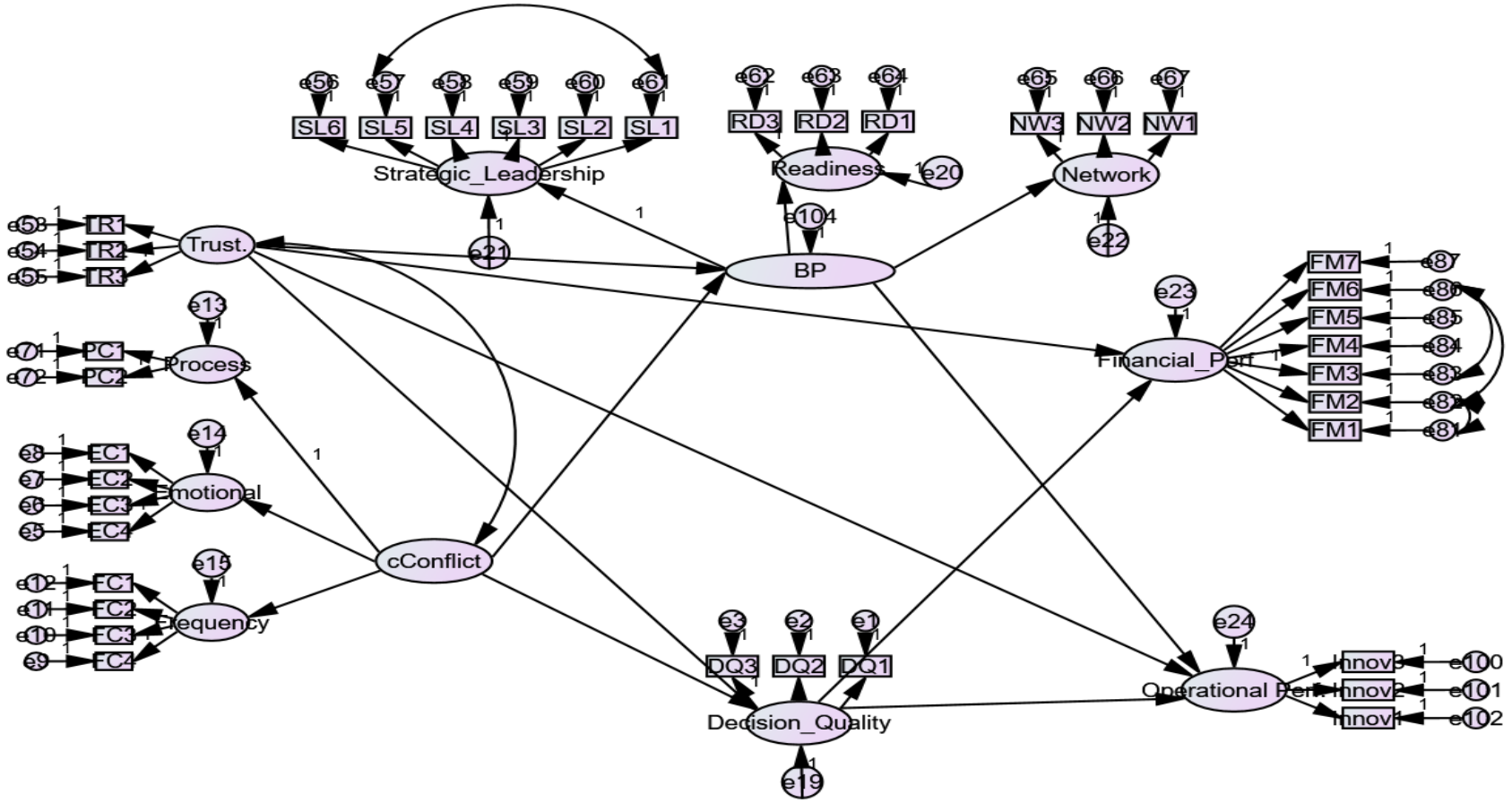


Figure 8.8: Model 12, Excluding Behavioral Integration from Overall Model 8

8.4.2 Excluding Conflict from Model 8

A Structural Model, Model 12, was developed to evaluate the impact of trust and behavioral integration on board performance, strategic decision quality, financial performance and operational performance (Figure 8.9). The model fit of the model is very good (Table 8.4) and the results reveal that the presence of behavioral integration with trust makes the impact of trust on the dependant variables significant, with the exception of operational performance (Table 8.5). Trust has a significant negative impact on board performance and strategic decision quality, whereas the relation with organisational performance remained insignificant.

Table 8.4: Model Fit of the Model 12

	CMIN/DF ($\chi^2/\delta f$)	SRMR	CFI	TLI	RMSEA
Final	1.525	.0767	.918	.909	.053

Table 8.5: Estimates of Model 12

Structural Path	Standardized Loading	C.R	P Value	Relation
Trust -> Board Performance	-.408	-2.357	.018	Significant
Trust -> Strategic Decision Quality	-.350	-2.121	.034	Significant
Trust -> Financial Performance	132	1.240	.215	Insignificant
Trust -> Operational Performance	-.417	-.743	.458	Insignificant

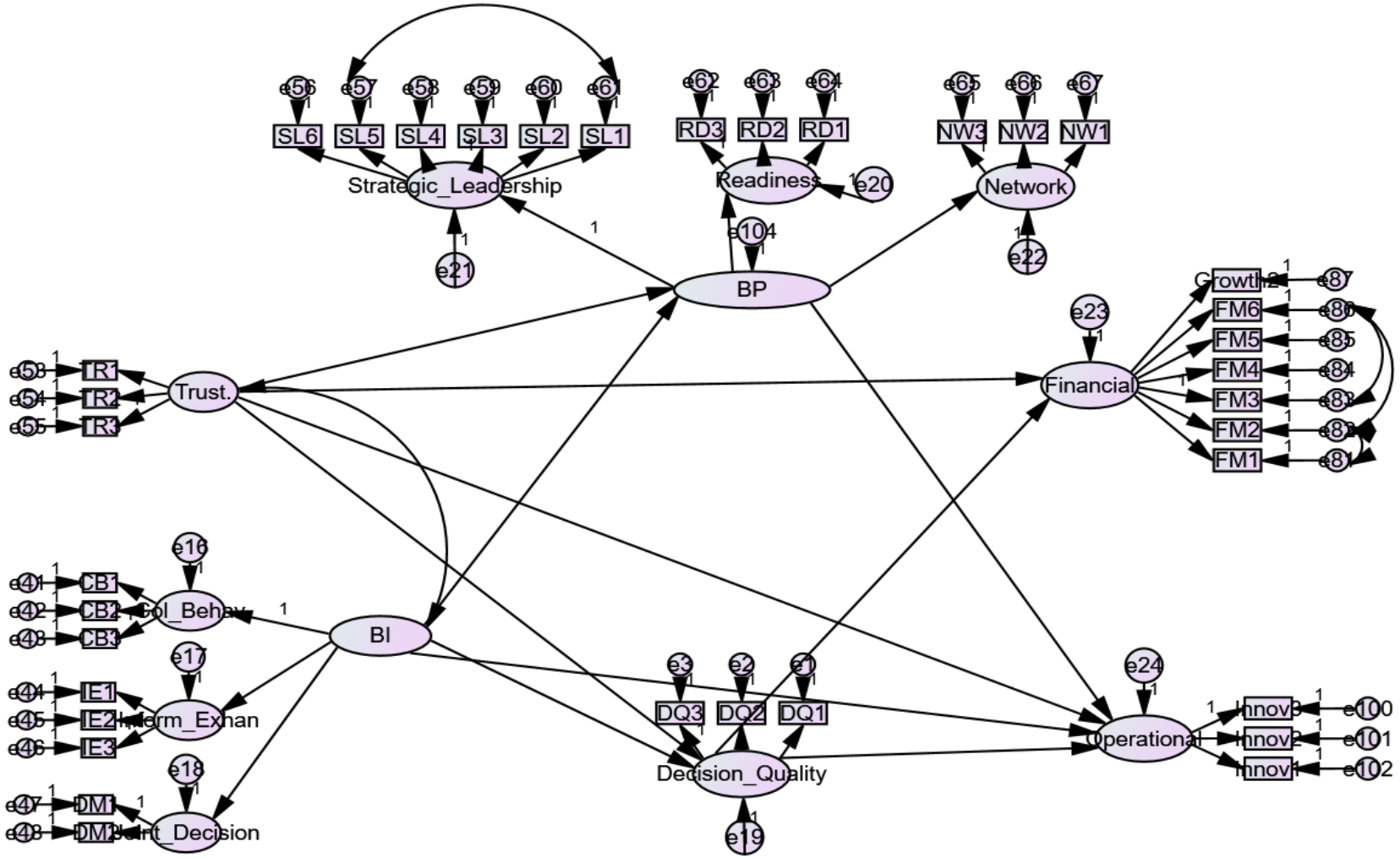


Figure 8.9: Model 13, Excluding Conflict from Overall Model 8

8.4.3 Theoretical Considerations about the Role of Trust

Having explored further the concept of trust, important theoretical considerations raise. Up to this point, trust has been examined as an input and it was found that trust, as a standalone construct, has a significant positive relationship on board performance, strategic decision quality, operational and financial performance. With the inclusion of conflict and behavioral integration into the model, the relation between trust and board effectiveness turns to a negative one, whereas the relation with organisational performance remains insignificant.

Examining trust and conflict together, excluding behavioral integration, we can notice that trust has no significant impact on board effectiveness and organisational performance. Trust and behavioral integration together in a model, turn trust to have to a negative effect on board effectiveness, and no relation with organisational performance. Table 8.6 summarises the above-mentioned findings.

Table 8.6: Trust as an input in this study (Models: 3, 4, 8, 9,12. 13)

Independent Variable(s)	**Effect of Trust on Dependent Variables**			
	Board Performance	**Strategic Decision Quality**	**Financial Performance**	**Operational Performance**
Trust	+	+	+	+
Trust, Conflict and Behavioral Integration	–	–	No effect	No effect
Trust and Conflict	No effect	No effect	No effect	No effect
Trust and Behavioral Integration	–	–	No effect	No effect

+ = significant positive effect
- = significant negative effect

8.5 Trust as a Mediating Mechanism

Various studies have addressed the important role of intra-team trust and the need to explore it as a mediating variable. Researchers (e.g. Jehn, Greer and Rupert 2008) propose that trust could be also examined as an emergent state which influences team performance and evolves over time in a group based on team processes. In this spirit, Greer and Dannals (2017) advise future researchers to consider factors that moderate task conflict with outcomes, instead of trying to find the direct effects of conflict on team outcomes. Choi and Cho (2011) as well as Simons and Peterson back in 2001 found that high levels of intra-team trust diminish emotional conflict. In the following sections, trust is explored as a mediating mechanism between conflict and board performance.

8.5.1 Mediation analysis between Conflict, Trust and Board Performance

Mediation analysis was performed using Baron and Kenny's (1986) causal approach. The initial causal variable was conflict (IV), the criterion variable was board performance, and the mediating variable was trust (MV). The results reveal that the total effect of IV (conflict) on DV (board performance) was significant, $c = -.790$, $p < .001$.

IV (conflict) was significantly predictive of hypothesized mediating variable, board performance; $a = -.883$, $p < .001$, when controlling for trust, MV significant predict DV (Conflict), $b = .277$, $p < .001$.

The estimated direct effect of IV on DV, controlling for MV, was found to be significant as well $c' = -.367$, $p < .001$. The indirect effect, ab, was -.244. This was judged to be statistically significant using Sobel (1982) test, $z = -2.88$, $p < .005$. The coefficients for both a and b were found statistically significant, the Sobel test for the ab product was also significant, the direct effect from IV on DV (c') was found to be statistically significant, therefore, the effects of IV on DV partially completely mediated by trust (MV).

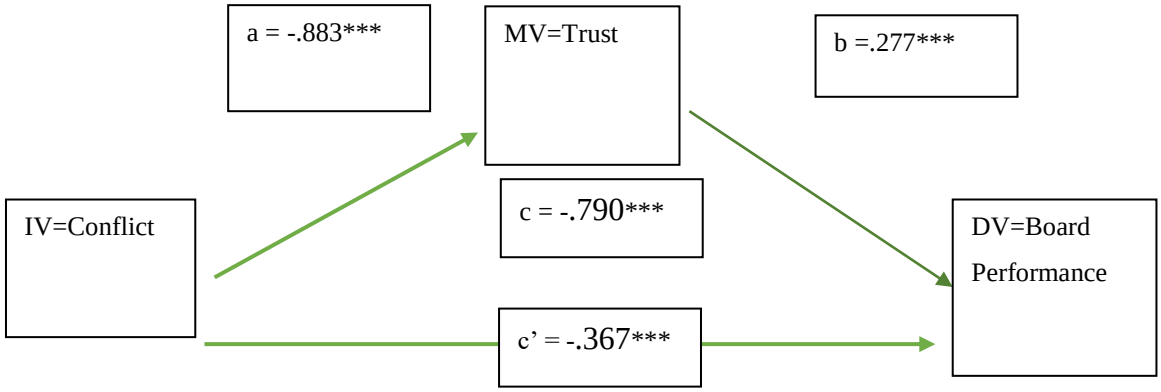


Figure 8.10: Mediation for Conflict, Trust and Board Performance

P < 0.05 *
P < 0.01 **
P < 0.001***

The results imply a) that conflict has a negative relation to trust b) trust affects positively board performance and c) conflict has a negative impact on board performance but there is evidence that some of the influence of conflict on board performance is thought trust. An increase in conflict would lead to a lower trust that would significantly affect negatively board performance.

8.5.2 Mediation analysis between Conflict, Trust and Strategic Decision Quality

Mediation analysis was performed using Baron and Kenny's (1986) causal approach. The initial causal variable was conflict (IV), the criterion variable (DV) was strategic decision quality, and the mediating variable was trust (MV). The results reveal that the total effect of IV (conflict) on DV (strategic decision quality) was significant, $c = -.657$, $p < .001$.

IV (conflict) was significantly predictive of hypothesized mediating variable, strategic decision quality; $a = -.883$, $p < .001$, when controlling for trust, MV significant predict DV (Conflict), $b = .311$, $p < .001$.

The estimated direct effect of IV on DV, controlling for MV, was found to be significant $c' = -.418$, $p < .001$. The indirect effect, ab, was -.274. This was judged to be statistically significant using Sobel (1982) test, $z = -2.71$, $p < .01$. The coefficients for both a and b were found statistically significant, the Sobel test for the ab product was also significant, the direct effect from IV on DV (c') was found to be statistically significant, therefore, the effects of IV on DV partially completely mediated by Trust (MV).

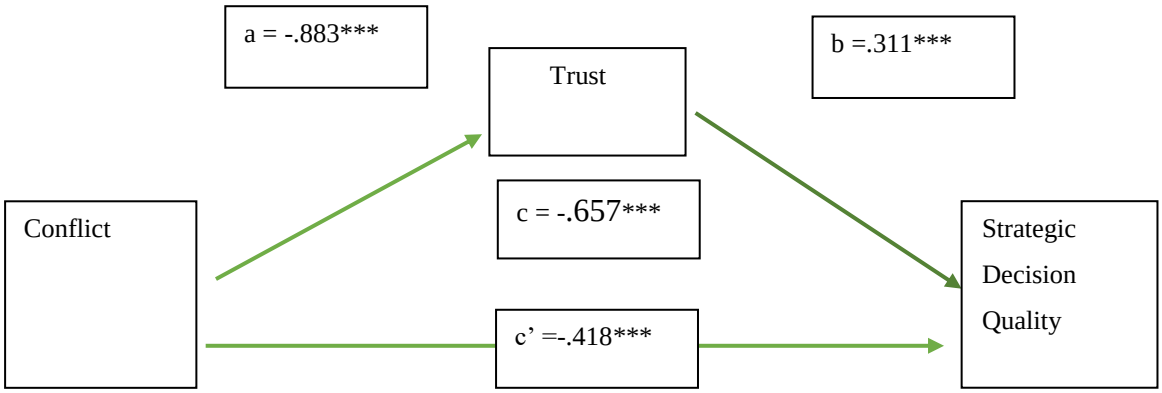


Figure 8.11: Mediation for Conflict Trust and Strategic Decision Quality

P < 0.05 *
P < 0.01 **
P < 0.001***

The results imply a) that conflict has a negative relation to trust b) trust affects positively strategic decision quality and c) conflict has a negative impact on strategic decision quality and some of this influence is thought trust. An increase in conflict would lead to a lower trust that would significantly affect negatively strategic decision quality.

8.5 Moderation Analysis between Conflict, Trust and Board Effectiveness

Apart from mediation, a moderation analysis was also performed. As discussed in Chapter 7, Baron and Kenny (1986) define a moderator as ‘‘a qualitative or quantitative variable that affects the direction and/ or strength of the relation between an independent and a dependent or criterion variable’’ (p. 1174). According to Vancouver and Carlson (2015), the difference between a mediator and a moderator is that the mediator is a process or a mediating mechanism for explaining a presumed relationship between the independent and dependant variable, whereas moderator is a variable that affects the strength of a relationship (increases or decreases) between two different variables. The authors support that both moderation and mediation methods should be used for valid conclusions, triangulation and theory progress. Considering their arguments, a moderation analysis was performed to test if the negative effects of conflict on board effectiveness can be reduced by trust.

8.5.1 Moderation Analysis between Conflict, Trust and Board Performance

Process Model-I with Board Performance as dependent variable illustrated over all model fit at values F (3, 182) = 6.2115, p < .001, R2= .201. The results reveal that there was negative insignificant direct impact between predictor variable conflict and board performance with b= -.1019, t= -1.0838, p > .05. and moderator (trust) showed a positive

impact on board performance with b = .3536, t = 3.8218 and p < .0005. The interaction term (conflict x trust) is found to have insignificant impact on the board performance with values b = .0579, t = .9929, p > 05. Since the interaction effect on board performance is insignificant, this shows that the negative effects of conflict on board performance are not moderated by Trust. From Figure 8.12, it is deduced that no matter the level of conflict, the inclusion of trust does not change the trend of the relationship between conflict and board performance.

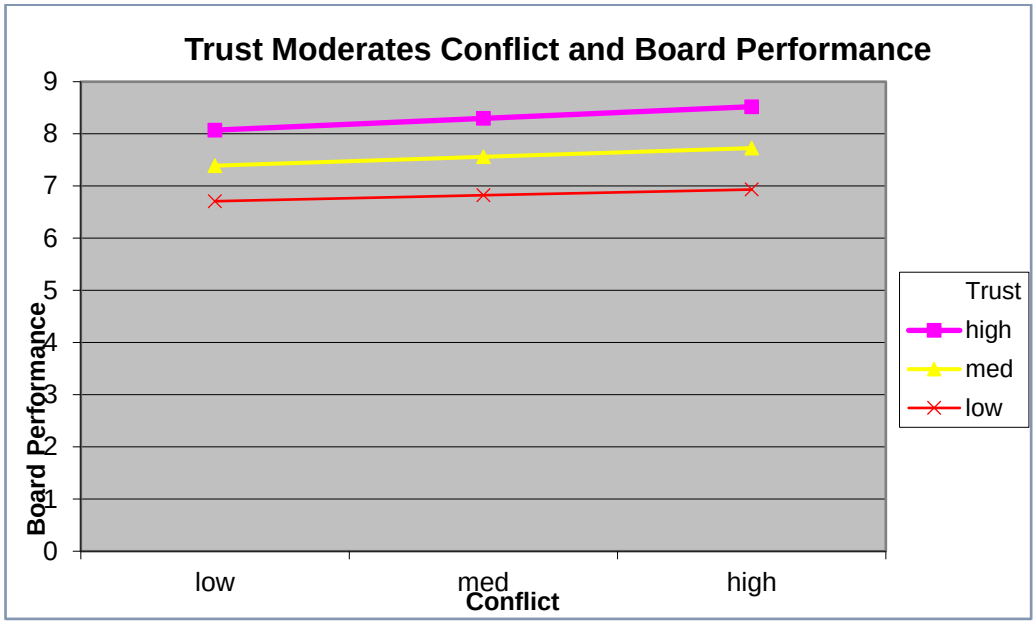


Figure 8.12: Moderation Conflict, Trust and Strategic Decision Quality

8.5.2 Moderation Analysis between Conflict, Trust and Strategic Decision Quality

Process Model-I with strategic decision quality as dependent variable illustrated over all model fit at values F (3, 182) = 10.9061, p < .001, R2= .1621. The results reveal that there was negative insignificant direct impact between predictor variable conflict on strategic decision quality with b=-.3591, t=-3.6011, p < .0005 and Moderator (trust) showed a positive significant impact on decision quality with b = .3177, t = 3.7061 and p < .0005. The interaction term (conflict x trust) is found to have insignificant impact on the strategic decision quality with values b = -.0461, t = -1.2003, p > 05. Since the interaction effect on strategic decision quality is insignificant, this shows that the negative effects of conflict on strategic decision quality are not moderated by trust.

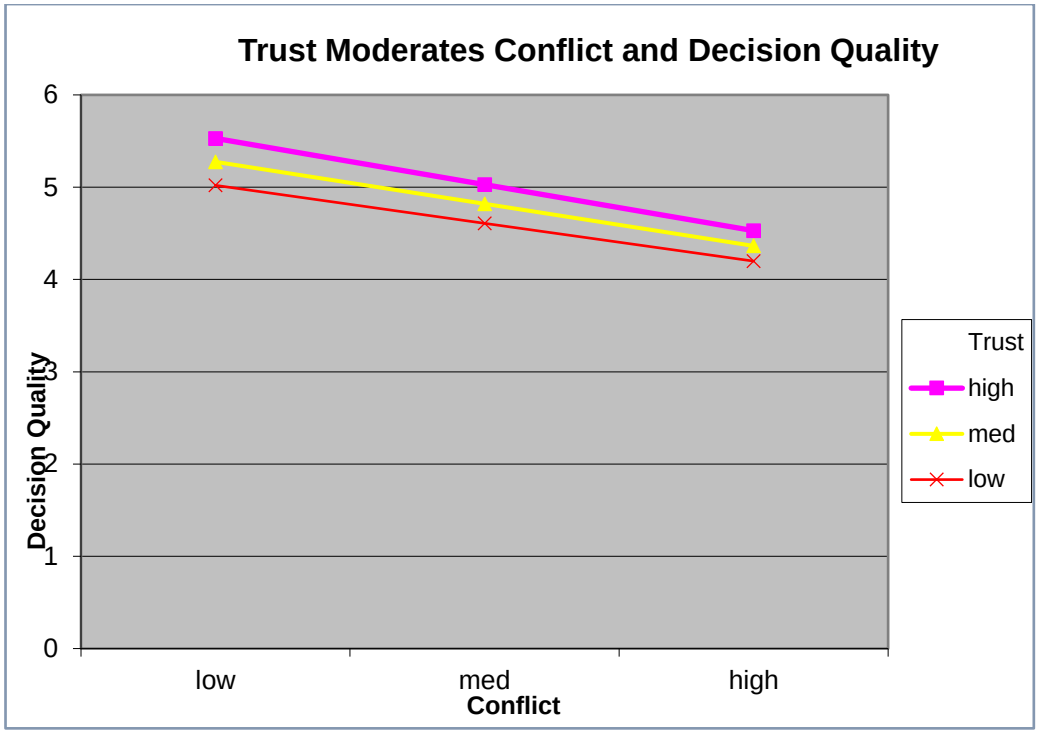


Figure 8.13: Moderation: Conflict, Trust and Strategic Decision Quality

8.6 Summary

This Chapter examined a few additional important issues which have been addressed in literature. The results of the analysis, which is beyond the initial hypotheses generated very interesting findings and input for theoretical considerations.

First of all, it was examined the impact of the three different types of conflict (relationship, process and frequency) on board effectiveness and organisational performance and we don't find substantial evidence to support that each type of conflict should be examined separately. One type of conflict cannot exist in isolation and that the beneficial effects of one type are mitigated by the losses arising from the other one (Forbes and Milliken, 1999; Heemskerk, Heemskerk and Wat, 2017; Zona and Zattoni, 2007).

Secondly, in an attempt to boost the reliability of the results, the author performed various test using only CFA for our constructs and noticed that the findings remained similar with the ones presented in Chapters 6 and 7.

Thirdly, trust was also explored as a process. Trust between board members as a standalone construct has a significant positive relationship on board performance, strategic decision quality and organisationa; performance. With the inclusion of conflict and behavioral integration into the model, the relation between trust and board effectiveness turns

to a negative one. Examining trust and conflict together, excluding behavioral integration, we can deduce that trust has no significant impact on board effectiveness. Trust and behavioral integration together lead trust to have to a negative effect on board effectiveness. The results from these tests give us evidence for the paramount role of behavioral integration in the board of directors. Trust, although is one of the most important team dynamic's, it raises questions regarding its priority in the board context.

Fourthly, trust was explored a mediating mechanism and more specifically it was examined if the effect of conflict on board effectiveness is mediated by trust. From the mediation analysis, it was found that an increase in conflict would lead to a lower level of trust that could significantly affect negatively board effectiveness. Lastly, the author performed a moderation analysis and it was found that the negative effects of conflict on board effectiveness cannot be reduced by higher levels of trust.

CHAPTER 9: CONCLUSIONS

9.1 Introduction

This last Chapter presented an in-depth overview of the results and findings of this study. Moreover, the limitations along with directions for future research are addressed. Practical recommendations to academic community and management practice are also included at the end of this Chapter.

9.2 Overview of the thesis

The thesis had the aim to examine three board dynamics, that of conflict, trust and behavioral integration and their impact on board effectiveness and organisational performance.

9.2.1 Summary of the Literature Review and Identification of the Literature Gap

Following a comprehensive literature review, it was found that there is a need to open the black box of board dynamics and understand what makes a board effective as a group. Recent academic and empirical research suggests that directors should work as a team to enhance board outcomes and collective knowledge base (Charas, 2016; Gabrielsson, Huse and Minichilli, 2007). However, there is a gap in literature in studying boards from a group perspective. With the exception of few studies, researchers still to move inside the "black box" of the upper echelons processes and understand how team members interact (Kisfalvi, Sergi and Langrey, 2016).

The limited volume of management research on team processes has mainly focused on TMTs and not on board of directors and the way these executives share information and help each other to solve problems. Considering this gap, the three processes of the model appear particularly interesting in exploring the dynamics of boards and the ways these shape decision-making and team outputs.

The current thesis is moved beyond the bulk volume of studies on board diversity and focus on the way that team dynamics affect outcomes. Research in corporate governance lacks understanding of the behavioral processes and group interactions that determine board effectiveness (Roberts, McNulty and Stiles, 2005). Forbes and Milliken (1999, p. 502) state that ''understanding the nature of effective board functioning is among the most important areas of management research''. The authors underline that the effectiveness of the board

lies on various social-psychological processes and they note that an effective board characterised by high levels of interpersonal attraction.

It is widely accepted, since 1987, that group's interactions are the most useful indicator of group dynamics and a crucial parameter for improving group effectiveness (Hackman, 1987, p.321). Despite the need addressed by Forbes and Milliken back in 1999 to examine the factors that lead to increased performance in the boardroom, there is still scarce research towards this direction. Recent studies call for more research into board behaviour and dynamics (Bezemer, Nicholson and Pugliese, 2014; Machold and Farquhar, 2013; Pettigrew, 2013; Pugliese, Nicholson and Bezeme, 2015) because it is supported that board members' interactions during board meetings are crucial factors of board effectiveness.

Overall, a limited number of researchers have examined what makes boards function well as groups and the role that board group effectiveness plays in organisation performance (Daily, Dalton and Cannella, 2003; Hermalin and Weisbach, 2003; Payne, Benson and Finegold, 2009; Ruigrok et al. 2006; Stiles, 2001). This is mainly due to the fact that researchers encounter difficulties in granting access in boards rooms and in parallel executives are reluctant to share information about their boards (Daily, Dalton and Cannella, 2003; Payne, Benson and Finegold, 2009). The modest work that has been conducted till now, indicates that the current research could extend our knowledge on board of directors' dynamics.

9.2.2 Summary on the Empirical Part and Key Findings from Data Analysis

The model was tested from February-May 2016 with board members from Nordic Region who have been appointed in medium and large-sized organisations and through the web-survey method, we collected 186 usable responses. The statistical analysis of the model involved the following statistical techniques: Descriptive statistics, Exploratory Factor Analysis (EFA), Confirmatory Factory Analysis (CFA) and Structural Equation Modeling (SEM).

9.2.2.1 Key findings of the Descriptive Analysis

From the descriptive analysis, it is deduced that most of the companies are listed in the stock exchange (57.5%). The majority of these companies is based in Sweden and a large percentage belongs to the technology sector. The average board size is 6 with a high standard

deviation of 2. Most boards are comprised of 5 members whereas 7 members is the second most common option.

Intrateam conflict was conceptualised with three dimensions: task-based, relationship-based and process conflict. We overall notice a low level of relationship and process conflict in the Nordic Board of Directors. However, an interesting finding is that the level of disagreement increases when discussing about the content of strategic decisions, giving us evidence that there are differences of professional opinions at board meetings. This implies that the level of task-based conflict is considered as a relatively high in Nordic Boards. Apart from the level, the frequency of conflict was also measured and it was found that conflict episodes between board members are infrequent.

The level of trust to the board was high and for all the items the mean is above the mode demonstrating that: board members can count on each other if they have difficulties with their tasks, feel confident that the board will take their interests into account when taking strategic decisions and know that they will be kept informed about issues relevant to their work. Regarding behavioral integration, board members demonstrate a high level of collaborative behavior, information exchange and joint decision making.

Board effectiveness is captured as a construct with two elements: board performance and strategic decision quality. Regarding board performance, board members consider their boards very effective in achieving objectives and recognizing key survival factors. For strategic decision quality, board members feel that the effect of the recent strategic decision that the board took has been very good. Moreover, the respondents were asked to compare their organisational performance over the past three years to that of other organisations in the same industry. Interestingly all the items exceed the mode with the quality of products and services to receive the highest mean.

Overall from the descriptive findings, we could note that the high level of trust inside the boardrooms is compatible with the high level of trust that exists in the whole society. Trust is an important parameter of the Nordic economic and social welfare system. As noted by Welter (2012) collective trust that is generated in an organisation at the meso level could be fostered by the institutional trust that exists in the society and the macro level. Sweden, Denmark and Finland are the best performers worldwide regarding the remarkably high levels of trust that demonstrate in national and political institutions. Furthermore, the cohesion that exists in the society is compatible with the high level of behavioral integration in the board members. The Nordic citizens demonstrate a collaborative behavior with equal access in information, rights, obligations and decision making. Furthermore, the low level of

conflict found in this study seems to be compatible with the consensus building mechanisms that exist in the political and social setting. The Nordic countries avoid any conflicts either internally or externally and strive to build peaceful societies and promote conflict resolution mechanisms. Overall, the findings are in line with the findings of Minichilli et al. (2012) who argue that at the macro-level, national contexts exert a tremendous effect on board performance, board processes and corporate governance mechanisms. In the Nordic region, the efficiency of the legal system, the high control for disclosure and anti-fraud policies pose strict requirements to board members for proper corporate governance practices.

9.2.2.2 Key findings of the Exploratory Factor Analysis

Principal Components Analysis (PCA) was utilised to reduce a large set of variables into a smaller one. PCA was performed for the constructs of trust, conflict, behavioral integration, board performance, strategic decision quality and organisational performance. Table 9.1 presents the formation of 14 reliable factors and 48 items which fully satisfy the statistical and conceptual criteria for proceeding to the next steps of the analysis.

The construct of conflict produced 3 reliable factors (relationship conflict, process conflict and frequency of conflict) and 9 items. Trust generated 1 factor (trust to the board) with 3 items. Besides, behavioral integration produced 3 factors (collaborative behaviour, information exchange and joint decision making) with 9 items. Board performance ended up with 3 factors (strategic leadership, readiness and networks) and 12 items whereas strategic decision quality produced 1 factor with 3 items. Finally, organisational performance produced 3 factors and 11 items (financial performance, operational performance and growth). The factors extracted have a simple structure, lack complex loadings can be easily interpreted and are based on solid theoretical conceptualisations.

Table 9.1: Summary of the Reliable Factors extracted

Construct	Factors	Items
CONFLICT	Relationship Conflict	Friction
		Personality Clashes
		Tension
		Relationship Conflict
	Process Conflict	Disagreements about way
		Disagreement procedures
	Frequency of Conflict	Disagreements strategic decisions
		Disagreements ideas
		Disagreements who should do what
		Disagreements about time
TRUST	Trust to the board	Trust
		Members keep their word
		Board keep me informed
BEHAVIOURA INTEGRATION	Collaborative Behaviour	Volunteer members
		Flexible switching responsibilities
		Willing to help
	Information Exchange	Quantity of ideas
		Creativity and innovation
		Quality of solutions
	Joint Decision Making	Actions affect others
		Joint problems
		Discuss expectations
BOARD PERFORMANCE	Strategic Leadership	Providing leadership
		Shaping Strategy
		Strategy implementation
		Balancing interests
		Top Management performance
	Readiness	Anticipating threats
		Managing Crisis
		Succession
	Networks	Image
		Networks
		Government Relations
STRATEGIC DECISION QUALITY	Strategic Decision Quality	Overall Effectiveness
		Effect of Strategic Decision
		Results of the Strategic Decision
ORGANISATIONAL PERFORMANCE	Financial Performance	ROA
		ROE
		Fund Growth
		Profit Margin
		Growth in Profitability
		TSR
	Operational Performance	Innovation
		Attract Talents
		Quality
	Growth	Growth in Sales
		Growth in Market Share

9.2.2.3 Key findings of the Confirmatory Factor Analysis

Confirmatory Factory Analysis (CFA) evaluated how well the observed variables fit the model and the Structural Equation Modeling (SEM) tested the hypotheses between the dependent and independent variables. CFA was made for conflict, trust, behavioral integration, board effectiveness and organisational performance. All indices in CFA and SEM were well within the acceptable range and all the results showed good fit to the models.

Structure Equation Model 1 showed that conflict has negative effect on board effectiveness, confirming Hypotheses 1 and 1.1. Model 2 rejected Hypothesis 2 that stated that conflict affects negatively organisational performance. Models 3 and 4 found that trust affects positively both the overall effectiveness of the board (board performance and strategic decision quality) and the organisational performance (financial and operational), confirming Hypotheses 3, 3.1 and 4. From Model 5, we confirm Hypotheses 5 and 5.1 since behavioral integration affects positively board performance and strategic decision quality. Hypothesis 6 was partially confirmed with Model 6 since behavioral integration affects only the operational and not the financial performance. Model 7 showed that board performance improves the operational performance, but not the financial, whereas strategic decision quality affects both dimensions of organisational performance; hence Hypothesis 7 was partially confirmed.

A mediation analysis was also performed to examine how board effectiveness explains the relationship between board dynamics (conflict, trust and behavioral integration) and organisational performance. Mediation analysis showed that board performance significantly mediates the relationship between trust and operational performance. This shows that the influence of trust on operational performance is through board performance. Besides, strategic decision quality partly mediates the relationship between trust and operational performance as well as between trust and financial performance

An overall Model, Model 8, was created based in all the previous models (Models 1-7). The results of this holistic model are almost like the outcomes of the previous models. Trust, conflict and behavioral integration impact both on board performance and strategic decision quality. The outcomes confirm that the three independent variables affect significantly the overall board effectiveness. In line with previous Models (Models 1-7), conflict affects negatively board effectiveness whereas behavioral integration affects positively board effectiveness. An interesting finding of Model 8 is that, in contract to Model 3, trust has a negative relation to board effectiveness when conflict and behavioral integration

are included in the final Model. All the hypotheses along with the relevant research questions are presented in Tables 9.2 and 9.3.

Table 9.2: Research questions along with Hupotheses (Models 1-7)

Research Question	Hypotheses	Statement	Result
Does Conflict in the board of directors affect Board Effectiveness and Organisational Performance?	H1	**Conflict in the Board of Directors is negatively related to Board Performance**	**Accepted**
	H1a	Conflict in the Board of Directors is negatively related to Strategic Leadership	Accepted
	H1b	Conflict in the Board of Directors is negatively related to Readiness	Accepted
	H1c	Conflict in the Board of Directors is negatively related to Networks	Accepted
	H1.1	Conflict in the Board of Directors is negatively related to Strategic decision quality	Accepted
	H2	**Conflict in the Board of Directors is negatively related to Organisational Performance**	**Rejected**
	H2a	*Conflict in the Board of Directors is negatively related to Financial Performance*	Rejected
	H2b	*Conflict in the Board of Directors is negatively related to Operational Performance*	Rejected
Does Trust in the board of directors affect Board Effectiveness and Organisational Performance?	H3	**Trust in the Board of Directors is positively related to Board Performance**	**Accepted**
	H3a	*Trust in the Board of Directors is positively related to Strategic Leadership*	Accepted
	H3b	*Trust in the Board of Directors is positively related to Readiness*	Accepted
	H3c	*Trust in the Board of Directors is positively related to Networks*	Accepted
	H3.1	*Trust in the Board of Directors is positively related to Strategic decision quality*	Accepted
	H4	**Trust in the Board of Directors is positively related to Organisational Performance**	**Accepted**
	H4a	*Trust in the Board of Directors is positively related to Financial Performance*	Accepted
	H4b	*Trust in the Board of Directors is positively related to Operational Performance*	Accepted
Does Behavioral Integration in the board of directors affect Board Effectiveness and Organisational Performance?	H5	**Behavioural Integration in the Board of Directors is positively related to Board Performance**	**Accepted**
	H5a	*Behavioural Integration in the Board of Directors is positively related to Strategic Leadership*	Accepted
	H5b	*Behavioural Integration in the Board of Directors is positively related to Readiness*	Accepted
	H5c	*Behavioural Integration in the Board of Directors is positively related to Networks*	Accepted
	H5.1	**Behavioural Integration in the Board of Directors is positively related to Strategic decision quality**	Accepted
	H6	**Behavioural Integration in the Board of Directors is positively related to Organisational Performance**	**Partially Accepted**
	H6a	*Behavioural Integration in the Board of Directors is positively related to Financial Performance*	Rejected
	H6b	*Behavioural Integration in the Board of Directors is positively related to Operational Performance*	Accepted
Does Board Effectiveness have a significant effect on Organisational Performance?	H7	**Board Performance is positively related to Organisational Performance**	**Partially Accepted**
	H7a	*Board Performance is positively related to Financial Performance*	Rejected
	H7b	*Board Performance is positively related to Operational Performance*	Accepted
	H7c	*Strategic decision quality is positively related to Financial Performance*	Accepted
	H7.1	**Strategic decision quality is positively related to Operational Performance**	Accepted
Does Board effectiveness mediate the relationship between Board Processes and Organisational Performance?	H8	**Board Perforance mediates the relationship between Conflict and Organisational Performance**	**Rejected**
	H8	**Strategic Decision Quality mediates the relationship between Conflict and Organisational Performance**	
	H9	**Board performance mediates the relationship between Trust and Organisational Performance**	Partially Accepted
	H9a	*Board Performance mediates the relationship between Trust and Financial Performance*	Rejected
	H9b	*Board Performance mediates the relationship between Trust and Operational Performance*	Partially Accepted
	H9c	*Strategic decision quality mediates the relationship between Trust and Financial Performance*	Partially Accepted
	H9.1	**Strategic decision quality mediates the relationship between Trust and Operational Performance**	Partially Accepted
	H10	**Board Performance mediates the relationship between Behavioural Integration and Organisational Performance**	**Rejected**
	H10a	*Board Performance mediates the relationship between Behavioural Integration and Operational Performance*	Rejected
	H10b	**Strategic decision quality mediates the relationship between Behavioural Integration and Operational Performance**	Rejected

Table 9.3: Comparison between Models 1-7 and Overall Models 8,9

Hypotheses	Statement	Models 1-7	Model 8
H1	Conflict in the Board of Directors is negatively related to Board Performance	Accepted	Accepted
H1.1	Conflict in the Board of Directors is negatively related to Strategic decision quality	Accepted	Accepted
H2	Conflict in the Board of Directors is negatively related to Organisational Performance	Rejected	Rejected
H3	Trust in the Board of Directors is positively related to Board Performance	Accepted	Rejected (strong negative relation)
H3.1	Trust in the Board of Directors is positively related to Strategic decision quality	Accepted	Rejected (strong negative relation)
H4	Trust in the Board of Directors is positively related to Organisational Performance	Accepted	Rejected
H5	Behavioural Integration in the Board of Directors is positively related to Board Performance	Accepted	Accepted
H5.1	Behavioural Integration in the Board of Directors is positively related to Strategic decision quality	Accepted	Accepted
H6	Behavioural Integration in the Board of Directors is positively related to Organisational Performance	Partially Accepted	Partially Accepted
H7	Board Performance is positively related to Organisational Performance	Partially Accepted	Rejected
H7.1	Strategic decision quality is positively related to Organisational Performance	Accepted	Partially Accepted

9.2.2.4 Key findings of the Additional Statistical Tests

The results of the extra statistical analysis we made, which were beyond of our initial assumptions, revealed some interesting findings.

The effect of each one subdimension of conflict (relationship, process and frequency) on board effectiveness and organisational performance was examined and there was found evidence that one type of conflict cannot exist in isolation and that the beneficial effects of one type of conflict are mitigated by the losses arising from the other one (Forbes and Milliken, 1999; Heemskerk, Heemskerk and Wat, 2017; Zona and Zattoni, 2007). Evidence was also found from Model 10 that showed that even if the types are examined separately, the frequency of conflict (which combines parameters of task based and process based conflict) seems to have a negative significant impact on operational performance, strengthening even more our arguments about the deleterious effects of conflict on organisational effectiveness.

Besides, as it was shown in Chapter 7, trust into the board as a standalone construct has a significant positive relationship on board performance, strategic decision quality and financial performance (Models 3 and 4). With the inclusion of conflict and behavioral integration into the model, the relation between trust and board effectiveness turns to a negative one (Model 8). In Chapter 8, examining jointly trust and conflict, excluding

behavioral integration, it was noticed that trust has no significant impact both on board effectiveness and organisational performance (Model 9). Examining trust and behavioral integration together, the relationship between trust and board effectiveness turned to a negative one, whereas the relation with organisational performance turned to insignificant (Model 10). Trust, although is a significant property of the board, the results raise important theoretical considerations within the board context.

In Chapter 8, taking into account the various voices in literature that support that trust should be treated as a mediating mechanism, it was examined if the effect of conflict on board effectiveness is mediated by trust and the findings revealed a partial mediation. An increase in the level of conflict would lead to a lower level of trust that could in turn significantly affect negatively board effectiveness. Lastly, a moderation analysis was peformed and it was found that the negative effects of conflict on board effectiveness cannot be reduced by trust.

9.3 Filling the literature gaps

Board of directors have been examined mainly within the framework of agency, resource dependency and stewardship theory to reveal how board characteristics and attributes affect organisational performance. However, there is a need for further examination of the effect of the board of directors on organisational performance from a team perspective (Forbes and Milliken, 1999). Only a few studies examine what makes boards function well as a team and the role that board effectiveness plays in organisational performance (Daily, Dalton and Cannella, 2003; Hermalin and Weisbach, 2003; Payne, Benson and Finegold, 2009; Ruigrok et al. 2006; Stiles, 2001). In the following sections, it is discussed the contribution of this study to conflict, trust, behavioral integration and corporate governance literature.

9.3.1 Contribution of this Study to Conflict Literature

Jehn Scales (1992, 1994, 2014) were used to operationalize conflict. To contribute to the corporate governance field, the author made minor adjustments to increase precision in the board context, following the recommendation made by Bendersky and colleagues (2014), Behfar et al. (2011) and Simons and Peterson (2000):

- Emphasis was given on the dimension of process conflict since it is considered of paramount importance the way that the board utilises group resources and time to accomplish a task.

- Distinguishment between amount and frequency of conflict with two different questions to increase precision.
- The items were tailored to reflect the board of director's context and board meetings.

The EFA ended up with 4 factors and these were named as: relationship conflict, process conflict, task conflict and frequency of conflict. However, we ended up with 3 reliable factors (relationship, process and frequency) since task-based conflict had low reliability. However, the frequency of conflict includes two items that portray task-based conflict. The structure of our data presents some differences with that of Jehn Scales and it is proposed that researchers could give more attention on the a) refinement of measures b) the dimension of process conflict and c) frequency of conflict.

In literature, there is an extensive stream of research that has underlined the negative effects of conflict on group performance (DeDreu, 2008; De Dreu and Weingart, 2003; Jehn, Greer and Rupert 2008; Langfred, 2007). Despite the positive effects that have been found from task-based conflict, the study supports that that this type does not exist in isolation and that its potential beneficial effects are mitigated by the losses arising from other types of conflict (Forbes and Milliken, 1999; Zona and Zattoni, 2007). Our additional tests in Chapter 8 showed that no matter the type of conflict, the negative effects on board effectiveness prevail. Thus, we could support that future studies should give special attention onto the overall level of conflict that exists in a team.

Regarding board outcomes, Structural Equation Model 1 showed that conflict has a negative effect on board effectiveness (board performance and strategic decision quality), confirming the first hypothesis. The results show that 97% change in strategic leadership, 63% change in readiness, 40% change in networks and 43% change in strategic decision quality can be attributed to conflict.

In Model 8, which includes all the independent constructs in the same model, we still notice that conflict has a significant negative relation to board performance. When conflict goes up by 1 unit, board performance goes down by 0.817 showing the conflict is a very good predictor of board performance. Strategic decision quality is significantly influenced by conflict and when conflict goes up by 1, decision quality goes down by 0.665.

As for organisational outcomes, it was not found support to confirm the second hypothesis. Structural Model 2 showed an insignificant impact of conflict on both financial and operational performance. However, in Chapter 8, Model 10, it was found evidence that

the frequency of conflict (which combines parameters of task-based and process-based conflict) seems to have a negative significant impact on operational performance, strengthening even more our arguments about the deleterious effects of conflict on organisational effectiveness.

Heemskerk, Heemskerk and Wats (2017) support that despite the increasing volume of studies on board dynamics, we still are not aware whether, how, and under what conditions conflict contributes to board effectiveness. Especially in the context of strategy implementation the literature is scarce (Lê and Jarzabkowski, 2015). Boards in Nordic region are involved in the strategy of the organisation, even though there are corporate governance systems in the world which still doubt the role of the board in strategy making and taking. As per Lê and Jarzabkowski (2015), process conflict is related to the implementation of strategy whereas task conflict draws attention on the content of strategy. In the Nordic boards, we found evidence of a mediocre level of task conflict, comparing to the low levels of other types of conflict. Board members seem to have some disagreements about strategic decisions as well as about professional opinions. Thus, in agreement with Lê and Jarzabkowski, it should be noted that there cannot be total absence of conflict in these boards since conflict is about incompatibilities in processes, which comprise the basic elements of strategy implementation. However, even if exists a relatively high level of task-based conflict, the overall negative effects on team outcomes still prevail.

The additional statistical analysis, showed that conflict has a negative relation to trust and some of the influence of conflict on board effectiveness is thought trust. An increase in conflict would lead to a lower trust that would significantly affect negatively board performance. Besides, the moderation analysis showed that no matter the level of conflict, the inclusion of trust does not change the trend of the relationship between conflict and board effectiveness. Consequently, the adverse effects of conflict on team and organisational outcomes, cannot even alleviated with trust.

With this research, it is supported that academics and organisational leaders should maintain a low level of overall conflict in their organisational teams if they want to achieve superior performance. Conflict has deleterious effects on team outcomes and proper conflict management strategies should be established by organisational leaders and policy makers. Although that task based conflict may yield some positive outcomes, these will be absorbed by the deleterious effects of processes and emotional conflict.

9.3.1 Contribution of this Study to Trust literature

Despite the various discussions about the role of trust to the functioning of teams, there is a lack of research on its effect on team performance (De Jong and Elfring, 2010); thus, these findings contribute to the enrichment of trust literature. Consistent with previous scholars (Carmeli, Tishler and Edmondson, 2012; De Jong and Elfring, 2010; Jones and George, 1998), it can be confirmed that trust to the team improves board outcomes and to some extent the organisational performance.

Regarding board outcomes, Structure Equation Model 3 showed that trust has a significant impact on each of the four dimensions of board effectiveness (strategic leadership, readiness, network, and strategic decision quality). The results of the model showed that 38% change in strategic leadership, 25% change in readiness, 15% change in network and 24% change in strategic decision quality can be attributed to trust. An interesting finding came from Model 8 which encompasses all the independent constructs into the same model. In this Model, it is noticed that trust has a significant relation to the four dimensions of board effectiveness but the direction of this relation is negative and when trust goes up by 1 unit, board performance goes down by 0.49. This finding should be carefully addressed since there may be a level up to which the negative effects of trust on outcomes may start emerging. Langfred (2004) found that high level of trust makes team members reluctant to monitor each other and Granovetter (1985) argued that high levels of trust evoke opportunism. In agreement with Villena, Choi and Revilla (2016), the author supports that the benefits of trust are subject to diminishing returns and that high levels of trust can have negative consequences; thus, we have to be able to reap its benefits while learning to manage its downside.

The findings are of substantial importance to trust literature, because there is a scarce of research on the effects of high levels of trust on group performance. Besides, there is scarce research on the trust that an individual has on his/her team.

As for organisational outcomes, Model 4 shows that trust has a significant impact on both financial and operational performance. 4% change in financial performance can be attributed to trust, while 13% change in operational performance is explained by trust. However, from the overall Model 8, it was found trust has no significant relation to the financial performance. The results of the Model suggest that 3.9 % variation in financial performance can be attributed to the trust.

Overall, Models 3 and 4 agree with the meta-analysis of De Jong, Dirks and Gillespie (2016) who support that trust has a positive direct effect on board outcomes. Consequently,

this research challenges the arguments supporting that intrateam trust only affects performance indirectly (Dirks, 1999; Dirks and Ferrin, 2001).

The role of trust explored further in Chapter 8. The initial statistical tests in Chapter 7 showed that the inclusion of behavioral integration and conflict as input processes lead trust to lose the positive effects on board effectiveness. In Chapter 8, examining trust and conflict together, excluding behavioral integration, we notice that trust has no significant impact on board effectiveness. In case that trust and behavioral integration are examined together, excluding conflict, we notice that trust has a negative significant impact on board effectiveness (Table 9.4).

Furthermore, investigating trust as a mediating mechanism (Table 9.5), it was showed that the effect of conflict on board effectiveness can be partly mediated by trust. Lastly, the moderation analysis (Table 9.6) found that the negative effects of conflict on board effectiveness cannot be reduced by trust.

Overall, trust in the board context raises some important concerns about its priority since there may be other processes or dynamics which present more clear-cut results on board effectiveness.

Table 9.4: Trust as an Independent Variable

Independent Variable(s)	**Effect of Trust on Dependent Variables**			
	Board Performance	Strategic decision quality	Financial Performance	Operational Performance
Trust	+	+	+	+
Trust, Conflict and Behavioral Integration	–	–	No effect	No effect
Trust and Conflict	No effect	No effect	No effect	No effect
Trust and Behavioral Integration	–	–	No effect	No effect

Table 9.5: Trust as a Mediating Mechanism

Mediating Variable	Independent Variable	Dependent Variable	Outcome	Explanation
Trust	Conflict	Board Performance	**Partial Mediation**	The effect of Conflict on Board Performance can be partly mediated by Trust
Trust	Conflict	Strategic Decision Quality	**Partial Mediation**	The effect of Conflict on Strategic Decision Quality can be partly mediated by Trust

Table 9.6: Trust as a Moderator

Mediating Variable	Independent Variable	Dependent Variable	Outcome	Explanation
Trust	Conflict	Board Performance	**No moderation**	The negative effects of conflict on Board Performance cannot be reduced by Trust
Trust	Conflict	Strategic Decision Quality	**No Moderation**	The negative effects of Conflict Strategic Decision Quality cannot be reduced by trust

9.3.2 Contribution of this Study to Behavioral Integration Literature

In line with previous findings (Carmeli and Schaubroeck, 2006, Charas, 2016), the fifth hypothesis was confirmed and behavioral integration affects group effectiveness and organisational outcomes. Regarding board outcomes, Structural Equation Model 4 showed that behavioral integration has a significant impact on each of the four dimension of board effectiveness (strategic leadership, readiness, networks and strategic decision quality). The results of Model 4 revealed that 87% change in strategic leadership, 63% change in readiness and 46% change in networks can be attributed to behavioral integration. Besides, 45% change in strategic decision quality can be attributed to behavioral integration. The overall model of this study, Model 8, suggests that 92% variation in board performance can be attributed to behavioral integration, conflict and trust. Out of the three predictor variables, the Unstandardized Estimate ($\beta = 1.423$) for behavioral integration was higher than the other two predictors, showing that bahavioral integration is significantly better predictor of board performance as compared to the other two predictors. The results show that board of directors should give special emphasis on the concept of behavioral integration. Boards which are behavioral integrated show a high level of collaborative behavior, exchange qualitative and quantitative information and give emphasis on the joint decision making. We need boards that are engaged in collective interactions and create a climate of open information exchange in which they share timely information and resources.

As for organisational outcomes, Model 5 revealed a significant impact of behavioral integration on the operational performance, while the influence of behavioral integration on financial performance was positive but insignificant. The results showed that 21% change in operational performance can be attributed to behavioral integration. In addition, from the overall Model 8, it was found evidence that operational performance is influenced by behavioral integration, strategic decision quality and board performance. This suggest that 40% variation in operational performance can be attributed to these 3 predictors. Behavioral integration is the only significant predictor, out of the 3 predictors, and when behavioral integration goes up by unit 1, operational performance goes up by 0.892.

The importance that board of directors should give on the level of behavioral integration is well noted in this research since it is strongly confirmed that the higher the level of behavioral integration, the higher the level of board effectiveness and operational performance. This study addresses to some extend the recommendations by de Wit, Greer and Jehn (2012) who had suggested that future research on conflict should investigate the level of behavioral integration within the group.

9.3.3 Contribution of this Study to Organisational Effectiveness literature

Structural Model 7 evaluated the impact of the dimensions of board effectiveness (board performance and strategic decision quality) on organisational performance (financial performance and operational performance). Although that the Structural Model showed an insignificant impact of board performance on financial performance, the impact of board performance on operational performance was found to be significant. The impact of strategic decision quality on both dimensions of organisational performance was also found to be significant. Board performance improves the operational performance of an organisation but not the financial performance. Besides, strategic decision quality affects both dimensions.

Moreover, through the mediation analysis, there is evidence that from all the team dynamics, only trust mediates the relationship between board effectiveness and organisational performance.

From Model 8, it is concluded that *organisations with more effective boards will demonstrate higher levels of organisational performance.* This study sheds light on the discussions about the achievement of overall organisational effectiveness. Organisations should be encouraged to create effective teams because through them they can achieve better organisational outcomes.

9.4 Recommendation

In the following sections useful recommendations to academia, management practice and policy makers are presented.

9.4.1 Recommendations for Academic Researchers and Corporate Governance Literature

The Nordic corporate governance model remains still the less known outside the Nordic region (Thomsen, 2016) but this thesis postulates that valuable lessons can emanate from its study. The study of the Nordic model could give us useful lessons for the roles of the board and the structure of their organisations. According to a recent study (2016) of the Boston Consulting Group (BCG), Nordic companies could set an example to the rest of the world on the way that their boards promote long term value.

As Lekvall (2014) supports, this model is the solution to the agency problems of ownership because it creates actives owners. The agency problem in Nordic Boards is related in the type II agency conflict (termed also o principal-principal conflict) between major shareholders who participate in the board and minor shareholders with less influence. (Easterbrook and Fischel, 1991; Faccio and Lang, 2002; Nachemson-Ekwall, 2017; Shleifer and Vishny, 1986).

The role of the board in the Nordic context moves beyond the agency perspective to team production theory (Blair and Stout, 1999; Huse, 2007; Nachemson-Ekwall, 2017) in which the board's role is the protection of the investments of the whole corporation, including controlling and minor shareholders, managers, employees and creditors. The rationale of this model is that if a major shareholder has the incentives to spend time and skills into the organisation, then he creates a sufficient condition for the long-term value creation to the benefit of all shareholders.

Besides, the study supports that the role of the board as strategy-setter is of paramount importance. Based on the findings, Nordic executives assess as very high the effectiveness of the board in shaping long-term strategy. This could be an interesting finding for the field of corporate governance in which there are voices that support the increase of the role of the board in strategy and strategic decision making (Crow and Lockhart, 2016; Parsons and Feigen, 2014; Zhu, Wang and Bart, 2016). Board's role in strategy formulation and implementation is "an empirically understudied phenomenon" (Bordean, Borza and Maier, 2011: 987). The findings are consistent with that of Ingley and Van Der Walt (2005) suggesting that board effectiveness requires more focus on strategic matters rather than operational and compliance tasks.

In parallel, academics should also examine carefully the societal dynamics when examining teams. The societal and cultural dynamics shape the way that individuals perceive themselves in relation to the team (Dinh and Salas, 2017) and from a careful examination of the cultural context of Nordic Countries, it was showed that Nordic citizens avoid conflict and demonstrate a high level of trust to organisations, institutions and government. These levels of trust, conflict and cooperation are clearly reflected in the findings of this study.

Furthermore, the academic community should give emphasis on the construct of process conflict since it has been found to have the most deleterious effects on teams since it is related to strong negative emotions and adverse effects on group coordination and performance (Greer and Dannals, 2017).

Moreover, academic researchers should focus more on the trust of an individual in his/her team. Trust in the board context raises some important questions about its priority since there may be other processes or dynamics which present more clear-cut results on board effectiveness. Although that trust as a stand-alone effect has a positive effect on team and organisational outcomes, there may seem adverse effects if trust if examined jointly with other dynamic team properties. A team with very high levels of trust, very low conflict and high behavioural integration, turns the relation between trust and team outcomes to a negative one. The author supports that this does not imply that trust in a team should be avoided, but as Langfred (2004) supports there should be in place a few monitoring mechanisms.

9.4.2 Recommendations for Management Practice, Policy Makers and Organisational Leaders

This thesis has possible implications for management practice, board members, HR professionals and policy makers. Trust to the board showed a significant impact not only on board performance but also on organisational performance. Team leaders and team supervisors should be engaged in the management of interpersonal relationships and should foster trust-building activities. Trust between executives may be the panacea in the enhancement of decision quality (Parayitam and Dooley, 2007). Intragroup trust has been found to improve communication, collaboration, and cooperation among team members (Greer et al. 2007; Parayitam and Dooley, 2009) whereas distrust has been found to increase the probability of intragroup conflict (Curseu and Schruijer, 2010). Salas et al. (2015) support that the development of trust is achieved when members discuss prior experiences relevant to the task under consideration since this way each member feels a sense of perceived

similarity of experiences with the rest of the members. Based on social identity and social categorisation theories (Tajfel and Turner, 1986; Turner, 1987), it is found strong evidence that if members view their colleagues similar to themselves, then it is more possible to trust each other. However, research has found that the level of trust has to be kept in a balance in order to generate maximum benefits. A low level of trust increases team conflict and minimizes cooperation. A very high level of trust decreases cooperation and monitoring in self-managing teams characterized by high levels of individual autonomy (Langfred, 2004) or invite opportunism (Granovetter, 1985). The practical implications of this thesis about trust, which are similar to the findings of Langfred, is not that trust should be avoided; instead there should be in place a few monitoring mechanisms if coordination problems are to be avoided. This research is in agreement with Villena, Choi and Revilla (2016) who support that the benefits of trust are subject to diminishing returns and that high levels of trust can have negative consequence, whereas at a moderate level, trust yields greater benefits. Overall, it is evident that we should be able to reap the benefits of trust while learning to manage its downside.

Besides, given the negative influences of conflict on board work it is important for policy makers to be familiar with the management of conflict and relevant resolution strategies. Conflict management strategies address the negative effects of conflict and build healthy and productive team environments (Cameron, 2000; Montoya-Weiss, Massey and Song, 2001; Salas et al. 2015). Salas and colleagues (2015) support that teams need mechanisms for assessing conflict on a regular basis both proactively and reactively. Training in conflict management techniques could help board members to improve their conflict skills and avoid traps such extreme disagreements. Constructive conflict management techniques and successful conflict resolution, can build trust amongst team members which in turn produces creative problem-solving solutions, commitment to group decisions and openness to alternative points of view (Peterson and Ferguson, 2014).

However, we must keep in mind that there may be a few benefits that emanate from task conflict. Consequently, the goal for organisational leaders should not to diminish conflict to a zero level since we may need teams with an acceptable level of conflict; instead they should focus on the prevention of strong conflict episodes. We should engage with conflict it with care and be focused on resolution mechanisms that address individual member differences. In line with DeDreu and Weingart we strongly support that board members will benefit from conflict only when it is ‘managed constructively and teams have high levels of openness, psychological safety, and within-team trust’ (DeDreu and Weingart, 2003, p. 748). The

creation of a team which collaborates effectively and achieves a high level of behavioral integration, could possibly alleviate the negative effects on conflict.

Board members if they want to handle conflict constructively, they should adopt, whenever possible, an integrative approach to conflict. To this end, executives gather information about facts and creatively use that information to generate mutually acceptable agreements. The problem under consideration should be redefined in a win-win situation and this could be achieved with two ways: a) either by expanding the resources ("expanding the pie") or b) by understanding each other's interests and redefine what individuals want to achieve. The two main elements of the whole process is that information must be shared and team members should explain their interests.

The ultimate attention should be given on the construct of Behavioral Integration. Organisations should nurture teams that their members address their disagreements in a problem-solving and non-punitive manner (e.g., De Dreu and West, 2001). Behavioral integration may be the most significant process for the nature of the board work since it could lubricate trust between members (Nahapiet and Ghoshal, 1998; Polzer et al. 2006) and cultivate empathy about each other's feelings during a conflict episode (Yang and Mossholder, 2004). Furthermore, cooperation within the team is positively associated to team learning from mistakes (Tjosvold, Tang and West, 2004).

The cultivation of trust in a temporal team, such as that of board of directors, and the initiation of trust-building activities team may not always be a worthwhile investment (Dejong and Elfring, 2010). Behavioral Integration may be the solution to the creation of an acceptable level of trust and a low level of conflict. As Ingenhoff, and Sommer (2010) argue, trust is built on the evaluations of the trustee's ability, integrity, benevolence, and information quality and this confirms the view that the role of information quality in the board of directors is of utmost importance.

Despite some level of task-based conflict that may exist in a group, like the one found in the current study, intra-team cooperation may be the key for superior group performance (Puck and Pregernig, 2014). Consequently, specific strategies should be formed to enable team members to offer help to each other, exchange information and get involved in effective team work. Besides, organisations could adopt socializing events and help members to adopt a cooperative approach and collectivistic orientation. An integrated logic could also act as a control mechanism of excess power and influence of some upper level executives.

Overall, organisations should build the appropriate psychological context (Edmonson, 2004) within their elite teams and nurture the appropriate level of communication,

collaboration, and joint decision making. Consistent with Salas et al. (2015) and Mesmer-Magnus & DeChurch (2009), the thesis advises board members to share their unique information during board meetings and not discuss only information that is commonly held by the whole team. Furthermore, effective teamwork requires procedures for closed loop communication, namely protocols which will ensure that the information has been successfully received promptly by all members of the team (Salas et al. 2015).

Similarly to Ferrin, Bligh and Kohles (2008), it was found that trust perceptions and cooperation are intricately associated in a complex dance that spirals over time and for this reason TMT members, boards of directors, consultants and team designers should perceive Behavioural Integration as the ultimate conflict management strategy which could be able to promote team trust and reduce severe conflict episodes.

Tables 9.7 and 9.8, which summarise the main findings of the research, could prove helpful to management practice.

Table 9.7: Key Findings of the Thesis

Dependent Variables / Independent Variables	**Board Effectiveness**				**Organisational Performance**	
	Board Performance			**Strategic Decision Quality**	**Financial Performance**	**Operational Performance**
	Strategic Leadership	**Readiness**	**Networks**	**Strategic Decision Quality**		
Conflict	-	-	-	-		
Trust	+ (turns negative in Model 8)	+ (turns negative in Model 8)	+ (turns negative in Model 8)	+ (turns negative in Model 8)	+ (turns not significant in Model 8)	+ (turns not significant in Model 8)
Behavioral Integration	+	+	+	+		+
Board Performance	N/A					+ (turns not significant in Model 8)
Strategic Decision Quality					+	+ (turns not significant in Model 8)

**+ =positive relationship, - =negative relationship, blank=no significant relationship*

Table 9.8: Key Findings of the Thesis (Extended version)

Dependent Variables / Independent Variable(s)	Board Effectiveness				Organisational Performance	
	Board Performance			Strategic Decision Quality	Financial	Operational
	Strategic Leadership	Readiness	Networks	Strategic Decision Quality		
Conflict (Models 1,2, 8)	-	-	-	-		
Trust (Models, 3,4)	+	+	+	+	+	+
Trust in Model 8 (along with BI and Conflict)	-			-		
Trust in Model 12 (along with Conflict)						
Trust in Model 13 (along with BI)	-			-		
Behavioral Integration (Models 6, 7)	+	+	+	+		+
Board Performance	N/A					+
Strategic Decision Quality					+	+

**+ =positive relationship, - =negative relationship, blank=no significant relationship*

Table 9.9: Key findings from Mediation and Moderation Analyses

Board Performance mediates the relationship between Trust and Operational Performance.
Strategic Decision Quality partly mediates the relationship between Trust and Financial Performance.
Strategic Decision Quality partly mediates the relationship between Trust and Operational Performance.
Trust partly mediates the relationship between Conflict and Board Performance. An increase in conflict would lead to a lower trust that would significantly affect negatively board performance.
The negative effects of conflict on strategic decision quality are not moderated by Trust

9.5 Limitations and future research directions

Every study entails certain limitations which set the basis for future research. This study is about perceptions. Affective constructs such as trust are dependent on previous experiences of the executives and on the context of the study, thus the views of the participants may not represent an objective reality (Mayer et al. 1995). The focus is on the perceptions of executives to identify the level of trust, conflict and behavioral integration that exists in their boards and this could generate common source bias. Future studies could collect data from at least two executives from each board and use aggregate measures in statistical analysis to ensure that the same perceptions are shared by the trustor and the trustee (Mayer, Davis and Schoorman, 1995). Nonetheless, it should be noted there are studies in TMTs and board of directors which support that data from single respondents may be adequate to represent these elite teams (Camelo-Ordaz, García-Cruz and Sousa-Ginel, 2014; De Jong and Elfring, 2010; Li and Li, 2009; Parayitam et al. 2010). Besides, the author supports that aggregated measures of constructs such as conflict may not be appropriate in reflecting how individuals really perceive the level of conflict that exists in their team since totally different perceptions may exist at a specific time (Greer and Dannals, 2017; Korsgaard et al. 2008; Korsgaard, Ployhart and Ulrich, 2014). There are asymmetric perceptions in the way that individuals perceive team processes (Jehn, Rispens and Thatcher, 2010) and consequently the level of conflict may vary from person to person. Nonetheless, various steps were taken to address the variance that is attributable to the measurement method. The following steps are in accordance with the suggestions of Podsakoff et al. (2003):

- A pilot study of the questionnaire was undertaken with experts in corporate governance.
- Use of pre-tested questions.
- Protection of participants' anonymity to avoid social desirability bias and responses in a manner that will be viewed favourably by others.
- The predictors and criterion variables were well separated in the questionnaire.
- Use of different response formats in the questionnaire (nominal scales, open-ended questions, Likert scales, ratio scales).
- Counterbalancing the question order of some of our constructs.

- Through the Principal Component Analysis and Confirmatory Factor Analysis reliable and valid factors were generated.

Besides, the effectiveness of the board, as well as the organisational performance, were assessed with subjective measures. Forthcoming studies could compare subjective organisational data with objective data and note any discrepancies. However, it is believed that board members are the most knowledgeable persons about the work and role of the boards and the only ones who could open the black box of board dynamics. The respondents had high tenure on their respective boards, confirming that these are best informants of the processes of the board. We should also note that all these informants hold a similar position in all the surveyed organisations. For example, the sample does not include different levels of managers such as Marketing managers and Chief Financial Officers who could give us totally different perspectives in measuring organisational effectiveness.

Another constraint could be considered the cross-sectional nature of the study which prevents the examination of the causal direction of the relationships established. Team's life cycle is of paramount importance for generalizing results, especially about trust which is not a static phenomenon. Future studies could embrace a longitudinal design, make observations over a period and explore further the causality of models incorporating conflict types and various mediators (Podsakoff et al. 2003; Reio, 2010). However, the author firmly believes that temporal views of long-tenured individuals are of equal importance in understanding how these affect team effectiveness (Greer and Dannals, 2017). In the current study, 42% of the respondents demonstrate a tenure in the focal board from 6-15 years. The tenure of respondents in the focal board boosts our view that these members are the most knowledgeable individuals about the dynamics and processes of this upper-echelons team.

Furthermore, it should be mentioned that the data is collected from board members in Nordic Region and the findings could differ in another region. The specific context of the study may limit generalizability and the model is advised to be tested in cross-cultural settings. Minichilli et al. (2012) showed that institutions shape corporate governance and different institutional settings influence differently board effectiveness.

The low response rate is another issue is this study but low rates are very common in top management team studies (Simons et al. 1999; Olson., Parayitam and Bao 2007). Upper-level executives are very busy individuals and the access to them is considered as a very difficult task (Daily, Dalton and Cannella 2003; Minichilli et al. 2009; Minichilli et al. 2012; Wan and Ong, 2005). The studies utilising primary data are often based on a single

respondent, typically the CEO (Minichilli, Zattoni and Zona, 2009; Minichilli et al. 2012; Pearce and Zahra, 1991; Zahra, 1996; Zahra, Neubaum and Huse, 2000; Zattoni, Gnan and Huse, 2015).

In this research, the focus is on the overall level of conflict that exists in the boardrooms. Future research could focus on the different types of conflict and identify the level in which task conflict becomes constructive (Jehn and Bendersky, 2003). Besides, academic should focus more on process conflict since it has been found to have the most deleterious effects on teams (Greer and Dannals, 2017). Further research is needed to examine how individuals think and feel about team conflict episodes and how these individualistic perceptions end up to group-level processes; thus, conflict should be examined at the individual, dyadic and group level integrating all levels of intragroup conflict analysis (Greer and Dannals, 2017; Korsgaard et al. 2008).

For trust, we also need to pursue a multilevel perspective and examine how trust is evolved over time taking into account individual-level, team level, and organisational level antecedents and outcomes (Costa and Anderson, 2017)

Finally, a mixed method approach which could combine survey and in-depth interviews with board members could yield fruitful results

9.6 Conclusion

Hopefully, the extensive literature review of trust, conflict, behavioral integration, group effectiveness and organisational performance contributed significantly to corporate governance field and team literature.

A sound methodology was developed to empirically test the research model and relevant hypotheses. Adequate data was collected to examine the relationships between board processes, board effectiveness and organisational performance and the findings generated fruitful results about board dynamics. Moreover, with the current study, useful managerial recommendations have been produced and are related to the role of team processes in the board of directors. Finally, the current research will produce four academic journal articles which could help the academic community to open the black box of board processes.

The current study conducted with a focus on Nordic Region. Nordic countries may set an example to the rest of the world. These countries have historically ranked in the top positions in most global surveys and the results reveal the easiness in doing business, gender equality, low levels of corruption and high confidence in governmental authorities. The survey conducted on behalf of SOM-Institute by Oscarsson and Bergström (2017) found that

for the last 30 years the Swedes have not changed their perceptions about the level of trust they have in the political parties, government and media. The level of trust that is exists in the society has been produced by two crucial factors: openness of information and transparency. Freedom of information and access to governmental and statistical data have created a fairly high level of transparency which in turn makes the government less corrupted and more efficient. The very high level of trust, the low level of conflict as well as the high level of behavioural integration found in this thesis seems to reflect successfully the cultural climate of these societies.

It should be mentioned that team working has become too complex in the new digital world but interconnectedness is the solution for encountering the challenges of this competitive era (West, 2017). At the macro level, we need political leaders that focus on openness of information and transparency if they want to nurture citizens who demonstrate trust into the government and the society. At the micro level, we need organisational leaders who are involved in team design in a way that cultivate fertile and supportive climates for joint decision making and exchange of information. We are in need of groups who will act as cohesive wholes, with an underyling shared commitment, giving priority on group goals rather than individual performance.

Concluding, it should be kept always in mind that if the human mind is an information processing network, then a team is a network of networks (Van Overwalle and Heylighen, 2006)

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Appendices

Appendix 4.1: Pre-notification Email

Dear [gender] [lastname]:

We are currently conducting a research into the Board of Director's heterogeneity and its effect on organisational effectiveness. The aim of this research is to examine if demographic, cognitive and personality characteristcs of the Board of Directors in Nordic countries affect team and organisational performance.

Your participation in this study will help us to open the black box of the interrelationships between board charactertics, board dynamics and performance and gain a comprehensive understanding of the Nordic corporate governance model. Information about the purposes of the study, participants, confidentiality and ethics policy are attached in this email: Participant Information

Next week you will receive the link of our online survey, which will take you approximately 10 minutes of your time to complete. Your replies will be treated as **strictly confidential**, will be used solely for the purposes of this research and will only be seen by the academic researchers involved in this study.

After the completion of the research we will send you a summary of the results of the study. We could also offer you an in-depth presentation of the findings and suggestions for your board effectiveness. Besides, a workshop for Board of Directors dynamics will be arranged with the cooperation of Board Governance (http://www.board-governance.com/) in Denmark in which we will discuss important issues about the Nordic corporate governance model. More information about this event will be sent in due time.

On behalf of Brunel University we would like to thank you for your participation in this study.

Yours sincerely,

Aspasia Pastra
BSc, MBA, MSc
Researcher, Brunel University
Email: aspasia.pastra@brunel.ac.uk
Linkedin Profile

Dr Dimitrios Koufopoulos
BSc, MBA, PhD, MCIM, FIBC
Senior Lecturer, Brunel University
Email: dimitrios.koufopoulos@brunel.ac.uk

Professor James Knowles
Chair of the College of Business, Arts and Social Sciences Research Ethics Committee
Brunel University
Email: james.knowles@brunel.ac.uk

The research has the kind support of:

Board Governance

Randi Ib,

Director of Board Governance

Vesterbro 21B, 9000 Aalborg, Denmark

Email: randi@board-governance.com

Dr. Siri Terjesen
Norwegian School of Economics
Helleveien 30, 5045 Bergen, Norway
Email: siri.terjesen@nhh.no

Appendix 4.2: Research Participant Information Document

Dear [gender] [lastname]:

You are being invited to take part in a research study about board of director's characteristics and their effect on organisational effectiveness. Before you decide, it is important for you to understand why the research is being conducted and what it will involve. Please take time to read the following information and decide whether or not you wish to take part. Ask us if there is anything that is not clear or if you would like more information.

What is the purpose of the study?

We are currently conducting a research into the Board of Director's heterogeneity and dynamics and their effect on organizational effectiveness. The dynamics of trust, conflict and behavioral integration that exist in the Board of Directors will be studied. Through this study we examine how to build an optimally effective board work that will support the companies in facing the challenges of the business environment.

Why have been invited to participate?

Executives appointed in board positions of medium and large organizations in Nordic Region have been chosen for the aims of this study. We believe that you can make an important contribution to the research. Your participation in this study will help us to open the black box of board processes and gain a comprehensive understanding of the Nordic corporate governance model. Your contribution in this project is valuable and is going to help the research community that examines topics in the field of corporate governance.

Do I have to take part?

As participation is entirely voluntary, it is up to you to decide whether or not you wish to take part. If you decide to fill our online questionnaire, you are free to withdraw at any time and without giving a reason.

What will happen to me if I take part?

If you agree to take part in this research, you will fill our online survey which will be sent to you after one week.

What do I have to do?

In approximately 1 week, you will receive the link of our online survey which will take approximately 10 minutes of your time to complete. The starting date of the data collection process is 9th of February, 2016.

What are the possible disadvantages and risks of taking part?

There are no special risks for this study. All the information you will give in our online survey will be kept confidential at all times. All responses to our questions and information provided by you, will be anonymised and no personal details relating to you or where you work will not be recorded anywhere. All of your personal data and information will be used solely for the purposes of this research and will only be seen by the academic researchers involved in this study.

What are the possible benefits of taking part?

With your participation you contribute towards the advancement of corporate governance field. The results will be presented in conferences and workshops to academics and business professionals to help them gain a deep understanding of the importance of board processes. After the completion of the research we will send you a summary of the results of this important study.

Besides, a workshop for Board of Directors will be arranged in cooperation with Board Governance (http://www.board-governance.com/) in Denmark, in which we will discuss important issues about the Nordic

corporate governance model. More information about this event will be sent in due time. We could also offer you an in-depth presentation of the findings and suggestions for effective board work.

What if something goes wrong?

If wish to complain about the online survey you should contact the Chair of the College of Business, Arts and Social Sciences Research Ethics Committee.

Will my taking part in this study be kept confidential?

Brunel University is committed to compliance with the Universities UK Research Integrity Concordat. You are entitled to expect the highest level of integrity from the researchers during the course of their research. Any information about you, which leaves the University premises, will have your name and address removed so that you cannot be identified from it.

What will happen to the results of the research study?

The results of the study will be written up as part of the PhD of the researcher Aspasia Pastra. Besides, they will be available in one or more of the following sources: scientific papers in peer reviewed academic journals; presentations at conferences and seminars.

Who is organising and funding the research?

The research is organized in conjunction with the Business School, Brunel University.

What are the indemnity arrangements?

Brunel University provides appropriate insurance cover for research which has received ethical approval.

Who has reviewed the study?

The College of Business, Arts and Social Sciences Research Ethics Committee reviewed the study and we confirm that your replies will be treated as strictly confidential. Besides, the questionnaire of the study has been reviewed by professors and lectures who are experts in the corporate governance field.

Passage on Research Integrity Brunel University is committed to compliance with the Universities UK Research Integrity Concordat. You are entitled to expect the highest level of integrity from the researchers during the course of their research. Contact for Further Information and Complaints For further information, you can contact Mrs. Aspasia Pastra. Complaints should be directed to Professor James Knowles.

Thank you for your participation in this study.
Yours sincerely,
Aspasia Pastra BSc, MBA, MSc
Researcher, Brunel University
Email: aspasia.pastra@brunel.ac.uk

Dr Dimitrios Koufopoulos BSc, MBA, PhD, MCIM, FIBC
Senior Lecturer, Brunel University
Email: dimitrios.koufopoulos@brunel.ac.uk

Professor James Knowles Chair of the College of Business, Arts and Social Sciences Research Ethics Committee, Brunel University
Email: james.knowles@brunel.ac.uk

Appendix 4.3: Email invitation

Dear [gender] [lastname]:

Last week an invitation was sent to you, to participate on our survey that is about Board of Director's heterogeneity and their effect on organisational effectiveness.

We would be grateful if you could take approximately 10 minutes of your precious time to complete it. Information about the purposes of the study, participants, benefits, confidentiality and ethics policy can be found at this link: Participant Information

If you wish to participate in the survey, please visit the following link: [SURVEY_LINK]
You can also use the following information to access the survey:
http://survey.enalyzer.com/
ProjektID:[PROJECT_ID]
Password: [PASSWORD]

Any time your press the next button, your answers are saved automatically and you can return to the survey any time you want.
Upon completion the report of this study will be sent directly to you. If you need more information about the study please contact Mrs. Aspasia Pastra.
Many thanks in advance for your valuable contribution and time to our research project.

Yours sincerely,

Aspasia Pastra
BSc, MBA, MSc
Researcher, Brunel University
Email: aspasia.pastra@brunel.ac.uk
Linkedin Profile

Dr Dimitrios Koufopoulos
BSc, MBA, PhD, MCIM, FIBC
Senior Lecturer, Brunel University
Email: dimitrios.koufopoulos@brunel.ac.uk

Professor James Knowles
Chair of the College of Business, Arts and Social Sciences Research Ethics Committee
Brunel University
Email: james.knowles@brunel.ac.uk

The research has the kind support of:

Board Governance
Randi Ib,
Director of Board Governance
Vesterbro 21B, 9000 Aalborg, Denmark
Email: randi@board-governance.com

Dr. Siri Terjesen
Norwegian School of Economics
Helleveien 30, 5045 Bergen, Norway
Email: siri.terjesen@nhh.no

If you do not wish to participate in the study please use the following link:[REFUSE_LINK]

Appendix 4.4: Reminder

Dear [gender] [lastname]:

Last week an invitation was sent to you, to participate on our survey that is about Board of Director's heterogeneity and their effect on organisational effectiveness.

We would be grateful if you could take approximately 10 minutes of your precious time to complete it. Information about the purposes of the study, participants, benefits, confidentiality and ethics policy can be found at this link: Participant Information

If you wish to participate in the survey, please visit the following link: [SURVEY_LINK]
You can also use the following information to access the survey:
http://survey.enalyzer.com/
ProjektID:[PROJECT_ID]
Password: [PASSWORD]
Any time your press the next button, your answers are saved automatically and you can return to the survey any time you want.
Upon completion the report of this study will be sent directly to you. If you need more information about the study please contact Mrs. Aspasia Pastra.
Many thanks in advance for your valuable contribution and time to our research project.

Yours sincerely,

Aspasia Pastra
BSc, MBA, MSc
Researcher, Brunel University
Email: aspasia.pastra@brunel.ac.uk
Linkedin Profile

Dr Dimitrios Koufopoulos
BSc, MBA, PhD, MCIM, FIBC
Senior Lecturer, Brunel University
Email: dimitrios.koufopoulos@brunel.ac.uk

Professor James Knowles
Chair of the College of Business, Arts and Social Sciences Research Ethics Committee
Brunel University
Email: james.knowles@brunel.ac.uk

The research has the kind support of:

Board Governance
Randi Ib,
Director of Board Governance
Vesterbro 21B, 9000 Aalborg, Denmark
Email: randi@board-governance.com

Dr. Siri Terjesen
Norwegian School of Economics
Helleveien 30, 5045 Bergen, Norway
Email: siri.terjesen@nhh.no

If you do not wish to participate in the study please use the following link:[REFUSE_LINK]

Appendix 4.5 Questionnaire Utulised for the Current Thesis

SECTION A: DEMOGRAPHIC CHARACTERISTISC.
IN SECTION A WE WANT TO IDENTIFY THE DEMOGRAPHIC CHARACTERISTICS OF THE BOARD MEMBERS

1. What is your gender?

Male	Female
☐	☐

2. In what year were you born? (enter 4-digit birth year; for example 1976)

☐ _ _ _ _ _ _

3. What is your country of birth?

Sweden	Denmark	Norway	Finland
☐	☐	☐	☐

Other (please specify) _

4. What is your citizenship?

Swedish	Danish	Finish	Norwegian
☐	☐	☐	☐

Other (please specify) _

5. What is your native language?

Swedish	Danish	Norwegian	Finnish
☐	☐	☐	☐

Other (please specify) _

6. Please select the highest educational degree you have attained.

No college degree - Go to 12	Bachelor degree	Master degree	Doctoral degree
☐	☐	☐	☐

Other (please specify) _

7. In which areas have you earned your higher educational degrees?
(you may choose up to three options)

- ☐ Business Administration
- ☐ Economics
- ☐ Finance
- ☐ Human Resource Management
- ☐ Operations and Supply Chain Management
- ☐ Engineering and Technology
- ☐ Science
- ☐ Liberal Arts
- ☐ Law (LL.B./J.D).
- ☐ Computer Science
- ☐ Health and Life Science
- ☐ Environment and Sustainability
- ☐ Architecture and Design

Other (please specify) _

8. Have you attained any of your degrees abroad?

Yes	No
☐	☐

9. In which University(ies) abroad have you gained your degree(s)?

_ _

10. In which field have you gained the most experience during your professional career? (you may choose up to three options

- ☐ Production-operations
- ☐ R&D and engineering
- ☐ Accounting and finance
- ☐ Business and administration
- ☐ Marketing and sales
- ☐ Law
- ☐ Human Resource Management
- ☐ Other (please specify)

11. Have you been appointed in an international assignment as a Director of another company?

Yes	No
☐	☐

12. In which country/countries have you been appointed in an international assignment?

_ _

13. For how many years have you been appointed in an international assignment?

14. How many years have you been appointed into the Board of Directors of the focal organisation (company)?

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Other.....

15. Overall, how many years have you spent serving as Director on corporate boards?

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Other.....

16. In how many Boards are you currently appointed (including the directorship held in the focal organisation/company)?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

17. Are you a member of the Top Management Team of the focal organisation?

Yes	No
☐	☐

18. Would you consider yourself as Independent in relation to:

	Yes	No
the focal organisaton and its executive management?	☐	☐
the shareholders of the focal organisation?	☐	☐

19. In how many companies are you currently serving as the CEO (including the focal organisation)?

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

SECTION B: PROCESSES OF THE BOARD OF DIRECTORS.

IN SECTION B WE SEEK TO CAPTURE A NUMBER OF INTERNAL PROCESSES, SUCH AS THE LEVEL OF DISAGREEMENTS, INTERPERSONAL INCOMPATIBILITIES, COLLABORATIVE BEHAVIOUR AND JOINT DECISION MAKING THAT EXISTS BETWEEN BOARD MEMBERS.

20. Please indicate the LEVEL that board members are prone to task-based, relation-based and process-based disagreements, by answering the following questions:

	Not at all <p>1	2	3	4	5	6	Very much <p> 7	N/A
how much personal friction is there among directors at the board meetings?	☐	☐	☐	☐	☐	☐	☐	☐
how much are personality clashes evident at the board meetings?	☐	☐	☐	☐	☐	☐	☐	☐
how much tension is there among directors at the board meetings?	☐	☐	☐	☐	☐	☐	☐	☐
how much emotional conflict (interpersonal incompatibilities which typically include	☐	☐	☐	☐	☐	☐	☐	☐

animosity, and annoyance) is there among directors at the board meetings?								
how much do board members disagree about the content of strategic decisions?	☐	☐	☐	☐	☐	☐	☐	☐
to what extent are there differences of professional opinions at board meetings?	☐	☐	☐	☐	☐	☐	☐	☐
to what extent do you disagree about the way to do things at your meetings?	☐	☐	☐	☐	☐	☐	☐	☐
how much disagreement is there about procedures at your meetings?	☐	☐	☐	☐	☐	☐	☐	☐

21. Please indicate the FREQUENCY that board members are prone to task-based and process-based disagreements, by answering the following questions. How frequently:								
	Very Frequen tly <p>1	2	3	4	5	6	Never <p>7	N/A
do the members of the board of directors disagree regarding the company's strategic decisions?	☐	☐	☐	☐	☐	☐	☐	☐
are there disagreements about ideas at your boards meetings?	☐	☐	☐	☐	☐	☐	☐	☐
are there disagreements about who	☐	☐	☐	☐	☐	☐	☐	☐

should do what at your meetings?								
do the board members disagree about the optimal amount of time to spend in meetings?	□	□	□	□	□	□	□	□

22. In this part you can offer additional comments about the types of disagreements or conflicts that arose this term in your Board of Director. _

23. To what extent do you agree or disagree with each one of the following statements?								
	Strongly Disagree <p>1	2	3	4	5	6	Strongly Agree <p>7	N/A
I am able to count on the members of the Board for help if I have difficulties with my tasks.	□	□	□	□	□	□	□	□
I am confident that the members of the Board will take my interests into account when taking strategic decisions.	□	□	□	□	□	□	□	□
I am confident that the members of the Board will keep me informed about issues that concern my work.	□	□	□	□	□	□	□	□
I can rely on the members of the Board to "keep their word".	□	□	□	□	□	□	□	□

I trust the members of the Board.	☐	☐	☐	☐	☐	☐	☐	☐

24. Having in mind the Board member's collaborative behavior over the past two years, please indicate the extent to which you agree or disagree with the following statements:								
	Strongly Disagree <p>1	2	3	4	5	6	Strongly Agree <p> 7	N/A
when a board member is busy, other members often volunteer to help manage the workload.	☐	☐	☐	☐	☐	☐	☐	☐
board members are flexible about switching responsibilities to make things easier for each other.	☐	☐	☐	☐	☐	☐	☐	☐
board members are willing to help each other complete jobs and meet deadlines.	☐	☐	☐	☐	☐	☐	☐	☐

25. Think about situations over the past two years when the Board of Directors made important decisions regarding the firm's future and assess the board on:								
	Low effectiveness <p>1	2	3	4	5	6	High effectiveness <p>7	N/A
quantity of ideas	☐	☐	☐	☐	☐	☐	☐	☐

quality of solutions	☐	☐	☐	☐	☐	☐	☐	☐
level of creativity and innovation	☐	☐	☐	☐	☐	☐	☐	☐

26. By indicating the level of agreement or disagreement with the following statements, please assess the level of joint decision making that exist in the Board of Directors:								
	Strongly Disagree <p>1	2	3	4	5	6	Strongly Agree <p>7	N/A
board members usually let each other know when their actions affect another member's work	☐	☐	☐	☐	☐	☐	☐	☐
board members have a clear understanding of the joint problems and needs of other members	☐	☐	☐	☐	☐	☐	☐	☐
board members usually discuss their expectations of each other	☐	☐	☐	☐	☐	☐	☐	☐

SECTION C: BOARD EFFECTIVENESS

IN THIS SECTION WE WANT TO INVESTIGATE YOUR PERCEPTIONS ABOUT THE EFFECTIVENESS OF YOUR BOARD OF DIRECTORS.

27.Please rate the effectiveness of the board in relation to the items presented below. How would you rate the effectiveness of the board in:

	Not effective <p>1	2	3	4	5	6	Very effective <p>7	N/A
providing leadership?	☐	☐	☐	☐	☐	☐	☐	☐
shaping long-term strategy?	☐	☐	☐	☐	☐	☐	☐	☐
monitoring strategy implementation?	☐	☐	☐	☐	☐	☐	☐	☐
anticipating threats to the company's survival?	☐	☐	☐	☐	☐	☐	☐	☐
managing a crisis?	☐	☐	☐	☐	☐	☐	☐	☐
planning for top management succession?	☐	☐	☐	☐	☐	☐	☐	☐
balancing interests of different stakeholders ?	☐	☐	☐	☐	☐	☐	☐	☐
bolstering the company's image in the community?	☐	☐	☐	☐	☐	☐	☐	☐
building networks with strategic partners?	☐	☐	☐	☐	☐	☐	☐	☐
enhancing government relations?	☐	☐	☐	☐	☐	☐	☐	☐
discussing top management	☐	☐	☐	☐	☐	☐	☐	☐

performance with the management team?								
total (overall effectiveness of the board)?	☐	☐	☐	☐	☐	☐	☐	☐

28. Having in mind the most recent strategic decision of the Board of Directors, assess its effectiveness based on the items presented below:

	Poor <p> 1	2	3	4	5	6	Excellent <p> 7	N/A
the effect of the strategic decision on the company has been	☐	☐	☐	☐	☐	☐	☐	☐
relative to our expectations, the results of the strategic decision have been	☐	☐	☐	☐	☐	☐	☐	☐
overall, the Board Members feel that strategic decision has been	☐	☐	☐	☐	☐	☐	☐	☐

29. Please name the strategic decision that you assessed (Examples of strategic decisions are: restructuring, diversification, plant location, alliances, mergers, launching a competitive attack, choosing products/core capability/technology to pursue).

……

SECTION D: ORGANISATIONAL PERFORMANCE
IN SECTION D WE WANT TO COMPARE THE PERFORMANCE OF THE ORGANISATION TO THAT OF OTHER COMPETITORS IN THE SAME INDUSTRY.

30. Based on the following metrics, how would you describe your company's performance relative to that of competitors over the past three years ?

	Much Worse <p>1	2	3	4	5	6	Much Better <p>7	N/A
Growth in sales	☐	☐	☐	☐	☐	☐	☐	☐
Growth in market share	☐	☐	☐	☐	☐	☐	☐	☐
Return on Assets (ROA)	☐	☐	☐	☐	☐	☐	☐	☐
Return on Equity (ROE)	☐	☐	☐	☐	☐	☐	☐	☐
Growth in number of employees	☐	☐	☐	☐	☐	☐	☐	☐
Ability to fund growth from profit	☐	☐	☐	☐	☐	☐	☐	☐
Profit margin on sales	☐	☐	☐	☐	☐	☐	☐	☐
Growth in profitability	☐	☐	☐	☐	☐	☐	☐	☐
Total Shareholder Return (TSR)	☐	☐	☐	☐	☐	☐	☐	☐

Corporate Social Performance	□	□	□	□	□	□	□	□
Innovation of products and services	□	□	□	□	□	□	□	□
Ability to attract and retain talented people	□	□	□	□	□	□	□	□
Quality of Products and Services	□	□	□	□	□	□	□	□

SECTION E: GENERAL ORGANIZATIONAl CHARECTERISTICS AND FINAL COMMENTS

IN SECTION E WE WANT TO COLLECT INFORMATION ABOUT SOME GENERAL ORGANISATIONAL CHARACTERISTICS.

31 Is your company listed to the stock exchange?

Yes	No
□	□

32. What is the number of full -time employees working in your company?

0-9	10-49	50-249	250-499	500-1000	Above 1000
□	□	□	□	□	□

33. How many members does your Board have?

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
□	□	□	□	□	□	□	□	□	□	□	□	□	□	□

34. In which country is the company based?

Sweden	Demark	Finland	Norway
☐	☐	☐	☐

Other (please specify)

_ _

35. Under which of the following sector is your organisation classified?

(State one answer only)

Oil & Gas [0500]	Chemicals [1300]	Basic Resources	Constructio	Industrial Goods &	Automobile	Food & Beverage	Personal & Household	Health Care [4500]	Retail [5300]	Media [5500]	Travel & Leisure	Telecommu nications	Utilities [7500]	Banks [8300]	Insurance [8500]	Financial Services	Technology [9500]
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Other _

36 Here you have the opportunity to give us any information you would like to add about your board. For example:
Does your board function effectively as a team? Are there ways that the board could improve its performance and, if so, what are they?

_ _

Thank you!

PLEASE PRESS THE END SURVEY BUTTON TO COMPLETE THE SURVEY!

Thank you for your valuable time and participation in this study. Your views and knowledge contribute significantly to the research in the area of corporate governance field.

Appendix 5.1 Descriptive Statistics

Statistics

		Gender	Date of Birth	Age	Country of Birth	Citizeship
N	Valid	186	186	186	186	186
	Missing	0	0	0	0	0
Mean		.19	1961.84	54.16	1.79	1.42
Std. Deviation		.396	9.244	9.244	3.202	2.424
Minimum		0	1939	34	0	0
Maximum		1	1982	77	17	14
Sum		36	364903	10073	333	265
Percentiles	25	.00	1955.00	47.00	.00	.00
	50	.00	1962.00	54.00	1.00	1.00
	75	.00	1969.00	61.00	2.00	2.00

Statistics

		Language	Highest Degree	Business Administration	Economics	Finance
N	Valid	186	186	173	173	173
	Missing	0	0	13	13	13
Mean		1.40	1.73	.51	.32	.20
Std. Deviation		2.441	.859	.501	.467	.399
Minimum		0	0	0	0	0
Maximum		14	4	1	1	1
Sum		260	322	88	55	34
Percentiles	25	.00	1.00	.00	.00	.00
	50	.00	2.00	1.00	.00	.00
	75	2.00	2.00	1.00	1.00	.00

Statistics

		HRM	Operations and Supply Chain Management	Engineering and Technology	Science	Liberal Arts
N	Valid	173	173	173	173	173
	Missing	13	13	13	13	13
Mean		.04	.02	.27	.08	.02
Std. Deviation		.198	.131	.446	.264	.151
Minimum		0	0	0	0	0
Maximum		1	1	1	1	1
Sum		7	3	47	13	4
Percentiles	25	.00	.00	.00	.00	.00
	50	.00	.00	.00	.00	.00
	75	.00	.00	1.00	.00	.00

Statistics

		Law	Computer Science	Health and Life Science	Environment and Sustainability	Architecture and Design
N	Valid	173	173	173	173	173
	Missing	13	13	13	13	13
Mean		.06	.06	.06	.01	.01
Std. Deviation		.245	.245	.234	.107	.107
Minimum		0	0	0	0	0
Maximum		1	1	1	1	1
Sum		11	11	10	2	2
Percentiles	25	.00	.00	.00	.00	.00
	50	.00	.00	.00	.00	.00
	75	.00	.00	.00	.00	.00

Statistics

		Other highest degree	New.Educational Background	Degrees abroad	Universities abroad
N	Valid	185	186	186	186
	Missing	1	0	0	0
Mean		.42	7.0699	.92	
Std. Deviation		1.670	7.36687	.704	
Minimum		0	1.00	0	
Maximum		11	25.00	3	
Sum		78	1315.00	171	
Percentiles	25	.00	1.0000	1.00	
	50	.00	5.0000	1.00	
	75	.00	11.0000	1.00	

Statistics

		New. Universities abroad	Production-operations	R&D and engineering	Accounting and finance
N	Valid	41	186	186	186
	Missing	145	0	0	0
Mean		1.3902	.22	.20	.19
Std. Deviation		.62762	.412	.400	.396
Minimum		.00	0	0	0
Maximum		2.00	1	1	1
Sum		57.00	40	37	36
Percentiles	25	1.0000	.00	.00	.00
	50	1.0000	.00	.00	.00
	75	2.0000	.00	.00	.00

Statistics

		Business and administration	Marketing and sales	Law	HRM	Other professional experience
N	Valid	186	186	186	186	186
	Missing	0	0	0	0	0
Mean		.60	.37	.06	.13	
Std. Deviation		.492	.483	.237	.336	
Minimum		0	0	0	0	
Maximum		1	1	1	1	
Sum		111	68	11	24	
Percentiles	25	.00	.00	.00	.00	
	50	1.00	.00	.00	.00	
	75	1.00	1.00	.00	.00	

Statistics

		New.Professional Experience	International Assignment	Country for IA	NewCountryforIA	Years in IA
N	Valid	186	186	86	86	86
	Missing	0	0	100	100	100
Mean		12.6290	.54	7.77	1.1860	8.08
Std. Deviation		10.25128	.500	7.522	.80457	6.618
Minimum		1.00	0	1	.00	1
Maximum		42.00	1	27	2.00	30
Sum		2349.00	100	668	102.00	695
Percentiles	25	4.0000	.00	1.75	.7500	3.00
	50	9.0000	1.00	3.50	1.0000	6.00
	75	20.0000	1.00	12.25	2.0000	10.00

Statistics

		Tenure in current Board	Years in Boards	Board Appointments	Member of the TMT
N	Valid	186	186	186	186
	Missing	0	0	0	0
Mean		7.61	13.16	3.80	.52
Std. Deviation		6.737	9.469	3.012	.501
Minimum		1	1	1	0
Maximum		40	40	20	1
Sum		1416	2448	706	97
Percentiles	25	3.00	5.00	1.00	.00
	50	6.00	11.00	3.00	1.00
	75	10.00	19.25	5.00	1.00

Statistics

		Independent to organisaton	Independent to shareholders	Independent to All	CEO Appointments	Friction
N	Valid	97	97	186	185	186
	Missing	89	89	0	1	0
Mean		.25	.24	1.1398	.86	2.75
Std. Deviation		.434	.428	.89553	1.793	1.370
Minimum		0	0	.00	0	0
Maximum		1	1	2.00	20	6
Sum		24	23	212.00	160	511
Percentiles	25	.00	.00	.0000	.00	2.00
	50	.00	.00	1.0000	.00	2.00
	75	.50	.00	2.0000	1.00	4.00

Statistics

		personality clashes	Tension	Emotional conflict	content of strategic decisions	Differences professional opinions
N	Valid	186	186	186	186	186
	Missing	0	0	0	0	0
Mean		2.59	2.78	2.29	3.11	3.99
Std. Deviation		1.385	1.406	1.235	1.262	1.352
Minimum		0	0	0	0	0
Maximum		6	7	6	7	7
Sum		482	517	426	579	742
Percentiles	25	2.00	2.00	1.00	2.00	3.00
	50	2.00	2.00	2.00	3.00	4.00
	75	3.25	4.00	3.00	4.00	5.00

Statistics

		Disagreements about way	Disagreement procedures	Disagreements strategic decisions	Disagreements ideas
N	Valid	186	186	186	186
	Missing	0	0	0	0
Mean		2.75	2.19	4.88	4.25
Std. Deviation		1.337	1.004	1.488	1.416
Minimum		0	0	0	0
Maximum		6	6	7	7
Sum		512	407	908	791
Percentiles	25	2.00	2.00	4.00	3.00
	50	2.00	2.00	5.00	4.00
	75	4.00	3.00	6.00	5.00

Statistics

		Disagreements who should do what	Disagreements time	Comments on disagreements	Count on BOD
N	Valid	186	186	186	186
	Missing	0	0	0	0
Mean		5.43	4.81		5.51
Std. Deviation		1.708	1.846		1.608
Minimum		0	0		0
Maximum		7	7		7
Sum		1010	895		1024
Percentiles	25	5.00	3.00		5.00
	50	6.00	5.00		6.00
	75	7.00	6.00		7.00

Statistics

		Board will take my interests into account	Board keep me informed	Members keep their word.	Trust	Volunteer members
N	Valid	186	186	186	186	186
	Missing	0	0	0	0	0
Mean		4.81	5.48	5.75	6.01	3.51
Std. Deviation		1.737	1.658	1.511	1.358	2.378
Minimum		0	0	0	0	0
Maximum		7	7	7	7	7
Sum		895	1020	1070	1117	652
Percentiles	25	4.00	5.00	5.00	6.00	1.00
	50	5.00	6.00	6.00	6.00	4.00
	75	6.00	7.00	7.00	7.00	6.00

Statistics

		Flexible switching responsibilities	Willing to help	Quantity of ideas	Quality of solutions
N	Valid	186	186	186	186
	Missing	0	0	0	0
Mean		3.81	4.05	4.69	5.10
Std. Deviation		2.353	2.449	1.499	1.366
Minimum		0	0	0	0
Maximum		7	7	7	7
Sum		709	754	873	949
Percentiles	25	2.00	2.00	4.00	4.00
	50	5.00	5.00	5.00	5.00
	75	6.00	6.00	6.00	6.00

Statistics

		Creativity and innovation	Actions affect others	Joint problems	Discuss expectations
N	Valid	186	186	186	186
	Missing	0	0	0	0
Mean		4.65	3.97	4.51	3.90
Std. Deviation		1.598	2.210	1.849	1.835
Minimum		0	0	0	0
Maximum		7	7	7	7
Sum		864	738	839	725
Percentiles	25	4.00	3.00	4.00	2.00
	50	5.00	5.00	5.00	4.00
	75	6.00	6.00	6.00	5.00

Statistics

		Providing leadership	Shaping Strategy	Strategy implementation	Anticipating threats
N	Valid	186	186	186	186
	Missing	0	0	0	0
Mean		5.18	5.30	5.03	5.03
Std. Deviation		1.359	1.309	1.369	1.315
Minimum		0	0	0	0
Maximum		7	7	7	7
Sum		964	986	935	936
Percentiles	25	5.00	5.00	4.00	4.00
	50	5.00	5.50	5.00	5.00
	75	6.00	6.00	6.00	6.00

Statistics

		Managing crisis	Succession	Balancing interests	Image	Networks
N	Valid	186	186	186	186	186
	Missing	0	0	0	0	0
Mean		4.67	4.36	4.74	4.37	4.50
Std. Deviation		1.969	1.655	1.576	1.548	1.578
Minimum		0	0	0	0	0
Maximum		7	7	7	7	7
Sum		869	811	882	812	837
Percentiles	25	4.00	3.00	4.00	3.00	4.00
	50	5.00	4.00	5.00	4.00	5.00
	75	6.00	6.00	6.00	5.00	6.00

Statistics

		Government relations	Top Management performance	Overall effectiveness	Effect SD	Results of the strategic decision
N	Valid	186	186	186	186	186
	Missing	0	0	0	0	0
Mean		3.80	4.65	5.22	5.27	5.08
Std. Deviation		1.926	1.778	1.142	1.271	1.333
Minimum		0	0	2	0	0
Maximum		7	7	7	7	7
Sum		706	864	970	981	944
Percentiles	25	2.00	4.00	4.75	5.00	4.00
	50	4.00	5.00	5.00	5.00	5.00
	75	5.00	6.00	6.00	6.00	6.00

		Overall SD	Growth in sales	Growth in market share	ROA
N	Valid	186	186	186	186
	Missing	0	0	0	0
Mean		5.11	3.94	4.81	4.48
Std. Deviation		1.377	2.044	1.567	1.774
Minimum		0	0	0	0
Maximum		7	6	7	7
Sum		951	732	895	834
Percentiles	25	4.00	3.00	4.00	4.00
	50	5.00	5.00	5.00	5.00
	75	6.00	5.00	6.00	6.00

Statistics

		ROE	Growth employees	Fund growth	Profit margin	Growth in profitability
N	Valid	186	186	186	186	186
	Missing	0	0	0	0	0
Mean		4.60	4.03	4.69	4.60	4.74
Std. Deviation		1.775	1.565	1.892	1.849	1.705
Minimum		0	0	0	0	0
Maximum		7	7	7	7	7
Sum		856	749	872	856	881
Percentiles	25	4.00	3.00	4.00	4.00	4.00
	50	5.00	4.00	5.00	5.00	5.00
	75	6.00	5.00	6.00	6.00	6.00

Statistics

		TSR	CSP	Innovation	Attract talents	Quality	Listed
N	Valid	186	186	186	186	186	186
	Missing	0	0	0	0	0	0
Mean		4.45	4.21	4.89	5.11	5.53	.42
Std. Deviation		1.917	1.652	1.363	1.325	1.086	.496
Minimum		0	0	0	0	0	0
Maximum		7	7	7	7	7	1
Sum		827	783	910	951	1028	79
Percentiles	25	4.00	4.00	4.00	4.00	5.00	.00
	50	5.00	4.00	5.00	5.00	6.00	.00
	75	6.00	5.00	6.00	6.00	6.00	1.00

Statistics

		Company Size	Board Size	Country	Sector	Comments boards
N	Valid	186	186	186	186	186
	Missing	0	0	0	0	0
Mean		3.92	6.32	.89	10.89	
Std. Deviation		1.556	1.998	1.171	7.306	
Minimum		2	3	0	0	
Maximum		6	13	4	27	
Sum		729	1176	166	2026	
Percentiles	25	3.00	5.00	.00	4.00	
	50	3.00	6.00	.00	9.00	
	75	6.00	7.00	2.00	17.00	

Statistics

		Age Group	Years in IA Group	Grouped Years in other Boards	Grouped Tenure Focal Board
N	Valid	186	81	186	186
	Missing	0	105	0	0
Mean		2.9462	1.7531	2.7581	1.8817
Std. Deviation		.96832	.87365	1.46696	1.11839
Minimum		1.00	1.00	1.00	1.00
Maximum		5.00	4.00	5.00	5.00
Sum		548.00	142.00	513.00	350.00
Percentiles	25	2.0000	1.0000	1.0000	1.0000
	50	3.0000	2.0000	3.0000	2.0000
	75	4.0000	2.0000	4.0000	2.0000