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Master thesis

The influence of the persuasiveness of the board of directors on the performance of the board of directors, by displaying positive and negative emotions

Master Strategic Management

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Abstract

The purpose of this research is to investigate the influence of the persuasiveness of the board of directors on the performance of the board of directors, expressed in displaying positive and negative emotions, in board meetings of Dutch Water Authorities. To explain why board of directors may differ in their persuasiveness, this research conceptualizes the decision making of the board of directors in their monitoring role and top management as a negotiation process and draw upon the literature from social psychology that explains when individuals are more or less persuasive. The empirical results indicate that that the decision making between board of directors in their monitoring role and top management is not a negotiation process because more displays of positive or negative emotions by board of directors do not influence the performance of the board of directors.

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Chapter 1 – Introduction

In the modern corporation, the board of directors serves a key role in the organisation by effectively monitoring top management due to the legal right of control over managerial decisions and the power to review managerial decisions (Boivie, Bednar, Aguilera, & Andrus, 2016; Lan & Heracleous, 2010). Prior research in the corporate governance literature is primarily focused on the relationship of board composition on firm performance (Combs, Ketchen Jr, Perryman, & Donahue, 2007). Scholars have examined board composition, in terms of age, education, gender, values and previous experience, to influence firm performance, although the results are inconclusive (Forbes & Milliken, 1999; Johnson, Schnatterly, & Hill, 2013; Williams & O'Reilly, 1998). In previous years, the corporate governance literature has been shifting from board composition towards a focus on individual directors of the board because the relationship of board composition on firm performance is too indirect and complex (Aguilera, Desender, Bednar, & Lee, 2015). Consequently, scholars have proposed ideal characteristics that an individual director of the board should possess, specifically independence, expertise, bandwidth and motivation, to have a high likelihood of being an effective monitor (Cashman, Gillan, & Jun, 2012; Dalton, Hitt, Certo, & Dalton, 2007; Hambrick, Misangyi, & Park, 2015; Hillman, Nicholson, & Shropshire, 2008; Tian, Halebian, & Rajagopalan, 2011).

In organisations, the board of directors provides monitoring and advising top management and together they form a team (Boivie et al., 2016; Luciano, Nahrgang, & Shropshire, 2020). In the corporate governance literature, the assumption is made that when the board of directors provides monitoring or advice information, top management will also incorporate this in their decision. However, as known from social psychology literature, parties in teams need to negotiate and bargain about the extent to which information is incorporated in decisions (Thompson, Peterson, & Brodt, 1996). As such, it is not obvious that top management is always persuaded by the board of directors. To explain why board of directors may differ in their persuasiveness, this research conceptualizes the decision making of the board of directors and top management as a negotiation process and draw upon the literature from social psychology that explains when individuals are more or less persuasive.

Persuasiveness can be displayed in emotions (Kopelman, Rosette, & Thompson, 2006). This is because displaying emotions can be deployed as a manipulative negotiation tactic which leads

to a different course of action by the other party than previously anticipated (Kopelman et al., 2006). The face is the most important medium for emotional displays and these emotions are shown via facial expressions (Bonaccio, O'Reilly, O'Sullivan, & Chiocchio, 2016; Ekman, 1965; Ekman & Friesen, 1974). Valence is an essential dimension of emotions and can be distinguished in displaying positive emotions, which is happiness and displaying negative emotions, which are anger, contempt, disgust, fear and sadness (Batty & Taylor, 2003; Ekman & Friesen, 1971; Ekman & Friesen, 1974; Griffith, Connelly, Thiel, & Johnson, 2015; Wong, Tschan, Messerli, & Semmer, 2013).

Persuasiveness of board of directors can be expressed in displaying positive or negative emotions. However, it is likely that meeting frequency impacts the influence of displaying positive or negative emotions. This is the case since the effect of displaying emotions has a greater influence on people with low familiarity towards each other than people with high familiarity towards each other (Gabriel, Diamond Acosta, & Grandey, 2013). When the board meeting frequency is increasing, people become more familiar with each other which leads to the fact that the effect of displaying emotions by a person has a lesser influence on people. Therefore, it is expected that board meeting frequency impacts the influence of displaying positive emotions and negative emotions by board of directors.

Concluding, this research examines the influence of the persuasiveness of board of directors on the performance of board of directors expressed in displaying positive and negative emotions, in the domain of corporate governance literature. Furthermore, this research investigates if board meeting frequency influence the relationship of displaying positive and negative emotions on the performance of board of directors. Thus, the research question dealt with in this study is: *'To what extent do more displays of positive emotions and negative emotions of directors influence the performance of board of directors and does board meeting frequency influences this relationship?'*. This research contributes to the board governance literature by investigating the persuasiveness of board of directors, through conceptualising the decision making between board of directors in their monitoring role and top management as a negotiation process and draw upon social psychology literature that explains when individuals are more or less persuasive. To my knowledge, the perspective that decision making between board of directors in their monitoring role and top management is a negotiation process has not been theorized in the corporate governance literature. Moreover, the board governance literature is dominated by the agency theory and resource dependence theory and this has distracted the

importance of relational and emotional considerations, which are important in micro-level processes in board meetings (McNulty, 2010; Pettigrew, 1992; Starkey, 1995). Scholars have suggested what the ideal board composition is in several contexts and which competences individual directors must possess in order to improve the performance of the organisation without investigating how things really go between board of directors and top management during board meetings. Therefore, this research contributes to the board governance literature by looking at the importance of how things really go at board meetings.

The General boards of Dutch Water Authorities are the empirical context of this research. Dutch Water Authorities are public sector organisations responsible for regional water management (Havekes et al., 2017). The General board in every Dutch Water Authority can be considered as board of directors and is participating in board meetings together with the executive committee (Havekes et al., 2017). Since videos of board meetings are publicly published due to the Freedom of Information Act in The Netherlands, Dutch Water Authorities are an interesting context to investigate the persuasiveness of board of directors, expressed in displaying positive and negative emotions.

The remainder of this research proceeds as follows. First, the theoretical background is given, and hypothesis are developed. Next, an outline of the methodological framework is provided. Thereafter, the analysis is conducted, and the results of the analysis are described. Finally, the theoretical and practical implications, limitations of this research and directions for future research are addressed.

Chapter 2 – Theoretical Background

This chapter explains the core concepts of this research and the relations between these core concepts. This chapter starts with explaining the core concepts of this research: the board of directors monitoring role, persuasiveness and displaying emotions. Furthermore, this chapter explains the relationships between the core concepts with corresponding hypotheses. Finally, this chapter ends with a representation of the conceptual model of this research.

2.1 The board of directors monitoring role

In the classic agency theory the shareholders serve as the principals and the board of directors serve as first-order agents (Dalton, Daily, Ellstrand, & Johnson, 1998; Dalton et al., 2007). A common used definition of the board of directors monitoring role on top management in the classic agency literature is that “*The key role of board of directors is monitoring managerial action and acts as an important control mechanism to temper managerial self-interest in turn to increase firm performance and protect shareholders*” (Fama & Jensen, 1983). In general terms, monitoring means the measurement of the performance of top management and implementation of rewards (Fama & Jensen, 1983).

Van den Berghe and Baelden (2005) argue that the monitoring role of the board of directors is something between having control over and checking financial information. The monitoring role of the board of directors is a comprehensive task which encompasses regularly evaluate a situation and act upon this evaluation in order to get reasonable guarantee that you are in control of the situation (Van den Berghe & Baelden, 2005). Moreover, Van den Berghe and Baelden (2005) state that the monitoring role of board of directors is much broader than monitoring top management because it also contains monitoring of shareholders as they have an incentive to go after private benefits, the monitoring of the organisation and regularly evaluate themselves in order to improve effectiveness.

Furthermore, Van den Berghe and Baelden (2005) point out two important decisions of the board of directors. The first decision the board of directors has to make is which responsibilities and authorities are delegated to top management and the second decision board of directors has to make is whether to delegate the responsibilities and authorities to one specific manager or joint management (Van den Berghe & Baelden, 2005). These decisions influence the intensity and scope of the monitoring role of board of directors (Van den Berghe & Baelden, 2005).

Moreover, scholars describe that the control role of the board of the directors encompasses monitoring managers as fiduciaries of shareholders (Ellstrand & Daily, 1996). The board of directors responsibilities of this role include hiring and firing top management, determining rewards for top management and assure that top management do not dispossess shareholder interests (Ellstrand & Daily, 1996). Besides, Ellstrand and Daily (1996) argue that interesting themes for the board of directors control role are the director dependence on top management and the fiduciary role.

The agency theory suggests that in general, individual directors of the board do not face problems with their legal duty to effectively monitor top management, regardless of their professional and personal relationships with top management (Baysinger & Hoskisson, 1990). Inside directors are defined as those directors also serving a top management role and may lower their ability to provide objective and fair evaluation (Baysinger & Hoskisson, 1990; Byrd & Hickman, 1992). Outside directors are considered to be independent of the top management team (Ellstrand & Daily, 1996). Therefore, outside directors are expected to more effectively monitor top management than inside directors (Ellstrand & Daily, 1996). However, inside directors are also liable for the outcomes of the strategic decision making process and thus, should be motivated to effectively monitor top management (Baysinger & Hoskisson, 1990).

Recent research in the agency literature for predicting effective monitoring by boards of directors states that monitoring is a process where an individual director engage in (Hambrick et al., 2015). In order to monitor effectively, an individual director of the board must possess the following qualities: independence, bandwidth, expertise in that domain and motivation (Hambrick et al., 2015). Independence is the competence to be objective, bandwidth is the ability to spend the required time and attention, expertise is the ability to understand the issues at hand and motivation is the perseverance to exert one's self on behalf of shareholders (Hambrick et al., 2015).

Additionally, a distinction can be made between active and passive board of directors in their monitoring role (Westphal & Fredrickson, 2001). Active board of directors do not only choose strategy, together or without top management, but is also engaged in the process of the formulation of strategy (Van den Berghe & Baelden, 2005). Furthermore, scholars state that higher board activity facilitates better monitoring of the board of directors so active board of

directors are expected to organise more board meetings to enhance the ability to monitor top management (Vafeas, 1999). The inhabitants of the board meeting are the board of directors and the top management team (Vafeas, 1999). Passive directors can be busy and have less available time to monitor management properly (Shivdasani, 1993).

In general, both ability and motivation must be present, to a certain degree, to perform a task well (Reinholt, Pedersen, & Foss, 2011). Hambrick et al. (2015) suggest that monitoring is effective to the degree that it approaches monitoring to the extent that a competent and dedicated shareholder would engage in, if such a shareholder were on the board of directors. Hence, Hambrick et al. (2015) argue that *“An effective monitor is vigilant on a wide array of fronts; she does her homework; if she believes she needs more information; she asks for it; if she senses a problem, she speaks up; if not satisfied, she speaks up again – all while recognizing the potential for social strain and added work, especially for herself, that such behaviours can bring”*.

Moreover, Hambrick et al. (2015) state that effective monitoring means *“That if a director senses a problem, she asks about it; if not satisfied, she asks about it again and asks fellow directors what they think; if concern still continues, she explicitly asks for the board’s pointed consideration of the issue; and then if the board concludes that a problem exists, they take some action”*. In practice, this is not always the case because board of directors expands norms of acquiescence (Langevoort, 2000). Besides, board of directors often yield to the belief that silence means that everything is fine (Westphal & Bednar, 2005).

The monitoring role of board of directors is also central to the legal definition of the board of directors (Cieri, Sullivan, & Lennox, 1994; Miller, 1993). The definition of board of directors in the legal theory is that *“Board of directors has the legal right of control over strategic decisions, as well as the legal obligation as a fiduciary to review those decisions and ensure that they are in the best interests of the corporation”* (Lan & Heracleous, 2010). This definition means that monitoring the strategic decisions of top management is a core task of the board of directors legal responsibility to exercise fiduciary care (Boivie et al., 2016).

Besides, in legal theory the corporation is seen as the principal of the board of directors and scholars suggest the board of directors to shift from a monitoring role towards a mediating hierarch (Lan & Heracleous, 2010). The board of directors as a mediating hierarch can be seen

as a team who balances the often clashing interests and claims of all stakeholders that make contributions to the organisation, make decisions on the allocation of the remaining budget and is legally in control of the organisations assets and important strategic decisions (Blair & Stout, 2001). The key challenge for the board of directors is to prioritize the most important stakeholders (Lan & Heracleous, 2010).

Luciano et al. (2020) consider the board of directors and top management as part of a strategic-oriented multiteam, drawing from the broader systems theory and multiteam systems literature. When board of directors increase their focus on monitoring top management this improves their execution (Luciano et al., 2020). However, increased demands that organisations face, impact both the board of directors and top management in that neither can effectively meet their distinct tasks alone (Luciano et al., 2020). Since collective tasks, for board of directors and top management, become more variable, difficult and uncertain both board of directors and top management must work independently and interdependently of each other to better coordinate and understanding their actions, in order to facilitate system effectiveness (Luciano et al., 2020).

In the information-processing theory, scholars state that the board of directors face several barriers to effectively monitor top management (Boivie et al., 2016). These scholars conceptualize the board of directors as an information-processing group and state that barriers for adequate information processing arises due to individual factors, group factors and firm factors (Boivie et al., 2016; Hinsz, Tindale, & Vollrath, 1997). Individual factors consist of similarity and complexity outside job demands (Boivie et al., 2016). Group factors consist of board size, meeting frequency, diversity, norms of deference and CEO power (Boivie et al., 2016). Firm factors consist of firm size and firm complexity (Boivie et al., 2016).

In conclusion, the above explained theories: agency theory, broader system theory, information-processing theory and legal theory have a certain overlap but also contradictions with each other in what the monitoring role of the board of directors contains. Therefore, in this research the performance of the board of directors monitoring role is perceived as the extent to which the board of directors, in negotiations, succeeds in transferring its views and decision making to top management in order to protect top management team and increase firm performance. Furthermore, the performance of the board of directors monitoring role is more likely to be effective when an individual director is an active director and speaks up when he senses a problem and when not satisfied, he speaks up again. However, in the above explained theories,

it is remarkable that the importance of social interactions between board of directors and top management is absent. The following sections of this chapter elaborate on this.

2.2 Persuasiveness

In today's literature, scholars have attempted what the exact definition of persuasiveness is. Pornpitakpan (2004) defined persuasiveness as *"A term to describe the ability how a person can change others opinions and when a person has a high persuasiveness, the person can change a decision in a discussion"*. The persuasiveness of people within organisations can be seen as a critical aspect for development and growth of organisations and is, together with faith, often considered as a substitute of effective organizations (Jena & Pradhan, 2018; Legget, 2006). Lacrosse (1975) states that persuasiveness in an organisational context *"Is the degree to which what a person with an advising role does has the effect of inducing other people to believe some attitudinal and/or behavioural change might be beneficial for him"*. Persuasiveness is partly transferred through nonverbal behaviour because there is empirical evidence that the use of nonverbal behaviour makes people with an advising role more attractive and persuasive than people with an advising role who did not use nonverbal behaviour (LaCrosse, 1975). The most important function of nonverbal behaviour is communicating interpersonal emotions (Forbes & Jackson, 1980).

Reardon (1991) states that persuasion is a free-will of an individual, so it does not create a certain degree of dependency as it neither limits the freedom of all stakeholders. Therefore, in an uncertain business context the distinction between persuasion and manipulation is warranted (Edmondson, 1999). Besides, Smith (1982) argues that there is a certain overlap between persuasion and coercion. Smith (1982) suggests on the ground of perception that when individuals are free to refuse the communicator's view irrespective of their position, these individuals are under the persuasion umbrella. However, when individuals have no other choice than to comply, these individuals are stated to be influenced under coercion (Smith, 1982).

Jena and Pradhan (2018) state that the construct persuasiveness on the workplace is consisting three dimensions: reciprocation, cooperation, and consensus. Reciprocation and cooperation illustrate the belief and understanding of a person on the subject before persuading others (Jena & Pradhan, 2018). Reciprocation provides a base to understand the tolerance level towards the opinions of others (Jena & Pradhan, 2018). Cooperation consists of raising interpersonal

connection, increase a person's perspective and reach, involvement, creation of shared goals, group cohesion and reaching out to the whole organisation (Jena & Pradhan, 2018). Consensus is theorized to support the emotional consistency motive of the persuader and persuade (Jena & Pradhan, 2018). Taken this together, an individual's workplace persuasiveness is meaningful when an individual has a clear view of the issues that the individual wants to convince others, the merit and the ethical aspect of the issues (Jena & Pradhan, 2018).

Receivers attitude in opinion change towards communicators can be distinguished in identification and internalization (Kelman, 1961). Identification appears when the receiver adopts behaviour derived from the communicator because this behaviour is associated with a satisfying relationship with the communicator (Kelman, 1961). Internalization appears when the receiver accepts influence because the induced behaviour matches with someone's values (Kelman, 1961). To the degree that the communicator's power is based on his attractiveness, influence takes the attitude of identification (Kelman, 1961). To the degree that the communicator's power is based on credibility, influence takes the form of internalization (Kelman, 1961). When the receivers get information about a particular attractive communicator beforehand or afterwards, it has a small effect on the persuasiveness of the communicator, as other scholars argue (Mills & Harvey, 1972). In contrast, when the receivers get information about a particular expert communicator on the topic beforehand or afterwards, it has a bigger effect on the persuasiveness of the communicator (Mills & Harvey, 1972).

Other scholars argue that the degree of receivers involvement influences how these receivers are persuaded by the communicator (Johnson & Eagly, 1989). Involvement can be seen as a motivational state which depends on one's activated attitude and self-concept (Johnson & Eagly, 1989). Involvement can be divided in three distinct forms: value-relevant involvement which can be seen as whether the aspect of the self-concept that was activated in one's enduring values, outcome-relevant involvement which can be seen as their ability to attain desirable outcomes and impression-relevant involvement which can be seen as the impression they make on other people (Johnson & Eagly, 1989). These scholars found empirical evidence that with value-relevant information, less involvement receivers are more persuaded by the communicator than high-involvement receivers (Johnson & Eagly, 1989). With outcome-relevant involvement, high involvement receivers are more persuaded by the communicator than low-involvement receivers (Johnson & Eagly, 1989). With impression-relevant

information, low-involvement receivers are slightly more persuaded by the communicator than high-involvement receivers (Johnson & Eagly, 1989).

In conclusion, in this research persuasiveness of the board of directors is perceived as the mechanism of the relationship of displayed emotions on the performance of board of directors. Furthermore, in this research persuasiveness is perceived as the extent to which a person, with an advising role and when speaking, does have the influence of inducing other people to believe a change might be favourable for him.

2.3 Displaying emotions

As already specified in chapter 1, this research focuses on the display of emotions of a person. Although there is an ongoing debate on how displaying emotions should be defined, a common used definition of displaying emotions is “*socially meaningful expressions, which depend on shared customs, uses and institutions*” (Fattah & Fierke, 2009). Frijda (1986) states that an display of emotion in organisational life “*establishes or enhances, weakens or breaks, some form of contact with some aspect of the environment or that aims at doing so or is accessory in doing so*”. Throughout this research, the term emotions is used instead of mood or affect because the object specificity of emotions is most accurate discussing displaying emotions and persuasiveness issues.

Emotions are displayed through nonverbal behaviour and serve as a means of persuasion (Driskell, Olmstead, & Salas, 1993; Fattah & Fierke, 2009; Forgas & George, 2001). The face is the most important medium for emotional displays (Bonaccio et al., 2016). Emotions in the face are shown via facial expressions (Ekman, 1965; Ekman & Friesen, 1974). Facial expressions allow a group to easily understand the opinions and attitudes of the others (Batty & Taylor, 2003). Basic facial expressions of emotions are: anger, contempt, disgust, fear, happiness, neutral, sadness and surprise (Ekman & Friesen, 1971; Ekman & Friesen, 1974).

Valence and arousal are the most important dimensions of emotional related behaviour (Lang, 1995). This research focuses solely on valence of emotions which is a bipolar dimension. As mentioned before chapter 1, valence can be distinguished in displaying positive emotions, which is happiness and displaying negative emotions, which are anger, contempt, disgust, fear

and sadness (Batty & Taylor, 2003; Ekman & Friesen, 1971; Ekman & Friesen, 1974; Griffith et al., 2015; Wong et al., 2013).

It is noted that teams possess both task and emotional components (Bales, 1950). Kelly and Barsade (2001) state that displaying emotions influence performance in teams. Displaying positive emotions is associated with social play, which strengthens relationship ties between people (Fredrickson, 2000). Relationship ties are expected to provide social support for individuals, which enables proactive coping (Liu & Perrewé, 2005). Accordingly, displaying positive emotions are likely to lead to proactive coping behaviour (Liu & Perrewé, 2005). In comparison, when displaying negative emotions, the attention of people narrows because they feel stuck (Staw, Sandelands, & Dutton, 1981). Scholars state that people who display negative emotions could perceive the world as worse than it really is (Staw, Sutton, & Pelled, 1994). These people could perceive others as less likeable and helpful, which leads to avoiding help seeking (Liu & Perrewé, 2005). Therefore, individuals under the influence of displayed negative emotions are expected to choose passive coping options (Perrewé & Zellars, 1999).

Another scholar also states that emotions have relational meanings, and such meanings are important mechanisms to explain the relationship between emotions and behaviour (Lazarus, 1991). Displaying positive and negative emotions may increase or decrease the relationship quality among team members (Lazarus, 1991). People displaying positive emotions among team members are considered to be attractive and also tend to be more attracted to others (Lazarus, 1991). In contrast, displaying negative emotions among team members arising from group conflict may undermine the relationship quality (Lazarus, 1991).

Furthermore, another scholar states that the displays of positive and negative emotions are contagious (Barsade, 2002). This is the case because people do not live on emotional islands and therefore, displaying positive and negative emotions play a significant role in organisational teams because it influences other group members' emotions, team dynamics, attitudes and behaviours (Barsade, 2002). Moreover, in organisational contexts, people tend to pay more attention to displays of negative emotions in comparison to positive emotions (Barsade, 2002; Hollmann, 1972).

2.4 Displaying emotions and the performance of board of directors

In an organisational context, persuasiveness is the extent to which a person with an advising role does has the effect of inducing other people to believe some change might be beneficial for them (LaCrosse, 1975). In organisations, the board of directors are monitoring and advising top management and together they form a team (Boivie et al., 2016; Luciano et al., 2020). Board of directors exist to execute monitoring on top management, among other tasks (Boivie et al., 2016). The monitoring role of the board of directors consist of monitoring managerial action and act as an important control mechanism (Fama & Jensen, 1983). In doing so, the monitoring role of the board of directors is a comprehensive task which encompasses regularly evaluate a situation and act upon this evaluation in order to get reasonable guarantee that you are in control of the situation (Van den Berghe & Baelden, 2005). Thus, in this research the performance of the board of directors monitoring role is perceived as high, when the board of directors, in negotiations, succeeds in transferring its views and decision making to top management. Moreover, the board of directors monitoring role is more likely to be effective when an individual director is an active director and speaks up when he senses a problem and when not satisfied he speaks up again (Hambrick et al., 2015; Van den Berghe & Baelden, 2005). When an individual speaks up, it can persuade receivers (Johnson & Eagly, 1989). Persuasiveness can be displayed in emotions because these emotions can be deployed as a manipulative negotiation tactic which leads to a different course of action by the other party than previously anticipated (Kopelman et al., 2006). Displaying emotions can be distinguished in positive emotions and negative emotions and these emotions play a significant role in organisational teams because displaying emotions influence other group members emotions, team dynamics, attitudes and behaviours (Barsade, 2002; Batty & Taylor, 2003).

Displaying positive emotions bring favourable outcomes in individuals work roles, on teams and beyond in the organisation through three sets of intervening processes (Staw et al., 1994). Taken these intervening processes together, people who display positive emotions leads to better decisions, tend to be more persuasive, benefit from more favourable responses, are more likeable and leads to more displays of positive emotions.

First, displaying positive emotions has desirable effects, such as greater perseverance by the other person, independent of a person's relationship with others (Staw et al., 1994). An other scholar suggests that negotiators who display positive emotions reach more mutually beneficial outcomes due to the fact that displaying positive emotions promote creative thinking (Isen,

1987). Therefore, displaying positive emotions leads to better decisions and improved consequences for the social actor in organisational contexts (Isen, 1987). Thus, if the board of directors is displaying positive emotions, this leads to better decisions, which in turn increases the performance of board of directors.

Secondly, people displaying positive emotions are more successful at persuading others because people displaying positive emotions bring other people in a positive emotional state (Staw et al., 1994). Griskevicius, Shiota, and Neufeld (2010) state that people in a positive emotional state are less likely to scrutinize incoming information precisely. Moreover, people in this state base their judgements on simplifying heuristics because people in this state facilitate simple information processing (Griskevicius et al., 2010). This means that people who display positive emotions tend to be relatively persuasive regardless whether the arguments themselves are strong or weak (Griskevicius et al., 2010). If the board of directors is more successful at persuading top management, it is better able to perform their monitoring role than when they were less successful in persuading top management.

Furthermore, people displaying positive emotions instead of negative emotions benefit from more favourable responses by others (Staw et al., 1994). Yukl and Falbe (1990) also state that displaying positive emotions by a negotiator, leads to a more favourable response by the target negotiator, even if the target negotiator is aware of the fact that the negotiator is attempting to manipulate the target negotiator. If the board of directors obtain more favourable responses from top management it is better able to perform their monitoring role than when the board of directors would not obtain favourable responses.

Additionally, people displaying positive emotions instead of negative emotions are more likeable (Staw et al., 1994). When a person is more likeable, other people are more willing to help in comparison with a person they do not like (Staw et al., 1994). Thus, if the board of directors is more likeable, it increases the extent to which they succeed in transferring its views towards top management, which leads to better performance of board of directors.

Thirdly, people displaying positive emotions react more favorably to others, which is reflected in greater cooperation with others (Staw et al., 1994). Moreover, Fredrickson and Joiner (2002) predicted that displaying positive emotions trigger upward spirals towards increased emotional well-being. Scholars argue that displaying positive emotions broaden attention, enable flexible

and creative thinking, people should also facilitate coping with stress and adversity and this in turn suggests future experiences of people displaying positive emotions in the workplace, so displaying positive emotions can be considered as contagious (Aspinwall, 1998; Barsade, 2002; Fredrickson & Joiner, 2002). Displaying positive emotions by the board of directors is contagious, so leads to even more displays of positive emotions between board of directors and top management, which enhances the performance of board of directors as described by the above explained arguments.

Reconciling these arguments, if the board of directors display more positive emotions, it fulfills their monitoring role better. Therefore, this study suggests that more display of positive emotions, from individuals of board of directors towards top management, increases effectiveness of monitoring, which leads to better performance of board of directors.

Hypothesis 1: The more board of directors display positive emotions, the higher the performance of board of directors.

In general, people who display negative emotions in individuals work roles, on teams and beyond in the organisation have less favourable outcomes in organisations than people who display positive emotions through different intervening processes (Staw et al., 1994). Taken these intervening processes together, people who display negative emotions leads to less good decisions, tend to be less persuasive, obtain less favourable responses, are less likeable and leads to more displays of negative emotions.

Displaying negative emotions can be detrimental to the negotiation process and outcomes (Kopelman et al., 2006). In negotiations, Allred, Mallozzi, Matsui, and Raia (1997) argue that displaying negative emotions between the negotiator and target negotiator leads to less good decisions and had a reduced desire in doing business with each other in the future. Therefore, if the board of directors is displaying negative emotions, this leads to less good decisions, which in turn decreases the performance of board of directors.

Furthermore, people displaying negative emotions are less successful at persuading others because people displaying negative emotions bring other people in a negative emotional state (Staw et al., 1994). People in a negative emotional state are more likely to scrutinize incoming information (Griskevicius et al., 2010). Furthermore, people in this state are less likely to build

their judgements on simplifying heuristics because people in this state facilitate deep information processing (Griskevicius et al., 2010). This means that people who display negative emotions tend to be relatively less persuasive because other people expose the inadequacy of weak arguments (Griskevicius et al., 2010). When the board of directors is less successful at persuading top management, it is less able to fulfil their monitoring role than when they were more successful in persuading top management.

Moreover, Vinokur, Schul, and Caplan (1987) state that people who display negative emotions received less social support from others. Furthermore, Staw et al. (1994) state that displaying negative emotions instead of positive emotions have less favorable responses by others. If the board of directors obtain less favourable responses from top management it is less able to fulfil their monitoring role than when the board of directors would obtain more favourable responses.

Additionally, people displaying negative emotions in comparison with positive emotions are less likeable (Staw et al., 1994). When a person is less likeable, other people are less willing to help in comparison with a person they do like (Staw et al., 1994). Therefore, if the board of directors is less likeable, it decreases the extent to which they succeed in transferring its views towards top management, which leads to a decrease in the performance of board of directors.

Displaying negative emotions are contagious in organisational teams (Barsade, 2002). This is due to the fact that the display of negative emotions are infectious, spreading from one person to another (Zalesny & Ford, 1990). Displaying negative emotions are self-perpetuating and once displaying negative emotions begins between two parties, it can continue to expand, spiralling into increasingly more display of negative emotions between them (Barsade, 2002; Raush, 1965; Ury, 1998). Displaying negative emotions by the board of directors is contagious, so leads to even more displays of negative emotions between board of directors and top management, which decreases the performance of board of directors as described by the above explained arguments.

Reconciling these arguments, board of directors that display more negative emotions are therefore less good in performing their monitoring role. Therefore, this study suggests that more display of negative emotions, from individuals of board of directors towards top management, decreases effectiveness of monitoring, which leads to a decrease in the performance of board of directors.

Hypothesis 2: The more board of directors display negative emotions, the lower the performance of board of directors.

2.5 Moderation of the displayed emotions-performance relationship

High board meeting frequency leads to an increase in the group cohesiveness (Boivie et al., 2016). Magee and Tiedens (2006) state that group cohesiveness is: *“The extent to which group members like to spend time interacting with each other and enjoy being part of the group”*. Thus, higher board meeting frequency, with corresponding higher group cohesiveness, is likely to influence the relationship of displaying positive emotions by board of directors on the performance of board of directors.

First, board of directors displaying positive emotions influences the performance of board of directors because it leads to better decisions. This effect will be weakened as the board of directors and top management meet frequently. This is due to the fact that groups with high cohesiveness already produce decisions of higher quality than groups with low cohesiveness (Callaway & Esser, 1984). So, board of directors and top management already produce decisions of higher quality when they meet frequently and the effect that displaying positive emotions leads to better decisions is expected to have a weaker impact in this case.

Second, displaying positive emotions by board of directors influence their performance because the display of positive emotions makes them more successful in persuading top management. This effect will be weakened as the board of directors and top management have high meeting frequency. This is the case because in groups with high cohesiveness the impact of individual persuasion is less strong than in groups with low cohesiveness (Frank, 1957). So the degree to which extent an individual director of the board can persuade top management is decreased when the meeting frequency is high, therefore the influence of displaying positive emotions by board of directors will likely have a weaker impact when there is high meeting frequency in comparison with low meeting frequency.

Third, displaying positive emotions by board of directors influence their performance because displaying positive emotions leads to more favourable responses of top management. This influence will be weakened as the board of directors and top management meet frequently. This

is because of the fact that Callaway and Esser (1984) state that groups with high cohesiveness generate more agreement with each other than groups with low cohesiveness. Thus, board of directors generate more agreement with top management when the meeting frequency is high and therefore, the effect of displaying positive emotions will be unlikely to have a strong impact.

Fourth, board of directors displaying positive emotions influences their performance because board of directors displaying positive emotions are perceived as more likeable. This effect will be weakened as the board of directors and top management meet frequently. This is the case because teams with high cohesiveness already ascribe high likeability to members of the group (Magee & Tiedens, 2006). The top management team already ascribe high likeability to the board of directors when there is high meeting frequency and thus, the impact of displaying positive emotions by board of directors is likely to be weakened.

Taken these arguments together, all effects of displaying positive emotions by board of directors are expected to be weakened when the board of directors and top management team meet frequently. Therefore, this study suggests that the influence of displaying positive emotions from board of directors towards top management on the performance of board of directors is less positive when there is high meeting frequency.

Hypothesis 3: The effect of displaying positive emotions by board of directors on the performance of board of directors is less positive as meeting frequency increases.

Furthermore, high board meeting frequency, with corresponding higher group cohesiveness (Boivie et al., 2016), is also likely to influence the relationship of displaying negative emotions by board of directors on the performance of board of directors. First, board of directors displaying negative emotions affects the performance of board of directors because it leads to less good decisions. This influence will be weakened as the board of directors and top management have high meeting frequency. This is the case because groups with high cohesiveness produce decisions of a higher quality than groups with low cohesiveness (Callaway & Esser, 1984). Board of directors and top management already produce decisions of higher quality when they meet frequently, so the effect that displaying negative emotions leads to less good decisions will likely have a weaker impact when there is high meeting frequency in comparison with low meeting frequency.

Secondly, displaying negative emotions by board of directors influence their performance because the display of negative emotions makes them less successful in persuading top management. This influence will be weakened as the board of directors and top management have high meeting frequency. This is due to the fact that Frank (1957) states that in groups with high cohesiveness the impact of individual persuasion is less strong than in groups with low cohesiveness. Therefore, the degree to which extent an individual director of the board can persuade top management is decreased when the meeting frequency is high, thus the influence of displaying negative emotions will unlikely have a strong impact in such case.

Thirdly, displaying negative emotions by board of directors influence the performance of board of directors because this leads to less favourable responses of top management. This influence will be weakened as the board of directors and top management meet frequently. This is because of the fact that groups with high cohesiveness generate less disagreement with each other than groups with low cohesiveness (Callaway & Esser, 1984). Thus, board of directors generate less disagreement with top management when they meet frequently and therefore, the influence of displaying negative emotions will likely have a weaker impact when there is high meeting frequency in comparison with low meeting frequency.

Fourth, board of directors displaying negative emotions affects the performance of board of directors because when they display positive emotions, they are perceived as less likeable. This effect will be weakened as the board of directors and top management have high board meeting frequency. This is due to the fact that teams with high cohesiveness ascribe high likeability to members of the group (Magee & Tiedens, 2006). The top management team ascribe high likeability to the board of directors when there is high meeting frequency and therefore, the effect of displaying negative emotions by board of is expected to be weakened.

Taken these arguments arguments together, all effects of displaying negative emotions by board of directors are expected to be weakened when the board of directors and top management team meet frequently. Therefore, this research suggests that the influence of displaying negative emotions from the board of directors towards top management on the performance of board of directors is less negative when there is high meeting frequency.

Hypothesis 4: The effect of displaying negative emotions by board of directors on the performance of board of directors is less negative as meeting frequency increases.

2.6 Conceptual model

In figure 1, the conceptual model of this research is presented. The model starts with the independent variables, which are: displaying positive emotions and displaying negative emotions. The dependent variable is the performance of board of directors. There are one-way relationships and one-way relationships with an interaction effect which is: board meeting frequency.

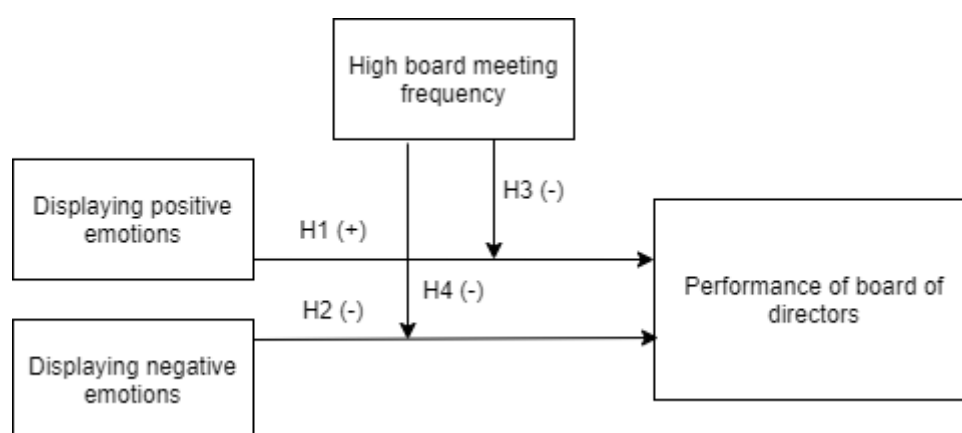


Figure 1: Conceptual model

Hypothesis 1 expects the more board of directors display positive emotions, the higher the performance of board of directors. Conversely, hypothesis 2 expects the more board of directors display negative emotions, the lower the performance of board of directors. In hypothesis 3 and 4, the interaction effect board meeting frequency is included. Hypothesis 3 expects that the influence of board of directors displaying positive emotions on the performance of board of directors will be less positive when there is high meeting frequency. Hypothesis 4 expects that the influence of board of directors displaying negative emotions on the performance of board of directors will be less negative when there is high meeting frequency. Furthermore, during the empirical analysis the following control variables are used: age diversity, gender diversity, political diversity, board tenure, board size, meeting duration, displayed positive emotions by top management, displayed negative emotions by top management, organisation dummies and year dummies.

Chapter 3 – Methodology

This chapter clarifies and explains the employed quantitative analyses. The empirical context of the quantitative analysis is first elaborated. Furthermore, the sample, data sources and research method are explained. Thereafter, the dependent variable, independent variables, moderator variable and control variables that are used to test the hypotheses are operationalized. Subsequently, the method for analysing the data is explained. The chapter ends with a discussion of the research ethics.

3.1 Dutch Water Authorities

The regional Dutch Water Authorities are the empirical context for this research, which has been used in several prior studies (Gieske, Duijn, & van Buuren, 2020; Gieske, George, van Meerkerk, & van Buuren, 2020; van den Oever & Martin, 2019). In general, the Dutch Water Authorities, consist of 21 Water Authorities, are responsible for managing water barriers, for maintaining the level and quality of waterways and for sewage treatment in their respective regions (Waterschapswet, 2020). Besides, minimizing the annual costs is another important purpose for every Dutch Water Authority because every Dutch Water Authority is financial independent as a result of their own tax system which are obtained from the inhabitants in a respective region (Havekes et al., 2017).

Every Dutch Water Authority consist of a General board and an executive committee (Havekes et al., 2017). As mentioned before, the focus is mainly on the General board within Dutch Water Authorities because it can be seen as board of directors (Havekes et al., 2017). Additionally, the executive committee within Dutch Water Authorities can be considered as top management team (Havekes et al., 2017). The board of directors in every Dutch Water Authority is especially involved in all the activities concerning water environmental issues in their appointed region (Waterschapswet, 2020). One of the core tasks of board of directors includes the monitoring of the executed strategy by top management team (Waterschapswet, 2020). Besides, board of directors focus on resource provision and participating in punctuated events, this means in the case of board of directors in Dutch Water Authorities a variety of activities: the creation of regulations, describing the water management structure, imposing fines, determining the budget for the next calendar year and managing employee salaries (Waterschapswet, 2020).

Board of directors within Dutch Water Authorities consist of approximately 30 persons and meet about every two months in the board (Havekes et al., 2017). Top management team within Dutch Water Authorities consist of five persons, meet every two weeks and is also participating in the board (Havekes et al., 2017). Besides, the “Dijkgraaf”, who is the chairman of the board and part of top management team, and the secretary director are participating in the board (Havekes et al., 2017). Belot, Ginglinger, Slovin, and Sushka (2014) argue that a one-tier board structure is composed of board of directors and top management and thus, the board in every regional Dutch Water Authority can be considered as a one-tier board structure. In a one-tier board structure, the board of directors is responsible for both advising and monitoring top management (Belot et al., 2014). The diversity in the board of directors and top management team arises from the fact that inhabitants are partly publicly elected every four years and places are established for different stakeholders such as residents, owners of open land, owners of nature area’s and businesses (Havekes et al., 2017).

3.2 Sample, data sources and research method

The sample of this study contains data on four Dutch Water Authorities in The Netherlands which publicly published videos of board meetings on their own website between 2013 to 2019. The dataset contains 102 board meetings of the following Dutch Water Authorities: Amstel, Gooi & Vecht, De Stichtse Rijnlanden, Friesland and Zuiderzeeland. Due to diversity in boards, the data can be best described as unbalanced panel data. The time period between 2013 and 2019 is an appropriate coverage of the data, where data prior to 2013 is incomplete.

Furthermore, other data sources are used to assemble the dataset. In brief, displaying positive emotions and displaying negative emotions data collection involve first gathering the videos of board meetings and then implementing static images of board meetings in the software tool Face API. Data for the performance of board of directors is retrieved from the decision lists of every single board meeting in the dataset. Board meeting frequency data is derived from the website of the Dutch Water Authorities. Data from the control variables, which are age diversity, gender diversity, political diversity, board tenure, board size, meeting duration, displaying positive emotions by top management, displaying negative emotions by top management, year dummies and organisation dummies, are retrieved from the annual reports, the website of the Dutch Water Authorities, the website of the government in The Netherlands and the software tool Face API.

All aforementioned data collection provides quantitative output. Therefore, the research method that is executed during this research is quantitative analysis. All four hypotheses discussed in chapter 2 are empirically tested with the data collection provided. In the next section, the different variables that are used to test the hypotheses are operationalized.

3.3 Dependent variable

Desender, Aguilera, Crespi, and Garcia-cestona (2013) and Deutsch (2005) state that examining the board of directors monitoring effectiveness by looking at firm performance is too complex and indirect. The literature on examining the board of directors monitoring effectiveness by looking at the performance of board of directors do not provide good measures because this topic has received too little attention so far. Desender et al. (2013) propose that by examining board of directors monitoring effectiveness an accurate evaluation can be obtained by looking at discrete board decisions. Besides, Cohen and Bailey (1997) argue that the performance of effectiveness in teams can be assessed in terms of quantity of outputs.

As already specified in chapter two, the performance of the board of directors monitoring role is more likely to be effective when an individual director is an active director and speaks up when he senses a problem and when not satisfied he speaks up again (Hambrick et al., 2015; Van den Berghe & Baelden, 2005). In board meetings of Dutch Water Authorities, an individual director of the board or a subgroup can decide to submit a motion or amendment and consequently put it to the vote when sensing a problem and not satisfied. Therefore in this research, the performance of board of directors is measured by looking at the number of submitted motions and amendments in a board meeting because board of directors submitting more motions and amendments can be considered as a more active board of directors. The number of submitted motions and amendments in a board meeting are gathered from the decision lists of every separate board meeting in the dataset. An example of a decision list in a board meeting can be seen in Appendix I.

3.4 Independent variables

In classifying people's facial expressions into discrete categories of basic emotions and indicating the weights of the displayed basic emotions, the service Face in the tool Microsoft Azure Computer Vision REST Application Program Interface (Face API) is used. The Face API is a supervised machine learning technology that transforms a static facial image as input

and establishes as output, weights along eight facial expressions: anger, contempt, disgust, fear, happiness, neutral, sadness and surprise (Choudhury, Wang, Carlson, & Khanna, 2019; Ekman & Friesen, 1971). As already specified in previous chapters, the variable displaying positive emotions is expressed in the facial expression: happiness (Batty & Taylor, 2003; Ekman & Friesen, 1974; Lang, 1995). The variable displaying negative emotions is expressed in the facial expressions: anger, contempt, disgust, fear and sadness (Batty & Taylor, 2003; Ekman & Friesen, 1974; Lang, 1995; Wong et al., 2013). Neutral and surprise facial expressions are not considered as displaying positive emotions or negative emotions so are disregarded (Batty & Taylor, 2003).

The Face API implemented a supervised neural network algorithm in three consecutive steps. First, the researchers used a practice set of static images that is labelled according to the facial emotions (Choudhury et al., 2019). Second, the researchers transformed every static image separately into a field of weighted pixels because the Face API contains a face detection module based on the collaboration of three state-of-the-art face detectors, followed by a classification module with the collaboration of multiple convolutional neural networks (Yu & Zhang, 2015). These pixel weights are used to generate values for parameters, for example openness of mouth, and these parameters are used to generate output values (Choudhury et al., 2019). Third, the weighted pixels are optimized by minimizing a loss function (Choudhury et al., 2019). Choudhury et al. (2019) has proven that the algorithm of the Face API is valid, by comparing the Face API-coded expressions to human-coded expressions for a selected set of facial images and found evidence of considerable overlap.

To operationalize the variables displaying positive emotions and displaying negative emotions per individual of the board of directors eight steps are conducted. First, video content of 102 board meetings in Dutch Water Authorities are derived from the website of the Dutch Water Authorities. Second, the video files are converted into approximately 600.000 individual static images with the use of “VLC media player”. One static image per second is captured and only the suitable static images that related to faces of board of directors are used for obtaining values for the independent variables. To get a higher chance to detect faces, the static images are manually cropped via “Digital image tool 4.2”. Fourth, a key from Microsoft Cognitive Services is retrieved for permission to implement all suitable static images by using the tool Face API through Python. Fifth, the programming language “Python 3.8” is installed and by using “Command-line-interface” also PIP and the package Pandas are installed in Python. Sixth, a

code is written with the Face API key in “Notepad” to obtain the desired displayed emotions output and saved as a .py file to run the code as a Python script. Seventh, 102 python scripts are run via “Command-line-interface” with all suitable static images of a board meeting to obtain emotions output. Eighth, the gathered emotions output with the use of Face API and Python scripts is obtained in a JSON file per static image which, due to another written code in “Notepad” and another executed python script, is transferred to a CSV file with all gathered emotions output per board meeting.

The output of the valence in Face API indicates the weights of the variables displaying positive emotions and displaying negative emotions for a static image. The valence, is measured in weights between 0 to 1.0 for each of the eight different emotions for every static image, where ‘0’ means that the emotion is not visible and ‘1’ means that the emotion is fully present (Choudhury et al., 2019). Therefore, the variables displayed positive emotions and displayed negative emotions can be considered as metric data. The sum of the weights of the eight different emotions for every static image is equal to 1 (Choudhury et al., 2019). The variable displaying positive emotions can be derived from the intensity of the facial expression: happiness. The variable displaying negative emotions can be retrieved to sum up the weights of the negative facial expressions: anger, contempt, disgust, fear and sadness. In figure 2, a visual representation of static images is given where the intensity of the eight facial expressions is present. Other scholars who derived output from individuals, aggregated the individual scores because the unit of analysis is the team (Pearce & Herbig, 2004). Therefore, all average individual emotions output of the board of directors per Dutch Water Authority in a single board meeting is combined and divided through the number of individuals with emotions output regardless the amount of emotions output per individual.



Figure 2 Visual representation of static images where the intensity of the eight facial expressions is present

3.5 Moderating and control variables

Moderator: board meeting frequency

Other scholars measured board meeting frequency by looking at the number of meetings in a single year (Anderson et al., 2004). Therefore, board meeting frequency is metrically scaled in the number of board meetings in a year per Dutch Water Authority. The number of board meetings in Dutch Water Authorities is scheduled in advance for a year. The number of board meetings in a year is derived from each separate website of the Dutch Water Authorities.

Controls: age diversity

Age diversity may affect relationships within teams (Avery, McKay, & Wilson, 2007). Thus, it is included as a control variable in this study. The age of the board members is measured by implementing images of board members, derived from the website of the Dutch Water Authorities and board meetings, in Face API. The age of the members in the board is divided into five categories ≤ 30 , $30 \leq 40$, $40 \leq 50$, $50 \leq 60$ and $60 >$ and measured by the Blau's Index of Diversity (Blau, 1977).

Controls: gender diversity

Gender diversity composition of the board can influence the monitoring effectiveness of board of directors but the results are inconclusive (Adams & Ferreira, 2009; Campbell & Vera, 2008). Therefore, gender diversity is included as a control variable. The gender diversity of the board members contains two groups: men and women, and measured by the Blau's Index of Diversity.

Controls: political diversity

The public sector organisation setting of this research is extraordinary because public elections makes it possible to enter the board as a subgroup. Moreover, Opstrup and Villadsen (2015) control for political diversity in their study about top management teams in public sector organisations. Logical reasoning on the public sector organisation, the more political diversity within a board, the more conflicting opinions, which can influence the performance of board of directors. So political diversity is included as a control variable in order to control for political subgroup diversity. The maximum number of political parties and interest groups in this dataset is 13. Therefore, these categories are measured by the Blau's Index of Diversity.

Controls: board tenure

Board tenure can influence team dynamics and the effectiveness in boards (Payne, Benson, & Finegold, 2009). Therefore, board tenure is included as a control variable and is measured by looking at the average monthly tenure of a board member.

Controls: board size

Board size is an aspect that is likely to affect relational dynamics between group members (Boivie et al., 2016). Thus, board size is included as a control variable and is measured by the number of board members per Dutch Water Authority.

Controls: meeting duration

The research setting for this research is a specific one, where the performance of board of directors is measured by the number of motions and amendments. It is therefore logical to expect that the number of submitted motions and amendments in a board meeting depends to some extent on the duration of the meeting, because the longer the duration of the meeting, the more motions and amendments can be submitted. Schweiger, Sandberg, and Rechner (1989) measured meeting duration in minutes. Hence, meeting duration is included as a control variable and is measured in minutes.

Controls: displaying positive and negative emotions of the top management team

Besides the persuasiveness of the board of directors, also the persuasiveness of the top management team, displayed in positive and negative emotions, could play a role in the board. This is the case because displaying emotions affect other group members emotions, team dynamics, attitudes and behaviors (Barsade, 2002; Batty & Taylor, 2003). Therefore, displayed negative emotions and positive emotions of the top management team is included as a control variable. The values of the displayed positive emotions and negative emotions of the top management team were obtained through the same process as the independent variables, as described in section 3.4.

Controls: organisation dummies

Several scholars included separate dummies, which are nominally scaled, for each organisation in their dataset to control for unobservable organisation characteristics. Hence, in this research that example is followed.

Controls: year dummies

Many scholars included year dummies, which are nominally scaled, as a control variable in their dataset to control for time-specific effects. Thus, in this research year dummies are included to control for year effects.

3.6 Method for analysing the data

The method for analysing the quantitative data that is used is linear regression analysis because the independent variables and the dependent variables are both metrically scaled (Hair, Black, Babin, & Anderson, 2014). Furthermore, linear regression analysis is an adequate way to analyse the effects of a moderating variable (Hair et al., 2014). This research has two independent variables, therefore a multiple linear regression analysis is used in order to test the hypotheses (Hair et al., 2014). Moreover, the dataset of this research includes 102 observations and thus, the sample size requirement and power is ensured (Hair et al., 2014). The multiple linear regression analysis is conducted with the program SPSS Statistics. The data set do not contain missing cases, so a missing data analysis is not required.

3.7 Research ethics

By conducting this research, I acted with integrity and in an ethical manner so that no one is harmed or suffer adverse consequences. All information of boards in Dutch Water Authorities used for the purpose of this research is publically available and thus, invasion of privacy is no topic of concern. However, I treated this information confidentially. Moreover, this research is not conducted for a specific organisation, so the findings are approached objectively and are not manipulated in favour of a person or group. This ensures higher reliability of the main findings of the research.

Chapter 4 – Results

This chapter shows the results of the analytical analysis conducted. First, an overview of the data sample using descriptive statistics and bivariate statistics is given. After this, the results of the multiple linear regression analysis are provided. Finally, multiple robustness checks are provided to check if the results are robust to alternative measures.

4.1 Descriptive statistics

Univariate analysis

The descriptive statistics of the included variables are displayed in Table 1. This research excludes the control variables year dummies and organisation dummies from the tables to conserve space. The performance of board of directors as measured by the number of motions and amendments in a board meeting has a mean of 1.657 and has a small range from 0 up to 13. Possibly, this can be explained due to the time constraints of a board meeting and the fact that important agenda items are already scheduled in advance for a board meeting which makes little room for submitted motions and amendments. The displayed positive emotions of board of directors (BoD positive emotions) has a mean of 0.073 and a range that stretches from 0.001 to 0.233. The displayed negative emotions of board of directors (BoD negative emotions) has a mean of 0.042 and a range that stretches from 0.005 to 0.0856. By looking at the mean of BoD positive emotions and BoD negative emotions it can be stated that board of directors display slightly more positive emotions in comparison with negative emotions in board meetings. Furthermore, by looking at the mean of BoD positive emotions and BoD negative emotions it can be argued that board of directors display neutral emotions most of the time.¹

¹ The values of the estimates of skewness and kurtosis divided by their standard errors for the variables motions and amendments and BoD positive emotions are far above 1.96 as can be seen in Appendix II, which indicates a non-normal distribution. To reduce the impact of non-normality, the variables could be transformed to test if this leads to better values of skewness and kurtosis. However, Denham (2006) argue that in multiple linear regression analysis a transformation of a variable is not necessary, as the procedure models the mean of the dependent variable directly, using an identity link. Therefore, none of the variables in the analysis are transformed.

<i>Variable</i>	<i>N</i>	<i>Mean</i>	<i>S.D.</i>	<i>Min</i>	<i>Max</i>
1. Performance of BoD	102	1.656	2.231	0.000	13.000
2. BoD positive emotions	102	0.073	0.047	0.001	0.233
3. BoD negative emotions	102	0.042	0.018	0.005	0.086
4. Meeting frequency	102	10.490	3.168	4.000	14.000
5. Age diversity	102	0.673	0.052	0.584	0.776
6. Gender diversity	102	0.342	0.047	0.257	0.430
7. Political diversity	102	0.888	0.006	0.877	0.901
8. Board tenure	102	43.460	13.737	20.000	67.000
9. Board size	102	31.620	1.203	27.000	33.000
10. Meeting duration	102	103.800	74.724	5.000	369.000
11. TMT positive emotions	102	0.073	0.057	0.001	0.345
12. TMT negative emotions	102	0.028	0.019	0.005	0.092

Table 1 Descriptive statistics

Bivariate analysis

The Pearson's correlation matrix, with the correlations of the variables which were used conducting multiple linear regression analysis are shown in Table 2. Again, the controls for firm-specific-effects and time-specific effects are not shown in the presented table. For checking the relationship between variables, Field (2018) states that a correlation coefficient of a value of +/- 0.1 represent a small effect, +/- 0.3 represent a medium effect and +/- 0.5 represent a large effect. The first hypothesis expects a positive relationship from BoD positive emotions on the performance of board of directors. These two variables have a very small positive effect (0.043) and the correlation is not significant. The second hypothesis expects a negative relationship from BoD negative emotions on the performance of board of directors. These two variables have a medium positive effect (.327) and does have a significant correlation ($p < 0.001$). This suggests that more displays of negative emotions by board of directors leads to more submitted motions and amendments. Furthermore, the two independent variables BoD positive emotions and BoD negative emotions have a very small negative and non-significantly effect (-.014) with each other. Moreover, multiple control variables seem to be correlated with the variables in the model.

<i>Variable</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>
1. Performance of board of directors	1										
2. BoD positive emotions	0.043	1									
3. BoD negative emotions	0.327**	-0.014	1								
4. Meeting frequency	-0.259**	-0.100	-0.429**	1							
5. Age diversity	0.244*	0.161	0.281**	-0.459**							
6. Gender diversity	0.043	-0.206*	-0.014	0.165	1						
7. Political diversity	-0.160	-0.008	-0.419	0.126	-0.246*	1					
8. Board tenure	0.071	0.080	0.063	-0.211*	-0.546**	0.516**	1				
9. Board size	-0.119	0.103	-0.390	0.237*	-0.492**	0.376**	0.056	1			
10. Meeting duration	0.675**	0.050	0.474**	-0.338**	0.053	-0.320**	0.010	-0.379**	1		
11. TMT positive emotions	-0.066	0.035	0.171	-0.069	0.042	-0.013	0.145	-0.329**	-0.071	1	
12. TMT negative emotions	0.228*	0.116	-0.003	-0.164	0.117	-0.009	-0.028	-0.059	0.059	0.108	1

Significant *p= <0.05. **p=<0.01

Table 2 Correlation matrix

4.2 Multiple linear regression analysis

The multiple linear regression analysis² examines the influence of the independent variables and moderator variable on the dependent variable. The results indicate that all hypotheses cannot be supported. Table 3 shows all models of the multiple linear regression analysis.

Model 1 shows the baseline model with all control variables. The baseline model is useful for the analysis ($F= 6.939$; $p= 0.000$). Meeting duration seems to have a significant negative relationship with the performance of board of directors ($\beta= 0.023$; $p= 0.000$). Considering the mean of the performance of board of directors (1.657), the magnitude of this effect is low. The displayed negative emotions of top management team (TMT negative emotions) seems to have a significant positive relationship with the performance of board of directors ($\beta= 23.815$; $p= 0.019$). The magnitude of this effect is moderately high. However, all other control variables are insignificant. In Model 2 and Model 3 the independent variables are separately included in the model.

Model 2 gives the effect of BoD positive emotions on the performance of board of directors. This model examines hypothesis 1 and is useful for the analysis ($F= 6,508$; $p= 0,000$). The adjusted R2 of Model 2 is almost equal to the adjusted R2 of Model 1, which indicates that the explained variation in the dependent variable is mostly explained by the control variables. The results of Model 2 indicate that there is no significant effect between more display of positive emotions of board of directors on the performance of board of directors ($\beta= 1.209$; $p= 0.752$). Therefore, hypothesis 1 is not supported. However, the control variables TMT negative emotions and meeting duration remain significant in their relationship on the performance of board of directors.

Model 3 shows the influence of BoD negative emotions on the performance of board of directors. This model tests hypothesis 2 and is useful for the analysis ($F= 6.510$; $p= 0.000$). The adjusted R2 of Model 3 is almost equal to the adjusted R2 of the baseline model, which indicates that the explanation of the variation in the dependent variable is mostly explained by the control variables. As the results indicate, the relationship between more display of negative emotions

² It is important to check the underlying assumptions before conducting a multiple regression analysis. This is because if at least one assumption is violated, this can be damaging to the quality of the results of this research. As can be seen in Appendix II, in this research no assumption is violated and therefore a multiple linear regression analysis is appropriate.

of board of directors on the performance of board of directors is insignificant ($\beta = 4.183$; $p = 0.732$). Thus, the results of this model do not support hypothesis 2. However, the control variables TMT negative emotions and meeting duration remain significant in their relationship on the performance of board of directors.

Model 4 shows the influence of the moderator variable BoD pos emotions x meeting frequency on the relationship of BoD positive emotions on the performance of board of directors. This model tests hypothesis 3 and is useful for the analysis ($F = 6.429$; $p = 0.000$). The results indicate that the moderation effect is not significant ($\beta = -2.002$; $p = 0.113$) and the main effect remains not significant ($\beta = 2.423$; $p = 0.531$). Therefore, these results do not support hypothesis 3. However, the control variables TMT negative emotions and meeting duration remain significant in their relationship on the performance of board of directors.

Model 5 gives the influence of the moderator variable BoD neg emotions x meeting frequency on the relationship of BoD negative emotions on the performance of board of directors. This model examines hypothesis 4 and is useful for the analysis ($F = 6.110$; $p = 0.000$). As the results indicate, the moderation effect is not significant ($\beta = 0.368$; $p = 0.926$) and the main effect remains not significant ($\beta = 4.350$; $p = 0.726$). Thus, hypothesis 4 is not supported. In Model 5, the control variables TMT negative emotions and meeting duration remain significant in their relationship on the performance of board of directors.

Model 6 combines all the independent variables, moderator variable and control variables. Model 6 is useful for the analysis ($F = 6.429$; $p = 0.000$). The control variables TMT negative emotions ($\beta = 24.166$; $p = 0.019$) and meeting duration ($\beta = 0.023$; $p = 0.000$) remains to have a significant relationship on the performance of board of directors. Furthermore, all the other effects remain insignificant.

Variables	Performance of board of directors											
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	Coefficient	Sign. Level	Coefficient	Sign. Level	Coefficient	Sign. Level	Coefficient	Sign. Level	Coefficient	Sign. Level	Coefficient	Sign. Level
BoD positive emotions			1.209 (3.812)	0.752			2.423 (3.851)	0.531			3.177 (4.035)	0.433
BoD negative emotions					4.183 (12.166)	0.732			4.350 (12.370)	0.726	10.821 (12.823)	0.401
BoD pos emotions x meetingfrequency							-2.002 (1.249)	0.113			-2.307 (1.309)	0.082
BoD neg emotions x meetingfrequency									0.368 (3.933)	0.926	-0.271 (3.969)	0.946
Board meeting frequency	0.246 (0.176)	0.166	0.248 (0.177)	0.166	0.250 (0.178)	0.163	-1.111 (0.866)	0.203	0.247 (0.181)	0.175	-1.306 (0.902)	0.152
Age diversity	-3.058 (11.742)	0.795	-3.313 (11.834)	0.780	-2.835 (11.283)	0.811	-6.807 (11.923)	0.570	-2.818 (11.897)	0.813	-6.889 (12.025)	0.568
Gender diversity	15.717 (11.105)	0.161	16.351 (11.343)	0.153	15.476 (11.186)	0.170	15.219 (11.258)	0.180	15.443 (11.260)	0.174	14.740 (11.382)	0.199
Political diversity	-166.555 (98.883)	0.096	-168.262 (99.568)	0.095	-165.513 (99.458)	0.100	-192.966 (99.825)	0.057	-166.575 (100.708)	0.102	-194.016 (101.103)	0.059
Board tenure	0.004 (0.025)	0.883	0.004 (0.025)	0.871	0.003 (0.025)	0.894	0.001 (0.025)	0.998	0.003 (0.025)	0.899	-0.001 (0.025)	0.967
Board size	0.983 (0.933)	0.295	0.964 (0.939)	0.308	0.974 (0.938)	0.302	1.003 (0.931)	0.285	0.969 (0.945)	0.309	0.982 (0.940)	0.299
Meeting duration	0.023** (0.003)	0.000	0.023** (0.003)	0.000	0.023** (0.003)	0.000	0.024** (0.003)	0.000	0.023** (0.003)	0.000	0.023** (0.003)	0.000
TMT positive emotions	-1.554 (2.993)	0.605	-1.528 (3.010)	0.613	-1.632 (3.017)	0.590	-0.601 (3.037)	0.844	-1.636 (3.036)	0.591	-0.651 (3.063)	0.832
TMT negative emotions	23.815* (9.978)	0.019	24.105* (10.074)	0.019	23.810* (10.031)	0.020	24.101* (9.979)	0.018	23.891* (10.130)	0.021	24.166* (10.084)	0.019
F-statistic	6.939**		6.508**		6.510**		6.429**		6.110**		6.429**	
R2	6.010		6.010		6.010		6.140		6.010		6.170	
Adjusted R2	5.140		5.090		5.090		5.180		5.030		5.100	

Notes: Controlled for year effects and firm effects. Robust standard errors in parentheses. *p= <0.05. **p=<0.01.

Table 3 Multiple linear regression analyses

4.3 Robustness checks

Several robustness checks are conducted in order to test how core regression coefficients behave when the regression specification is modified (Lu & White, 2014). These robustness checks are conducted to examine if there is misspecification. When the regression coefficients in the robustness checks do approximately remain the same, which is the case in this research, this is commonly taken as evidence that the estimated regression coefficients can be reliably interpreted (Lu & White, 2014). All robustness checks have a significant F-statistic or significant likelihood-ratio Chi-squared and a p-value (<0.001), which indicate that all robustness checks are useful for the analysis. The table of the robustness checks is shown at the end of this section.

First, the data sample is reduced with 15 cases ($N=87$) because the displayed emotions output for all static images in these board meetings are below 50%. Therefore, the measure of the independent variables BoD positive emotions and BoD negative emotions of the reduced cases could give a wrong interpretation. The result of this change in the dependent variable leads to a positive significant effect of the control variable board size ($\beta= 2.128$; $p= 0.032$) on the performance of board of directors. However, all other results, using multiple linear regression analysis, of this robustness check remain the same.

Second, the independent variables BoD positive emotions and BoD negative emotions are measured by an unweighted average instead of a weighted average per individual director. This is important to examine as there is no clear preference on how to aggregate individual scores to a team-level score. The results, using multiple regression analysis, remain consistent.

Third, to solve extreme measures that affect the average, which are called outliers, the dependent variable performance of the board of directors is winsorized. Winsorization is a way to assign lesser weights to extreme outliers which leads to improving the statistical efficiency (Ghosh & Vogt, 2012). By looking at the scatterplots and a stem-and-leaf plot in Appendix II, it can be stated that the dependent variable has one extreme outlier with a measure of 13. Therefore, the extreme outlier with measure 13 is winsorized and given the measure 9, which is the second highest measure of the dependent variable but not considered as an extreme outlier. The results with a winsorized dependent variable, using multiple regression analysis, remain consistent.

Fourth, the data is re-ran with a count data model because the dependent variable performance of the board of directors can be considered as a count variable due to the discrete values (Coxe, West, & Aiken, 2009). As can be seen in Appendix II, the dependent variable of this research is over dispersed because the mean (1.657) is approximately three times smaller than the variance (4.980). Therefore, a negative binomial regression analysis is the most appropriate count data model. This is in line with Rietveld, van Dolen, Mazloom, and Worring (2020) who used a negative binomial regression analysis due to overdispersion in the dependent variable in their research about the influence of visual affect in images on likes and comments on Instagram. The results using negative binomial regression analysis do support hypothesis 3 because the results indicate that there is a negative significant moderation effect BoD pos emotions x meeting frequency on the relationship of BoD positive emotions on the performance of board of directors ($\beta = -2.537$; $p = 0.009$). However, the results of the main model and five other robustness checks in this research do not support hypotheses 3 and thus, this research do not provide support for hypotheses 3. Furthermore, the results indicate a positive significant moderation effect BoD neg emotions x meeting frequency on the relationship BoD negative emotions on the performance of board of directors ($\beta = 5.681$; $p = 0.019$) and a negative significant control variable board meeting frequency ($\beta = -1.595$; $p = 0.014$). All other effects using a negative binomial regression analysis remain the same.

Fifth, the multiple regression analysis is re-ran with a modification in the dependent variable performance of the board of directors by summing up all the important decisions made in a board meeting instead of summing up all submitted motions and amendments. This is important to test because important decisions made in a board meeting can be assessed in terms of quantity of outputs and the display of emotions by board of directors might influence the number of important decisions made. Important decisions in board meetings consist of decisions about various agenda items such as budget decisions, investment decisions, policy decisions, water level decisions, decisions about water area plans, decisions about water management project plans, regulations and closed agreements (AGV, 2016). The result of this modification in the dependent variable leads to an insignificant effect of the control variable TMT negative emotions on the performance of board of directors ($\beta = -16.825$; $p = 0.342$). However, all other effects in relation to the dependent variable remain the same.

Sixth, the multiple regression analysis is re-ran with a change in the dependent variable by summing up all decisions made in a board meeting instead of summing up all submitted motions and amendments. This is relevant to examine as all decisions made in a board meeting can be assessed in terms of quantity of outputs and the display of emotions by board of directors might influence the number of decisions made. This change in the dependent variable leads to an insignificant effect of the control variable TMT negative emotions on the performance of board of directors ($\beta = -38.450$; $p = 0.375$). The results of this change in the dependent variable for all other included variables remain unchanged.

Variables	Performance of board of directors											
	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Robustness check	Reduced sample		Weighted IV		DV Winsorized		Negative binomial		DV Decisions		DV Decisions2	
	Coefficient	Sign. Level	Coefficient	Sign. Level	Coefficient	Sign. Level.	Coefficient	Sign. Level.	Coefficient	Sign. Level.	Coefficient	Sign. Level.
BoD positive emotions	-0.282 (5.444)	0.959	1.546 (4.793)	0.748	3.182 (3.634)	0.384	-1.421 (2.845)	0.618	-5.247 (7.047)	0.459	1.254 (17.241)	0.942
BoD negative emotions	6.772 (13.772)	0.625	6.455 (10.946)	0.557	9.207 (11.549)	0.428	7.186 (7.740)	0.353	-20.333 (22.396)	0.367	-74.375 (54.976)	0.179
BoD pos emotions x meetingfrequency	-0.989 (1.861)	0.597	-1.702 (1.451)	0.245	-2.279 (1.179)	0.057	-2.537** (0.965)	0.009	-0.087 (2.286)	0.970	-3.211 (5.593)	0.567
BoD neg emotions x meetingfrequency	1.325 (4.208)	0.754	1.588 (3.596)	0.660	-0.669 (3.575)	0.852	5.681* (2.424)	0.019	-6.290 (6.932)	0.367	-11.416 (16.961)	0.503
Board meeting frequency	-0.439 (1.318)	0.740	0.239 (0.192)	0.216	-1.302 (0.812)	0.113	-1.595* (0.647)	0.014	-0.315 (1.575)	0.842	-2.151 (3.853)	0.578
Age diversity	-7.098 (12.443)	0.570	-4.683 (12.668)	0.713	-3.385 (10.830)	0.755	0.134 (7.533)	0.986	-13.020 (21.002)	0.537	30.003 (51.386)	0.561
Gender diversity	22.703 (11.786)	0.059	16.450 (11.437)	0.154	13.122 (10.251)	0.204	4.933 (6.647)	0.448	13.670 (19.879)	0.494	-30.040 (48.638)	0.539
Political diversity	-174.209 (107.935)	0.111	-182.555 (102.002)	0.077	-150.307 (91.057)	0.103	-84.103 (57.072)	0.141	7.130 (176.577)	0.968	-176.178 (432.032)	0.685
Board tenure	-0.013 (0.025)	0.618	0.002 (0.025)	0.940	0.004 (0.023)	0.872	-0.006 (0.014)	0.678	0.081 (0.044)	0.069	0.106 (0.107)	0.328
Board size	2.128* (0.973)	0.032	1.134 (0.966)	0.244	0.968 (0.847)	0.256	0.627 (0.587)	0.285	0.268 (1.642)	0.871	-0.066 (4.017)	0.987
Meeting duration	0.027** (0.003)	0.000	0.024** (0.003)	0.000	0.022** (0.002)	0.000	0.013** (0.002)	0.000	0.024** (0.005)	0.000	0.066** (0.011)	0.000
TMT positive emotions	-1.072 (3.584)	0.766	-2.378 (3.157)	0.453	-1.155 (2.759)	0.676	-0.090 (2.078)	0.965	-1.258 (5.350)	0.815	4.549 (13.089)	0.729
TMT negative emotions	30.145** (10.998)	0.008	23.650* (10.479)	0.027	24.208** (9.082)	0.009	14.497** (5.374)	0.007	-16.825 (17.611)	0.342	-38.450 (43.089)	0.375
F-statistic	6.278**		5.627**		6.249**		3.479**		5.001**			
R2	0.683		0.610		0.635		0.492		0.582			
Adjusted R2	0.574		0.502		0.533		0.351		0.466			
Likelihood-ratio Chi-squared	161.288**											

Notes: Controlled for year effects and firm effects. Robust standard errors in parentheses. *p= <0.05. **p=<0.01.

Table 4 Robustness check

Chapter 5 – Discussion and conclusion

This chapter starts with providing a discussion based on the analyses of the obtained data. Furthermore, the limitations of the research are highlighted and suggestions for future research are presented. At last, the conclusion of the research is given.

5.1 Discussion

In the corporate governance literature, the assumption is made that when the board of directors provides monitoring or advice information, top management will also incorporate this in their decision. However, in social psychology literature, it is stated that parties need to negotiate and bargain about the extent to which information is incorporated in decisions. As such, it is not obvious that board of directors always persuades top management when it provides monitoring or advice information. Therefore, this research examined the influence of the persuasiveness of board of directors on the performance of board of directors, expressed in displaying positive and negative emotions, by conceptualising the decision making of the board of directors and top management as a negotiation process and drawing upon the literature from social psychology that explains when individuals are more or less persuasive. This research could not find evidence of a negotiation process in decision making between board of directors in their monitoring role and top management. The context of this research is a very specific context and thus, the promise of the theorized perspective of this research must not be written off in corporate governance literature.

This research could not find significant evidence that the more board of directors display positive emotions, the higher the performance of board of directors. Furthermore, this research could not find significant evidence that the more board of directors display negative emotions, the lower the performance of board of directors. One of the main reasons why this research could not find significant evidence is because of the complexity of the effects of emotional displays. The literature on displaying positive emotions states that most of the time the effects of displaying positive emotions are positive for the displayer. However, displaying positive emotions can also have adverse effects. Besides, the literature on displaying negative emotions suggests that in most cases the effects of displaying negative emotions are negative. However, displaying negative emotions can also have positive effects. Moreover, next to valence of emotional display, the literature on emotional display argues that the effects of emotional displays are depended on several aspects such as the intensity and duration of emotional

displays, characteristics of the displayer and the context. This implies that in corporate governance literature and organisational literature, researchers should be aware of the complexity of the effects of emotional displays.

As previously mentioned, this research could not find significant evidence that the more board of directors display positive emotions, the higher the performance of board of directors. A possible specific explanation could be given by Liu and Perrewé (2006) who argue that a person who display positive emotions may increase the danger of appearing inauthentic, which may weaken the intended effects of positive emotional display. Furthermore, Staw et al. (1994) state that people displaying positive emotions react more favorably to others which is reflected in greater cooperation with others. This might be an other possible specific explanation because board of directors displaying positive emotions consequently leads to more cooperative behaviour towards top management which could lead to fewer submitted motions and amendments which decreases the performance of board of directors.

Moreover, as mentioned before, it could not be statistically proven that the more board of directors display negative emotions, the lower the performance of board of directors according to the analysis of this research. A possible specific explanation might be that in specific circumstances, displaying negative emotions can also attain favourable outcomes in negotiations when the target negotiator is affected by the toughness of the other party, which is the case when the alternatives of the target negotiator tend to be poor (Sinaceur & Tiedens, 2006). In boards, this is the case when board of directors provides monitoring or advice information, top management team also incorporate this in their decision. Under these circumstances, the top management team can be seen as the target negotiator in the decision making and has poor alternatives and therefore, board of directors could attain favourable outcomes by displaying negative emotions which could lead to an increase in the performance of board of directors. This might imply that the decision making between board of directors in their monitoring role and top management is not a negotiation process.

This research found no evidence that high board meeting frequency, with corresponding higher group cohesiveness, weakens the relationships between board of directors displaying more positive and negative emotions on the performance of board of directors. A possible explanation might be that higher group cohesiveness have different underlying mechanisms. For example, Roberge and van Dick (2010) state that high diversity leads to a decrease in the group

cohesiveness. In the context of Dutch Water Authorities, there is high diversity in the board because board members are partly publicly elected and places are established for different stakeholders such as residents, owners of open land, owners of nature area's and businesses. Thus, the high diversity in the board could weaken the level of group cohesiveness.

Nevertheless, the control variable top management displaying negative emotions, shows a significant positive relationship with the performance of board of directors. This might imply that the influence of more displays of negative emotions by top management is more important in relationship with the performance of board of directors than more displays of positive and negative emotions by board of directors. Furthermore, this could imply that displaying negative emotions is more important in relationship with the performance of board of directors than displaying positive emotions. The positive significant effect of top management displaying negative emotions on the performance of board of directors can possibly be explained due to the fact that people who display negative emotions receive less social support from others, obtain less favourable responses and tend to be less persuasive (Griskevicius et al., 2010; Staw et al., 1994; Vinokur et al., 1987). This might imply that the theory of this research about persuasiveness and emotional displays is also applicable for top management.

Considering the results of this research, it is remarkable that the results of all separately tested hypotheses are surprisingly uniform in their lack of support for the influence of the persuasiveness of board of directors on the performance of board of directors in the context of this research. This might imply that the decision making between board of directors in their monitoring role and top management is not a negotiation process. Overall, the results of this research might imply that what is already investigated and known in the board governance literature already covers the most important aspects of boards in relation with performance. For example the issues concerning the composition of the board, in terms of age, education, gender, values and previous experience (Kang, Cheng, & Gray, 2007).

However, it can be considered that the insignificant results of this research might somehow be sensitive to the public sector organisation context of this research. Literature on private sector organisations is used to form the theoretical background because there is a lack of literature about board of directors in the public sector organisation literature. Board of directors in Dutch Water Authorities differ from private sector organisations on several aspects. First, the board of directors in Dutch Water Authorities serve various objectives and have to balance the

interests of various stakeholders which differs from board of directors in private sector organizations because these boards of directors primarily focus on financial objectives (Opstrup & Villadsen, 2015). Second, the board of directors in Dutch Water Authorities consist of approximately 30 people with different political and industry backgrounds which leads to conflicting interests. This differs from private sector organizations because these board of directors generally consists of fewer people and have more similar backgrounds. Third, the board of directors in Dutch Water Authorities do not act as one unity towards top management due to conflicting interests while the board of directors in private sector organizations act as one unity towards the top management team. The insignificant results of this research could imply that board of directors literature in private sector organisations may not apply to the domain of the public sector organisation context.

Furthermore, it can also be considered that the non significant results of this research could somehow be sensitive to the fact that literature about emotional display is obtained from organisational literature instead of board governance literature. There is a lack of literature about the effects of displaying emotions in a board meeting and therefore, organisational literature is used to form the theoretical background. The lack of literature about the effects of displaying emotions in a board meeting can possibly be explained due to the fact that Helfat and Peteraf (2015) were the first to made a call to strategy scholars to study nonverbal communication after highlighting that nonverbal communication is an important component for managers. The information about the effects of displaying emotions are derived from small groups in organisational literature and this differs from a large group, which is the case in the context of this research. Therefore, the non significant results of this research might imply, especially for literature of emotional display, that the effects of displaying emotions disappear in larger groups. Furthermore, it could be logically explained that the effects of displayed emotions of board of directors in board meetings may differ with the effects of displayed emotions of employees in common meetings because of the position of board of directors in the power hierarchy. The non significant results of this research could imply that the obtained literature about displayed emotions in the organisational literature may not apply to board of directors.

Practical implications

The results of this research provide multiple practical implications for board of directors and top management within board meetings of Dutch Water Authorities. First of all, it is shown that

the persuasiveness of board of directors, expressed in displaying positive and negative emotions, does not influence the number of submitted motions and amendments of board of directors. Therefore, when speaking in a board meeting, an individual director of the board does not have to consider to display more positive or negative emotions to empower their arguments because this won't influence the number of submitted motions and amendments. However, it is shown that the more an individual of top management displays negative emotions when speaking in a board meeting, the more number of motions and amendments are submitted by the board of directors during a board meeting. Thus, individuals of top management could consider to lessen the display of negative emotions in order to prevent the number of submitted motions and amendments by board of directors.

5.2 Limitations and future research

This research is also subjected to limitations. In an early stage of this research, it was chosen to measure the constructs of this research on meeting-level. Hence, the comprehensive task to obtain displayed emotion scores are derived from the entire length of each board meeting. This research is the first research to measure the number of submitted motions and amendments by the board of directors as performance indicator on meeting-level since there is no obvious performance indicator on meeting-level in the literature, such as financial indicators on year-level. However, submitted motions and amendments can be accepted or rejected when it is put to the vote in the board meeting. The person who is submitting a motion or amendment could persuade the other members of the board meeting when they speak up, with corresponding emotional displays, to invigorate their arguments why they submit a motion or amendment. In this context, a more accurate relationship between the persuasiveness of the board and the performance of board of directors could be examined due to a change in both constructs. Hence, the displayed emotion scores must be obtained from a particular agenda point in the board meeting where a motion or amendment is submitted and put to the vote. Moreover, the performance indicator should be changed to a nominal scale if a particular motion or amendment is accepted or rejected, to examine if an individual board of director succeeds in transferring its views and decision making to other board members. Measuring at an agenda-point-level could give a more accurate relationship of the constructs and therefore, future researchers can examine how the change in these constructs affects the relation analysed in this research.

Furthermore, in board governance literature, there is a lack of literature how things really go at board meetings. According to several scholars, emotional and relational considerations are important in board meetings (McNulty, 2010; Pettigrew, 1992; Starkey, 1995). Unfortunately, this research has not shown the importance of the persuasiveness of board of directors expressed in displaying emotions in board meetings. However, the importance of the influence of top management displaying positive and negative emotions in board meetings must be further highlighted with a theory that primarily focuses on the persuasiveness and emotional displays of top management. This is the case because this research found that more displays of negative emotions by top management in board meetings is more important in relationship with the performance of board of directors than more displays of positive and negative emotions by board of directors. Besides, due to the tool Face API, this research has shown that it is applicable to conduct research on how things really go at board meetings. Thus, in other contexts, future researchers can elaborate on this research to further examine the importance how things really go at board meetings, between top management and board of directors, to advance the field of the corporate governance literature.

Moreover, due to time constraints this research was not able to capture the full aspect of persuasiveness in the research. This is the case because persuasiveness can also be depended to the voice intonation and voice tone of a person (Hall, 1980). New state-of-the-art tools, such as “Voice pitch analyzer”, can transform text of speakers to measurements and therefore, also this aspect of persuasiveness can be examined in the domain of Dutch Water Authorities. Thus, to obtain a better coverage of the aspect persuasiveness, future researchers can also consider examining the voice intonation and voice pitch of a person besides examining emotional displays.

The results of this research can be generalized to Dutch Water Authorities, but it must be said that 102 board meetings are only a small proportion of the total board meetings. This implies that the results of this research cannot be generalized to board meetings in other organisations. To conduct this research, board meetings of organisations must be available, and this is barely the case because these board meetings are often very confidential. Since videos of board meetings are publicly published due to the Freedom of Information Act in The Netherlands, The Dutch Municipalities offer an interesting case for future researchers to examine the role of persuasiveness in meetings because videos of meetings in Dutch Municipalities are publicly

published. However, board of directors literature is not applicable in the context of Dutch Municipalities since Dutch Municipalities are not similar to businesses.

5.3 Conclusion

The central question of this research is: *'To what extent do more displays of positive emotions and negative emotions of directors influence the performance of board of directors and does board meeting frequency influences this relationship?'*. The purpose of this research is to investigate the persuasiveness of the board of directors, expressed in positive and negative emotions, through conceptualising the decision making between board of directors in their monitoring role and top management as a negotiation process and draw upon social psychology literature that explains when individuals are more or less persuasive. This research is the first to theorize this perspective in the corporate governance literature. The main contribution to the board governance literature is that this research could not find evidence of a negotiation process in decision making between board of directors in their monitoring role and top management. Furthermore, this research could not find significant evidence that the more board of directors display positive emotions, the higher the performance of board of directors. Moreover, no evidence was found that the more board of directors display negative emotions, the lower the performance of board of directors. Besides, the interaction effect board meeting frequency does not significantly influence the relationship of displaying positive and negative emotions on the performance of the board of directors. Future researchers should not give up on the promise of the theorized perspective of this research and could further examine the importance how things really go at board meetings to advance the field of the corporate governance literature.

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Appendices

Appendix I: Example of a decision list in a board meeting



Besluitenlijst

Aan

Algemeen bestuur

Kopie aan

Dijkgraaf en Directie

Datum en tijd bespreking

24 mei 2018, 19.30 uur

Plaats bespreking

Amsterdam

Aanwezig

Zie overzicht aanwezigen

Overzicht aanwezigen:

Secretaris-directeur: dhr. Kelderman

Voor de fractie of categorie van:

Bedrijven: dhr. Rosman, dhr. Van Luijt, mw. Burgman

CDA: dhr. Korrel, dhr. De Jong, dhr. Zwanenburg

Lijst Schönberger: dhr. Schönberger

Natuurterreinen: dhr. Massop

Ongebouwd: dhr. Kruiswijk, dhr. Van Rijn, dhr. Hooijer

PvdA: mw. van Vliet-Smit, mw. De Buissonjé, dhr. Steenwinkel (voorzitter),

dhr. De Vries, dhr. G.J. Wisse

PvdD: dhr. Van Lierop, dhr. Van der Kraan

Lijst Spils: dhr. Spils

SWV: dhr. Bennekum

VVD: dhr. Smit, dhr. Went, mw. Van der Linde, dhr. L.A. Wieringa

WN: dhr. Dulfer, dhr. Mager, dhr. Hoek, mw. Quené

Van ambtelijke zijde:

mw. De Haas (directie Waternet), dhr. Koolstra (bestuursondersteuning)

Concept

Datum

24 mei 2018

Contactpersoon

D. Koolstra

daniel.koolstra@waternet.nl

Doorkiesnummer

020-608 57 82

Ons kenmerk

18.028607

Onderwerp bespreking

Algemeen bestuur van het waterschap
Amstel, Gooi en Vecht

1 Opening en vaststelling agenda

De voorzitter opent de vergadering.

De agenda wordt vastgesteld.

2 Mededelingen

Bericht van verhindering is ontvangen van dhr. Prins (50Plus), dhr. De Jong (VVD) en dhr. Brink (PvdD). Dhr. Van den Top is afwezig vanwege een handelsmissie naar India met onder andere de premier en vier ministers.

In september is de Amsterdam City Swim, het Algemeen bestuur wordt opgeroepen mee te zwemmen, aanmelden kan door een mail te sturen naar acs@waternet.nl.

Dhr. Dulfer presenteert het boekje Amsterdam Rainproof. Hierin zijn de resultaten van de afgelopen vier jaar opgenomen en een overzicht van wat

Besluitenlijst

overheid, burgers en bedrijven kunnen doen voor klimaatadaptatie. Duo-leden kunnen bij het bestuurssecretariaat een exemplaar aanvragen.

Datum
24 mei 2018

Dhr. Hoek (WN) meldt dat hij gevraagd is namens GroenLinks wethouder te worden in Almere. Mocht hij door de gemeenteraad geïnstalleerd worden dan zal hij zijn AB-lidmaatschap neerleggen.

Pagina
2 van 5

Het Algemeen bestuur neemt kennis van de gedane mededelingen.

3 Toegezonden informatie AB-leden

Het Algemeen bestuur neemt kennis van de toegezonden informatie.

4 Besluitenlijst van de AB-vergadering van 19 april 2018

De besluitenlijst wordt vastgesteld.

5 Strategie microverontreinigingen (BBV18.0127)

Aan het Algemeen bestuur wordt gevraagd de strategie microverontreinigingen vast te stellen. Deze strategie bevat nieuw beleid, ambitieniveaus en worden maatregelen beschreven voor de aanpak van geneesmiddelen, gewasbeschermingsmiddelen en microplastics.

Motie 1:

Verzoekt het Dagelijks bestuur:

1. Een onderzoek uit te voeren naar de prioritering en realisatie van een vierde zuiveringsstap op alle zuiveringen in beheer bij AGV, uiterlijk in 2035. Hierbij dient nader in kaart gebracht te worden de verwachte kosten, effecten en consequenties voor de prioritering in het huidige Masterplan Zuiveringen.
2. De resultaten nog voor de waterschapsverkiezingen aan het Algemeen bestuur voor te leggen.

Motie 2:

Verzoekt het Dagelijks bestuur van het waterschap:

1. De handhaving op de directe ongezuiverde lozing van gewasbeschermingsmiddelen uit de glastuinbouw zeer voortvarend op te pakken in samenwerking met de gemeente.
2. Het Algemeen bestuur van zijn inspanningen eind 2018 te informeren.
3. In overleg met de Unie te treden over de aanpak van andere middelen, die nu nog niet onder deze wet vallen maar mogelijk ook schadelijk zijn voor insecten.

Besluitenlijst

Amendement 1:
De strategie microverontreinigingen als volgt aan te passen

Datum
24 mei 2018

Schrappen op p. 23/24

Pagina
3 van 5

Monitoring waterkwaliteit met effectmetingen, 15 meetpunten Jaarlijkse monitoring met effectmetingen op 10 vaste en 5 wisselende meetpunten voor een goede beoordeling van de waterkwaliteit en onderbouwing van verdere maatregelen.	
Stofgroep:	Alle organische microverontreinigingen, inclusief gewasbeschermingsmiddelen en geneesmiddelen
Financieringsbron:	Watersysteemheffing
Kosten:	€ 65.000 per jaar

Toevoegen op p. 23/24

Monitoring waterkwaliteit met effectmetingen, 30 meetpunten Jaarlijkse monitoring met effectmetingen op 20 vaste en 10 wisselende meetpunten voor een goede beoordeling van de waterkwaliteit en onderbouwing van verdere maatregelen. Onder andere meetpunten bij alle rwzi's.	
Stofgroep:	Alle organische microverontreinigingen, inclusief gewasbeschermingsmiddelen en geneesmiddelen
Financieringsbron:	Watersysteemheffing
Kosten:	€ 130.000 per jaar

En het Dagelijks bestuur op te dragen de tekst van de strategie dienovereenkomstig te wijzigen en de alsdan gewijzigde Strategie Microverontreinigingen ter kennisname voor te leggen aan het Algemeen bestuur.

Besluitvorming

- Motie 1: met algemene stemmen aangenomen.
- Motie 2: voor de motie hebben gestemd 50Plus, Bedrijven, CDA, Groenen, Natuurterreinen, PvdD, PvdA, SWV, Spils, VVD en WN. Ongebouwd wordt geacht tegen te hebben gestemd.
- Amendement 1: voor het amendement hebben gestemd 50Plus, Bedrijven, CDA, Groenen, Natuurterreinen, PvdA, Spils, WN en 1 van PvdD. Ongebouwd, SWV en 1 van PvdD worden geacht tegen te hebben gestemd.

Resultaat besluitvorming

Met inachtneming van de aangenomen wijzigingen besluit het Algemeen bestuur de strategie microverontreinigingen vast te stellen.

6 Uitvoeringskrediet Modernisering poldergemaal Bovenkerkerpolder (BBV18.0155)

Er wordt meteen overgegaan tot besluitvorming.

Resultaat besluitvorming

Het Algemeen bestuur besluit een uitvoeringskrediet van €2.535.000 (inclusief btw) voor het moderniseren van poldergemaal Bovenkerkerpolder beschikbaar te stellen.

Besluitenlijst

7 Vaststellen subsidieregelingen bodem en water (BBV18.0220)

Datum
24 mei 2018

Aan het Algemeen bestuur wordt gevraagd de subsidieregelingen vast te stellen die uitwerking geven aan de doelen van AGV voor 'KRW overig water en agrarisch waterbeheer'. AGV stimuleert met deze regelingen het aanpakken van knelpunten in het watersysteem, het verbeteren van de bodem- en waterkwaliteit en biodiversiteit.

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Resultaat besluitvorming

Het Algemeen bestuur besluit:

- de 'Subsidieregeling Samenwerken aan Bodem & Water 2018-2021 Noord-Holland' vast te stellen;
- de 'Subsidieregeling Regionaal partnerschap voor water en bodem AGV Utrecht en Zuid-Holland' vast te stellen.

8 Commissie kunstbeleid: instelling, werkwijze en kaders (BBV18.0160)

Aan het Algemeen bestuur wordt gevraagd in te stemmen met instelling van een commissie kunstbeleid. Hiermee kan het waterschap op het gebied van kunst en cultuur initiatieven ontwikkelen en ondersteunen die het verhaal van het water op een andere manier onder de aandacht brengen bij nieuwe doelgroepen in ons beheergebied.

Resultaat besluitvorming

Het Algemeen bestuur besluit:

- tot instelling van een commissie kunstbeleid bestaande uit externe leden aangewezen door de dijkgraaf, in afstemming met de klankbordgroep kunstbeleid;
- tot vaststelling van de werkwijze van de commissie kunstbeleid;
- tot vaststelling van de afwegingskaders ten behoeve van het werk van de in te stellen commissie kunstbeleid;
- een vergadervergoeding toe te kennen aan de externe leden van de commissie kunstbeleid;
- tot instelling van een klankbordgroep kunstbeleid;
- tot evaluatie van het werk en de werkwijze van de commissie kunstbeleid drie jaar naar dit AB-besluit.

Besluitenlijst

9 Verantwoording fractievergoeding 2017 (BBV18.0229)

Datum
24 mei 2018

Er wordt meteen overgegaan tot besluitvorming.

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Resultaat besluitvorming

Het Algemeen bestuur stelt na lezing van de adviezen van de secretaris-directeur en het Seniorenconvent de hoogte van de volgende bedragen vast:

- a. de uitgaven van een fractie die in 2017 uit fractievergoeding bekostigd zijn
- b. de wijziging van de reserve
- c. de resterende reserve (zijnde het beginsaldo 1 januari 2018)
- d. de verrekening tussen de in onderdeel a. genoemde uitgaven en het ontvangen voorschot en, voor zover nodig, de hoogte van de terugvordering van ontvangen voorschotten.

10 Sluiting

De voorzitter bedankt dhr. Hoek voor de debatten die zij de afgelopen jaren hebben mogen voeren.

De voorzitter sluit de vergadering.

Appendix II: Check for normal distribution, assumptions and winsorizing

Normal distribution check

Variable	Std. Error		Value	Std. Error		Value	Mean	Variance
	Skewness	skewness	skewness	Kurtosis	kurtosis	kurtosis		
Performance of BoD	2.176	0.239	9.10460251	6.574	0.474	13.8691983	1.657	4.980
BoD positive emotions	1.191	0.239	4.9832636	1.853	0.474	3.9092827	0.073	0.002
BoD negative emotions	0.402	0.239	1.68200837	-0.364	0.474	-0.7679325	0.042	0.000

Table1 Normal distribution check

Normally distributed errors

The first assumption is to check whether the differences between the model and the observed data are frequently zero or close to zero. When this is not the case, this can influence the correlation, linearity, and homoscedasticity. To check if the errors are normally distributed a histogram and normal probability plot of standardized residuals is used. As can be seen in figure 1, the histograms are, except from some outliers, to a certain degree normally distributed. Furthermore, with normal probability plots of standardized residuals Hair et al. (2014) suggest that if the distribution is near the comparison line the data is normally distributed. As can be seen in figure 1, the normal probability plots of standardized residuals display that the distribution is near the comparison line. Based on these two checks, it can be assumed that the assumption of normally distributed errors is met.

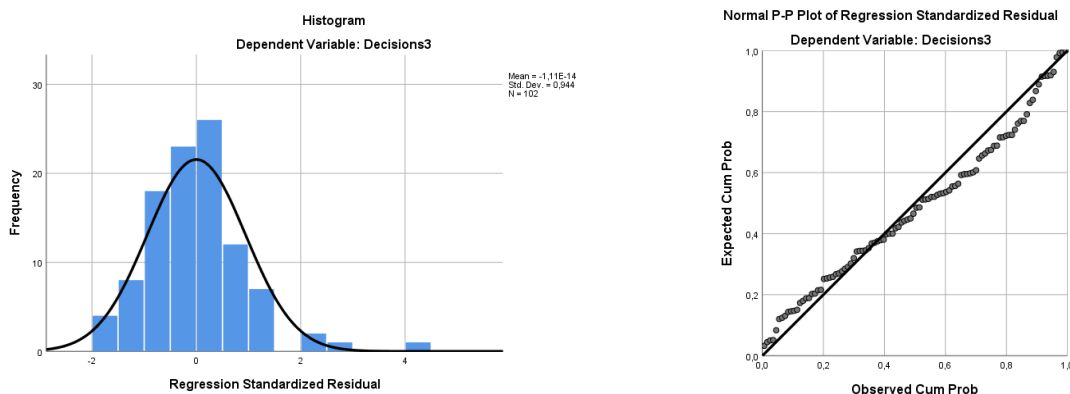


Figure 1 Histogram and normal P-plot of regression standardized residual

Linearity

The second assumption in multiple linear regression analysis is that the relation between the independent variables and dependent variable in the model must be linear (Field, 2018). A way to check whether the output is linear is by using a scatterplot with the standard residuals (ZRESID) and the standardized predicted values of the dependent variable based on the model (ZPRED). If there is a linear relationship in this model, the dots in the scatter plot do not form a clear pattern and are spread around the horizontal zero-line (Norušis, 2006). No clear pattern in the model means that the model is unbiased. As can be seen in Figure 4, the assumption of linearity is met because the models are unbiased, and the dots are spread around the horizontal zero-line.

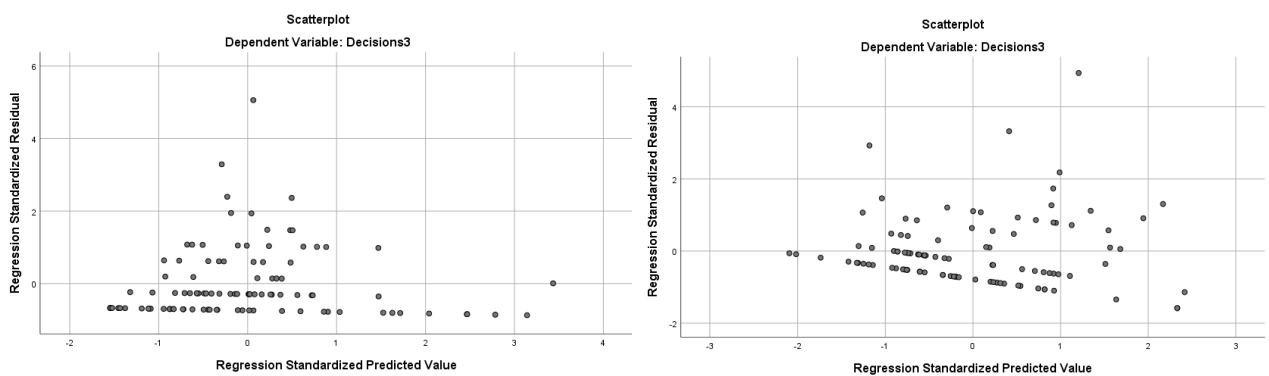


Figure 2 Scatterplot BoD positive emotions (left) and BoD negative emotions (right)

Homoscedasticity

Multiple linear regression analysis assumes that there is homoscedasticity in the model. Homoscedasticity means that for each level of the predictor variables, the residuals need to be consistent over the range of values of the predictor variables (Hair et al., 2014). To assess homoscedasticity, the scatterplot in figure 2 is used again. There is homoscedasticity when the dots in the scatter plot form a consistent pattern, which indicates that the variance is not constant. The scatterplots do not show a clear pattern, therefore this assumption is met.

Independent errors

Another concern of multiple linear regression analysis is that each predicted value is independent, so not related to any other prediction (Hair et al., 2014). The Durbin-Watson test is used for measuring the independent errors. The output values of the Durbin-Watson test can vary between 0 and 4. Values of the Durbin-Watson test close to 2 means the more independent the errors are (Field, 2018). However, values between 1 and 3 are generally accepted (Field,

2018). The value of the Durbin-Watson test in this research is 2.085 and thus the assumption of independent errors is met.

<i>Model</i>	<i>R</i>	<i>R Square</i>	<i>Adjusted R Square</i>	<i>Std. Error of the Estimate</i>	<i>Durbin-Watson</i>
1	.737 ^a	0.542	0.487	1.599	2.085
a. Predictors: (Constant), DB negative emotions, Political diversity, AB positive emotions, DB positive emotions, Meeting frequency, Gender Diversity, Meeting duration, AB negative emotions, Board size, Board tenure, Age diversity b. Dependent Variable: Decisions3					

Table 2 Durbin-Watson test

Multicollinearity

The final assumption for multiple linear regression analysis is multicollinearity, which exists when two or more predictor variables are closely linearly related (Field, 2018). To test for multicollinearity, the Variable Inflation Factor (VIF) and tolerance value is used. The VIF provides how much a predictor variable has a linear relationship with another predictor variable. The tolerance value is 1/VIF, so can be considered as the reciprocal of the VIF. Multicollinearity problems exist when the VIF value exceeds 10 and the tolerance value is below 0,2 (Field, 2018). As can be seen in table 5, both predictor variables show very low VIF and high tolerance level which indicates that there is less association between the predictor variables. Based on these two tests, the multicollinearity is far from problematic.

<i>Variable</i>	<i>Tolerance</i>	<i>VIF</i>
1. BoD positive emotions	0.826	1.210
2. BoD negative emotions	0.554	1.805
3. Meeting frequency	0.334	2.995
4. Age diversity	0.218	4.577
5. Gender diversity	0.178	5.615
6. Political diversity	0.294	3.397
7. Board tenure	0.351	2.851
8. Board size	0.223	4.491
9. Meeting duration	0.685	1.460
10. TMT positive emotions	0.853	1.172
11. TMT negative emotions	0.867	1.153

Table 3 VIF and Tolerance level

Winsorizing

As can be seen in the stem-and-leaf plot of the dependent variable performance of board of directors, there is one extreme outlier with a measure of 14. Therefore, this measure is winsorized.

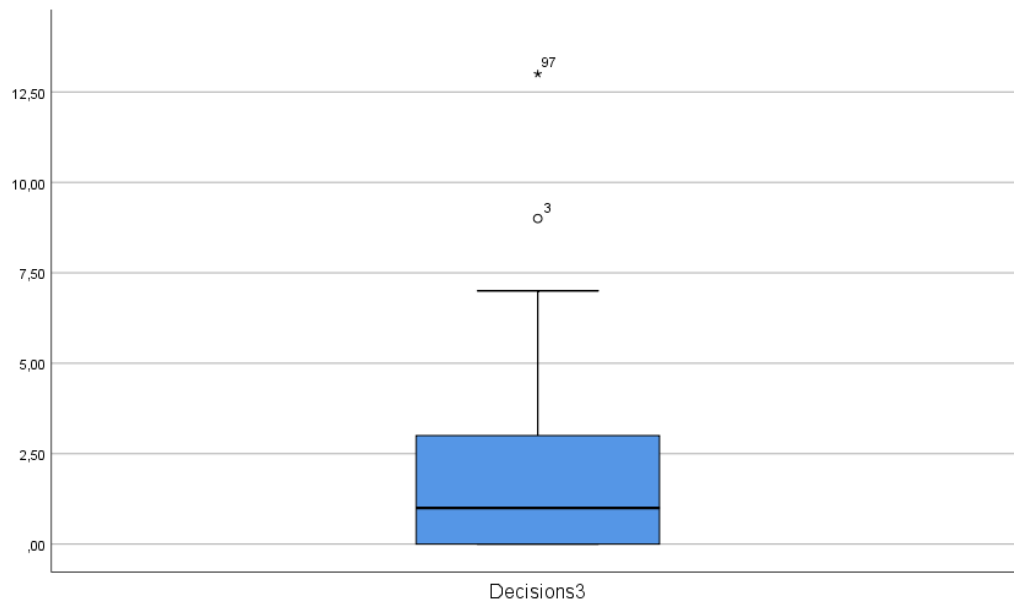


Figure 3 Stem-and-leaf plot