Boardroom shuffles and Strategic moves: unraveling the link between board replacement and the decision to divest

Thesis

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Chapter 1 Introduction

Corporate management may opt for divestitures for various reasons. One purpose of this form of portfolio restructuring is to reduce the level of unrelated diversification and realign firms' business portfolios around their core capabilities to develop a higher level of specialization (Bethel & Liebeskind, 1993). Additionally, factors such as unit strength, interdependency, and the firms financial strength relative to industry averages can affect the divestment decisions (Duhaime & Grant, 1984). Moreover, the level of commitment of the management to the business and management replacements could impact the decision to divest (Weisbach, 1995; Feldman et al., 2014). After a management replacement, new management may need to initiate restructuring in the form of disinvestments to recover the organization (Weisbach, 1995; Duhaime & Grant, 1984).

After this, it looks clear that there may be a relationship between management replacements and divestment decisions. While the management is responsible for the strategic decisions, the board of directors has an important influence on these decisions made by the management. Most boards are involved in oversight of strategy and managerial examinating (Boivie et al., 2021; Johnson et al., 1993). Although the board cannot manage the corporations business, it does have a significant role. Those who are managing must be monitored by the board directors to ensure that they are the right persons for their jobs and that they are managing in the shareholders' interests (Boivie, 2016). Moreover, the board plays a crucial role in shaping the company's strategic direction (Boivie et al., 2021). This includes defining the company's core business, crafting a vision and mission, evaluating internal and external factors such as threats, opportunities, strengths and weaknesses, and devising and implementing various strategic options (Boivie et al., 2021; Pearce & Zahra, 1991).

This all means that the role of the board of directors in the strategic decision making process is also pretty great. The board of directors is responsible for governance, oversight, and major decision-making and representing the interests of shareholders or stakeholders (Boivie et al., 2016; Zahra & Pearce, 1989). Thus, the board members have a crucial role in the divestiture decision process. Although there is already some knowledge about the relationship between management replacements and the decision to divest, there is less knowledge about this relationship according a replacement in the board of directors. The board of directors could develop a form of organizational inertia, which means that the board members could inhibit the decision to divest (Hoppmann et al., 2018). A new member from the outside could bring in new insights, which maybe will have an influence on the decision to divest.

This means there could be a relationship between board replacements and the decision to divest. It is expected that a board replacement correlates with a lower attachment to the organization and therefore the level of inertia will decrease (Hoppmann et al., 2018). Moreover, in changing environments, wherein divestitures are sometimes necessary, the boards also needs to adapt to function optimally (Schnatterly et al., 2021). On the other hand resilient board may support consistency in strategy and preserve long-term goals under disturbing outside pressures (Hoppmann et al., 2018). So where a new member maybe support a radical change in the form of a divestiture or is new and has a wait-and-see attitude, the incumbent board has already a mission and vision where the divestiture is part of the strategy. So this leads to the question:
what is the impact of a board of director replacement on the decision to divest?

The primary contribution of this thesis is to deepen our understanding of the relationship between board replacements and divestment decisions. This investigation holds significance as it sheds light on the divestiture decision outcomes following a board of directors replacement, on which little research has been done. Such insights are crucial for organizations seeking to navigate their course effectively, providing them with actionable insights on how to proceed when a divestment becomes necessary. Understanding this relationship offers organizations valuable guidance on strategic decision-making. For instance, it enables them to assess the potential benefits or consequences of replacing a board member. Based on these insights, a deliberate decision could be made. Armed with this knowledge, organizations can intervene proactively, avoiding delayed responses that might otherwise hinder performance. This proactive approach can contribute to enhancing organizational performance by ensuring timely and informed decision-making processes and to retain a certain shareholder value. Moreover, this study would be very interesting for the shareholders of an organization, since the board of directors represents them and stands up for their interests (Zahra & Pearce, 1989). To create an optimal shareholder strategy, the right board directors have to be elected by the shareholders.

The thesis begins with an in-depth review of existing literature in chapter 2. Chapter 3 focuses on discussing the methodology employed in the study. Chapter 4 presents the primary findings derived from empirical research. Finally, chapter 5 delve into the discussion of these findings, potential avenues for future research, and draw the main conclusions of the thesis.

Chapter 2 Theoretical Background

1. Divestitures

1.1 Introduction to the concept

Corporate strategy is centrally concerned with the question of where firms set their boundaries. That entails in which businesses they choose to participate and in which businesses they choose not to be active (Feldman & McGrath, 2016). There is a range of strategic activities that companies have at their disposal to address this question. Next to acquisitions, wherein a firm can extend its boundaries by purchasing business units from other companies or even the entire operations of those organizations, divestitures are one approach to corporate scope restructuring. By divestitures a firm can reduce its corporate scope (Feldman & McGrath, 2016). Divestitures are defined as the removal of one or more of its lines of business, most of the time via sell-off, spin-off or carve-out (Bergh et al., 2007). Sell-offs and spin-offs both involve the restructuring of a company's assets or divisions, but while a sell-off entails selling them to another entity, a spin-off involves creating a new independent entity from within the existing company (Bergh et al., 2007). There are different antecedents which are leading to the decision to reduce the corporate scope of the organization. They will be discussed in the next paragraph.

1.2 Motives

There are different motives for organizations to decide to divest. The level of diversification in the organization plays an important role (Johnson et al., 1993). Many firms will divest a certain business unit to develop a more focused strategy (Bethel & Liebeskind, 1993). Companies may divest assets or business units that are not aligned with their core strategic objectives or long-term vision. This could involve shedding non-core or unrelated businesses to focus on areas with higher growth potential or better fit with the company's overall strategy (Bergh, 1995). In this situation often portfolio optimization is also a reason to divest (Bethel & Liebeskind, 1993). Companies often engage in portfolio optimization by divesting assets or business units that no longer fit strategically within their portfolio. This could involve divesting businesses that have reached maturity or are facing declining demand, in order to invest in higher-growth opportunities. Divesting is a way for managers to create cooperative synergies (Bergh, 1995). Secondly, poor financial performance of a particular business unit or asset may prompt a company to divest in order to improve overall financial health and profitability (Duhaime & Grant, 1984). Divestitures can help free up capital and resources that can be reallocated to more profitable areas of the business or used to pay down debt. Also the size and the form of the firm plays a role in the decision to divest (Johnson et al., 1993; Feldman et al., 2014). As described by Feldman et al. (2014) a high level of commitment or an unique family relationship with the firm could inhibit the decision to divest. Furthermore, the management power and the effectiveness of corporate

governance of the firm plays a role in the decision to divest (Ahn & Walker, 2007). Weisbach (1995) argued that management changes initiated by the board or normal retirements at age 65 often lead to divestitures of poorly-performing assets of the organization. A management replacement could be necessary as incumbent management members are reluctant to reverse managerially-motivated acquisitions (Weisbach, 1995; Ahn & Walker, 2007).

1.3 Agency theory

As mentioned before, managers are reluctant to undertake divestitures. Agency theory gives several reasons why managers are reluctant to shed divisions (Ahn & Walker, 2007). This theory addresses the potential conflicts of interest that may arise when the goals of shareholders and managers are not perfectly aligned (Denis et al., 1999; Jensen & Meckling, 1976). Shareholders aim to maximize returns and wealth, whereas managers may prioritize personal gain, potentially at the expense of shareholders (Boivie et al., 2021; Hillman & Dalziel, 2003; Eisenhardt, 1989). Managers prefer larger firms with broader scopes, even if the conglomerate structure is not value maximizing (Ahn & Walker, 2007). Empire building, overconfidence, risk reducting, inertia and increased value of manager's human capital are all motives why managers are persistent to undertake divestitures (Ahn & Walker, 2007). Moreover, the acknowledge of past mistakes and inefficient strategies and their associations with failure lead to managerial reluctance (Moschieri, 2011; Duhaime & Grant, 1984).

Divestments are often value-increasing actions where the main purpose is to decrease the size and generally the scope of the firm (Ahn & Walker, 2007). These leads to potential for agency conflicts, while the shareholders aim for value maximization, the managers are prioritizing their own objectives to increase the scope of the organization. To overcome the problem of managerial opportunism, which means that managers are focusing on their personal gains potentially at the cost of shareholders, it is important to have an effective governance system (Ahn & Walker, 2007). Effective monitoring by the board of directors helps to align the interests of management and shareholders (Boivie et al., 2016). A capable board will question ineffective strategies and compel the management to undertake actions that enhance shareholder value (Kroll et al., 2008). This means that the board has the task to decrease the tendency of the management not to divest, especially when it is necessary to maximize the value of the organization.

2. Board of Directors

The board of directors performs three primary functions according to Boivie et al. (2016). Firstly, their main responsibility is to oversee operations and ensure that the interests of both management and shareholders are aligned (Boivie et al., 2016; Hillman & Dalziel, 2003; Dalton et al., 2007). Secondly,

the board is tasked with supplying essential resources to the organization (Hillman et al., 2000; Hillman & Dalziel, 2003). Lastly, the literature also discusses the board's strategic role as one of its functions (Boivie et al., 2021).

2.1 The monitoring function

Based on agency theory, scholars and professionals generally view the monitoring function of the board as its primary role (Boivie et al., 2016). This function directly involves directors overseeing managers on behalf of shareholders (Eisenhardt, 1989; Jensen & Meckling, 1976; Mizruchi, 1983; Boivie et al., 2016). The theoretical foundation of the board's monitoring function stems from agency theory. As mentioned before, this theory addresses the potential conflicts of interest that may arise when the goals of shareholders and managers are not perfectly aligned (Denis et al., 1999; Jensen & Meckling, 1976). This leads to agency problems and related costs (Eisenhardt, 1989; Hillman & Dalziel, 2003; Dalton et al., 2007; Fama & Jensen, 1983; Boivie et al., 2021). Without adequate managerial oversight, their actions could significantly impact the company's wealth (Jensen & Meckling, 1976).

Agency theory suggests that board monitoring helps align the interests of management and shareholders, thereby minimizing opportunism and associated costs (Zahra & Pearce, 1989; Jensen & Meckling, 1976). Boards employ decision control and outcome control processes to monitor executives and can reduce agency costs by appointing CEOs, replacing executives, and structuring compensation packages to incentivize performance (Boivie et al., 2021; Baysinger & Hoskisson, 1990; Mizruchi, 1983). Directors act as watchdogs overseeing management for shareholders due to the potential for opportunism and moral hazard, which means that managers are engaged in actions that prioritize their own interests over those of the shareholders (Boivie et al., 2021). This is driven by their task to ensure that management operates in shareholders' best interests through scrutiny, evaluation, and regulation of the actions of the top management (Hillman & Dalziel, 2003).

2.2 Resource provision function

Another crucial role of the board involves the provision of resources (Boivie et al., 2021; Hillman & Dalziel, 2003). This function directly relates to the board's capability to acquire resources for the company, where resources are defined as anything that contributes to or detracts from the firm's strength (Wernerfelt, 1984; Hillman & Dalziel, 2003). According to resource dependence theory, the resource provision role emphasizes the connection between firms and their surrounding environments and posits that the board delivers various critical resources to the organization and its top management team (Boivie et al., 2016; Hillman & Dalziel, 2003). In contrast to agency theory, resource dependence theory posits that the board's independence from the management team is not a

significant issue, as the board primarily functions as a mechanism to address the firm's environmental challenges (Pfeffer, 1972). Instead of solely serving shareholder interests, the board is seen as a tool that aids the firm's survival within its environment (Hillman et al., 2000). The resource provision function of the board encompasses a range of specific tasks, including enhancing the firm's legitimacy and public image, offering specialized knowledge, providing advice and counsel, establishing connections between the firm and significant stakeholders or entities, facilitating access to resources such as capital, cultivating external relationships, promoting the spread of innovation, and assisting in strategic formulation and other key decisions for the firm (Boivie et al., 2021; Hillman et al., 2000; Baysinger & Hoskisson, 1990; Hillman & Dalziel, 2003).

2.3 The strategic function

Thirdly, there is a growing consensus that boards should play a more active role in shaping the strategic direction of the company (Boivie et al., 2021; Hoppmann et al., 2018). Boards offer counsel and guidance to executives, actively participating in the formulation of organizational strategy through the conduct of analyses, the proposition of strategic alternatives, and the selection of new members for the top management team in alignment with the intended strategic trajectory (Forbes & Milliken, 1999; Westphal, 1999; Judge & Zeithaml, 1992; Westphal & Fredrickson, 2001; Hoppmann et al., 2018). Scholars found that board engage in strategy-related activities when they have a higher level of social and human capital, which means more skills, expertise and ties to external stakeholders, when they have a higher grade of non-executive directors, and when they have greater power over management (Carpenter & Westphal, 2001; Garg & Eisenhardt, 2016; Haynes & Hillman, 2010; Hoppmann et al., 2018). In studies is found that boards become involved in strategy when firm performance declines and managerial initiatives fail (Johnson et al., 1993; Hoppmann et al., 2018). Kor and Misangyi (2008) and Garg and Eisenhardt (2016) suggest that board members' industry-specific expertise can compensate for any lack of industry experience within the company's top management team, especially in young entrepreneurial ventures. Controversely, Hoppmann et al. (2018) discovered that boards could hinder change in companies confronting environmental disruptions because of insufficient board renewal to adapt to the changing environment. Thus, sometimes a board replacement could be necessary to adapt the board to the changing environment (Schnatterly et al., 2021).

3. Board of director replacement

Board replacement involves changes in the membership of a board, stemming from the addition and departure of directors of the board (Hillman et al., 2000; Schnatterly et al., 2021). Companies must adapt to changing circumstances as the landscapes in which they operate shift over time. To effectively

oversee the firm, the composition of the board should also adapt, as highlighted by Schnatterly et al. (2021) and Carpenter and Westphal (2001). This means a possible need to replace at least one board member to enhance the firm's ability to navigate emerging challenges (Loop et al., 2020; Schnatterly et al., 2021).

3.1 Complementariness

Early proponents of agency theory understood the importance of board members possessing valuable knowledge and skills to fulfill their responsibilities effectively. Fama and Jensen (1983) stressed the importance of board members with relevant complementary knowledge to ensure the smooth operation of the decision-making process. They emphasize the significance of director expertise in handling firm risks (Fama & Jensen, 1983). When a firm acknowledges a risk, but the board lacks relevant expertise in that area, the board's ability to effectively oversee that aspect is compromised, potentially harming firm performance (Fama, 1980; Fama & Jensen, 1983; Schnatterly et al., 2021). Additionally, boards should consist of directors with diverse expertise to tackle the specialized decision problems they may encounter (Fama & Jensen, 1983). This mismatch between board expertise and firm risks hinders the effectiveness of the board, jeopardizing its capacity for thorough and knowledgeable monitoring (Hoppmann et al., 2018; Schnatterly et al., 2021). In that situation it is necessary that boards would strategically adjust their composition by replacements of board members to enhance their expertise and complementariness (Tian et al., 2010). Diverse expertise allows boards to integrate knowledge from various fields and perspectives, thus improving their capacity to address challenges and oversee the firm effectively (Boivie et al., 2016; Carpenter & Westphal, 2001). In summary, by a board replacement it is possible to create an optimal board composition with complementary expertise and perspectives, which facilitates effective oversight of management by enabling directors to leverage relevant expertise in understanding and monitoring the ever-changing environments in which they operate (Krause et al., 2013; Fama, 1980).

3.2 Groupthink and organizational inertia

As described in paragraph 3.1, the board needs to contain different expertises to have the complete package to steer the organization. It is also important to have independent members in the board of directors (Westphal, 1999). While it's crucial for board members to collaborate effectively and view it as part of their duty to assist the board in functioning as a unified team, it's equally meaningful for them to maintain their independence and avoid to contribute to groupthink, which can lead to poor collective decisions (Hoppmann et al., 2018; Hambrick et al., 2001). Typically, when board members share similarities, they are more adept at anticipating each other's actions, stimulating less misjudgment, greater trust, and more efficient communication, ultimately leading to quicker

consensus (Boivie et al., 2016). However, highly homogeneous groups are liable to issues like groupthink and organizational inertia (Hambrick et al., 2001; Li & Hambrick, 2005). Where cohesive groups unconsciously put down dissenting viewpoints and contradictory information, it will negatively affect the decision quality and group effectiveness (Hambrick et al., 2001). Conversely, diverse groups bring a wide range of knowledge, skills, and information to the organization, supporting innovative ideas and enhancing decision-making processes (Hoppmann et al., 2018; Hambrick et al., 2001). Thus, although a replacement is likely to reduce the presence of firm-specific knowledge on the board, a change in the board is sometimes necessary, because it could help to overcome the problem of inertia and groupthink in the board of directors (Forbes & Milliken, 1999; Hoppmann et al., 2018; Hambrick et al., 2001).

4. Link between director replacement and divestitures

Research has shown that the replacement of top management personnel typically preceded to the decision to divest (Duhaime & Grant, 1984). A management replacement lowers the level of inertia and reluctance to reverse managerially-motivated acquisitions. This consistent occurrence of top management replacement across various situations suggests that psychological detachment of top management from divestment candidates is essential for actively considering divestment as an option (Duhaime & Grant, 1984). However, what implications does this have for the board of directors?

As outlined before, managers are reluctant to undertake divestitures for diverse reasons (Ahn & Walker, 2007). Due to managerial commitment, inertia and their aim to broader the scope of the organization, a divestiture is controversely to their objectives (Ahn & Walker, 2007). Managers prefer larger firms with high diversification and broader scopes, even if this structure is not maximizing the value of the organization (Ahn & Walker, 2007). These circumstances give rise to the possibility of agency conflicts. While shareholders aim for value maximization, the managers are prioritizing their own objectives to increase the scope of the organization (Boivie et al., 2021; Hillman & Dalziel, 2003; Eisenhardt, 1989). Grounded on the agency theory it is really important to have an effective monitoring board of directors which helps to align these conflicting goals of the managers with the interests of the shareholders (Boivie et al., 2016).

A competent board will challenge ineffectual strategies and impel the management to undertake actions that enhance value maximization (Kroll et al., 2008). This means that an effective board has to fulfill the task to decline the managerial tendency not to divest, especially if it is necessary to maximize the value of the organization. For effective monitoring it is important to have a board of directors which is not suffering of groupthink and inertia (Dalton et al., 1998; Hoppmann et al., 2018). Introducing a replacement within the board brings in fresh perspectives and new insights and a

different member in the board mitigates groupthink (Hoppmann et al., 2018; Hambrick et al., 2001). By overcoming the problems of inertia and groupthink with a board replacement, the board monitoring effectiveness will increase which means that the board compell the managers to undertake value maximizing actions. Therefore, the board helps to decrease the managerial tendency not to divest if it is necessary for the organization to increase their value. Thus, after a board replacement managers could be more likely to divest because of the fact that effective monitoring by the board leads to a more value maximizing strategy in which divestitures often are included.

Moreover, by introducing a board replacement diverse experiences and different expertises are brought in the board (Tian et al., 2010; Schnatterly et al., 2021). Diverse experiences and different expertises help boards to gain knowledge from several perspectives and therefore extend their capability to adress firm risks and oversee the organization effectively (Boivie et al., 2016; Carpenter & Westphal, 2001; Fama, 1980; Fama & Jensen, 1983; Schnatterly et al., 2021). As mentioned before it is important for the board to consist relevant expertise to tackle the risks and environmental changes the firm is faced with (Hoppmann et al., 2018; Schnatterly et al., 2021). With these knowledge boards are recognizing the risks the firm is exposed to and enable them to intervene at an early stage by creating awareness at the managers of the organization (Hoppmann et al., 2018; Judge & Zeithaml, 1992). As described before, boards offer counsel and guidance to executives and offer strategic alternatives to the management (Forbes & Milliken, 1999; Westphal, 1999; Judge & Zeithaml, 1992; Hoppmann et al., 2018).
Since the board is, after a board replacement, capable to identify the risks and environmental changes to the organization, it could recognize the conditions which imply that a divestiture is necessary (Hoppmann et al., 2018; Schnatterly et al., 2021). If the managers are still not aware of this need, the board has the advisory role to compell the managers to undertake the divestiture (Hoppmann et al., 2018; Boivie et al., 2021). In this way the board could enhance the compensating role for the managerial lack of knowledge and expertise to the need to divest (Garg & Eisenhardt, 2016; Hoppmann et al., 2018). Thus, since the board consist different perspectives and experiences after a replacement, they could compensate the lack of expertise in the management team, which lead to a higher strategic power and involvement (Hoppmann et al., 2018). Due to the fact that the board could recognize the need for divestitures as they noticed the risks of the organization, the likelihood of the decision to divest increases (Schnatterly et al., 2021; Hoppmann et al., 2018; Fama & Jensen, 1983).

All described before leads to the next hypothesis:
A board replacement will lead to a higher likelihood of the decision to divest.

Conceptual model

Chapter 3 Methodology

This chapter provides a detailed account of the procedures, techniques, and tools utilized to collect and analyze data of this quantitative research study. This chapter serves as a roadmap for replicating the study and understanding the validity and reliability of the findings. In this chapter, I outline the specific methods employed to address the research questions and objectives, including the sample, data sources and data analysis procedure.

Moreover, Deloitte's analysis highlights that the technology industry consistently recorded high divestiture volumes. The report noted that the industry experienced robust divestiture activity as companies sought to streamline operations and shed non-core assets.

1. Sample

For the data of divestitures I have used a dataset which I have received from my supervisor. In this database the collected data is about techfirms and contains firm-year observations. The technology industry consistently recorded high divestiture volumes, as these companies have to deal with rapid innovation and market changes and they sought to streamline operations (Ramachandran et al., 2023). This makes the data particularly relevant for this study. I collected the directors' profile information from the BoardEx Europe database, the BoardEx North America database and the BoardEx United Kingdom database. These contains 1366342 director-year profiles for 30556 firms for the 1999-2024 period. I excluded the firm-years where I don't have the divestiture data from. After combining both datasets and calculating the variables, there are still 2066 single firm-year observations left for 317 different organizations between a year range from 2000 to 2017.

2. Variables

Board of director replacement

To measure the board of director replacement I will compare the different years of the same organizations to each other (Hillman et al., 2000). I collected the data from 1999 to 2024. The first year of entry/exit coding was 2000. For example for the year of 2000, I identified each director in place in that year, and controlled to see if he or she was also present on the board in 1999. If not, he or she was coded as entering. After that, I checked if he or she was still present on the board of 2001. If not, he or she is noted as exiting. The total number of entries per year are taken as the total director inbound per year and the total number of exits per year are taken as the total director outbound per year. The lowest number of the count total director inbound and outbound is taken as the Board Replacement Count. The Board Replacement variable is formed by creating a dummy variable of the Board Replacement Count. This is done for every organization-year observation.

Divestiture

The divestiture data is a dataset I have got from my supervisor. This database contains the information about the decision to divest. In this dataset the divestment count is incorporated. The observations are organization-year based, in which I can check the decision to divest of every year. This data is for the period of 1999 to 2018. I will only include the completed divestment deals in the study, where the divestment really has occurred (Damaraju et al., 2014). To create an appropriate divestiture variable for the analysis, I employed a dummy variable of the divestiture count variable.

Both datasets, of board of director replacements and divestitures, would be connected by the corresponding ISIN code. With these connection between the datasets, it is possible to investigate the relationship between the board replacement and the decision to divest. The created dataset has data for the years 1999 to 2018. As the board replacement is measured by comparing different years with the previous and following one, it is important to delete the first and last year to make sure the calculated variables are correct. This means the final dataset is from 2000 to 2017.

3. Control variables

Based on prior literature about the decision to divest I will include different control variables. The control variables I will include in the study are firm size, level of diversification, firm performance, rate of acquisitions, total number of directors and the rate of divestitures. The firm size will be measured as the log of total employees for each organization (Bergh, 1995; Johnson et al., 1993). In research is found that a greater firm size will increase the chance to choose for a divestiture, which means there is a positive effect of firm size on the decision to divest (Johnson et al., 1993). The firm performance will be measured as the organization's return on assets (ROA) (Bergh, 1995; Johnson et al., 1993). Researchers argue that a lower firm performance lead to more divestitures, so there is a negative relation between firm performance and the decision to divest (Duhaime & Grant, 1984). Moreover, I will use the level of diversification as a control variable. To create a variable to measure the level of diversification, I include data out of the LSEG workspace Datastream. With the data of the sales in different product segments of organizations, I create a count variable of the total of different sales segments an organization has. The higher the segment count is, the higher the level of diversification. A higher rate of diversification will lead to more divestitures, which means that there is a positive influence of the diversification rate and the decision to divest (Johnson et al., 1993). Furthermore, the acquisition rate will be measured by the total acquisitions in the beginning increased with the acquisitions per year per firm. In this way for each year the total rate of acquisitions could be included. This data is also downloaded out of the LSEG workspace Datastream. A higher rate of acquisitions will increase the chance on a divestiture, which means there is a positive relationship between these two

variables (Duhaime & Grant, 1984). Furthermore, the board size is included in the analysis as a control variable. In studies is found that a higher number of directors in the board will lead to a higher chance on a divestiture (Johnson et al., 1993). This implies a positive relationship between the the number of directors and the decision to divest. The board size is measured by the number of directors in the board. This data is found in the BoardEx database. Finally, the number of divestitures is incorporated as a control variable. Since the previous divestitures of an organization will lead to an increase of the divestiture activity of an organization, a variable is created as the number of total divestitures every year (Johnson et al., 1993). The higher the number of previous divestitures, the higher the chance on a decision to divest, which means a positive relationship between these variables.

4. Methods

There is one dependent variable involved in this study, the decision to divest. The dependent variable, the decision to divest, is a binary variable. This means that a logistic regression analysis is necessary to check this relationship, as in this analysis the dependent variable is a binary one (Hair, 2019). This analysis is used to test the relationship between independent and one dependent variables, which is the case in this study.

5. Research ethics

The dataset about the decision to divest, which I will receive from my supervisor, is confidential information. This data will be handled with the utmost care and kept secure at all times. In the results, the names of the organizations and directors won't be published, ensuring the results are published anonymously. This careful approach ensures the confidentiality and integrity of the data throughout the research process. While ethical considerations are essential in any research, they are less complex in quantitative studies compared to qualitative research, as quantitative data focuses on numerical analysis and trends rather than personal narratives, making it inherently less prone to ethical dilemmas related to personal identification and subjective interpretation.

Chapter 4 Analysis and results

Since the analysis consists a binary dependent variable, namely the decision to divest, I conducted a binary logistic regression analysis with SPSS 27 software package to test the hypotheses. While traditional linear regression compares observed values of independent variables with observed values of continuous dependent variables to determine the most suitable model for their relationship, logistic regression is tailored for categorical dependent variables with a fixed number of potential outcomes. Unlike linear regression, which assumes a linear relationship between independent and dependent variables, logistic regression employs a logarithmic transformation to model this relationship due to the categorical nature of the dependent variable. This transformation enables the observed values of independent variables to be linearly associated with the logit of the categorical dependent variable (Field, 2003). Logistic regression maintains the assumption of moderate correlation among independent variables, known as the absence of multicollinearity, as in traditional linear regression.

To test the relationship between board replacements and the decision to divest, different independent variables are incorporated. First of all, the variable board replacement, which is a dummy variable which shows if there occurred a board replacement or not. The second one is the board replacement count variable, which represent the amount of board replacement per year in an organization. Lastly, I included the total director inbound count and total director outbound count to compare if there is a different effect on the decision to divest between an incoming director or a leaving director in the board. To check these hypotheses, I employed different logstic regression model. The first model consists the control variables (return on assets, number of employees, number segments and number of acquisitions). Thereafter, I employed 4 models where I add every time one different independent variable to the model with the control variables. The sixth model is the total model with all the control variables and all the independent variables.

1. Assumptions

The first assumption to test is the multicollinearity between the independent variables, because the assumption in logistic regression is that there is no correlation between the independent variables. Following Field (2003), the data underwent testing for substantial multicollinearity using collinearity statistics integrated into SPSS 27. A Pearson coefficient (r) between .1 and .3 implies a low correlation, a Pearson coefficient between .3 and .5 means a medium correlation and a Pearson coefficient between .5 and 1.0 signs for a high correlation. In table 1 the correlations are showed. In tabel 1 is showed that the correlation between BoardReplacement and BoardReplacementCount is high, as the Pearson coefficient has a value of .709. Since the BoardReplacement variable is a dummy variable of

the BoardReplacementCount variable, this correlation was expectable. I still maintain both variables in the analysis, as the BoardReplacementCount could be a more specific variable and I want to check if only the fact of a board replacement has an effect or if the amount of replaced directors does have an effect. Furthermore, the correlation between the TotDirectorIn and BoardReplacementCount (r = 0,446) and the correleation between the TotDirectorOut and BoardReplacementCount (r = 0,517) are higher. This is explainable by the fact that the BoardReplacementCount calculated by the lowest number of TotDirectorIn and TotDirectorOut per year of an organization. Both variables will still retain in the analysis, because it would give a more specific insight in the board replacement. Between the acquisition count and divestiture count is also found a certain level of collinearity (r = 0,603). Finally, the log of number of employees correlates higher with the acquisition count (r = 0,466), segments (r = 0,584), number of directors (r = 0,589) and the divestiture count (r = 0,442). As the log of number of employees is used to measure the firm size, it means that a greater firm has a higher rate of acquisitions, divestitures, segments and more directors in the board. This seems logic and was an expected outcome. For the other variables the collinearity statistics suggest the absence of substantial multicollinearity in the data, which means that the binary logistic regression analysis is applicable to test the hypotheses.

Variable	1	2	3	4	5	6	7	8	9	10	11
1. Div_dummy	-	0,043*	0,070*	0,014	0,131**	-0,055*	0,117**	0,052*	0,068**	0,158**	0,291**
2. BoardReplacement	0,043*	-	0,709**	0,284**	0,354**	0,002	0,200**	0,114**	0,114**	0,176**	0,091**
3. BoardReplacement	0,070**	0,709**	-	0,446**	0,517**	-0,032	0,175**	0,097**	0,123**	0,204**	0,106**
4. TotDirectorIn	0,014	0,284**	0,446**	-	0,063**	-0,052*	-0,001	-0,065**	0,002	0,089**	-0,032
5. TotDirectorOut	0,131**	0,354**	0,517**	0,063**	-	-0,025	0,105**	0,073**	0,091**	0,182**	0,101**
6. ROA	-0,055*	0,002	-0,032	-0,052*	-0,025	-	0,339**	0,127**	0,181**	0,161**	0,087**
7. LNEMP	0,117**	0,200**	0,175**	-0,001	0,105**	0,339**	-	0,466**	0,584**	0,589**	0,442**
8. cum_acq_count	0,052*	0,114**	0,097**	-0,065**	0,073**	0,127**	0,466**	-	0,354**	0,284**	0,603**
9. Segments	0,068**	0,114**	0,123**	0,002	0,091**	0,181**	0,584**	0,354**	-	0,458**	0,226**
10. NumberDirectors	0,158**	0,176**	0,204**	0,089**	0,182**	0,161**	0,589**	0,284**	0,458**	-	0,389**
11. cum_div_count	0,291**	0,091**	0,106**	-0,032	0,101**	0,087**	0,442**	0,603**	0,226**	0,389**	-

*Table 1. Inter-correlations among variables. (correlations are significant at *p < .05 and **p < .01 (two-tailed)).*

In table 2 the descriptives are showed. The sample size should be 400 to achieve best results with maximum likelihood estimation (Field, 2003). In this analysis 2066 observations are included, so the sample size is large enough. Furthermore the amount of missing values is low. For the independent variables (BoardReplacement, BoardReplacementCount, TotDirectorIn and TotDirectorOut) there are 2066 observations and no missing values. For the control variables, the dataset contains also 2066 observations for the cum_acq_count variable, NumberDirectors and cum_div_count, so no missing values. For the other control variable Return on Assets there are 2034 observations incorporated, which means there are 32 missing values. The LNEMP variable is included with 2016 valid observations, so 50 missing values for this control variable. The last control variable is the Segment variable, which

consists 2047 observations, so 19 missing values. The minimum value for ROA is very low, as it has a minimum value of -302. Since the following lowest value is -255 and only 5 values are below -120, it seems like that this value is an outlier. The other maximum values are not extremely high. Later on I will focus on the influence of the outliers of the independent variables in this analysis (in section 2.7, outlier analysis).

Variables	N	Minimum	Maximum	Mean
DIV_dummy	2066	0	1	0,25
BoardReplacement	2066	0	1	0,58
BoardReplacementCount	2066	0	11	0,98
TotDirectorIn	2066	0	22	2,22
TotDirectorOut	2066	0	17	1,91
ROA	2034	-302	92	1,89
LNEMP	2016	1	13	9,03
NumberDirectors	2066	1	34	10,16
Segments	2047	0	10	3,23
cum_acq_count	2066	0	129	10,63
cum_div_count	2066	0	30	2,50
Valid N	2008			

Table 2. Descriptives.

2. Results

This result section will present the empirical outcomes for the hypothesized relationship between board replacements and the decision to divest. This independent variable is measured in 4 ways, particularly a board replacement as a dummy (in section 2.2), a board replacement count variable (in section 2.3), the total inbound of directors (in section 2.4) and the total outbound of directors (in section 2.5). Finally, a total model will be presented wherein all the various measurements of the independent variable and control variables are included (in section 2.6). In section 2.7 I will provide supplementary analyses, namely the outlier analyses and analyses wherein the year is shifted.

Before presenting the empirical outcomes for the hypothesized relationships, I examine the descriptive statistics and correlations among the variables. The correlations indicate that three control variabels are significantly correlated with the divestiture variable, namely ROA (r = -0,055), LNEMP (r = 0,117), cum_acq_count (r = 0,052), segments (r = 0,068), NumberDirectors (r = 0,158). For the Log of Employees, the number of acquisitions, the amount of segments, the number of directors and the divestiture count the correlation is positive, which implies that the higher these variables score, the higher the chance on a divestiture. For the relationship between the ROA and the decision to divest, a negative correlation take place. The the higher the ROA, the less divestitures take place.
Furthermore, three independent variables correlate significantly with the divestiture variable, namely BoardReplacement (r = 0,043), BoardReplacementCount (r = 0,070) and TotDirectorOut (r = 0,131).

These correlations are all positive, which means that an increase of the independent variables will lead to an increase of the level of divestitures. The correlation between the TotDirectorIn variable and the divestiture variable with a r value of 0,014 is not significant.

Also the independent variables are correlated with the decision to divest. For board replacement the correlation is significant and positive. This means that a board replacement will increase the level of decision to divest.
For the board replacement count the correlation is significant and positive. This implies that the more directors will be replaced in a year, the more divestitures will occur.
In contrast, the correlation indicate that the total director inbound is not significantly correlated with the decision to divest. This implies that the director inbound does hardly say anything about the decision to divest.

2.1 Relationship between control variables and decision to divest

To examine the relationship between various control variables and the decision to divest, a logistic regression analysis was conducted, using six control variables. The resulting model revealed 6 degrees of freedom (appendix 1a). Notably, the Chi-square statistic for the model was found to be 233,680, far exceeding the critical value of 12,592, indicative of an overall significant model (appendix 1a). Further reinforcing its significance, the associated p-value was found to be less than 0,001.

Despite the model's overall significance, the Hosmer-Lemeshow Test, which evaluates the goodness of fit, indicated a Chi-square statistic of 98,658 with a p-value below 0.001, suggesting a lack of fit between the model and the data (appendix 1b). However, the Nagelkerke R Square value of 0,163 implies that approximately 16.3% of the variance in the decision to divest can be explained by the included control variables (appendix 1c).

Among the control variables, Return on Assets (ROA), Cumulative Acquisitions Count (cum_acq_count), and Cumulative Divestiture Count (cum_div_count) emerged as significant predictors, with p-values below 0.05 (table 3). Conversely, Log of number of Employees, Segments, and Number of Directors did not exhibit significant relationships with the decision to divest (table 3).

Exploring the coefficients (B values) further, ROA and Cumulative Acquisitions Count were found to have negative relationships with the decision to divest, with coefficients of -0,009 and -0,059, respectively. In contrast, Cumulative Divestiture Count showed a positive relationship with a coefficient of 0,252 (table 3).

Analyzing the odds ratios, the initial odds of divestment were calculated as 0,135 ($e^{-2,002}$ = 0,135), yielding a corresponding probability (P_0) of 0,119 (P_0 = 0,135 / (1 + 0,135) = 0,119). With a unit increase in ROA, the new odds decreased to 0,134 (-2,002 + -0,009 = -2,011, $e^{-2,011}$ = 0,134), resulting in a new probability of 0,118 (0,134 / (1 + 0,134)), representing a marginal 0,1% decrease in the likelihood of divestment ((0,118 – 0,119) x 100% = -0,1%). Similarly, for Cumulative Acquisitions Count, the new odds were 0,127 (-2,002 + -0,059 = -2,061, $e^{-2,061}$ = 0,127), translating to a probability of 0,113 (0,127 / (1 + 0,127)), indicating a slight 0,6% decrease in likelihood ((0,113 – 0,119) x 100% = -0,6%). Conversely, an increase in Cumulative Divestiture Count led to new odds of 0,174 (-2,002 + 0,252 = -1,75, $e^{-1,75}$ = 0,174), corresponding to a probability of 0,148 (0,174 / (1 + 0,174)), reflecting a 2,9% increase in the likelihood of divestment ((0,148 – 0,119) x 100% = 2,9%).

2.2 Relationship between board replacement and decision to divest

The hypothesis proposes a positive relationship between board replacement and the decision to divest. To check this relationship, logistic regression was employed, incorporating six control variables alongside the board replacement variable. This comprehensive model consisted of seven independent variables, resulting in seven degrees of freedom (df) (appendix 2a). The Chi-square statistic yielded a substantial value of 235,608, surpassing the critical value of 14,067 (appendix 2a), thereby indicating a significant model with a significance level of 0,000, well below the conventional α level of 0,05 (appendix 2a).

However, the Hosmer and Lemeshow Test revealed a significant result, with a Chi-square value of 91,346 and a significance level of 0,000 (appendix 2b), suggesting that the model inadequately fits the observed data. Despite this, the Nagelkerke R Square value of 0.164 implies that approximately 16.4% of the variance in the dependent variable can be explained by the seven independent variables collectively (appendix 2c).

Zooming into the specific effect of board replacement, its coefficient (B) value was computed as 0,160, hinting at a potential positive influence on the decision to divest. Nevertheless, the statistical significance of this relationship was lacking, as the associated significance level was measured at 0,166, exceeding the standard threshold of 0,05 (table 3). Consequently, the effect of board replacement on the decision to divest is not statistically significant, failing to support the hypothesis of a positive association between board replacement and the decision to divest.

2.3 Relationship between board replacement count and decision to divest

The hypothesis suggests that there exists a positive relationship between the count of board replacements and the decision to divest. This hypothesis was put to the test through logistic regression analysis, incorporating six control variables alongside the Board Replacement Count variable, resulting in a model with a total of seven independent variables, thereby yielding a degree of freedom (df) of 7 (appendix 3a). The calculated Chi-square value of 236,463 surpasses the critical value of 14,067, indicating statistical significance at a significance level of 0,05 (appendix 3a). Likewise. Similarly, the Hosmer and Lemeshow Test showed a significant result, with a Chi-square value of 88,140 and a significance level below 0,05, suggesting a lack of fit between the model and the observed data (appendix 3b). Regarding the explanatory power of the model, the Nagelkerke R Square stands at 0,165, indicating that approximately 16.5% of the variance in the dependent variable can be explained by the seven incorporated independent variables (appendix 3c).

Examining the coefficient (B) associated with the Board Replacement Count, a value of 0,079 suggests a positive relationship with the decision to divest (table 3). However, this relationship fails to reach statistical significance, with a p-value of 0,093 exceeding the predetermined significance threshold of 0,05. Consequently, the data do not provide sufficient evidence to support the notion that an increase in board replacements is positively linked to the decision to divest. Thus, the hypothesis is not supported by the findings of this analysis.

2.4 Relationship between director inbound and decision to divest

The hypothesis posits a positive relationship between the director inbound activity and the propensity of a firm to make divestment decisions. To test this hypothesis, a logistic regression analysis was conducted, incorporating six control variables alongside the variable representing the total number of incoming directors. With seven independent variables in the model, the corresponding degrees of freedom (df) are calculated to be 7 (appendix 4a).

The analysis yielded a Chi-square value of 233,726, exceeding the critical threshold of 14,067 (appendix 4a), and a significance level of 0,000, thereby indicating statistical significance. However, the evaluation through the Hosmer and Lemeshow Test suggests a poor fit of the model to the data. The test resulted in a significant Chi-square value of 102,650, coupled with a significance level of 0,000 (appendix 4b). The Nagelkerke R Square value, computed at 0.163, suggests that 16,3% of the variance in the dependent variable is accounted for by the seven variables included in the model (appendix 4c).

Furthermore, the coefficient (B value) associated with the total number of incoming directors is found to be -0.004. This coefficient suggests a potentially small negative relationship between the inbound of directors and the decision to divest. However, this relationship is not statistical significant, with a significance level of 0,831 exceeding the conventional threshold of 0.05 (table 3). Thus, the analysis fails to support the hypothesis of a positive association between incoming directors and divestment decisions.

2.5 Relationship between director outbound and decision to divest

The hypothesis proposes a positive association between director outbound and the propensity to divest. This relationship was investigated through logistic regression, incorporating six control variables alongside the total director outbound variable. The model comprised seven independent variables, yielding 7 degrees of freedom (df).

The Chi-square statistic, with a value of 251,915, exceeded the critical value of 14,067, accompanied by a significance level of 0,000, indicating an overall significance of the model (appendix 5a). However, the Hosmer and Lemeshow Test revealed a significant Chi-square value of 72,743, with a significance level below 0,05, implying inadequate model fit (appendix 5b). Explaining 17.5% of the variance in the dependent variable, as indicated by the Nagelkerke R Square (appendix 5c), underscores the model's moderate explanatory capability.

The coefficient (B) for TotDirectorOut was estimated at 0,090, signifying a statistically significant positive relationship with the likelihood of divestment (table 3). Each unit increase in total director outbound corresponded to a 0,8% rise in the probability of a divestiture. Initially, the odds ratio stood at 0,123 ($e^{-2,097} = 0,123$, table 3), but with the incorporation of TotDirectorOut, it adjusted to 0,134 (-2,097 + 0,090 = -2,007, $e^{-2,007} = 0,134$). The initial probability was 0,110 ($P_0 = 0,123/ (1 + 0,123) = 0,110$) and the new probability on a divestiture when the outbound of directors increases by 1 is 0,118 (0,134 / (1 + 0,134)). This means that when the TotDirectorOut increases by 1, the chance on a divestiture increases by 0,8% ((0,118 – 0,110) x 100% = 0,8%) underscoring the impact of director outbound on divestment decisions. The effect of the director outbound on the decision to divest is statistically significant, which indicates that the director outbound is positively related with the decision to divest and that the hypothesis is supported

2.6 Total model

After evaluating each hypothesis in isolation, I constructed a comprehensive model that included all control variables and independent variables. The Chi-square statistic for this total model is 252,273

with 10 degrees of freedom (appendix 6a), and the associated p-value is 0,000, indicating that the model is statistically significant. Additionally, the Hosmer and Lemeshow Test results show a Chi-square of 69,606 with a p-value of 0,000 (appendix 6b), suggesting that the model does not adequately fit the data. The Nagelkerke R Square value is ,175, indicating that 17,5% of the variance in the dependent variable is explained by the independent variables included in the model (appendix 6c).

In the total model, four independent variables exhibit significant relationships with the dependent variable, divestitures. These variables are return on assets (ROA), cumulative acquisition count (cum_acq_count), cumulative divestiture count (cum_div_count), and total directors outgoing (TotDirectorOut). The regression coefficients (B values) for these variables are as follows: -0,000 for ROA, -0,059 for cum_acq_count, 0,251 for cum_div_count, and 0,094 for TotDirectorOut (table 3). These findings are consistent with the significant relationships observed in the single-variable models, reinforcing the robustness of these predictors in explaining divestitures.

Variables	**Model 1**		**Model 2**		**Model 3**		**Model 4**		**Model 5**		**Model 6**	
Control variables	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.
ROA	-0,009	0,001	-0,009	0,002	-0,009	0,002	-0,009	0,001	-0,008	0,002	-0,009	0,002
LNEMP	0,040	0,296	0,033	0,383	0,036	0,343	0,040	0,297	0,042	0,272	0,042	0,282
cum_acq_count	-0,059	0,000	-0,059	0,000	-0,059	0,000	-0,059	0,000	-0,059	0,000	-0,059	0,000
Segments	0,039	0,241	0,040	0,228	0,038	0,254	0,038	0,242	0,037	0,268	0,037	0,260
NumberDirectors	0,028	0,119	0,027	0,140	0,025	0,168	0,028	0,116	0,018	0,312	0,019	0,295
cum_div_count	0,252	0,000	0,253	0,000	0,252	0,000	0,252	0,000	0,251	0,000	0,251	0,000
Independent variables												
BoardReplacement			0,160	0,166							0,055	0,736
BoardReplacementCount					0,079	0,093					-0,035	0,656
TotDirectorIn							-0,004	0,831			-0,004	0,872
TotDirectorOut									0,090	0,000	0,094	0,000
Constant	-2,002	0,000	-2,030	0,000	-2,014	0,000	-1,995	0,000	-2,097	0,000	-2,099	0,000
LR Chi²	233,680	0,000	235,608	0,000	236,463	0,000	233,726	0,000	251,915	0,000	252,273	0,000

Table 3. Logistic regression results for the relationship between board replacement and the decision to divest.

2.7 Supplementary analyses

Outlier analysis

To assess the assumption of no outliers in the metric independent variables (BoardReplacementCount, TotDirectorIn, TotDirectorOut), two methods were employed (table 4 & 5). The first model involved removing the upper and lower 1% of values for each variable. The second model utilized winsorization, which replaces extreme outliers with the nearest specified percentile values. This means that observations above the 99th percentile were set to the 99th percentile value, and those below the 1st percentile were set to the 1st percentile value.

In the first model, observations were deleted, resulting in a dataset with 2024 remaining observations for the variables BoardReplacementCount, TotDirectorIn, and TotDirectorOut (table 4). While the minimum values for these variables remained at 0, the maximum values were reduced: BoardReplacementCount to 5, TotDirectorIn to 14, and TotDirectorOut to 14 (table 4). This reduction in maximum values indicates the removal of the most extreme outliers. The most notable outcome of this analysis is the loss of significance for the effect of TotDirectorOut, with a p-value of 0,082, which is higher than the alpha threshold of 0,05 (table 5). This suggests that the initial significance observed for TotDirectorOut was likely influenced by the extreme outliers. In contrast, the other independent variables, BoardReplacementCount and TotDirectorIn, continue to exhibit no significant relationships, consistent with their initial assessments.

In the second model, observations are winsorized, leading to reduced maximum values for the variables BoardReplacementCount (5), TotDirectorIn (14), and TotDirectorOut (14), while maintaining a dataset of 2066 observations (table 4). Winsorization mitigates the influence of extreme outliers by capping values at specified percentiles, preserving the overall dataset size. In this analysis, the effect of TotDirectorOut is significant with a p-value less than 0,005, indicating a robust relationship after addressing outliers (table 5). In contrast, the effects of BoardReplacementCount and TotDirectorIn on the decision to divest remain statistically insignificant. This outcome demonstrates that while winsorization effectively reduces the impact of extreme values, it also preserves the significance of genuine relationships within the data.

Since the deletion method involves removing some observations, leading to a higher level of missing data, it is more reliable to focus on the winsorized model. The winsorization process retains the dataset's integrity while mitigating the influence of extreme outliers. Consequently, the analysis shows that outliers do not substantially impact the results, as the significant effects are consistent across the winsorized model and the original model. Therefore, the assumption of no outliers is violated, yet their presence does not critically alter the significant findings of the analysis.

	Model 1				Model 2			
Variables	N	Minimum	Maximum	Mean	N	Minimum	Maximum	Mean
DIV_dummy	2066	0	1	0,25	2066	0	1	0,25
BoardReplacement	2066	0	1	0,58	2066	0	1	0,58
BoardReplacementCount	2024	0	5	0,93	2066	0	5	0,96
TotDirectorIn	2024	0	14	2,10	2066	0	14	2,20
TotDirectorOut	2024	0	14	1,79	2066	0	14	1,90
ROA	2034	-302	92	1,89	2034	-302	92	1,89
LNEMP	2016	1	13	9,03	2016	1	13	9,03
NumberDirectors	2066	1	34	10,16	2066	1	34	10,16
Segments	2047	0	10	3,23	2047	0	10	3,23
cum_acq_count	2066	0	129	10,63	2066	0	129	10,63
cum_div_count	2066	0	30	2,50	2066	0	30	2,50
Valid N	1906				2008			

Table 4. Descriptives for the outlier analysis.

Variables	**Model 1**		**Model 2**	
Control variables	B	Sig.	B	Sig.
ROA	-0,010	0,001	-0,009	0,002
LNEMP	0,035	0,388	0,042	0,281
cum_acq_count	0,035	0,071	0,019	0,293
Segments	0,040	0,244	0,038	0,250
NumberDirectors	-0,059	0,000	-0,059	0,000
cum_div_count	0,247	0,000	0,251	0,000
Independent variables				
BoardReplacement	0,053	0,770	0,084	0,620
BoardReplacementCount	0,005	0,961	-0,063	0,462
TotDirectorIn	-0,012	0,693	0,000	0,990
TotDirectorOut	0,060	0,082	0,101	0,000
Constant	-2,157	0,000	-2,116	0,000
LR Chi²	233,321	0,000	253,289	0,000

Table 5. Logistic regression results for the outlier analysis.

Lagging effect analysis

Does a board replacement have an effect on the decision to divest in the following year?

In previous analyses, I examined the impact of board replacements on divestitures within the same year. Now, I'm investigating whether a board replacement predicts divestiture actions in the following year. This involves connecting data on board replacements with divestiture occurrences in the subsequent year, requiring a dataset spanning consecutive years. To conduct this analysis, the dataset undergoes refinement to include only observations with continuous data across multiple years. As a result, we're left with 1134 divestiture observations for examination (table 6). However, after analyzing the data, none of the independent variables, BoardReplacement, BoardReplacementCount, TotDirectorIn, and TotDirectorOut, show a statistically significant impact on the decision to divest in the next year (table 7). This outcome suggests that the occurrence of a board replacement does not influence the likelihood of pursuing divestitures in the year following the replacement.

Variables	N	Minimum	Maximum	Mean
DIV_dummy	1134	0	1	0,24
ROA	1127	-302,85	92,10	3,57
LNEMP	1118	1,61	13,09	9,32
NumberDirectors	1134	3	34	10,56
Segments	1131	0	10	3,48
cum_acq_count	1134	0	124	11,16
cum_div_count	1134	0	24	2,37
BoardReplacement	1134	0	1	0,61
BoardReplacementCount	1134	0	11	1,02
TotDirectorIn	1134	0	19	2,29
TotDirectorOut	1134	0	17	1,61
Valid N	1117			

Table 6. Descriptives for the lagging effect for a divestiture in the following year.

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Control variables	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.
ROA	-0,006	0,169	-0,006	0,166	-0,005	0,178	-0,006	0,164	-0,006	0,151	-0,006	0,162
LNEMP	0,105	0,067	0,107	0,066	0,103	0,073	0,106	0,064	0,106	0,065	0,105	0,071
NumberDirectors	0,022	0,330	0,022	0,338	0,022	0,326	0,022	0,323	0,025	0,277	0,030	0,202
Segments	0,040	0,368	0,040	0,366	0,039	0,384	0,041	0,359	0,042	0,350	0,037	0,414
cum_acq_count	-0,051	0,000	-0,051	0,010	-0,051	0,000	-0,051	0,000	-0,051	0,000	-0,051	0,000
cum_div_count	0,246	0,000	0,246	0,000	0,246	0,000	0,247	0,000	0,246	0,000	0,245	0,000
Independent variables												
BoardReplacement			-0,035	0,836							-0,147	0,530
BoardReplacementCount					0,019	0,775					0,190	0,137
TotDirectorIn							-0,016	0,726			-0,060	0,309
TotDirectorOut									-0,032	0,336	-0,065	0,130
Constant	-2,806	0,000	-2,801	0,000	-2,809	0,000	-2,800	0,000	-2,786	0,000	-2,750	0,000
LR Chi²	160,133	0,000	160,176	0,000	160,214	0,000	160,257	0,000	161,096	0,000	163,489	0,000

Table 7. Logistic regression results for the relationship between board replacement and the decision to divest in the following year.

Does a board replacement correlate with a divestment decision in the previous year?

Additionally, I employed a model that shifts the board replacement data one year later (table 8 & 9). In this way I established a connection between board replacement occurrences and divestitures from the prior year. This analytical approach aimed to explore the potential relationship between board replacements and divestitures occurring in the preceding year. After examining the impact of the various independent variables, BoardReplacement, BoardReplacementCount, TotDirectorIn, and TotDirectorOut, none of them demonstrated statistically significant effects (table 9). Consequently, it can be deduced that there is no identifiable correlation between board replacements and divestitures in the previous year.

Variables	N	Minimum	Maximum	Mean
DIV_dummy	1134	0	1	0,24
ROA	1125	-302,85	92,10	3,36
LNEMP	1121	1,61	13,09	9,38
NumberDirectors	1134	3	34	10,56
Segments	1131	0	10	3,49
cum_acq_count	1134	0	129	12,36
cum_div_count	1134	0	27	2,69
BoardReplacement	1134	0	1	0,61
BoardReplacementCount	1134	0	11	1,02
TotDirectorIn	1134	0	19	1,72
TotDirectorOut	1134	0	17	1,61
Valid N	1118			

Table 8. Descriptives for the lagging effect for a divestiture in the previous year.

Variables	**Model 1**		**Model 2**		**Model 3**		**Model 4**		**Model 5**		**Model 6**	
Control variables	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.	B	Sig.
ROA	-0,008	0,045	-0,008	0,048	-0,008	0,057	-0,008	0,044	-0,008	0,048	-0,008	0,054
LNEMP	0,059	0,286	0,054	0,334	0,055	0,317	0,059	0,284	0,058	0,297	0,054	0,334
NumberDirectors	0,019	0,392	0,020	0,383	0,019	0,392	0,020	0,385	0,019	0,402	0,021	0,365
Segments	0,032	0,470	0,032	0,462	0,031	0,480	0,032	0,471	0,032	0,475	0,032	0,473
cum_acq_count	-0,044	0,000	-0,044	0,000	-0,044	0,000	-0,044	0,000	-0,044	0,000	-0,044	0,000
cum_div_count	0,220	0,000	0,220	0,000	0,219	0,000	0,220	0,000	0,220	0,000	0,220	0,000
Independent variables												
BoardReplacement			0,082	0,611							0,060	0,789
BoardReplacementCount					0,030	0,649					0,019	0,865
TotDirectorIn							-0,006	0,883			-0,012	0,826
TotDirectorOut									0,007	0,874	-0,001	0,983
Constant	-2,214	0,000	-2,225	0,000	-2,213	0,000	-2,213	0,000	-2,212	0,000	-2,219	0,000
LR Chi²	136,175	0,000	136,435	0,000	136,381	0,000	136,197	0,000	136,200	0,000	136,532	0,000

Table 9. Logistic regression results for the relationship between board replacement and a divestiture in the previous year.

A board replacement is expected to be positively related to the decision to divest	**Outcome**
2.2 Board replacement is measured by a dummy	Not supported
2.3 Board replacement is measured by a count	Not supported
2.4 Board replacement is measured by the inbound directors	Not supported
2.5 Board replacement is measured by the outbound directors	Supported

Chapter 5 Discussion and conclusion

1. Theoretical implications

The relationship between management replacements and strategic decision-making, particularly in the context of divestment, has been extensively studied (Weisbach, 1995; Feldman et al., 2014; Duhaime & Grant, 1984). These studies have consistently suggested a link between replacements in management and divestment decisions. However, the specific impact of board replacements on divestment decisions has remained underexplored. Considering that boards are pivotal in strategic oversight and managerial evaluation, their influence on strategic decisions, including divestments, is an area ripe for investigation (Boivie et al., 2021; Johnson et al., 1993). Boards of directors play a critical role in shaping an organization's strategic direction, suggesting that changes in board composition could logically influence divestment decisions (Boivie et al., 2021). Despite this logical assumption, the relationship between board replacements and divestment decisions has not been thoroughly examined in the existing literature. This study aims to bridge this gap, providing a clearer understanding of whether and how board replacements impact divestment decisions, thereby offering organizations valuable insights for strategic divestment planning and execution.

The study examined four independent variables related to board replacements to understand their potential effects on divestment decisions. The findings reveal that although changes in board composition can influence strategic decisions, board replacements on their own do not significantly play a role in divestment decisions. In other words, simply replacing board members does not lead to an increase in divestment actions. However, after closely evaluating the analysis results, it becomes evident that the directors who are leaving might play a crucial role in the decision to divest. This suggests that the experience, perspectives, or circumstances surrounding the outgoing directors could be more influential in driving divestment decisions than the mere act of replacing board members. Therefore, the departure of certain directors appears to be more critical to divestment choices than the overall change in board composition.

Contrary to initial expectations and previous literature suggesting that new directors might bring fresh perspectives and lower levels of commitment, thereby increasing the likelihood of divestitures, this study found no significant role from incoming directors (Feldman et al., 2014). This finding challenges the notion that new insights and the reduction of groupthink would drive divestment decisions (Hoppmann et al., 2018; Hambrick et al., 2001). Instead, the results indicate that the departure of directors is a significant factor leading to divestment decisions. This supports the idea that long-serving board members might create inertia, and their departure disrupts this inertia, facilitating strategic shifts such as divestments (Hambrick et al., 2001).

The expectation based on existing literature about management replacements was that there would be a causal relationship between director departures and divestment decisions (Weisbach, 1995; Duhaime & Grant, 1984). New management may need to initiate restructuring in the form of disinvestments to recover the organization (Weisbach, 1995; Duhaime & Grant, 1984). Supplementary analyses revealed that director departures primarily influence divestitures occurring within the same year. Most boards are involved in oversight of strategy and managerial examinating, which leads to the expectation that boards have like managements a significant strategic influence (Boivie et al., 2021; Johnson et al., 1993). However, the role of the board of directors and management seems to be very different as the relationship is not causal. This temporal proximity suggests a complex relationship between board dynamics and divestment strategies, complicating the establishment of a clear causal link. Instead, it points towards a correlation where both events, board replacements and divestment decisions, occur simultaneously, potentially driven by the same underlying factors. On beforehand, the expectation was that in changing environments, wherein divestitures are sometimes necessary, the boards also needs to adapt to function optimally (Schnatterly et al., 2021). Now it looks more that the accidents happen at the same time, instead of that an outgoing director leads to a divestiture. Moreover the expectation that a resilient board may support consistency in strategy and preserve long-term goals under disturbing outside pressures, could also mean that a strategic decision like a divestiture could lead to an outgoing director (Hoppmann et al., 2018). If directors are unable to handle such strategic decisions, it could potentially be a reason for them to leave the board.

2. Practical implications

Practically, these findings suggest organizations should reconsider their approach to managing board transitions, recognizing that the arrival of new directors may not immediately play a role in strategic divestment decisions. Instead, they should focus on leveraging the departure of directors which correlates with a higher divestiture likelihood. Understanding the timing of director dynamics, particularly the impact of their departure on divestments within the same year, can significantly inform strategic planning and implementation. The correlation between board member departures and same-year divestitures suggests a need for quick organizational responses, possibly linked to the reasons behind the exits. Additionally, shareholders play a crucial role in the election and departure of directors. They should use these insights to make informed decisions about director departures to facilitate timely and effective strategic actions. These insights can help organizations optimize their board structures and decision-making processes, ensuring better alignment with strategic objectives and more effective navigation of divestment challenges.

3. Limitations and future research

With the theoretical and practical implications explicitly presented, I should mention that this research does have some limitations. First, the dataset about divestitures used in this analysis is exclusively derived from tech firms. While current literature does not suggest that tech firms have markedly different divestiture strategies compared to firms in other sectors, the exclusive focus on this industry might limit the generalizability of the findings. To achieve more robust and widely applicable results, future research should incorporate data from a diverse range of industries. This broader approach would help determine whether the observed patterns hold across different organizational contexts. Second, the data on board replacements is confined to organizations from Europe, North America, and the United Kingdom. Due to constraints in accessing comprehensive global data, I only incorporated these data. This geographic limitation may affect the representativeness of the findings. Although there is no immediate evidence suggesting significant regional differences in the relationship between board replacements and divestitures, the inclusion of data from other parts of the world would provide a more complete view. Future research should strive to include a more globally representative sample to enhance the validity of the conclusions and ensure that regional specifics are adequately addressed.

Third, the Hosmer and Lemeshow Test results indicate that the models used in the analysis do not fit the data well. This suggests that the models may be missing some control variables that influence the divestiture decisions. Only six control variables were included due to the timeframe and data availability. To improve model fit and provide more accurate predictions, future studies should include a wider range of control variables. Fourth, the analysis primarily examines the relationship between board replacements and divestitures within the same year. To test the directionality of this relationship, two additional models were developed where divestitures were assessed in the year preceding and the year following board replacements. However, incomplete longitudinal data resulted in a reduced number of observations, which weakens the robustness of these models. Future research should employ larger datasets with organizational data of more following years, to verify these temporal dynamics and strengthen the causal inferences.

Fifth, the study is based on single-year observations for each organization, which do not account for individual heterogeneity among firms. To better identify causal relationships, future research could use panel data methods, allowing for multiple observations per organization over several years. Panel data analysis would enable the examination of changes within firms over time and control for unobserved, firm-specific characteristics that remain constant. This approach would provide more reliable estimates of the effects of board replacements on divestiture decisions. Finally, this study

focuses on the sheer number of director appointments and departures without considering the specific identities and characteristics of the directors involved. It is plausible that certain types of directors, based on their expertise, backgrounds, or leadership styles, may have a more pronounced impact on divestiture decisions. Future research should delve into the profiles and characteristics of individual directors to ascertain whether particular director attributes are associated with a higher likelihood of influencing divestiture decisions. This approach would enrich the findings and offer deeper insights into the dynamics between board composition and strategic corporate decisions.

The final recommendation for future research involves incorporating an additional moderator variable into the model. Specifically, the inclusion of board independence as a moderating factor warrants consideration. The extent of board independence could potentially affect the dynamic between board replacement and divestiture decisions (Hoppmann et al., 2018). It is hypothesized that a higher degree of board independence may be associated with an increased likelihood of divestiture actions. This hypothesis stems from the notion that independent boards, which are less influenced by internal corporate politics and more focused on shareholder value, might be more inclined to endorse strategic divestitures when they align with long-term corporate goals (Hoppmann et al., 2018). Therefore, investigating the moderating effect of board independence could provide deeper insights into the conditions under which board replacement leads to divestiture, enhancing the overall understanding of corporate governance and strategic decision-making processes.

4. Conclusion

With the empirical outcomes explicitly discussed, the next task is to compose conclusions addressing the research question, which is formulated as follows:

what is the impact of a board of director replacement on the decision to divest?

In conclusion, the empirical analysis conducted in this study elucidates the nuanced relationship between board of director replacements and the decision to divest. Contrary to initial expectations, the findings indicate that general board replacements do not significantly impact the likelihood of divestment decisions. However, the departure of individual board members demonstrates a statistically significant and positive correlation with increased divestiture probabilities, particularly within the same year as the departure. This temporal alignment suggests that while there is a correlation between board member departures and divestiture, it does not necessarily imply a causal relationship. It is possible that both the departure of a board member and the decision to divest are influenced by an underlying factor. These insights underscore the critical need to distinguish between the broader concept of board replacement and the specific event of individual departures when

assessing their impact on corporate strategic decisions, like divestitures. Despite the study's limitations, such as data constraints, it makes a meaningful contribution to understanding the dynamics of board composition and its strategic implications for divestments. For organizational decision-makers, the research highlights that while broad board replacements may have limited direct effects, the departure of individual directors can play a crucial role in shaping divestment strategies. In the complex puzzle of organizational strategy, the departure of a single board member can be the key piece that unlocks new pathways to resilience and success in the form of a divestment decision.

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Appendix

Appendix 1 – Relationship between control variables and decision to divest

a.

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	233,680	6	,000
	Block	233,680	6	,000
	Model	233,680	6	,000

b.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	98,658	8	,000

c.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	2013,605[a]	,110	,163

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than ,001.

d.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	ROA	-,009	,003	10,185	1	,001	,991
	LNEMP	,040	,038	1,091	1	,296	1,041
	cum_acq_count	-,059	,008	55,508	1	,000	,943
	Segments	,039	,033	1,375	1	,241	1,039
	NumberDirectors	,028	,018	2,432	1	,119	1,028
	cum_div_count	,252	,023	123,175	1	,000	1,286
	Constant	-2,002	,269	55,313	1	,000	,135

a. Variable(s) entered on step 1: ROA, LNEMP, cum_acq_count, Segments, NumberDirectors, cum_div_count.

Appendix 2 – Relationship between board replacement and decision to divest

a.

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	235,608	7	,000
	Block	235,608	7	,000
	Model	235,608	7	,000

b.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	91,346	8	,000

c.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	2011,677[a]	,111	,164

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than ,001.

d.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	ROA	-,009	,003	9,633	1	,002	,991
	LNEMP	,033	,038	,761	1	,383	1,034
	cum_acq_count	-,059	,008	56,097	1	,000	,943
	Segments	,040	,033	1,456	1	,228	1,040
	NumberDirectors	,027	,018	2,183	1	,140	1,027
	cum_div_count	,253	,023	124,042	1	,000	1,287
	BoardReplacement	,160	,116	1,921	1	,166	1,174
	Constant	-2,030	,270	56,361	1	,000	,131

a. Variable(s) entered on step 1: ROA, LNEMP, cum_acq_count, Segments, NumberDirectors, cum_div_count, BoardReplacement.

Appendix 3 – Relationship between board replacement count and decision to divest

a.

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	236,463	7	,000
	Block	236,463	7	,000
	Model	236,463	7	,000

b.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	88,140	8	,000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	2010,822[a]	,111	,165

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than ,001.

c.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	ROA	-,009	,003	9,407	1	,002	,991
	LNEMP	,036	,038	,900	1	,343	1,037
	cum_acq_count	-,059	,008	55,840	1	,000	,943
	Segments	,038	,033	1,301	1	,254	1,038
	NumberDirectors	,025	,018	1,901	1	,168	1,025
	cum_div_count	,252	,023	123,351	1	,000	1,286
	BoardReplacementCount	,079	,047	2,814	1	,093	1,083
	Constant	-2,014	,270	55,767	1	,000	,133

a. Variable(s) entered on step 1: ROA, LNEMP, cum_acq_count, Segments, NumberDirectors, cum_div_count, BoardReplacementCount.

d.

Appendix 4 – Relationship between director inbound and decision to divest

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	233,726	7	,000
	Block	233,726	7	,000
	Model	233,726	7	,000

a.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	102,650	8	,000

b.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	2013,559[a]	,110	,163

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than ,001.

c.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	ROA	-,009	,003	10,211	1	,001	,991
	LNEMP	,040	,038	1,087	1	,297	1,041
	cum_acq_count	-,059	,008	55,530	1	,000	,943
	Segments	,038	,033	1,368	1	,242	1,039
	NumberDirectors	,028	,018	2,475	1	,116	1,029
	cum_div_count	,252	,023	123,106	1	,000	1,286
	TotDirectorIn	-,004	,020	,046	1	,831	,996
	Constant	-1,995	,271	54,111	1	,000	,136

a. Variable(s) entered on step 1: ROA, LNEMP, cum_acq_count, Segments, NumberDirectors, cum_div_count, TotDirectorIn.

d.

Appendix 5 – Relationship between director outbound and decision to divest

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	251,915	7	,000
	Block	251,915	7	,000
	Model	251,915	7	,000

a.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	72,743	8	,000

b.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	1995,371[a]	,118	,175

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than ,001.

c.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	ROA	-,008	,003	9,260	1	,002	,992
	LNEMP	,042	,038	1,204	1	,272	1,043
	cum_acq_count	-,059	,008	55,922	1	,000	,942
	Segments	,037	,033	1,228	1	,268	1,037
	NumberDirectors	,018	,018	1,024	1	,312	1,019
	cum_div_count	,251	,023	122,771	1	,000	1,285
	TotDirectorOut	,090	,021	18,762	1	,000	1,094
	Constant	-2,097	,273	59,021	1	,000	,123

a. Variable(s) entered on step 1: ROA, LNEMP, cum_acq_count, Segments, NumberDirectors, cum_div_count, TotDirectorOut.

d.

Appendix 6 – Total model

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	252,273	10	,000
	Block	252,273	10	,000
	Model	252,273	10	,000

a.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	69,606	8	,000

b.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	1995,012[a]	,118	,175

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than ,001.

c.

d.

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1[a]	ROA	-,009	,003	9,359	1	,002	,991
	LNEMP	,042	,039	1,157	1	,282	1,043
	cum_acq_count	-,059	,008	55,962	1	,000	,942
	Segments	,037	,033	1,267	1	,260	1,038
	NumberDirectors	,019	,018	1,097	1	,295	1,019
	cum_div_count	,251	,023	122,707	1	,000	1,285
	BoardReplacement	,055	,162	,114	1	,736	1,056
	BoardReplacementCount	-,035	,079	,198	1	,656	,965
	TotDirectorIn	-,004	,024	,026	1	,872	,996
	TotDirectorOut	,094	,024	15,001	1	,000	1,099
	Constant	-2,099	,277	57,495	1	,000	,123

a. Variable(s) entered on step 1: ROA, LNEMP, cum_acq_count, Segments, NumberDirectors, cum_div_count, BoardReplacement, BoardReplacementCount, TotDirectorIn, TotDirectorOut.