Master thesis

The financial performance of companies active in the Dutch liquor industry: A case study

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Date: January 14, 2021

Acknowledgements

This thesis represents the final phase of my master study Business Administration with a specialization in Financial Management at the University of Twente. This thesis is written in the period between April 2020 and January 2021. I would like to acknowledge a handful of people who have helped me during this period.

First of all, I would like to thank my first supervisor Ir. Jeroen Sempel for his help during each stage of my master thesis. He provided me with very helpful and valuable feedback to improve and complete this thesis. Further, I would like to thank my second supervisor Prof. Dr. Rez Kabir, who provided me with critical feedback during the final stages of this thesis.

Furthermore, I would like to thank Company X, friends and family for their interest, support and encouragement through the process of writing my master thesis. Company X helped me especially with providing the right data when it was hard to receive the data for certain companies. My friends and family especially supported me during the difficult times of writing this thesis and kept me motivated. Thank you!

Jorieke Masselink

Beuningen, 14th of January 2021

Abstract

This paper examines the financial performance of firms active in the Dutch liquor industry for the period 2017 and 2018. Various firm characteristics were examined to test whether these characteristics can lead to superior financial performance. Financial performance is in the descriptive multiple-case study measured by both individual performance ratios and the Zmijewski model, which is a score based on the ROA, the current ratio and the debt ratio. In the PLS regression analysis, financial performance is measured by the Zmijewski model. The Zmijewski model is chosen as a model for financial performance because it is an accurate and adequate predictor of financial performance. Besides, it takes into account both the return and risk indicators of financial performance. The descriptive multiple-case study and a PLS regression analysis of 12 competitors of Company X examine whether certain firm characteristics can explain superior financial performance. In the first stage of extensive literature search, it was found that synergy, family-ownership, managerial ownership, foreign ownership, gender diversity and national diversity all increase the financial performance. However, this can depend on the industry. The results of this research in the Dutch liquor industry indicate that an intra-business synergy leads to significant better financial results than performing one activity does. For the various ownership structures, the hypotheses could not be accepted. Furthermore, both gender diversity and national diversity significantly increase financial performance. But amongst other limitations, the COVID-19 pandemic can change these results. Therefore, it is suggested for future research to perform this research again to see whether certain firm characteristics are more resistant to a pandemic and the other limitations mentioned in this paper.

Keywords: *Financial performance, synergy, ownership, diversity, Zmijewski model, descriptive multiple-case study research, PLS regression analysis, liquor industry.*

Due to strict company regulations regarding confidentiality, the company names are removed from this document. The company names are known by the client and supervisors.

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1. Introduction

In this chapter, Company X and the current situation will be introduced. Furthermore, the research goal including research questions will be formulated. Lastly, the outline of this paper will be introduced.

1.1. Background information: situation and complication

Firm performance and competitive advantage is a frequently discussed topic in academic research. Both are intertwined. A competitive advantage can lead to superior financial performance. This competitive advantage is often owed to the firm's internal strengths. Therefore, it is important to know which strengths or which firm characteristics cause a competitive advantage. According to the resource-based view, those characteristics should be protected when they are valuable or rare in the industry (Ahmad, Bosua, & Scheepers, 2014; Lee, Chang, Liu, & Yang, 2007; Newbert, 2008). Then the superior performance can be maintained. Or firms can invest in competitive resources to maintain or grow to the best performing firm in the industry.

In this research, Company X and their competitors in the Dutch liquor industry will be analyzed. Company X is a family business with more than 100 employees. It is a liquor business, and their activities can be divided into three categories: (1) wholesale of liquor; (2) brand builder wine; and (3) brand builder spirits. Expectations are that the combination of these three activities strengthens the performance of the individual activity and thus give a synergy. It can therefore create a competitive advantage, which leads to superior financial performance in the industry. However, through extensive literature search, there was found that also other firm characteristics can create a competitive advantage and thus can explain financial performance. Therefore, this research aims to establish which firm characteristics lead to superior financial performance. Financial performance of various peers in the liquor industry will be analyzed using descriptive multiple-case study and a Partial Least Square (PLS) regression analysis.

First, the expected synergy effect will be introduced, which is a frequently discussed topic in strategic management. According to Goold and Campbell (1998), a synergy occurs when 'two or more units or companies to generate greater value working together than they could working apart' (Goold & Campbell, 1998, p. 133). Thus, according to Company X, the combination of those three units should generate greater value than their competitors who perform one or two of those activities. To illustrate, expectations are that the combination of brand building and wholesale generates greater value to the wholesale than performing only wholesale would. The combination of activities makes the performance of wholesale stronger. This synergy can take various forms, including shared know-how, shared tangible resources, pooled negotiating power, coordinated strategies, vertical integration, and combined business creation. Such cross-business activities can lead to competitive advantage, which also leads to improved performance of the combined firm over single-business competitors (Goold & Campbell, 1998; Knoll, 2008).

Doing extensive literature research, there was found that also other firm characteristics can create a competitive advantage and increase financial performance. A firm characteristic that can also create a competitive advantage is related to ownership. Various ownership structures exist, and all can influence financial performance. Family-owned businesses, for instance, show better long-term (financial) performance (Kachaner, Stalk, & Bloch, 2012; Lee, 2006; Savitri, 2018). Others mention that managerial ownership increases performance in terms of profitability and market share, but decreases performance in terms of growth rates (Alabdullah, 2018; Lappalainen & Niskanen, 2012).

A third possible competitive advantage is related to managers and board members. It appears that diversity of managers and board members in terms of gender, ethnicity, schooling, and functional

background increases firm performance (Boone & Hendriks, 2009; Gompers & Kovvali, 2018). Consistent with both the resource-based view theory, critical mass theory and token status theory, female executive directors have a strong influence on firm performance (Liu, Wei, & Xie, 2014). It appears that diversity increases creativity, innovation and quality decision-making (Erhardt, Werbel, & Shrader, 2003; Joecks, Pull, & Vetter, 2013).

Fourthly, competitive advantage can be related to compensation schemes of firms. In general, and following the agency theory, incentives and firm performance are positively related (Young, Beckman, & Baker, 2012). Distinguishing between executives and non-executive (employees), it can be stated that incentives of executives can influence firm performance positively, depending on the type of incentives (Gopalan, Horn, & Milbourn, 2017; Lee, Lev, & Yeo, 2008). Furthermore, earnings are increased when the incentives of employees are linked to performance (McNabb & Whitfield, 2007).

Fifthly, relationships between corporate social performance and financial performance were found. Some mention that poor social performance leads to high short-term performance, whereas good social performance leads to high long-term performance (Brammer & Millington, 2008). Others mention that Corporate Social Responsibility (CSR) and environmental performance can increase financial performance (Beck, Frost, & Jones, 2018; Tzouvanas, Kizys, Chatziantoniou, & Sagitova, 2019).

The last firm characteristic influencing a firm's competitive advantage and financial performance is innovation. Firms performing more innovating activities show a better financial result (Gök & Peker, 2017; Ho, Nguyen, Adhikari, Miles, & Bonney, 2018). The literature writes about various types of innovation, two of them are green innovation and customer-oriented innovation. Both were found to positively relate to a firm's financial performance (Bigliardi, 2013; Marín-Vinuesa, Scarpellini, Portillo-Tarragona, & Moneva, 2018).

In short, many different firm characteristics can, according to the literature, create a competitive advantage and thus increase a firm's financial performance. The firm characteristics introduced are summarized in the following figure:

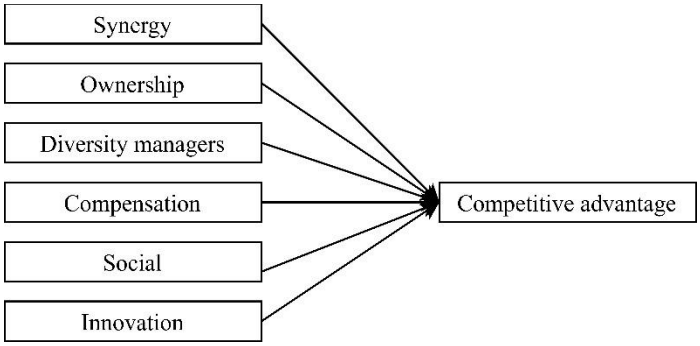

Figure 1. *Firm characteristics causing a competitive advantage.*

Whereas many characteristics are introduced, not all will be examined in this research. This research will focus on synergy, ownership and diversity. Synergy is chosen, because this is, according to Company X, the expected characteristic causing a superior financial performance. Ownership and diversity were chosen because in the literature these variables were included while examining a synergy effect (Patrick, 2012). And, as will be explained later in this chapter, different ownership structures apply to the liquor sector. Therefore, it is interesting to examine this aspect as well. Besides, both ownership and diversity can be related to synergy because both are related to internal collaboration, like a cross-business synergy. Next to this, Company X is interested in these characteristics and data is accessible for these firm characteristics. Due to confidentiality from the client, data could not be

retrieved from companies themselves. Therefore, characteristics such as innovation and social activities are hard to measure and retrieve data from.

Further elaboration on these characteristics will take place in Chapter 2. At the end of this research, there will be looked at the other variables to check whether these could explain possible contrary results.

1.2. Research goal and research question

Based on the abovementioned reasoning, various firm characteristics can cause competitive advantage and explain superior financial performance. However, it is not known which characteristics are advantageous in the Dutch liquor industry. To fill this gap in the literature, this paper will examine whether certain firm characteristics explain superior financial performance. Once known, these firm characteristics should be established and protected. If the synergy model is indeed the cause for advantageous financial performance, this should be protected by Company X. When other characteristics are found, those can be improved by Company X and thus increase financial performance. Therefore, the goal of this research is:

> *To establish characteristics that cause a competitive advantage in the Dutch liquor industry.*

The research question belonging to this research goal is:

> *Which firm characteristics caused a competitive advantage in the Dutch liquor industry in the period 2017 and 2018?*

To examine this question, the study uses a sample of thirteen firms active in the Dutch liquor industry. These firms will be analyzed in the period 2017 and 2018. This period is chosen because results will be more reliable when choosing a two-year period. Whereas a longer period is even more reliable, not all firms already published their data for 2019 and therefore this research does not include the year 2019.

Based on this research a recommendation to Company X will be written. The liquor market is very competitive and it is, therefore, relevant to know which characteristics cause a competitive advantage and thus explain a superior financial performance. The recommendation can focus on the one hand on a competitive advantage that Company X currently possesses and thus should protect. On the other hand, it can also focus on a competitive advantage possessed by a competitor, which Company X can consider to implement when making future strategic decisions. For Company X, this research is valuable because it can enable them to maintain or grow to the best performing firm in the industry.

1.2.1. Sub-research questions

The research question focuses on firm characteristics causing competitive advantage in the liquor industry. A competitive advantage can lead to superior financial performance (Huang, Dyerson, Wu, & Harindranath, 2015; Knoll, 2008; Sigalas & Papadakis, 2018). Whereas competitive advantage is hard to examine, financial performance can be examined. Therefore, sub-research questions will focus on financial performance. Further explanation of the relationship between competitive advantage and financial performance can be found in Chapter 2.2. Sub-research questions that will also be addressed during this research are:

- How did firms in the Dutch liquor industry financially perform over the years 2017 and 2018?
- Do businesses who implemented the synergy model show better financial performance in the Dutch liquor industry?
- Does a specific ownership form (e.g. managerial, family, foreign) affect financial performance in the Dutch liquor industry?

- Do businesses with diversified management or board show better financial performance in the Dutch liquor industry?

1.3. Company profile: Company X

Company X is a family business with more than 100 employees. It is a liquor business with an assortment of around 9,500 different liquors. Their activities consider wholesale of liquor and wine, brand building and importing. The first, wholesale of liquor and wine refers to wholesalers, supermarkets, retail organizations, liquor stores, wine merchants, specialty shops and on-trade businesses. The second, brand builder of wine, refers to the pioneering of exclusive commercialization of brands in an innovative way for wines. The third, brand builder of spirits, refers to the pioneering of exclusive commercialization of brands in an innovative way for spirits, club and party drinks. Their competitors can be divided amongst the activities wholesalers of liquor, brand building wine and brand building spirits, which can be seen in Table 1. Two of those competitors, Case 10 and Case 11, are active in two of three businesses in which Company X is also active. Case 10 is active in both the brand building of wine and in the brand building of spirits. Case 11 is active in both the wholesale of liquor and the brand building of spirits. The goal of this research is to explain differences amongst the financial performance of those businesses.

Wholesalers of liquor	Brand building wine	Brand building spirits
Case 11	Case 16	Case 2
Case 12	Case 17	Case 3
Case 13	Case 18	Case 4
Case 14	Case 19	Case 5
Case 15	Case 20	Case 6
	Case 21	Case 7
	Case 22	Case 8
	Case 23	Case 9
	Case 24	Case 10
	Case 10	Case 11

Table 1. *Industry competitors of Company X.*

Wholesalers of liquor. Case 14 and Case 13 are, like Company X, family-owned businesses[1]. Therefore, it is interesting to examine whether these firms show some comparable financial results. Furthermore, there are age differences. Some businesses operate over 150 years, whereas others operate for the past thirty years. Therefore, this research will control for firm age[2].

Brand building wine. Also, within brand building wine some competitors are family-owned businesses, such as Case 20, Case 21 and Case 23[3]. Others have different ownership structures, which makes it interesting to compare whether there are differences between ownership structure and the related financial performance.

[1] Retrieved from Confidential (April 22, 2020) and Confidential (July 8, 2020)
[2] Retrieved from Confidential (July 8, 2020), Confidential (July 8, 2020), Confidential (July 8, 2020), Confidential (July 8, 2020) and Confidential (July 8, 2020)
[3] Retrieved from Confidential (April 22, 2020) and Confidential (April 22, 2020) and Confidential (April 22, 2020)

Brand building spirits. Case 3 is owned by two shareholders[4]. Case 4 is a subsidiary of a family-owned business[5]. Other family-owned businesses are Case 5 and Case 6[6]. Again, it shows the importance of examining differences in ownership structure. Furthermore, differences are found in the number of employees and years since inception. The number of employees ranges from 50 to 80+. Age of the businesses ranges from 30 years till over 300 years.[7] Therefore, the number of employees and the age of the business can be taken into account.

Overall, there can be seen that there are quite some differences in firm characteristics amongst the competitors. In the remainder of the paper, this will be extended, and there will be examined whether these differences can create a competitive advantage and explain superior financial performance.

1.4. Outline of the thesis

The remainder of this paper is organized as follows. Chapter 2 will introduce the theoretical framework. There will be elaborated on financial performance and how it is related to competitive advantage. Moreover, the firm characteristics synergy, ownership and diversity will be explained and elaborated on. Chapter 3 will introduce the research design, sample, measurement, data collection and data analysis strategy. Chapter 4 will focus on the results. In this chapter, first, descriptive statistics will be described in a descriptive multiple-case study. Then, a cross-case comparison will take place, after which the PLS regression analysis will be performed. This will be followed by a robustness test. In Chapter 5, the conclusion will be made and a discussion will follow. Thereafter, references and appendices can be found.

[4] Retrieved from Confidential (April 22, 2020)
[5] Retrieved from Confidential (April 22, 2020)
[6] Retrieved from Confidential (April 22, 2020) and Confidential (April 22, 2020)
[7] Retrieved from Confidential (July 8, 2020), Confidential (July 8, 2020) and Confidential (July 8, 2020)

2. Literature review

This research aims to find firm characteristics that can create or cause a competitive advantage in the liquor industry. This competitive advantage can, in turn, increase the financial performance of firms. Therefore, this chapter will first focus on financial performance and its definition. Second, there will be elaborated on competitive advantage and its relationship with financial performance. Lastly, the characteristics that, according to the literature, can cause superior financial performance will be discussed. Based on the literature, hypotheses will be formed.

2.1. Financial performance

First, there will be spoken about financial performance. Various definitions were found, and some of them will be elaborated on in this chapter. Moreover, there was found that financial performance has both a return side and a risk side, who have a negative relationship according to the Bowman paradox (Bowman, 1980). On both will be elaborated.

First, a few definitions of financial performance will be given. Some refer to it as the combination of tangible and intangible financial and non-financial resources that achieve the organization's financial goals (Agyabeng-Mensah, Afum, & Ahenkorah, 2020). Others define it as the achievement of financial goals compared with a firm's primary competitors (Cao & Zhang, 2011). Or as the sources of fund generated from a firm's operating activities (Ayranci, 2014). In addition, financial performance also looks at the financial effectiveness and financial efficiency in realizing the financial goals. Financial effectiveness refers to 'the ability of organizations to use the proper choice of activities, efforts, initiatives, strategies and/or policies to generate long-term and sustainable financial performance' (Omondi-Ochieng, 2019, p. 328). Financial efficiency refers to the minimization of financial waste by optimally allocating and using financial resources (Omondi-Ochieng, 2019).

Overall, financial performance can be seen as a successor indicator overviewing a firm's financial condition and it can indicate the firm's financial performance of a next period (Savitri, 2018; Shaferi, Wahyudi, Mawardi, Hidayat, & Puspitasari, 2020).

2.1.1. Return

As mentioned earlier, according to Bowman (1980), a firm's financial performance consists of both return and risk. An explanation of return will therefore follow in this section. In the next section, the risk part will be explained.

Return often refers to accounting ratios such as ROA and ROE or a market-based measure such as Tobin's Q. The first looks at the profitability of firms and are often used for evaluating managers performance and are useful for potential creditors and investors (Gaver & Gaver, 1998; Lee & Li, 2012). The latter looks at the market value of firms. It is a market-based measure which is long-term oriented and reflects investors' expectations about future profits (Delmas, Nairn-Birch, & Lim, 2015; Rassier & Earnhart, 2010). Return thus refers to the profitability over a given period or the increased market value. It is about wealth generated.

When examining return, it is important to consider both the accounting-based and market-based ratios (Murphy, Trailer, & Hill, 1996). However, this research contains only private companies and therefore only the accounting-based ratios will be considered.

2.1.2. Risk

Financial performance depends on both returns and risk. The financial risk is the risk related to a firm's financial position and how assets and liabilities are managed. Moreover, risk can refer to solvability, interest rate and liquidity. The first, solvability, is the ability of a firm to meet its long-term debts and

financial obligations (Cook, Fu, & Tang, 2014). Solvency risk refers to how much of the total assets are financed by long-term debt[8]. The second, interest rate risk, refers to the loss of a potential investment when interest rates change. It is about the return invested money yields[9]. The last, liquidity risk, refers to the ability to meet the short-term debt[10]. A loan default, for instance, can increase the liquidity risk due to less cash inflow and depreciation it triggers (Dermine, 1986). On the other hand, risk can also refer to the volatility or variance of return. This last type of risk will not be included in this research, because it is only applicable to public companies who are not included in this research.

The current ratio is an example of a liquidity ratio. The current ratio gives information about how short-term debt can be paid off with current assets. When using the current ratio to measure risk, it significantly and positively influences the return. Thus, an increase in the current ratio increases a firm's financial performance (Alshubiri, 2015; Durrah, Rahman, Jamil, & Ghafeer, 2016).

The debt ratio is a solvability ratio. Using a debt ratio for financial leverage, it appears that ROA decreases when increasing a firm's risk in terms of debt (Ahmed & Afza, 2019; Alshubiri, 2015; Le & Phan, 2017; Sakr & Bedeir, 2019; Sheikh & Wang, 2013; Vătavu, 2015). Financial leverage also referred to as the capital structure of a firm, gives information about the debt relative to the total assets of a firm. The negative relationship between financial risk in terms of a debt ratio and return supports the pecking order theory while rejecting the Modigliani and Miller debt irrelevance theory. The latter suggests that the choice between debt and equity does not affect a firm's performance (Sheikh & Wang, 2013). The pecking order theory states that firms prefer internal funds first, then debt and then new equity, because internal funds are less expensive (Ahmed & Afza, 2019). In some countries, interest rates are very high, making it a burden for firms and thereby decreasing the financial performance (Le & Phan, 2017). Furthermore, an increase in debt can increase the influence of the lender, which limits the manager's ability to manage the firm (Sheikh & Wang, 2013). However, one researcher mentions that total debt ratio is positively related to ROA. Higher debt ratios can lead to increasing tax shields or cost of debt can be lower than the cost of equity (Abdullah & Tursoy, 2019). Moreover, it can create awareness amongst managers to focus on profitable investments (Abdullah & Tursoy, 2019).

Summarizing, the financial performance consists of both risk and return. An increase in risk in terms of debt ratio is negatively related to the return, while the current ratio is positively related to the return. Therefore, a mediator relationship can be established between firm characteristics, return, risk and overall financial performance, illustrated in Figure 2. This research will examine both risk and return and will examine whether certain firm characteristics lead to improved financial performance. Elaboration on how this will be examined can be read in Chapter 3.

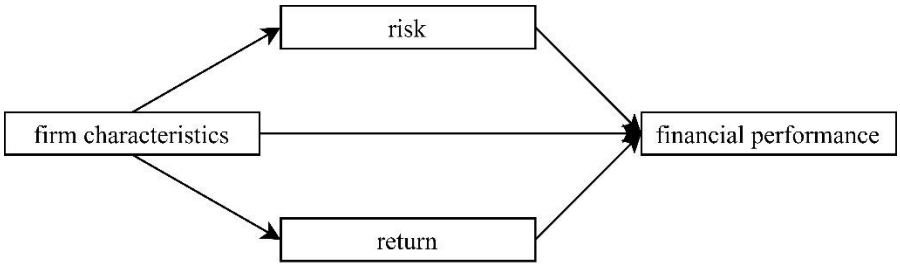

Figure 2. *Expected mediator relationship risk and return.*

[8] Retrieved from: https://www.investopedia.com/terms/s/solvency.asp (November 25, 2020)
[9] Retrieved from: https://www.investopedia.com/terms/i/interestraterisk.asp (November 25, 2020)
[10] Retrieved from: https://www.investopedia.com/terms/l/liquidityrisk.asp (November 25, 2020)

2.1.3. Defining financial performance

So overall there can be concluded that risk influences a firm's return. So, when analyzing a firm's financial performance is it important to understand the risk-return relationship and take this into account. One should focus both on the combination of accounting-based performance and financial risk. Therefore, during this research, the following definition of financial performance will be used:

Financial performance is a successor indicator of the performance of a firm in terms of both return and risk variables for the year 2017 and 2018.

Elaboration on this will follow in Chapter 3, Methodology. In Chapter 3.4.1., there will be explained that there are some models who take into account both risk and return when examining financial performance. An example of such a model is the Zmijewski model, which measures financial performance as a combination of the ROA, the current ratio and the debt ratio. This model thus takes into account return, liquidity risk and solvency risk.

2.2. Financial performance and competitive advantage

After focusing on financial performance and the definition, there will now be elaborated on the relation with a competitive advantage. In the literature, there was found that financial performance and competitive advantage are closely related. Therefore, in this section, there will be elaborated on how competitive advantage can be achieved and how it is related to a firm's financial performance.

How to achieve a competitive advantage

A competitive advantage is an advantage a firm has over its competitors in the industry. It can be achieved by creating more valuable activities or assets than competitors (Porter, 1998). It is retrieved from a firm's internal strengths and weaknesses. Some researchers mention that these internal strengths and weaknesses can refer to a firm's internal resources and capabilities. These are financial, physical, human and organizational assets that are used to develop, manufacture and deliver products or services to a firm's customers. Most important is that these assets should be valuable, rare and costly-to-imitate to create a competitive advantage (Barney, 1995; Newbert, 2008). Other researchers mention that the factors for competitive advantage are unique characteristics, value creation, strategy, knowledge, human resource, information and technology, and customers orientation (Dubey, Goel, & Sahu, 2013; Moustaghfir, 2009). Competitive advantage is created when resources of the firm create an output for which customers are willing to pay more than the costs of the inputs required to use these resources (Miller, Eden, & Li, 2018). All are in accordance with the resource-based view (RBV). However, a firm's competitive advantage is not only explained by the RBV, but also by industrial organization economists. These economists relate a firm's competitive advantage to a firm's superior market position. The latter helps to attain a temporary competitive advantage, whereas the possession of unique, valuable and rare resources and (management) capabilities attained by a superior market position can help to achieve sustainable competitive advantage. Such a sustainable competitive can lead to superior financial performance (Huang et al., 2015; Tang & Liou, 2010). And next to the superior market position, also product attribute, superior resources, firm's orientation, relationship development and organizational learning are factors to create a sustainable competitive advantage (Dubey et al., 2013). Overall, firms should not underestimate the impact of organizational factors rather than industry, market share and strategy in creating a sustainable competitive advantage (Powell, 1992). Summarizing, it is thus important to possess a superior market position and have the right organizational factors, which in turn can help to attract resources and capabilities creating a sustainable competitive advantage.

The relation between firm characteristics, competitive advantage and financial performance

In the literature, evidence was found that competitive advantage is a mediator between firm characteristics and firm performance. Newbert (2008) examined the relationships between valuable and rare firm resources and capabilities and competitive advantage. He also examined the relationship with financial performance. The results suggested that the valuable and rareness of the resource-capability combinations that a firm exploits are positively related to a firm's competitive advantage. In turn, this competitive advantage is positively related to a firm's financial performance. Thus, the relationship between a firm's resources and capabilities on the one hand and financial performance, on the other hand, is mediated by competitive advantage (Newbert, 2008). Sigalas (2015) and Sigalas & Papadakis (2018) found the same relationship with a sustainable competitive advantage. Their research found that a sustainable competitive advantage can significantly and positively affect the likelihood of achieving and generating superior financial performance (Sigalas, 2015; Sigalas & Papadakis, 2018).

Applying it to the case of Company X, it is thus important to first attain a superior market position and attain superior characteristics. It is important to achieve or possess more valuable activities or assets (i.e. firm characteristics) that its industry peers. These activities or assets can help Company X to create a sustainable competitive advantage, which in turn can generate superior financial performance for Company X.

An example to illustrate is CSR. Whereas many researchers found a positive relation between CSR and firm performance, it appeared that this positive link is due to competitive advantage (Cantele & Zardini, 2018; Saeidi, Sofian, Saeidi, Saeidi, & Saaeidi, 2015). The same results were found for Total Quality Management (TQM). TQM has a strong positive effect on competitive advantage, which ultimately leads to a more significant impact on a firm's financial performance (Agus & Sagir, 2001). Whereas these characteristics are not examined during this research, it shows that competitive advantage can be the mediator between specific firm characteristics and a firm's financial performance. And whereas it is difficult to examine a competitive advantage, it is, due to the mediator relationship, possible to examine firm characteristics leading to financial performance can be examined. Therefore, in this research, the relationship between firm characteristics and financial performance will be tested.

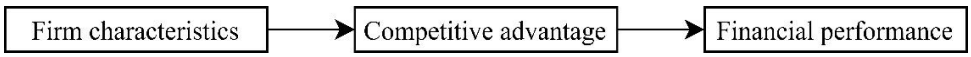

Figure 3. *Expected mediator relationship between certain firm characteristics and financial performance.*

2.3. Firm characteristics

This section will extend on the creation of superior financial performance. Firm characteristics related to a firm's financial performance will be introduced and elaborated on. Those characteristics relate to the synergy model, ownership and diversity.

2.3.1. Synergy model and financial performance

This section will elaborate on the various theories related to the synergy model and how this contributes to creating a competitive advantage. As mentioned before, a synergy occurs when 'two or more units or companies to generate greater value working together than they could working apart' (Goold & Campbell, 1998, p. 133). Such an intra-business synergy focuses on internal value creation in a multi-unit organization (Ansari, Schouten, & Verwaal, 2006). Other refer to it when a firm sells products to the same customers across products markets and call it a customer-specific synergy (Schmidt, Makadok, & Keil, 2016). Another form is diversification by spreading risks (Oladimeji & Udosen, 2019; Patrick, 2012). Besides, Goold & Campbell (1998) mention other forms of synergies. The first, shared know-how focuses on the sharing of knowledge and skills. Shared tangible resources refer to the sharing of

physical assets and resources. Coordinated strategies refer to the alignment of strategies. Pooled negotiating power focuses on the combining of purchases. Vertical integration coordinates the flow of products and services between business units. The last, combined business creation, focuses on the creation of new businesses facilitated by the knowledge of various units (Goold & Campbell, 1998). This paper focuses on the synergy created by different business units so the focus will be on the first four.

First, I will elaborate on a customer-specific synergy. This form of synergy is achievable from the demand-side because customers are willing to pay for collocated products or services (Ye, Priem, & Alshwer, 2012). However, customers-specific synergy can also result in lower profitability due to increased price rivalry triggered by customer preference structure (Schmidt et al., 2016). Nevertheless, especially in a low-technology industry, it is important to maintain relationships with customers to improve firm performance (Yang & Kang, 2008). Therefore, there can be assumed that in a low-technology industry like the liquor market, a customer-specific synergy will increase a firm's financial performance.

The second form of synergy relates to diversification. Diversification can create synergy by spreading its risks across several business activities. However, research does not agree on the relationship between synergy caused by diversification and firm performance. Some found that diversified organizations outperform undiversified organizations, especially related diversified firms who focus on exploiting operating synergy (Ensign, 1998; Oladimeji & Udosen, 2019; Patrick, 2012). Fortunately, diversified firms tend to combine related businesses, because it makes it easier to enable the sharing of resources and knowledge and thus to create synergy (Sakhartov, 2017). However, this positive relationship between synergy and performance is especially true for those firms who implemented an intermediate level of diversification (Alesón & Escuer, 2002).

The third, shared know-how or knowledge synergy can increase performance. Firms exploiting a complementary set of related knowledge resources across its business units show better performance and create competitive advantage (Pablos, 2006; Tanriverdi & Venkatraman, 2005). Therefore, there can also be assumed that a synergy created by shared knowledge increases a firm's financial performance.

The fourth form of synergy is related to shared tangible resources. According to the resource-based view, complementary and shared resources can create a synergy and thus improve performance. However, resource combinations leading to synergistic performance were only found for the low-technology industry (Yang & Kang, 2008). Besides, to create a potential synergy, resources must be critical, shared within capacity constraints, and flexible and substitutable across outputs (Gruca, Nath, & Mehra, 1997). However, as the liquor industry is a low-technology industry, there can be assumed that the relationship between synergy and firm performance is positive.

Overall, there can be summarized that various factors can create and/or cause synergy, all related to numerous business units which together create greater performance than separated. Therefore, the first hypothesis is:

Hypothesis 1: *The existence of synergy in a firm increases financial performance.*

2.3.2. Ownership and financial performance

Various ownership structure exists in businesses. This theoretical section will focus on the following ownership structures: family ownership, managerial ownership and foreign ownership.

Family ownership

First, family ownership will be discussed. Family ownership occurs when the firm's equity is (partly) owned by the founding family (Chu, 2011; Srivastava & Bhatia, 2020).

The literature proposes that family-owned businesses influence financial performance positively (Chu, 2009; Savitri, 2018). This effect increases linearly with the percentage of family members on the board (Hussain, Ali, Thaker, & Ali, 2019; Pacheco, 2019). Both in undeveloped institutional environments and emerging markets, family firms outperform non-family firms (Liu, Yang, & Zhang, 2012; Wang & Shailer, 2017). Besides, both in good economic and difficult economic times, family firms outperform non-family firms (Hansen, Block, & Neuenkirch, 2020). Underlying views are that family-owned businesses are better in monitoring managers and aligning interests of minority and majority shareholders (Wang & Shailer, 2017). Furthermore, family-owned businesses make different strategic decisions due to their familial obligations which leads to better performance in the long-term (Kachaner et al., 2012). Family firms have a more conservative attitude which makes them less risky in managing the firm (Ntoung, de Oliveira, de Sousa, Pimentel, & Bastos, 2019). In addition, in economic difficult times, family-owned firms have stronger interest and incentives to prevent their firm from going bankrupt. They use their wealth or invested reserves of good times to help their firm in economic difficult times. In other words, they are more reserved in using debt financing (Hansen et al., 2020; Ntoung et al., 2019).

These positive effects between family-ownership and financial performance hold especially for SME's and young firms when the founder is still in charge. Furthermore, active family management and control increase this effect, while outside managers involvement decreases this effect (Chu, 2011; González, Guzmán, Pombo, & Trujillo, 2012). However, some also found a negative relationship between family ownership and performance, but a positive relation to sales growth (Thomsen & Pedersen, 2000).

Overall, the literature mentions a positive effect between family ownership and firm performance. Only a few found a negative relationship. Therefore, this paper will hypothesize a positive relationship.

Managerial ownership

Firms can also be managerially owned. Managerial ownership can be explained as the percentage of outstanding shares held by executive directors (Cheng, Su, & Zhu, 2012). Or as the percentage of equity in the hands of the top management team (Alessandri & Seth, 2014).

Looking at the relationship between managerial ownership and financial performance, it appears that managerial ownership shows high levels of profitability and increased financial performance (Alabdullah, 2018; Lappalainen & Niskanen, 2012; Li, Moshirian, Nguyen, & Tan, 2007; Uwuigbe & Olusanmi, 2012). The underlying reason for this relationship is that higher insider ownership aligns the interests of managers and shareholders (Rose, 2005). However, the industry has an impact on this relationship (Cui & Mak, 2002). Besides, in a concentrated ownership environment, too high levels of managerial ownership can negatively affect performance due to the extraction of private benefits. But this only counts for concentrated ownership and not for dispersed ownership (Perrini, Rossi, & Rovetta, 2008). So overall, a positive relationship between managerial ownership and a firm's financial performance can be expected.

Foreign ownership

Foreign-owned firms are in the hands of foreign investors or foreign owners. In the literature, there was found that foreign ownership is significantly positively related to a firm's financial performance (Kuntluru, Muppani, & Khan, 2008; Uwuigbe & Olusanmi, 2012; Wang, Wu, Yang, Li, & Liu, 2019).

However, only corporate foreign ownership is significantly related to performance. No statistically evidence was found for foreign institutional ownership (Douma, George, & Kabir, 2006; Gu, Cao, & Wang, 2019). This positive effect is due to the fact that foreign corporate owners have, on average, a larger shareholding, a higher degree of commitment, larger needs to monitoring and more long-term involvement (Douma et al., 2006). Furthermore, there is a higher level of managerial efficiency and technical skills as well as the state of technology that foreign ownership brings (Uwuigbe & Olusanmi, 2012).

Whereas some researchers also found a negative relationship between foreign ownership and firm performance, it appears that this is due to lower attraction and a higher risk of firms in a given home country (Alabdullah, 2018). Therefore, in the Dutch liquor market, with an attractive economic climate, there can be assumed that there is a positive relationship between foreign ownership and a firm's financial performance.[11]

Hypotheses

Concluding, various forms of ownership can, according to the literature, create a competitive advantage, which increases financial performance. Remarkably, all ownership structures are hypothesized to be positive, because the effect is relative, the literature did not provide evidence to hypothesize another direction. Therefore, all hypotheses will be tested in a positive direction.

The second hypothesis is:

Hypothesis 2: *Ownership structure has an impact on financial performance.* This will be examined for the following three aspects:

Hypothesis 2a: Family-ownership increases financial performance.

Hypothesis 2b: Managerial ownership increases financial performance.

Hypothesis 2c: Foreign corporate ownership increases financial performance.

2.3.3. Diversity and financial performance

Diversity in the board and with decision-makers can take place in various forms. This section will elaborate on the relationship between diversity and financial performance.

Gender diversity

Research on gender diversity does not give a unilateral picture. Many researchers mention that board gender diversity and financial performance are, in accordance with the agency theory and resource dependency theory, significantly positively related (Badal & Harter, 2014; Duppati, Rao, Matlani, Scrimgeour, & Patnaik, 2020; Hansen et al., 2016; Reguera-Alvarado, de Fuentes, & Laffarga, 2017; Scholtz & Kieviet, 2018). Specifically, when testing for causality, gender diversity affects performance and not the opposite (Vafaei, Ahmed, & Mather, 2015). And whereas many researchers do find the positive relationship between female board members and financial performance, there is no agreement on the number of female board members and their influence on financial performance. Some found that the positive relationship is present until the breakpoint of between 20% and 30% females, whereas others found no relationship between the number of female board directors and financial performance (Egerová & Nosková, 2019; Khan & Subhan, 2019; Liu et al., 2014; Nguyen, Locke, & Reddy, 2015). Besides, there was argued for a majority of female professional directors who are no family of male directors to

[11] Retrieved from: https://www.rijksoverheid.nl/actueel/nieuws/2020/02/19/recordaantal-buitenlandse-bedrijven-kiest-voor-nederland (June 30, 2020)

enhance the positive effect further (Duppati et al., 2020). So, it is important to find the right balance between male and female on the board (Campbell & Mínguez-Vera, 2008; Egerová & Nosková, 2019; Gordini & Rancati, 2017). Furthermore, it appears that this effect is only significant for firms with low or moderate firm size (Li & Chen, 2018). And interestingly, this positive relationship can be reduced when mandating gender quotas in countries with strong cultural resistance to gender diversity (Low, Roberts, & Whiting, 2015).

The literature provides numerous arguments for a positive relationship between increased female representation on the board and a firm's financial performance. There is argued that gender diversity improves monitoring, that it brings more and new perspectives in the board, it enhances the collaboration with managers and improves relationships with stakeholders (Ahmadi, Nakaa, & Bouri, 2018; Solakoglu & Demir, 2016). In addition, female representation moderates excessive firm risk which, in turn, increases a firm's financial performance (Hutchinson, Mack, & Plastow, 2015).

However, another (small) group found no or a slightly negative relationship with financial performance. For example, some researchers found a positive significant relationship between the number of women on a board and ROA, but no relationship with Tobin's Q (Carter, D'Souza, Simkins, & Simpson, 2010; Singh, Singhania, & Sardana, 2019). Others found weak evidence for a negative relationship between gender diversity and firm returns, but in some industries also a positive relationship (Chapple & Humphrey, 2014). However, there can be assumed that those weak relationships can be explained by a low threshold of female directors. So, these researchers found no evidence for the token status theory. But representation should go beyond tokenism, referring to a critical mass theory, which could not be examined due to poor women representation on boards (Singh et al., 2019; Solakoglu & Demir, 2016). Therefore, the evidence for a positive relationship with gender diversity is stronger. Moreover, this study is interested in accounting-based financial performance and not in a market-based performance measure such as Tobin's Q. So, a positive relationship between gender diversity and firm financial performance can be hypothesized.

National diversity

A positive relationship was found with national diversity and ROA, but no relationship was found with Tobin's Q (Carter et al., 2010). Others found even negative financial outcomes and performance due to diversity (Churchill & Valenzuela, 2019; Churchill, Valenzuela, & Sablah, 2017; Scholtz & Kieviet, 2018). These negative outcomes can be a consequence of institutional quality, trust, networks and discrimination (Churchill & Valenzuela, 2019). In some countries, there is also a shortage of qualified minority directors. The qualified directors then receive multiple appointments and thus become too busy to influence a firm's performance positively (Scholtz & Kieviet, 2018).

But some also found a positive relationship between national diversity and financial performance (Hassan & Marimuthu, 2018; Shukeri, Shin, & Shaari, 2012; Smulowitz, Becerra, & Mayo, 2019). This positive relationship can be explained by innovation, which is related to financial performance (Churchill, 2019). Furthermore, this positive relationship was especially true for businesses who are located in diverse and multicultural communities. So, it is more about matching organizational and community diversity (Gonzalez, 2013; Salloum, Jabbour, & Mercier-Suissa, 2019). In a multicultural community such as the Netherlands, there can thus be hypothesized that national diversity will increase a firm's financial performance.

Hypotheses

Based on the abovementioned, I expect that diversity can influence financial performance. The positive relationship is associated with greater effectiveness of the board (Erhardt et al., 2003). However, this depends on the kind of diversity. Therefore, the third hypothesis is:

Hypothesis 3: *A diversified board increases a firm's financial performance.*

Hypothesis 3a: Gender diversity increases financial performance.

Hypothesis 3b: National diversity increases financial performance.

2.4. Summary of hypotheses

The hypotheses developed in this chapter are summarized in the following figure:

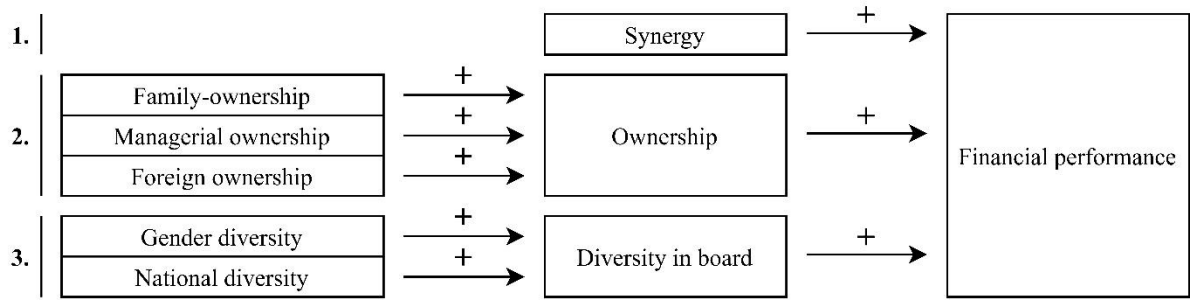

Figure 4. *Hypotheses*

3. Methodology

In this section, there will be elaborated on the chosen methodology. First, there will be elaborated on the research design, which is in this study a multiple-case study. Then, the selection procedure and sample characteristics will be discussed, followed by an elaboration on the measurement of the various variables. Finally, the data collection procedures and data analysis strategy will be explained.

3.1. Research design

3.1.1. Multiple-case study

This section will focus on the general design of this research. The goal of this research is *"To establish characteristics that can cause a competitive advantage in the Dutch liquor industry."* Financial performance will be used to measure superior performance. Superior performance is related to competitive advantage, which is explained in Chapter 2.2. This study will be performed as a case study. Case studies are particularly useful when examining a contemporary phenomenon in a real-life context and when the boundaries between the phenomenon and context are not evident (Yin, 1981a). According to Gustafsson (2017) and Yin (1981a), there can be distinguished between a single case study and a multiple-case study. The first focuses, as the name suggests, on a single case and can be used to test a theory. Benefits are that it is less time-consuming, high-quality theory can be created, the exploring subject can have a deeper understanding and it richly describes the existence of a phenomenon. The latter, a multiple-case study, studies multiple cases to understand differences and similarities between the cases. It can be used when the same phenomenon exists in different situations. It can, therefore, provide the literature with important influences from those differences and similarities. Furthermore, findings from the results are strong and reliable and it allows a wider discovering of theoretical evolution and research questions (Gustafsson, 2017; Yin, 1981a). This study attempts to find causes leading to superior financial performance in the Dutch liquor industry. Therefore, this study will be a multiple-case study. In Chapter 4.1.1., a further elaboration of the different cases can be found.

A multiple-case study can be performed using either quantitative data, qualitative data or a combination of both (Yin, 1981b). Furthermore, case studies can be exploratory, descriptive and explanatory. Due to the financial background of the research question, this multiple-case study will be quantitative. Quantitative data such as financial results and firm characteristics will be used to analyze the results. Besides, the study will be an explanatory case study. An explanatory case study can be used for causal investigations and will focus on an accurate rendition of the facts of the case, some consideration of alternative explanations of these facts and a conclusion based on the single explanation that appears most congruent with the facts (Tellis, 1997; Yin, 1981b).

3.1.2. Descriptive analysis, correlational analysis and statistical analysis

Various techniques can be used to perform a quantitative and explanatory multiple-case study. According to Mills, Durepos and Wiebe (2012), both descriptive analysis and statistical analysis can be used in case study research. Therefore, in this study, first, a descriptive analysis will be performed. In this descriptive analysis, Company X will be compared with competitors. The goal of the descriptive analysis is to make conclusions interesting for Company X. Afterwards, a statistical analysis will take place to see whether the results can be underpinned with a statistical technique. First, a bivariate Pearson's Correlational Analysis will search for correlation. A correlational analysis gives more information about the strength of the relationship between certain firm characteristics and the financial performance of firms. But, based on the literature, expectations are that it is hard to find significance in the correlational analysis with a small sample. Therefore, additional statistical techniques will be considered. A statistical multivariate technique that is accurate and trustworthy should be used. These multivariate analysis techniques are statistical techniques that simultaneously analyze multiple

measurements on each individual under investigation (Abdi, 2003; Haïr Jr., Black, Babib, & Anderson, 2010; Kramer, 1978; Mills, Durepos, & Wiebe, 2012).

Multivariate techniques can be both dependence and interdependence. In the first, a dependent variable or set of dependent variables will be explained by a set of independent variables, while the latter does not distinguish between independent and dependent variables. This research does distinguish between dependent and independent variables, and therefore only dependence multivariate techniques will be considered. Moreover, financial performance is based on quantitative data, and therefore only techniques involving metric dependent variables will be discussed (Haïr Jr. et al., 2010; Kramer, 1978).

Dependence multivariate techniques involving metric dependent variables are:

1. Multiple regression analysis;
2. Conjoint analysis;
3. Canonical correlation;
4. Structural equation modelling (SEM);
5. Partial least squares (PLS) regression (Abdi, 2003; Haïr Jr. et al., 2010; Kramer, 1978).

The first, multiple regression, can be used when one dependent variable is involved and two or more independent variables are involved. It is a statistical technique used to analyze the relationship between those dependent and independent variables. The goal of multiple regression analysis is to predict changes in the dependent variable by changing the independent variables. Moreover, it is the most widely used statistical dependence technique which applies to every facet of business decision making. However, it requires large sample sizes and when multicollinearity exists, it might not be suitable anymore (Abdi, 2003; Haïr Jr. et al., 2010). This research contains a very small sample, therefore multiple regression will not be used as the main statistical technique.

The second, conjoint analysis, is a technique developed to understand how respondents develop preferences for certain objects. It used for evaluating objections and is especially used in new product development or service development (Haïr Jr. et al., 2010). The goal of this research is to explain the relationship between firm characteristics and superior financial performance. Thus the evaluating technique conjoint analysis is not suitable for this research.

The third, canonical correlation, is an extension of multiple regression analysis and involves multiple dependent variables. The goal of canonical correlation is to correlate simultaneously several dependent and several independent variables. The highest correlations are used to find new pairs of variables (Abdi, 2003; Haïr Jr. et al., 2010; Hooper, 1959; Rupnik & Shawe-Taylor, 2010). As it requires at least two variables for each set, which is not the case for the dependent variable in this research, it cannot be applied in this research (Thompson, 2005).

The fourth, SEM, provides the appropriate and most efficient estimation technique for a series of separate multiple regression equations estimated simultaneously. It is especially useful when testing theories that contain multiple equations involving dependence relationships. However, this technique also requires larger sample sizes, and therefore it cannot be applied as the main analysis technique in this research (Haïr Jr. et al., 2010).

The last technique, PLS regression, is a combination of principal component analysis (PCA) and multiple linear regression (MLR) and can be used to predict more than one dependent variable. This technique addresses the multicollinearity problem of MLR by computing latent factors. Besides, it is one of the few techniques which can be used when the sample size is small (Abdi, 2003; Haïr Jr. et al., 2010; Salkind, 2011). When the sample size is smaller than or close to the number of variables, it can

still produce useful, accurate and robust results (Carrascal, Galván, & Gordo, 2009; Cramer, 1993; Pirouz, 2006). This research contains a small sample and therefore PLS can be suitable for this research. Besides, PLS is particularly useful when the emphasis is on prediction of data rather than explanation of the covariance matrix (Haïr Jr. et al., 2010). This research aims to predict whether certain firm characteristics increase firm performance. PLS seems to fit this aim. Therefore, PLS will be used in this research to test the hypotheses for this multiple-case study and to see whether the results agree with the descriptive multiple-case study.

3.1.3. Robustness test

In addition to the descriptive multiple-case study and the PLS regression, a robustness test will be performed to test whether the PLS regression analysis was performed well. Robustness tests can test the sensitivity of the results when e.g. the methods or the variables used are changed (Duffhues & Kabir, 2008). Moreover, it reduces the possibility that the results are based on chance (Lu & White, 2014). When the results of the regression remain the same under different circumstances, the results are robust.

The robustness test that will be performed is a PLS analysis with another measurement of financial performance. In the main statistical PLS analysis, financial performance will be measured using the Zmijewski score for financial performance. Further explanation can be read in Chapter 3.4.1. The second robustness test will use ROA, the debt ratio and the current ratio individually as a replacement for the Zmijewski model. As mentioned before, ROA, debt ratio and current ratio are other financial performance measures often used in the literature. ROA is a return measure used by researchers such as Ahmadi et al. (2018), Alessandri and Seth (2014), Carter et al. (2010), Cheng et al. (2012), Chu (2009), Douma et al. (2006), González et al. (2012), Lappalainen and Niskanen (2012), Ntoung et al. (2019), Pacheco (2019), and Thomsen and Pedersen (2000). The debt ratio and current ratio are risk measures, influencing the financial performance as has been explained in Chapter 2.1. Several researchers have used leverage ratios as control variables. Examples are Alessandri and Seth (2014), Campbell and Mínguez-Vera (2008), Gordini and Rancati (2017), and Thomsen and Pedersen (2000). Therefore, also the debt ratio and current ratio will be used in the robustness test.

3.2. Selection

In this section, there will be elaborated on the samples selected for this research. Table 2 contains the samples selected for this research.

Wholesalers of liquor	Brand building wine	Brand building spirits
Case 11	Case 16	Case 2
Case 12	Case 17	Case 3
Case 13	Case 18	Case 4
Case 14	Case 19	Case 5
Case 15	Case 20	Case 6
	Case 21	Case 7
	Case 22	Case 8
	Case 23	Case 9
	Case 24	Case 10
	Case 10	Case 11

Table 2. *Sample*. The firms coloured red are not considered in this research due to lack of data, the black coloured firms are considered in this research.

Two types of sampling do exist: probability sampling and non-probability sampling. The first allows the investigator to generalize the findings of the sample to the target population, while in the latter the probability that a subject is selected is unknown and results in selection bias in the study (Acharya,

Prakash, Saxena, & Nigam, 2013). One form of non-probability sampling is purposive sampling. It is a sampling technique in which there will be relied on own judgement when choosing samples. Expert selection is one form of purposive sampling, which will be applied in this research. When applying expert selection, a subject expert picks the units of analysis (Etikan, Musa, & Alkassim, 2016; Vehovar, Toepoel, & Steinmetz, 2016). In this research, Company X is the subject expert and picked the units listed in Table 2. These firms were selected because they are direct competitors of Company X in one of Company X's specific activities. However, from thirteen firms (including Company X), data could be collected. Therefore, the red companies in Table 2 are removed from the study and the black companies form the final sample.

3.3. Validity and reliability

This chapter will focus on the validity and reliability of the research. While doing research, four criteria should be implemented to assess the rigour of field research: internal validity, construct validity, external validity and reliability (Gibbert, Ruigrok, & Wicki, 2008). The validity criteria refer to sample biases, whereas reliability refers to sampling errors.

The first criteria, internal validity, refers to the causal relationships between variables and results and whether these are not affected by other factors. To enhance internal validity, a clear research framework should be formulated. For this research, the research framework can be found in Chapter 2 and 3. The effect of certain firm characteristics on a firm's financial performance will be examined. The Zmijewski model, as will be explained in the next section, is an accurate measure for financial performance. Using a descriptive multiple-case study and statistical analysis, the influence of firm characteristics on financial performance will be examined. Furthermore, at the end of this research, there will be looked at possible other characteristics which can explain contrary results, when occurring. Internal validity can thus be guaranteed.

The second criteria, construct validity, refers to the quality of the conceptualization or operationalization of the relevant concept, which can be found in Chapter 3.4. Through triangulation, construct validity can be enhanced. Triangulation enables to look at the same phenomenon from different angles. This study measures financial performance using the Zmijewski model (ROA, debt ratio, current ratio). An explanation will follow in the next section. Furthermore, financial data is retrieved from both the Chambre of Commerce and LexisNexis Company Dashboard. Both, the different performance measurements in the Zmijewski model and the data collection methods, enhance the construct validity.

The third, external validity, refers to the intuitive belief that theories must be shown to account for phenomena not only in the setting in which they are studied but also in other settings. External validity can be enhanced through analytical generalization. A case study involving around four to ten cases provides a good basis for analytical generalization and thus enhances external validity. Therefore, external validity can be guaranteed in this study.

The last criteria, reliability, refers to the absence of error and replication of the study providing the same results. Careful documentation and clarification of the research procedures can enhance reliability (Eisenhardt, 1989; Gibbert et al., 2008).

3.4. Measurement

In this section, there will be elaborated on the various measurement instruments used for the dependent, independent and control variables, which can also be found in Table 3.

Variables	Measurement
Dependent variable	
Financial performance	Zmijewski score: Zmijewski = $-4.3 - 4.5X_1 + 5.7X_2 + 0.004X_3$ Where, X_1 = ROA = net income / total assets X_2 = Debt ratio = total liabilities / total assets X_3 = Current ratio = current assets / current liabilities
Independent variables	
Intra-business synergy	Presence of a synergy. Dummy variable, the value '1' if there is a cross-business synergy, '0' otherwise.
Family ownership	Presence of family-ownership. Dummy variable, the value '1' if the firm is at least 50% family-owned, '0' otherwise.
Managerial ownership	Presence of managerial ownership. Dummy variable, the value '1' if the firm is at least 50% managerial-owned, '0' otherwise.
Foreign ownership	Presence of foreign ownership. Dummy variable, the value '1' if the firm is at least 50% foreign-owned, '0' otherwise.
Gender diversity	% women on the board. [(Number of female directors or managers / total amount of board members of the management team) * 100%]
National diversity	% of non-Dutch directors. [(Number of directors or managers with no Dutch nationality / total amount of board members of the management team) * 100%]
Control variables	
Firm size	Natural logarithm of a firm's total assets in euro's in the year 2018.
Firm age	Years since inception in the year 2018.
Firm assets	Average of the firm's total assets in euro's in the year 2018.
Employees	The number of employees in the year 2018.

Table 3. *Measurement of the variables.*

3.4.1. Dependent variable

As mention in Chapter 2, the financial performance consists of both return and risk. This chapter will introduce how to measure financial performance. First, there will be elaborated on possible return and risk measures, after which a financial performance model is introduced allowing to measure both risk and return.

Return. First, there will be explained how the return part will be measured. In the literature, there can be read that the return side of financial performance can be measured by various measures. The first, Tobin's Q, is a market-based measure which is long-term oriented due to the inclusion of future cash flows and profitability (Delmas et al., 2015). It reflects investors' expectations of the discounted present value of future profits (Rassier & Earnhart, 2010). Advantageous is that this market-based measure is less susceptible to accounting rules and managerial manipulation (Nuber, Velte, & Hörisch, 2020; Wang & Berens, 2015). However, it is subject to investor sentiment and market anomalies (Nuber et al., 2020).

Other frequently used measures are accounting-based measures. Examples of accounting-based measures are Return on Assets (ROA), Return on Equity (ROE), Return on Investment (ROI), Return on Sales (ROS), Operating profits, Profit to sales ratio, Gross profit margin, Net profit, Net profit margin (NPM), Profit growth, Earnings per share (EPS) and Cash flow from operations (Agyabeng-Mensah et al., 2020; Ahmad, Mehra, & Pletcher, 2004; Galeazzo, 2019; Kassi, Rathnayake, Louembe, & Ding, 2019).

As mentioned before, both accounting-based and market-based measurement can measure financial performance. For good financial performance measurement, it is important to use both market-based measurements as accounting-based measurements. This makes it possible to make specific conclusions about the financial performance and the source of this financial performance (Murphy et al., 1996). However, this research entails mostly private companies and therefore the financial performance will be measured only in terms of accounting-based measurements.

Risk. As mentioned before, risk also influences the financial performance of a given firm. Various risk ratios exist: leverage, liquidity and solvency ratios. These ratios indicate how assets and liabilities are managed (Bawa & Chattha, 2013; Wani & Dar, 2014). Examples of leverage ratios are the debt-to-equity ratio, debt-to-capitalization ratio and interest coverage ratio[12]. A liquidity ratio can be the current ratio or the quick ratio[13]. Solvency ratio is a ratio itself and measures the firm's ability to meet long-term debt obligations[14].

Financial performance. To measure the combination of risk and return, a model should be used that allows measuring both. Various models do exist, of which Altman's Z-score, Zmijewski probit model and Springate are the most frequently used models. Altman's model (1968) measures financial performance and health in a tool that forecasts the probability of going bankrupt. The model is adapted for application in public manufacturing companies, non-public companies, non-manufacturing companies and corporate bonds companies. The Altman model (1968) shows an accuracy of 95%, meaning that 95% of the cases are classified correctly. The second model, Zmijewski (1984), measures the performance of debt or leverage and liquidity. This model extremely accurate with an accuracy rate of 99.5%, meaning that 99.5% of the cases are classified correctly. The last model, the Springate model (1978), determines whether a company is healthy or potentially insolvent. In addition, this model can also predict potential distress (Altman, 1968; Husein & Pambekti, 2015; Zmijewski, 1984).

Various researchers examined the accuracy, significance and precision of those four models. Wu, Gaunt and Gray (2010), for instance, examined, amongst other models, also the Zmijewski and Altman model. Their findings were that the Altman model performs relatively poorly compared to other models. Besides, they found that the Zmijewski model is most adequate during the 1970s but that the performance deteriorated during more recent periods (Wu, Gaunt, & Gray, 2010). However, according to Husein and Pambekti (2015), the Zmijewski model shows the strongest significance. By using the ROA, the debt ratio and the current ratio, it addresses profitability, solvency and liquidity. Other researchers also mention that both Zmijewski and Springate are the best early predictors of bankruptcy and thus the best predictors of financial performance (Agarwal & Patni, 2019). One study that examined amongst three other models also Zmijewski and Altman, mentioned that the Zmijewski model has the most accurate prediction (Ashraf, Félix, & Serrasqueiro, 2019). Moreover, all three Zmijewski variables are all significant predictors, whereas three out of five Altman predictors are significant predictors (Topaloglu, 2012). Thus the Zmijewski model keeps returning as an adequate and accurate predictor. Besides, it is the most commonly used model used by accounting researchers (Grice & Dugan, 2003). Despite the fact that it originally is a bankruptcy prediction model, the Zmijewski model will be used as a financial performance measurement. According to Agarwal and Patni (2019), bankruptcy prediction models such as the Zmijewski model, turn out to measure the financial performance of firms in various industries very well.

[12] Retrieved from https://www.investopedia.com/terms/l/leverageratio.asp (August 24, 2020)
[13] Retrieved from https://www.investopedia.com/terms/l/liquidityratios.asp (August 24, 2020)
[14] Retrieved from https://www.investopedia.com/terms/s/solvencyratio.asp (August 24, 2020)

Zmijewski model. As mentioned before, the Zmijewski model uses profitability, solvency and liquidity ratios. The formula is as follows:

(1) $\text{Zmijewski} = -4.3 - 4.5X_1 + 5.7X_2 + 0.004X_3$

Where, X_1 = ROA = net income / total assets
X_2 = Debt ratio = total liabilities / total assets
X_3 = Current ratio = current assets / current liabilities

When the X-score of this model is negative, the financial performance of a firm is healthy. A positive score can indicate financial troubles of firms (Djamaluddin, Putridan, & Ali, 2017).

3.4.2. Independent variables

In Table 3, the measurement for the independent variables is summarized.

Synergy. As was stated in the theory chapter, intra-business synergy is related to the number of business units, which, combined can generate greater performance. Following Patrick (2012), a dummy variable will be used to measure synergy. In this dummy variable, a '1' will be used if there is a synergy and a '0' will be used if there is no synergy. A firm thus receives the value '1' if they perform more than one activity. If a firm performs one activity, the firm receives the value '0'.

Ownership. Various ownership structures will be analyzed in this research. Whereas many researchers measure ownership as a percentage of the total ownership, this research will be using a dummy variable to measure ownership. The choice for dummy variables follows studies from Chu (2009), Hansen et al. (2020), Ntoung et al. (2019), Perrini et al. (2008), Srivastava and Bhatia (2020), and Thomsen and Pedersen (200). Therefore, the first variable, family-ownership, receive the value '1' if the firm is for at least 50% family-owned and the value '0' if this is not the case. Managerial ownership receives the value '1' if the firm is at least 50% managerial owned and the value '0' if this is not the case. Lastly, foreign ownership receives the value '1' if there the firm is at least 50% foreign-owned '0' if this is not the case.

Diversity. Diversity will be measured both in terms of gender as nationality. Previous studies used different ways to measure diversity. Some studies again use dummy variables if there is at least one women or one non-Dutch person on the board (Campbell & Mínguez-Vera, 2008; Marinova, Plantenga, & Remery, 2016; C. Rose, 2007). Other studies use the percentage of women or non-Dutch people on the board (Carter, Simkins, & Simpson, 2003; Erhardt et al., 2003; Liu et al., 2014; Low et al., 2015; Marinova et al., 2016; Miletkov, Poulsen, & Wintoki, 2017; Talavera, Yin, & Zhang, 2018). Lastly, some studies use the proportion of persons on the board who are women or non-Dutch (C. Rose, 2007). This study will measure diversity as a percentage of the total board or management team because it is the most frequently used method. The first, gender diversity, can be operationalized as the percentage of women on the board or in the management team. The second, national diversity can be operationalized as the percentage of non-Dutch people on the board or in the management team.

3.4.3. Control variables

In Table 3, the measurement for the control variables is summarized. The literature used various variables to control for. During this research, the following variables will be controlled: firm size, firm age, firm assets and the number of employees. For the control variables, data from the year 2018 will be used. Besides, the choice for these control variables is based on control variables used in the literature (Ahmed & Afza, 2019; Chu, 2011; Egerová & Nosková, 2019; González et al., 2012; Paniagua, Rivelles, & Sapena, 2018; Reguera-Alvarado et al., 2017).

3.5. Data collection and analysis

This section will elaborate on the procedures followed to collect data. Besides, this section will also focus on data analysis.

The study collects data using document analysis. Documents are retrieved from the Chamber of Commerce (KvK), the LexisNexis Company Dashboard database and the Orbis database during the period 2017 and 2018. LexisNexis Company Dashboard provides ownership information. Both Orbis and LexisNexis Company Dashboard provides information about the board members, which gives information about diversity. Furthermore, the financial performance and capital structure data can be retrieved from both the Chambre of Commerce and LexisNexis Company Dashboard. For synergy, data on the number of business units or activities will be retrieved from company websites or LexisNexis Company Dashboard. The data collected via these data sources can be found in Appendix A.

The collected data in Appendix A will be analyzed through both a descriptive multiple-case study, a correlational analysis and a PLS regression analysis, as mentioned in Chapter 3.1. In the descriptive multiple-case study, each case will be treated as a single case, which will be examined and analyzed. Then, a cross-case comparison will be performed (Mills et al., 2012). Afterwards, there will be examined whether a statistical analysis can underpin these results.

Using PLS regression, there will be established which firm characteristics can explain superior financial performance. To examine this and to test the hypotheses, the following equation was estimated:

$$(2)\ FIN\_PER_{it} = \beta_0 + \beta_1 * SYN_{it} + \beta_2 * OWN\_FAM_{it} + \beta_3 * OWN\_MAN_{it} + \beta_4 * OWN\_FOR_{it} + \beta_5 * DIV\_GEN_{it} + \beta_6 * DIV\_NAT_{it}$$

where FIN_PER is the financial performance; SYN is the synergy; OWN_FAM is the family-ownership; OWN_MAN is the managerial ownership; OWN_FOR is the foreign ownership; DIV_GEN is the gender diversity, and; DIV_NAT is the national diversity. Those variables count for firm *i* in year *t*.

In the next chapter, this analysis will take place and the results will be discussed.

4. Results

In this chapter, the results will be discussed. First, the descriptive multiple-case study will be performed. A cross-case comparison allows to compare the different cases and see which firm characteristics can explain a superior financial performance. Then, correlational analysis and a PLS regression analysis will be performed to test whether the multiple-case study results can be underpinned with statistical analysis. Based on these analyses, hypotheses will be accepted or not. Lastly, a robustness test will be performed.

4.1. Descriptive multiple-case study

This chapter will first discuss the descriptive statistics. Afterwards, each case will be discussed individually. The goal is to describe the characteristics of the sample set (May, 2018). Afterwards, a cross-comparison will take place to compare the different cases and to conclude which characteristics can explain a superior financial performance.

So first the descriptive statistics from the sample will be analyzed. Thirteen companies were included in this study. Various tables will describe the descriptive statistics of the financial performance, the firm characteristics and the control variables.

Statistics								
	N		Mean	Median	Mode	Std. Deviation	Variance	Skewness
	Valid	Missing						
Panel A: Financial performance measures								
ROA 2018	13	0	0.0459	0.0486		0.1000	0.010	-1.609
ROA 2017	13	0	0.0221	0.0472		0.1266	0.016	-2.435
Current Ratio 2018	13	0	2.1531	1.3700		1.8171	3.302	1.781
Current Ratio 2017	13	0	1.7362	1.3900		0.9748	0.950	0.850
Total debt ratio 2018	13	0	0.6345	0.6860		0.4193	0.176	0.857
Total debt ratio 2017	13	0	0.6928	0.7125		0.4066	0.165	0.550
Zmijewski 2018	13	0	-0.8808	-0.4790		2.6768	7.165	1.270
Zmijewski 2017	13	0	-0.4439	-0.4770		2.7197	7.397	1.189
Panel B: Firm characteristics								
Synergy	13	0	0.54	1.00	1	0.519	0.269	-0.175
Family ownership	12	1	0.58	1.00	1	0.515	0.265	-0.388
Managerial ownership	12	1	0.42	0.00	0	0.515	0.265	0.388
Foreign ownership	13	0	0.23	0.00	0	0.439	0.192	1.451
Gender diversity	12	1	5.60	0.00	0.00	10.1899	103.835	1.370
National diversity	12	1	12.50	0.00	0.00	31.0791	965.909	2.555
Panel C: Control variables								
Firm size 2018	13	0	7.41	7.34		0.378	0.143	1.146
Firm age 2018	13	0	82.62	48.00		84.443	7130.590	2.247
Firm assets 2018	13	0	40,005,497.08	21,932,416.00		51,276,311.25	2.629E+15	2.823
Number employees 2018	13	0	58.85	53.00		33.017	1090.141	0.510

Table 4. *Descriptive statistics dependent variable, independent variables and control variables.* Panel A presents the statistics on firm performance measured by ROA, current ratio, debt ratio and the Zmijewski score. Panel B presents the statistics on firm characteristics. Panel C presents the statistics on the control variables. Variable definitions are described in Table 3.

Panel A of Table 4 shows that in 2018 the mean ROA is 4.59%, while it was 2.21% in 2017. Thus on average, firms active in the Dutch liquor industry had a ROA of 4.59% in 2018 and a ROA of 2.21% in 2017. For 2018, the mean and median have more or less the same value, however, for 2017, the mean (2.21%) and median (4.72%) ROA differ. This can be explained by the data in Appendix A, showing that the three worst ROA's (-35.44%; -6.06%; and -0.20%) are decreasing the mean ROA a lot. This is not being compensated by the best ROA's (12.22%; 12.15%; and 10.83%). Moreover, the variance of

0.010 in 2018 and 0.016 in 2017 is very low, indicating an almost normally distributed ROA. The negative values for skewness (-1.609; and -2.435) indicate that the distribution is slightly skewed to the left.

Another financial performance measure shown in Panel A is the current ratio. Like the ROA, the current ratio also increased over the years. In 2018 the current ratio had a mean value of 2.153 against 1.736 in 2017. A lower current ratio means that is harder to pay the current liabilities. Thus, a higher current ratio means that a firm faces less risk of going bankrupt. Overall, a current ratio between 1.2 and 1.5 is seen as healthy. So overall, the industry has a healthy current ratio. However, the variance (3.302; and 0.950) and skewness (1.781; and 0.850) indicate that especially in 2018, the current ratio is highly skewed to the right. This is also shown in the difference between the mean (2.1531) and median (1.3700). In Appendix A, there is shown that Case 11 (6.830) and Case 18 (4.600) are extreme outliers which could explain this difference.

Panel A also shows that the total debt ratio is 0.635 in 2018 and 0.693 in 2017. Thus the debt level decreased and the equity level increased. A lower debt ratio means that a firm is less leveraged and thus faces less risk. A debt ratio above 1 indicates that the firm has more liabilities than assets, whereas a ratio below 1 indicates that a greater portion of the assets is funded by equity. So on average, firms in the liquor industry fund the largest part of their assets with equity. Besides, the skewness (0.857; and 0.550) and variance (0.176; and 0.165) indicate that the debt ratio is slightly skewed to the right.

Furthermore, the Zmijewski score is presented in Panel A of Table 4. The Zmijewski score has a mean of -0.881 in 2018 and -0.444 in 2017. A negative Zmijewski score indicates a healthy financial performance. And the lower the Zmijewski score is, the better the financial performance of a firm is. The negative mean scores thus indicate that firms in the Dutch liquor industry on average have a healthy financial performance. However, the variance of 7.165 in 2018 and 7.397 in 2017 indicate that the scores for the various firms vary a lot from the mean. Thus, further analyses from the different firm score should give more insight into the financial performance of firms active in the Dutch liquor industry.

Besides the dependent variable, Table 4 also shows the descriptive statistics of the firm characteristics (independent variables) in Panel B. Synergy and the ownership forms are measured as a dummy variable. For synergy, a value of 1 indicates that the firm performs more than one activity and thus has an intra-business synergy. A value of 0 indicates that the firm performs one activity and thus does not have a synergy. The mean of the synergy dummy is 0.54, indicating that the mean is between performing one and more than one activity. The variance (0.269), skewness (-0.175), median (1.00) and mode (1) indicate that the synergy dummy distribution is skewed to the left. Thus, the sample tends to perform more than one activity, however, the difference is small. In Appendix A, there is shown that 7 out of 13 firms have a synergy and 6 out of 13 have no synergy. This explains the skewness and difference in the median and mean.

The descriptive statistics for family-ownership show that the mean is 0.58 and the median and mode are one. This means that more than half of the sample does have family members in the management or board. However, the difference in the median (1.00) and mean (0.58) explain that this difference is small. 7 out of 12 firms do have family-ownership and 5 out of 12 do not have family-ownership. Furthermore, this distribution is skewed to the left. Moreover, the mean dummy variable for managerial ownership is 0.42. The median and mode are both zero, indicating that less than half of the sample has managers in the board or management. Again, this difference is small with 5 out of 12 firms not having managerial ownership and 7 out of 12 firms having managerial ownership. The distribution is also rightly-skewed. Also, foreign ownership is present is in less than a quarter of the sample. The mean for the foreign ownership dummy variable is 0.23. The distribution is rightly-skewed. Overall, most firms active in the

Dutch liquor industry are family or managerially owned. Of the three ownership forms, foreign ownership is occurring the least.

The diversity descriptive statistics show that, on average, a low percentage of diversity is found in the liquor industry. On average, the management team or board consists of 5.60% of women and 12.50% of non-Dutch persons. However, these means are influenced by the vast majority not having diversity. 8 out of 12 firms does not show gender diversity and national diversity. Both distributions are rightly-skewed.

Finally, the control variables are shown in Panel C of Table 4. Panel C shows that the mean firm size is 7.41. The variance is low, but the distribution is still slightly skewed to the right. Besides, the mean firm age is 82.62 years old. However, the variance and skewness are high, meaning that the firm age differs a lot in the sample. This is also shown in the difference between the mean (82.62) and median (48.00). This difference is caused by Case 6, having an age of 325. Furthermore, the mean firm assets are €40,005,497. However, the variance again shows that the value for firm assets vary a lot in the sample. This is also shown in the difference between the mean (€40,005,497.08) and median (€21,932,416.00), which is explained by outlier Case 8 (€197.764.00). The distribution is rightly-skewed. Lastly, the number of employees is on average 58.85. This distribution is also slightly skewed to the right.

So Table 4 presented the descriptive statistics for the financial performance, firm characteristics and the control variables. Table 5 ranks the differences cases based on the Zmijewski score for 2018. The goal of this table is to put the performance of Company X and its competitors into perspective. Furthermore, it should give more insight into firm characteristics of the best and worst-performing firms.

Ranking Zmijewski score: best performing to worst performing case									
Ranking	**Case number**	**Zmijewski 2018**	**Zmijewski 2017**	**ROA 2018**	**ROA 2017**	**Current ratio 2018**	**Current ratio 2017**	**Debt ratio 2018**	**Debt ratio 2017**
1.	Case 11	-3.825	-2.484	0.1057	0.1222	6.830	2.470	0.162	0.413
2.	Case 18	-3.738	-3.391	0.1186	0.1054	4.600	3.500	0.189	0.240
3.	Case 8	-3.616	-3.602	-0.0397	-0.0606	2.330	2.780	0.087	0.073
4.	Case 5	-3.404	-3.456	0.1323	0.1215	3.600	3.390	0.259	0.242
5.	Case 2	-2.109	-1.417	0.1589	0.1083	1.870	1.610	0.509	0.590
6.	Case 6	-0.971	1.358	0.0010	0.0105	1.370	1.390	0.584	1.000
7.	Case 13	-0.479	-0.867	0.0207	0.0205	1.010	1.180	0.686	0.618
8.	Case 1	-0.440	-0.325	0.0441	0.0472	1.320	1.260	0.711	0.734
9.	Case 17	-0.375	-0.477	0.0486	0.0539	1.095	1.121	0.726	0.712
10.	Case 3	0.290	0.352	0.1256	0.1053	1.070	1.070	0.904	0.898
11.	Case 23	0.580	1.455	0.0932	0.0099	0.950	0.850	0.929	1.017
12.	Case 19	0.635	0.673	0.0076	-0.0020	1.429	1.473	0.871	0.870
13.	Case 14	6.002	6.411	-0.2203	-0.3544	0.520	0.480	1.633	1.599

Table 5. *Total score for sample firms.*

Table 5 shows that Case 11 is the best performing firm of this industry in 2018, having a Zmijewski score of -3.825. In 2017, the best performing firm was Case 8, with a Zmijewski score of -3.602. Furthermore, there can be seen that Company X (Case 1) belongs to the middle performing firms. Whereas they thought that their synergy advantage would make them belong to the best performing firms, this is not the case. However, it could be that synergy is still advantageous, but that their other characteristics decrease the financial performance a lot. Or that the other better performing firms also have a synergy and make even better use of this synergy. The worst performing firm is Case 14, with a Zmijewski score of 6.002 in 2018 and 6.411 in 2017.

Comparing the best performing firms, Case 11 and Case 8, and the worst-performing firm, Case 14, there can be seen that Case 11 is for 100% family-owned, shows no diversity and performs two activities and thus does have a synergy. Case 8 is for 100% foreign-owned, shows no diversity and also performs two activities. Remarkably, Case 14 is also family-owned, they also show no diversity and also have a synergy. Thus the firm characteristics could not explain the difference. Comparing the control variables, Case 8 is the largest firm (8.296), but Case 11 (7.065) and Case 14 (7.026) are smaller firms. Furthermore, Case 11 has 20 employees, Case 8 has 53 employees and Case 14 has 51 employees. Thus also the control variables do not give more information about factors possibly explaining the difference in financial performance. The statistical analysis in Chapter 4.2. should therefore give more information. The next sub-sections will elaborate more on the individual case results and compare these with the sample average and median.

4.1.1. Individual case analysis

This section will discuss each case individually. It will look at similarities and differences between the individual case and the sample averages. Data for individual cases can be found in Appendix A.

Case 1: Company X

First, Company X will be analyzed. This company is a nationally operating beverage wholesaler. Their assortment consists of almost 10,000 drinks and drink related products. Next to their wholesaler activities, they also perform the activities brandbuilder and importer. They thus have a synergy. The firm is a 102 years old family-owned business in which 100% of the managers are family-members. Currently, the third and fourth generation of the family run the company. Those family-members are male and Dutch persons.[15] No diversity thus was found in the management, which is in accordance with the sample average. In terms of firm size, Company X is comparable to the industry mean (7.41). Their firm size has a value of 7.44. Furthermore, this firm has fewer assets on average and more employees. The last is remarkable because Company X does show a comparable firm size but has more employees than average. This can indicate that comparable firms perform the same amount of activities but with fewer employees and thus can be more efficient.

The performance of Company X is lower in terms of ROA 2018, but higher in terms of ROA 2017. Company X had a ROA of 4.41% in 2018 and a ROA of 4.72% in 2017. Besides, Company X has more risk than the industry average, due to a higher debt ratio of 0.771 in 2018 and 0.735 in 2017. Also, the current ratio indicates a risk. The current ratio was 1.320 and 1.260 for 2018 and 2017 respectively, which can be considered as a healthy current ratio. However, the risk is still higher than the average. The mean current ratio is higher and the mean debt ratio is lower. The total financial performance measured by the Zmijewski score is lower than the industry average. Company X had a Zmijewski score of -0.440 in 2018 and -0.325 in 2017, whereas the mean was -0.881 in 2018 and -0.444 in 2017. However, the negative score indicates that the financial performance of Company X is still healthy.

Case 2

Case 2 is the youngest firm of this sample. This firm is a spirits-company focusing on brand building.[16] It exists for fifteen years and has around 46 employees working for them. Their size and assets are lower than the industry average. Case 2 has a firm size of 7.10 compared to a mean of 7.41. Besides, Case 2 has €12,577,031 total assets. Furthermore, they are the only company having institutional owners, accounting for 70% of the total ownership. Furthermore, gender diversity in the board is 22.22%, which is higher than the industry average. However, no national diversity was found.

[15] Retrieved from: Confidential (December 7, 2020)
[16] Retrieved from: Confidential (December 7, 2020)

The ROA of Case 2 is much higher than the industry average. Case 2 had a ROA of 15.89% in 2018 and 10.83% in 2017, whereas the mean was 4.59% and 2.21% respectively. The risk measurement current ratio is lower than the industry average, indicating a higher risk. However, the current ratio of 1.870 and 1.610 for 2018 and 2017 respectively is still sufficient. Moreover, the lower debt ratio decreases the risk. The debt ratio was 0.509 in 2018 and 0.590 in 2017. Overall, the Zmijewski score of -2.109 and -1.417 is better than the industry mean. Thus, the performance of Case 2 is better than average.

Case 3

Case 3 is a firm who focuses on spirits. Their portfolio exists over the 50 different brands and over 300 products. The firm has two shareholders, both own 50% of the shares. One of those shareholders is a foreign company who produces several whisky brands. The other shareholder is one of the oldest spirits brands in the world.[17] Case 3, belongs to one of the youngest firms of this sample with an age of 21 years. Their size of 7.309 is comparable to the industry average. Also, the number of employees, 61, is comparable to the sample average of 59 employees.

Despite the lower than average Zmijewski score of 0.290 in 2018 and 0.352 in 2017, Case 3 does show a higher ROA than the sample average. Their ROA is 10.53% in 2017 and 12.56% in 2018, whereas the sample average is 2.21% and 4.59% respectively. The bad Zmijewski score should thus be due to their risk profile. This is also confirmed by the risk ratios. Case 3 has a higher risk profile, both shown by the current ratio and the debt ratio. Their current ratio was 1.070 in both years. Besides, the debt ratio 0.904 in 2018 and 0.898 in 2017. The debt level thus increased. In this case, it thus seems that a higher risk can lead to a higher return, but also a lower overall financial performance.

Case 5

Case 5 is fully family-owned and has around 30 employees. Currently, the fifth generation is running the firm. Their activities range from distilling and bottling liquor to importing and exporting various spirits and wines.[18] They thus have a synergy. Their size and total assets are lower than average. Their firm size is 7.143 compared to an average of 7.412. Furthermore, their assets have a value of €13,900,331 compared to an industry average of €40,005,497. In terms of company age, they belong to one of the oldest companies in this sample with an age of 137 years.

Case 5 has a higher ROA than the average. In 2018 their ROA was 13.23% and in 2017 their ROA was 12.15%. Moreover, their risk levels belong to one of the lowest of this sample. The current ratio was 3.600 in 2018 and 3.390 in 2017, which is a very healthy current ratio. Next to this, the total debt ratio is also very low. In 2018, they had a debt ratio of 0.259 and in 2017 the debt ratio was 0.242. Thus, for Case 5, a lower risk leads to a higher return. This is also shown in the Zmijewski score. With a Zmijewski score of -3.404 in 2018 and -3.456 in 2017, they are the second-best of the sample.

Next, to the low-risk profile that could indicate the high Zmijewski score, the family ownership could also explain the good financial performance. In Chapter 4.2.2., there will be statistically examined whether this is the case.

Case 6

Case 6 is a company producing a broad range of liquors and is active in various countries.[19] This firm is a family-owned business and is the oldest business of this sample, with an age of 325 years. Furthermore, they have most employees of this sample, 114. Both firm size and firm assets are larger than the industry average. Their firm size has a value of 7.685 and their assets have a value of €48,398,000. Furthermore,

[17] Retrieved from: Confidential (December 7, 2020)
[18] Retrieved from: Confidential (December 7, 2020)
[19] Retrieved from: Confidential (December 7, 2020)

they are one of the view companies who have diversified management, which consists of 25% of women. However, there is no national diversity in the management of Case 6.

Looking at the financial performance, Case 6 has a lower ROA than the industry mean. Their ROA was 1.05% in 2017 and decreased to 0.10% in 2018. Thus, larger firms do not per se indicate higher returns. The same can count for gender diversity. But statistical underpinning will occur in Chapter 4.2.2. Next to the lower return, the current ratio is also lower than the average, indicating higher risk. The current ratio had a value of 1.370 in 2018 and 1.390 in 2017, while the average was 2.153 and 1.736 respectively. However, their current ratio is still healthy. Also, the debt ratio in 2017 indicates a higher risk. Their debt ratio was 1.000, which means that most assets are financed by debt instead of equity. However, the debt ratio of 0.584 in 2018 was lower than the industry average, thus indicating a lower risk. The lower risk in 2018 is also present in the Zmijewski score. In 2018, the Zmijewski score of -0.971 indicates a healthy financial position, whereas the score of 1.358 in 2017 does not indicate a healthy financial position.

Case 8

Case 8 is foreign-owned and is founded 32 years ago. This firm is a subsidiary of a the foreign-owner were over 18,000 employees are employed. This subsidiary is responsible for the sales, marketing and distribution of the various brands they sell.[20] The subsidiary is the largest firm and has the most assets of this sample. In terms of employees, they are around average with 53 employees. Moreover, they are the only firm in which the board consists of 100% of non-Dutch persons. However, no gender diversity was present.

Case 8 has a negative ROA, indicating a loss for 2018 and 2017. In 2018, the loss was 3.97%, while it was 6.06% in 2017. So, there was some improvement. However, the worse ROA is an outlier in this sample and therefore this ROA could explain the difference in the mean and median ROA of 2017. Besides, it is strange that both the current ratio and debt ratio show a very low risk. The current ratio of Case 8 was 2.330 in 2018 and 2.780 in 2017. The debt ratio 0.087 in 2018 and 0.073 in 2017, which is the lowest debt ratio of the sample. In this case, the lower risk thus does not go hand in hand with higher returns. However, the little loss and low risk make that the financial position is still healthy. The Zmijewski score was -3.616 in 2018 and -3.602 in 2017.

Case 11

Case 11 is a wholesaler and importer.[21] Thus there can be concluded that this firm has a synergy. Furthermore, it is a family-owned business and exists for 48 years. They have 41 employees, are smaller and have fewer assets than the industry average. Their firm size is 7.065 compared to an average of 7.412. Their assets have a value of €11,618,206, while the average was €48,398,000. Besides, no diversity was found in the management.

In terms of ROA, Case 11 shows a higher ROA than the average. Their ROA was 10.57% in 2018 and 12.22% in 2017. Besides, the risk ratios are better than the industry average and belong to the lowest risk ratios of the sample. Their current ratio was 6.830 in 2018 and 2.470 in 2017. The debt ratio was 0.162 in 2018 and 0.413 in 2017. Thus, overall Case 11 shows a good financial performance. This is also shown in the Zmijewski score of -3.825 in 2018 and -2.484 in 2017.

Like Case 5, Case 11 is a family business and also shows good financial performance. Thus, it is interesting to test whether statistical analysis in Chapter 4.2.2. will give the same results.

[20] Retrieved from: Confidential (December 7, 2020)
[21] Retrieved from: Confidential (December 7, 2020)

Case 13

Case 13 is also a family-owned business founded 73 years ago. Currently, the company is run by the third generation. Their activities focus on wholesale and export.[22] They have 109 people employed and belong with a firm size of 7.479 to the larger firms of this sample. Their assets are slightly lower than the average and have a value of €30,139,990. Besides, Case 13 has like most firms no diversity.

Case 13 had in 2018 a ROA lower than the average (2.07%) and in 2017 a ROA around the average (2.05%). The debt ratio of 0.686 in 2018 and 0.618 in 2017 was also around average, while the current ratio of 1.010 in 2018 and 1.180 in 2017 was lower than the average, indicating a higher risk. Overall, the Zmijewski score of -0.479 and -0.867 still indicates a healthy financial position. And again, a family-owned firm has a healthy financial performance.

Case 14

Case 14 is a wholesaler selling spirits, wines and specialty beers.[23] The firm is a family-owned business founded 151 years ago. They have 51 people employed. They are smaller than the industry average and have fewer assets than the average. The value for firm size is 7.026 and €10,617,423 for firm assets. Besides, no diversity in the management was established.

Case 14 has the worst Zmijewski score of all firms. Their Zmijewski score is 6.002 in 2018 and 6.411 in 2017. This is due to a negative ROA in both 2018 and 2017. In 2018 the ROA was minus 22.03% and in 2017 the ROA was minus 35.44%. Especially in 2017, this ROA is a large outlier and therefore could explain the difference in mean and median ROA for 2017. Also, the debt ratio is higher than average and the current ratio is lower than average, indicating a higher risk. The debt ratio had values of 1.633 and 1.599 for 2018 and 2017 respectively, meaning that Case 14 has more liabilities than assets. The current ratio had values of 0.520 in 2018 and 0.480 in 2017, which is not a healthy ratio. So in this case, the family-owned position does not lead to a healthy financial position. Chapter 4.2.2. should give more insight into this relationship.

Case 17

Case 17 is a managerially owned wine importer. 80% of the shares are owned by the management team, the other 20% is owned by the founders of the firm.[24] Their size of 7.905 is larger than the average. Besides, they have more assets than average, namely €80,437,100. Furthermore, they have 79 employees and are founded 35 years ago. Lastly, no diversity was present.

In terms of financial performance, Case 17 has a slightly higher ROA than the sample average. Their ROA was 4.86% in 2018 and 5.39% in 2017. Furthermore, the debt ratio of 0.726 in 2018 and 0.712 in 2017 is higher and the current ratio of 1.095 in 2018 and 1.121 in 2017 is lower. Thus, the risk profile of Case 17 is also higher than the average. This leads to a Zmijewski score which is lower than the average, but still healthy. The Zmijewski score is -0.375 in 2018 and -0.477 in 2017.

Case 18

Case 18 is a family-owned business and started 42 years ago. Their activities focus on the sales of wine in The Netherlands, Germany and Belgium.[25] They have the least employees employed in this sample, 16. Their size of 7.341 is around average and their assets of €21,932,416 are lower than average. Furthermore, no diversity was found in the management team.

[22] Retrieved from: Confidential (December 7, 2020)
[23] Retrieved from: Confidential (December 7, 2020)
[24] Retrieved from: Confidential (December 7, 2020)
[25] Retrieved from: Confidential (December 7, 2020)

Case 18 has a higher than average Zmijewski score of -3.738 in 2018 and -3.391 in 2017. The sample average for the Zmijewski score is -0.88 in 2018 and -0.44 in 2017. Also, the ROA is higher than the sample average. Case 18 has a ROA of 11.86% in 2018 and 10.54% in 2017, while the sample average was 4.59% and 2.21% respectively. The lower debt ratio and one of the highest current ratios indicate that the risk profile of Case 18 is lower. Their debt ratio was 0.189 in 2018 and 0.240 in 2017, while the sample average was 0.635 and 0.693 respectively. Besides, the current ratio was 4.600 in 2018 and 3.500 in 2017. Thus, in this case, it could be that a lower risk leads to higher returns and better financial performance. And again, high financial performance is possessed by a family-owned firm.

Case 19

Case 19 is fully owned by a foreign firm. It is a subsidiary of Europe's largest wine producer, located in France. The subsidiary focuses on the sales of wine.[26] They were founded 52 years ago and are with a firm size of 7.533 larger than the industry average. Furthermore, they have slightly fewer assets and the number of employees employed is around the average. Also, 20% of their management is female, but no national diversity was present.

Case 19 has one of the lowest ROA's of this sample. In 2017 the ROA had a negative value of minus 0.20%, but it improved to a small positive ROA of 0.80% in 2018. The negative ROA of 2017 influenced the mean ROA of this sample and therefore this outlier could explain the difference between the mean and median ROA. Next to a lower ROA, their risk is also higher than the industry average. The current ratio was 1.429 and 1.473 for 2018 and 2017 respectively, while the sample average was 2.153 and 1.736 respectively. But, the current ratio is still sufficient. Next to this, the debt ratio was 0.871 and 0.870 for 2018 and 2017 respectively, compared to an average debt ratio of 0.635 in 2018 and 0.693 in 2017. Thus, in this case, a higher risk leads to a lower return. This can also be seen in the Zmijewski score, which is 0.635 and 0.673 for 2018 and 2017 respectively and thus worse than the average of -0.88 in 2018 and -0.44 in 2017. Also, a positive Zmijewski score indicates an unhealthy financial position for Case 19.

Case 23

Case 23 is a wine importer of which the assortment consists of mainly Italian wines. However, next to Italian wine, they also have some non-alcoholic wines in their assortment.[27] It is family-owned for 95% and was founded 41 years ago. Besides, they have 29 people employed. Both firm size (7.034) and firm assets (€10,822,274) are lower than the sample average. And like most other companies, no diversity was present.

Case 23 also shows that higher risk leads to lower returns. Their return and Zmijewski score are lower than the industry average and their risk ratios also indicate a higher risk. ROA was 9.32% in 2018, but 0.99% in 2017. The debt ratio of 0.929 in 2017 and 1.017 in 2017 is higher than average, while the current ratio of 0.950 in 2018 and 0.850 in 2017 is lower than average and insufficient for a healthy firm. The lower return and higher risk are presented in the unhealthy Zmijewski score of 0.580 in 2018 and 1.455 in 2017. So again, family-owned firms do not always show better financial performance.

4.1.2. Cross-case comparison

This section will perform a cross-case comparison intended for Company X. Based on the descriptive statistics and the data in Appendix A, there will be examined and analyzed which firms characteristics could explain superior financial performance.

[26] Retrieved from: Confidential (December 7, 2020)
[27] Retrieved from: Confidential (December 7, 2020)

In total, eight out of thirteen firms have a healthy financial performance according to the Zmijewski score in both 2018 and 2017. Case 2, Case 5, Case 8, Case 11 and Case 18 have an X-score lower than -1 in 2018 and 2017. Also, Company X (Case 1), Case 13 and Case 17 have a negative Zmijewski score, indicating a healthy financial performance. Furthermore, one firm has a healthy financial performance in 2017, but not in 2018. This firm is Case 6. Lastly, four out of thirteen firms have an unhealthy financial performance in both years. Case 3, Case 14, Case 19 and Case 23 have a positive X-score in 2018 and 2017.

As mentioned in the previous section, most firms that have healthy financial performance are family-owned firms. Five out of the eight financially healthy firms are **family-owned**. The other three healthy firms are foreign, managerial and institutional owned. Next to this, six out of the eight financially healthy firms perform more than one activity and thus have an intra-business **synergy**. The other healthy firms do not have an intra-business synergy. Lastly, six out of the eight financially healthy firms have no diversity in the management team or board. The other two do show national or gender diversity. Summarizing, based on the cross-case comparison, it seems that the firm characteristics family-ownership and synergy can explain superior financial performance in the Dutch liquor industry. For diversity, no conclusions can be made, which will be explained in the next paragraph.

From the four financially unhealthy firms, three firms perform only one activity and thus do not have an intra-business synergy. Thus it still does seem like having a synergy does lead to superior financial performance, whereas no synergy leads to worse financial performance. Moreover, two out of the four firms are family firms and two are foreign-owned. So, whereas most family-firms do have a healthy financial performance, some do have an unhealthy financial performance. And two out of the three foreign-owned firms have an unhealthy performance. It thus seems like foreign ownership decreases financial performance. However, the statistical analysis in the next section could give more information about the relationship between both family and foreign ownership and financial performance. Finally, one out of the four firms has national diversity, whereas the other three unhealthy firms do not show diversity. It thus seems that no diversity is related to an unhealthy financial performance. However, no diversity also seems to be related to a healthy financial position. Again, the statistical analysis in the next section should give more information about this relationship.

Finally, the relationship between the control variables and financial performance will be examined and analyzed. The two smallest firms of this sample do have an unhealthy financial position. Furthermore, the three largest firms have a healthy financial position. The same results were found for the value of the firms' assets. Thus it seems that larger firms (in terms of **size** and **assets**) more often have a healthy financial performance. On the other hand, no conclusions can be made based on firm age. The unhealthy firms are 21, 41, 52 and 151 years old, whereas the healthy firms' ages range from 15 years till 325. Also, the number of employees does not give more information about the financial performance of a firm. The financially unhealthy firms have 29, 51, 56 and 61 people employed, whereas the financially healthy firms have between 16 and 114 people employed. Concluding, only the control variables firm size and firm assets can give more information about a firm's financial performance. The next section will examine whether this can be statistically underpinned.

Based on the descriptive multiple-case study, Company X can take the following into account for future strategic decisions. First, it seems that firms having a family ownership structure have better financial performance. As Company X is already family-owned, changing it cannot be considered. Second, it seems that having a synergy explains superior financial performance. This is also already possessed by Company X, but for further strategic decisions, it could be considered to see whether more advantages from the synergy can be extracted. Lastly, larger firms seem to more often have a healthy performance.

Company X belongs to the middle size firms and can try and consider to grow (in terms of firm assets) in the future to attain better financial performance.

4.2. Statistical analysis

This chapter will give more insight into the relationships between the firm characteristics and the financial performance of firms active in the Dutch liquor industry. First, a Pearson's Correlational Analysis will take place to give more insight into the strength of the relationships. As mentioned in Chapter 3.1.2., expectations are that this will not lead to statistical conclusions due to the small sample size. Therefore, a PLS regression analysis will be performed afterwards to see whether the hypotheses can be accepted or not.

4.2.1. Pearson's Correlational Analysis

The correlations Tables 6 and 7 show how the various variables are correlated. This section will discuss the correlations, because, as mentioned before, a correlational analysis gives more information about the strength of the relationship between the variables.

For financial performance, measured by the X-score of the Zmijewski model, various directions were found for synergy in 2018 and 2017. In 2018, synergy and financial performance have a small positive correlation of 0.002. However, there is a small negative correlation of -0.100 in 2017. Remarkably, the direction of the relationship changes over the year. But, a conclusion that can be made based on the correlational analysis is that the strength of the relationship between synergy and financial performance is weak.

Of the different ownership forms, family ownership, and foreign ownership are negatively correlated to the Zmijewski score, while managerial ownership is positively correlated to the Zmijewski score. The strength of these relationships is very weak for foreign ownership (-0.003) in 2018. In 2017, the relationship is weakest for family ownership (-0.058).

Gender diversity also shows in different directions. In 2018, there was a negative correlation of -0.044 between gender diversity and financial performance, while in 2017 there was a positive association of 0.096. In both years, the relationship thus was not very strong. On the other hand, national diversity shows a negative and stronger correlation of -0.226 in 2018 and -0.266 in 2017.

The correlations tables thus give insight into the strength of the relationship between the firms' characteristics and financial performance. But as expected, none of these relationships is significant. Therefore the PLS analysis in the next chapter, which is suitable for small sample sizes, should give more insight in both the strength and the direction of these relationships.

Besides the strength of the relationships between firm characteristics and financial performance, Table 6 and 7 also give information about the correlations between the different financial performance measurements. The total debt ratio and the current ratio, for instance, are significantly and negatively correlated (-0.714** in 2018 and -0.860** in 2017). A higher debt ratio and a lower current ratio go hand in hand. This is in line with the thoughts about a company's risk profile. A higher debt ratio indicates higher risk and a lower current ratio does also indicate a higher risk.

The Zmijewski score is significantly and negatively correlated to the ROA and the current ratio. Besides, it is significantly and positively correlated to the debt ratio. A higher ROA and current ratio thus lead to a lower Zmijewski score. For the ROA, this makes sense when looking at the formula of the Zmijewski score (–4.3 – 4.5*[ROA] + 5.7*[debt ratio] + 0.004*[current ratio]). According to the formula, the Zmijewski score should increase when the current ratio is higher. It thus is remarkable that the correlations between the current ratio and the Zmijewski score indicate the opposite. The positive

Pearson's correlation matrix														
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**	**(13)**	**(14)**
(1) ROA 2018	1													
(2) Current ratio 2018	0.421	1												
(3) Total debt ratio 2018	-0.594*	-0.714**	1											
(4) Zmijewski 2018	-0.697**	-0.706**	0.991**	1										
(5) Synergy dummy	-0.369	0.144	-0.068	0.002	1									
(6) Family ownership	0.110	0.353	-0.196	-0.209	0.169	1								
(7) Managerial ownership	0.310	0.059	0.162	0.110	0.169	0.029	1							
(8) Foreign ownership	-0.084	-0.170	-0.019	-0.003	-0.225	-0.683*	-0.488	1						
(9) Gender diversity	0.098	-0.156	-0.031	-0.044	-0.574	-0.212	-0.152	0.063	1					
(10) National diversity	-0.145	-0.072	-0.280	-0.226	0.071	-0.485	-0.404	0.728**	-0.208	1				
(11) Firm size 2018	-0.222	-0.202	-0.319	-0.248	0.199	-0.434	-0.319	0.454	0.019	0.658*	1			
(12) Firm age 2018	-0.379	-0.157	0.157	0.204	-0.001	0.474	-0.296	-0.321	0.438	-0.335	0.029	1		
(13) Firm assets 2018	-0.272	-0.088	-0.366	-0.281	0.288	-0.445	-0.232	0.490	-0.112	0.815**	0.907**	-0.102	1	
(14) Number employees 2018	-0.295	-0.603*	0.248	0.270	0.151	0.013	-0.115	-0.038	0.235	0.021	0.442	0.481	0.167	1

Table 6. *Pearson's correlation matrix.* The Pearson's correlation matrix measures the correlation among variables. ** and * denote significance at the 1% and 5% levels, respectively.

Pearson's correlation matrix														
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**	**(13)**	**(14)**
(1) ROA 2017	1													
(2) Current ratio 2017	0.470	1												
(3) Total debt ratio 2017	-0.651*	-0.860**	1											
(4) Zmijewski 2017	-0.764**	-0.830**	0.987**	1										
(5) Synergy dummy	-0.260	0.087	-0.181	-0.100	1									
(6) Family ownership	0.186	0.217	-0.032	-0.058	0.169	1								
(7) Managerial ownership	0.220	-0.356	0.213	0.174	0.169	0.029	1							
(8) Foreign ownership	-0.036	0.022	-0.111	-0.087	-0.225	-0.683*	-0.488	1						
(9) Gender diversity	0.118	-0.077	0.143	0.096	-0.574	-0.212	-0.152	0.063	1					
(10) National diversity	-0.094	0.193	-0.339	-0.266	0.071	-0.485	-0.404	0.728**	-0.208	1				
(11) Firm size 2017	0.107	0.203	-0.455	-0.410	0.151	-0.392	-0.332	0.478	0.003	0.702*	1			
(12) Firm age 2018	-0.285	-0.111	-0.357	0.364	-0.001	0.474	-0.296	-0.321	0.438	-0.335	-0.011	1		
(13) Firm assets 2017	-0.135	0.258	0.445	-0.351	0.265	-0.409	-0.263	0.514	-0.112	0.851**	0.891**	-0.101	1	
(14) Number employees 2017	-0.092	-0.486	0.271	0.250	0.131	0.037	-0.106	-0.065	0.290	-0.020	0.369	0.517	0.109	1

Table 7. *Pearson's correlation matrix.* The Pearson's correlation matrix measures the correlation among variables. ** and * denote significance at the 1% and 5% levels, respectively.

correlation to the debt ratio again does make sense when looking at the formula.

Table 6 and 7 also give information about the correlations between the firm characteristics. For foreign ownership and family ownership, a negative correlation which is significant at the 5%-level was found. Thus, foreign-owned firms have fewer family members on the board. Also, family-owned firms are not often foreign-owned.

National diversity and foreign ownership also are significantly correlated. The correlation is 0.728 at the 1%-level. It appears that firms having national diversity more often are foreign-owned. Also, foreign-owned firms more often have national diversity in their boards or management. This can make sense, as national diversity is measured by the percentage of non-Dutch board members. Foreign-owned more often have non-Dutch board members. To specify, the board members tend to be chosen from the country in which the owner is located.

The last category of correlation is amongst the control variables. Firm size and national diversity have a positive correlation of 0.658 in 2018 and 0.702 in 2017. Both are significant at the 5%-level. Thus larger firms more often have national diversified boards or management teams. And firms with national diversified boards or management teams seem to be larger firms. Next to firm size, firm assets also has two significant correlations. The first is between firm assets and national diversity. Firm assets and national diversity have a positive correlation at 1%-level. The second is between firm assets and firm size. This positive correlation at the 1%-level makes sense because firm size is measured as a logarithm of firm assets. Because of this correlation, the statistical analysis will be performed without controlling for firm size.

Summarizing, the correlation matrix in Table 6 and 7 shows that demonstrating significance is hard with the small sample of this research. Therefore PLS will be applied in the next chapter. And whereas there is a correlation between certain variables, PLS can still be applied. PLS is namely a statistical technique addressing the problem of multicollinearity (Abdi, 2003).

4.2.2. PLS regression analysis

As mentioned before, this section will perform a PLS regression analysis to test whether the results from the multiple-case study can be underpinned with a statistical analysis. The various firm characteristics will be used as the independent variables, while the Zmijewski score will be used as a dependent variable. This PLS regression analysis will be performed twice. First, without control variables followed by a PLS regression analysis including control variables.

Table 8 presents the most important PLS regression analysis results. In Appendix B, all tables from the SPSS output and an explanation are presented. In Table 8, the dependent variable financial performance is measured by the Zmijewski score. The independent variables are the various firm characteristics: synergy, ownership and diversity. In model 1 and 2, the results are presented excluding the control variables, while in model 3 and 4 the results are presented including the control variables firm age, firm assets and the number of employees. Due to collinearity, firm size is left out of the analysis. However, in Appendix B an analysis including firm size can be found.

Table 8 shows the estimated regression coefficients of each independent variable for predicting the dependent variable. It shows the association between the independent and dependent variables. The guidelines of Hair et al. (1995) will be used to determine the significance of each item. Factor loadings are presented in Appendix B Table 20 and 30. Loadings greater than 0.300 are considered significant, loadings greater than 0.400 are considered more important and loadings greater than 0.500 are considered to be very significant (Hair, Anderson, Tatham, & Black, 1995). To illustrate, the regression coefficient of -0.413*** for synergy in model 1 indicates that a firm that has a synergy has a lower

	Model			
	(1)	(2)	(3)	(4)
Variables	**Zmijewski score 2018**	**Zmijewski score 2017**	**Zmijewski score 2018**	**Zmijewski score 2017**
(Constant)	-0.767	-1.328	-7.407	-7.195
Synergy	-0.413***	-0.816***	-2.992*	-2.565*
Family ownership	-1.135	-0.392	5.136	5.798
Managerial ownership	0.949	1.814	3.341	3.946
Foreign ownership	3.753	4.007	7.555	7.987
Gender diversity	-0.110***	-0.092***	-0.063**	-0.042**
National diversity	-0.060***	-0.053***	-0.087***	-0.082***
Firm age 2018			-0.085	-0.092
Firm assets 2018			2.877E-8***	2.467E-8***
Number employees 2018			0.093	0.083

Table 8. *Presence of firm characteristics on Zmijewski score.* Table 8 presents the PLS regression results where the dependent variable financial performance is measured by the Zmijewski score. The independent variables are the firm characteristics and control variables. The table reports the regression coefficients. Variable definitions are described in Table 3. Significance presented *, ** and ***, indicating significant, more important and very significant respectively.

Zmijewski score. A lower Zmijewski score indicates a better financial performance. The factor loading of -0.645 in Table 20 of Appendix B indicates that synergy is very significant. This is also confirmed in model 2, where the regression coefficient is -0.816*** for a synergy. Thus, according to model 1 and 2, **a synergy** significantly increases the financial performance of firms active in the Dutch liquor industry. These results are in line with the descriptive multiple-case study in Chapter 4.1.2. Besides, in model 1 and 2, **family ownership** (-1.135; and -0.392), **gender diversity** (-0.110***; and -0.092***) and **national diversity** (-0.060***; and -0.053***) also have negative regression coefficients, which thus indicates a better financial performance. For gender diversity and national diversity, the results are also considered to be very significant. Thus, gender diversity and national diversity also significantly increase the financial performance of firms active in the Dutch liquor industry. A positive association, indicating a lower performance, is found for managerial ownership (0.949; and 1.814) and foreign ownership (3.753; and 4.007). The results for foreign ownership are in line with the descriptive multiple-case study, which also indicated a decreasing relationship between foreign ownership and financial performance. But the results for managerial ownership and foreign ownership are not significant.

Model 3 and 4 in Table 8 show the results including control variables. It shows again that a synergy (-2.992*; and -2.565*) decreases the Zmijewski score significantly, meaning that a synergy increases the financial performance of firms active in the Dutch liquor industry. These results are in accordance with model 1 and 2. Thus based on the statistical analysis, the first hypothesis, *the existence of synergy in a firm increases financial performance*, can be accepted.

Model 3 and 4 also show that all ownership structures have positive regression coefficients. Thus, when the control variables are included, family ownership changes from a negative association to a positive association. This means that family ownership (5.136; and 5.798), managerial ownership (3.341; and 3.946) and foreign ownership (7.555; and 7.987) increase the Zmijewski score and thus decrease the financial performance. However, these results are not significant. Furthermore, it is remarkable that in model 3 and 4, all ownership structures appear to decrease financial performance. But whereas family-ownership changes from direction, managerial ownership and foreign ownership show the same results as model 1 and 2. Thus, based on the PLS regression analysis, hypothesis 2a (family-ownership), hypothesis 2b (managerial ownership) and 2c (foreign ownership) should be rejected.

Lastly, model 3 and 4 show negative and significant regression coefficients for both gender diversity (-0.063**; and -0.042**) and national diversity (-0.087***; and -0.082***). Thus, diversity decreases the Zmijewski score and therefore increases the financial performance significantly. So hypothesis 3a, *gender diversity increases financial performance*, and hypothesis 3b, *national diversity increases financial performance*, can be accepted.

Model 3 and 4 also include the control variables firm age, firm assets and the number of employees. There can be concluded that larger firms in terms of firm assets (2.877E-8***; and 2.467E-8***) more often have a healthy financial performance. Also, firm age (-0.085; and -0.092) increases financial performance, but insignificantly. On the other hand, firms with more employees (0.093; and 0.083) have a lower financial performance, but also this variable is not significant.

4.3. Robustness test

The robustness test will be done by performing a PLS regression analysis using the ROA, the debt ratio and the current ratio individually as a measure for financial performance. An increase in ROA increases financial performance. A lower debt ratio increases the financial performance and a higher current ratio increases the financial performance. In Table 9, the regression coefficients are presented for both 2017 and 2018 and both including and excluding the control variables. The complete SPSS output results can be found in Appendix D, E and F.

In Panel A, synergy decreases (-0.095; -0.044; and -0.006*) the alternative financial performance measure ROA, except for model 4 (0.071). This is not in line with the main statistical analysis in Table 8, where a synergy significantly increases the financial performance measured by the Zmijewski model. However, in Panel B, synergy decreases the debt ratio significantly in all models (-0.148***; -0.178***; -0.533*; and -0.394*) and thus increases the financial performance. In model C, synergy increases the current ratio and thus increases the financial performance in all models (0.315*; 4.475; and 0.761), except for model 10 (-0.041*). However, not all relationships are significant. The results are thus mostly in line with the PLS analysis in section 4.2.2.

For family ownership, Panel A indicates a decreasing ROA in all models (-0.023*; -0.037*; -0.148; and -0.279). Panel B and C indicate an increased performance in model 5 (-0.219), model 6 (-0.098), model 9 (2.086***) and model 10 (0.599***), meaning that the debt ratio decreases and the current ratio significantly increases. Model 7 (0.787), 8 (0.799), 11 (-4.125*) and 12 (-3.084*) indicate an increasing debt ratio and significantly decreasing current ratio. Thus the results change when the control variables are included. Therefore, a conclusion could not be made. But the same happened in the main statistical analysis and therefore the results for family ownership remain robust.

Managerial ownership shows a significantly increased performance in model 1 (0.027**) and 2 (0.004**), where the ROA increases when managerial ownership is applied. This is not in line with the main analysis. However, in model 3 (-0.027*) and model 4 (-0.087*), the ROA decreases significantly. This is in line with the PLS regression analysis. Also, the other financial performance measures debt ratio (0.188*; 0.322*; 0.567; and 0.625) and current ratio (0.176; -0.807; -2.639; and -2.028) in Panel B and C indicate a (partly significant) decreasing performance, which is in line with the PLS regression results. Overall, the results for managerial ownership are thus robust.

Foreign ownership shows a decreasing performance for all alternative financial performance measurements. First, in Panel A, the ROA significantly decreases in all models (-0.077***; -0.051***; -0.177*; and -0.238*). Second, in Panel B, the debt ratio has positive regression coefficients in all models (0.598; 0.663; 1.188*; and 1.216*). An increasing debt ratio indicates decreasing financial performance. Lastly, in Panel C, the current ratio shows negative regression coefficients in all models

Panel A: ROA				
Model	**(1)**	**(2)**	**(3)**	**(4)**
Variables	**ROA 2018**	**ROA 2017**	**ROA 2018**	**ROA 2017**
(Constant)	0.141	0.122	0.272	0.350
Synergy	-0.095	-0.044	-0.006*	0.071*
Family ownership	-0.023*	-0.037*	-0.148	-0.279
Managerial ownership	0.027**	0.004**	-0.027*	-0.087*
Foreign ownership	-0.077***	-0.051***	-0.177*	-0.238*
Gender diversity	-0.001	-0.002	-0.001	-0.003
National diversity	0.000***	-0.001***	0.002**	0.003**
Firm age 2018			0.001	0.003
Firm assets 2018			-1.680E-9***	-2.363E-9***
Number employees 2018			-0.001	-0.002
Panel B: Debt ratio				
Model	**(5)**	**(6)**	**(7)**	**(8)**
Variables	**Debt ratio 2018**	**Debt ratio 2017**	**Debt ratio 2018**	**Debt radio 2017**
(Constant)	0.730	0.617	-0.336	-0.236
Synergy	-0.148***	-0.178***	-0.533*	-0.394*
Family ownership	-0.219	-0.098	0.787	0.799
Managerial ownership	0.188*	0.322*	0.567	0.625
Foreign ownership	0.598	0.663	1.188*	1.216*
Gender diversity	-0.020***	-0.018***	-0.012*	-0.009*
National diversity	-0.010***	-0.010***	-0.013***	-0.012***
Firm age 2018			-0.014	-0.014
Firm assets 2018			3.747E-9***	2.470E-9***
Number employees 2018			0.015	0.013
Panel C: Current ratio				
Model	**(9)**	**(10)**	**(11)**	**(12)**
Variables	**Current ratio 2018**	**Current ratio 2017**	**Current ratio 2018**	**Current ratio 2017**
(Constant)	0.561	1.761	8.404	5.196
Synergy	0.315*	-0.041*	4.475	0.761
Family ownership	2.086***	0.599***	-4.125*	-3.084*
Managerial ownership	0.176	-0.807	-2.639	-2.028
Foreign ownership	-0.227***	-1.296***	-3.665	-3.574
Gender diversity	0.053***	0.039***	0.020*	0.003*
National diversity	0.016	0.021	0.043	0.031
Firm age 2018			0.069*	0.058
Firm assets 2018			-3.939E-8	-9.404E-9
Number employees 2018			-0.106***	-0.051***

Table 9. *Presence of firm characteristics on ROA.* Table 10 presents the PLS regression results where the dependent variable financial performance is measured by the ROA, the debt ratio and the current ratio. The independent variables are the firm characteristics and control variables. A full explanation of the variables is given in Table 3. Significance presented *, ** and ***, indicating significant, more important and very significant respectively.

(-0.227***; -1.296***; -3.665; and -3.574), indicating a decreasing financial performance. Thus all models are in line with the results in Table 8. The results for foreign ownership are thus robust compared to the PLS regression analysis results.

Gender diversity shows a negative relationship with ROA in all models (-0.001; -0.002; -0.001; and -0.003), but these results are not significant. Furthermore, it is not in line with the PLS analysis in Chapter 4.2.2. However, the results in Panel B and C are in line with the PLS analysis. Panel B shows a significant negative relationship with the debt ratio (-0.020***; -0.018***; -0.012*; and -0.009*) and Panel C shows a significant positive relationship with the current ratio (0.053***; 0.039***; 0.020*; and 0.003*), indicating an increasing financial performance. Therefore, the results for gender diversity can be considered robust.

Lastly, national diversity shows a significant positive relationship with ROA (0.000***; 0.002**; and 0.003**), except for model 2 (-0.001***). In Table 8, national diversity is also significantly and positively associated with financial performance. Furthermore, Panel B shows a significant and negative relationship between national diversity and the debt ratio (-0.010***; -0.010***; -0.013***; and -0.012***), indicating an increased performance. Panel C shows a positive relationship between national diversity and the current ratio (0.016; 0.021; 0.043; and 0.031), also indicating an increased performance. But, these results are not significant. Overall, these results are in line with the main statistical analysis and therefore the results for national diversity can be considered as robust.

For the control variables, Panel A, B and C are in line with the main statistical analysis. Thus again firm age is positively associated with the financial performance measure. However, the relationship is not significant. Firm assets and the number of employees are negatively and partly significantly associated with the financial performance measure.

Overall, the results show the same results as the main PLS regression analysis in Chapter 4.2.2. Thus there can be concluded that the results are robust. Besides, an additional robustness test in Appendix C also concluded that the results are robust.

5. Conclusion and discussion

In this section, first the conclusion based on the results of the descriptive multiple-case study, the PLS regression analysis and the robustness test will be made. This conclusion will answer the research question presented in the second chapter of this paper. Then a discussion will be described, which focuses on the limitations and suggestions for further research. The suggestions for further research are based on both the limitations and results found in this research.

5.1. Conclusion

The previous chapter gave insight into the analysis and the results. First, a descriptive multiple-case study was performed, which made some assumptions for firm characteristics that can explain superior financial performance. In the follow-up PLS regression analysis, the Zmijewski model was used as a measure for financial performance to see whether the descriptive multiple-case study results could be underpinned. Thereafter, a robustness test was performed to test whether the results of the PLS analysis remained robust. In the robustness test, another PLS analysis was performed using ROA, current ratio and debt ratio as financial performance measures. An overview of these results can be found in the following table:

Hypotheses	**Descriptive multiple-case study**	**PLS excluding control variables (model 1 and 2)**	**PLS including control variables (model 3 and 4)**	**Robustness test excluding control variables**	**Robustness test including control variables**
(1) Synergy	accepted	accepted	accepted	conclusion could not be made	accepted
(2a) Family ownership	accepted	rejected	rejected	conclusion could not be made	rejected
(2b) Managerial ownership	accepted	rejected	rejected	conclusion could not be made	rejected
(2c) Foreign ownership	rejected	rejected	rejected	rejected	rejected
(3a) Gender diversity	conclusion could not be made	accepted	accepted	accepted	accepted
(3b) National diversity	conclusion could not be made	accepted	accepted	accepted	accepted

Table 10. *Overview of hypotheses.* 'Accepted' means the hypothesis can be accepted, 'not accepted' means the hypothesis cannot be accepted. 'Conclusion could not be made' means that the results give contrary results and therefore a conclusion cannot be made.

So in this study, the effect of various firm characteristics on the financial performance of firms active in the Dutch liquor industry was examined. A descriptive multiple-case study and a Partial Least Squares regression analysis were performed to answer the research question "*Which firm characteristics caused a competitive advantage in the Dutch liquor industry in the period 2017 and 2018?"*. Various sub-research questions were established which focus on different firm characteristics. To answer these questions, financial data, synergy data, ownership data and diversity data from Company X and their competitors were collected. Using the descriptive multiple-case study, the PLS regression and the robustness test, the sub-research questions could be answered. Those sub-research questions will be discussed first.

Synergy

The first research question and hypothesis focus on synergy. According to Goold & Campbell (1998), a synergy can occur when two or more units of a company generate greater value together than when working apart. This can be due to a customer-specific synergy, diversification, shared knowledge or shared tangible resources (Alesón & Escuer, 2002; Pablos, 2006; Schmidt et al., 2016; Yang & Kang, 2008; Ye et al., 2012). So, in case of Company X, their combination of activities should generate greater value than competitors who do not have this combination of activities.

Both the descriptive multiple-case study and the PLS regression analysis indicate that an intra-business synergy leads to better financial performance and thus can give a competitive advantage. This is also confirmed by the robustness test. So, it is advisable to perform more than one activity in the Dutch liquor industry. Therefore, the first hypothesis, *the existence of synergy in a firm increases financial performance*, can be accepted. These results are in line with the literature.

Family ownership

The second research question and hypothesis focuses on the various ownership structures. Family ownership is one of those ownership structures. This ownership structure occurs when the firm's equity is (partly) owned by family members. Company X is an example of a family-owned firm, where 100% of the equity is owned by family members.

Various researchers have examined the effect of family ownership on the financial performance of firms. According to the literature, family ownership increases financial performance (Hussain et al., 2019; Pacheco, 2019; Savitri, 2018). This is in line with the results from the descriptive multiple-case study. However, the PLS regression results established an insignificant positive relationship without control variables and an insignificant negative relationship including control variables. Thus, the hypothesis *family-ownership increases financial performance*, is rejected.

Managerial ownership

The next sub-research question and hypothesis focus on managerial ownership. In this case, shares are held by executive directors or managers. Most researchers found a positive relationship between managerial ownership and a firm's financial performance. However, this depends on the industry (Cui & Mak, 2002). So in this paper, there was examined whether this positive relationship is also present in the Dutch liquor industry.

The descriptive multiple-case study found a positive relationship between managerial ownership and financial performance. However, the statistical analysis found an insignificant negative relationship between managerial ownership and financial performance. This negative relationship is also confirmed by the robustness test performed. So, the hypothesis *managerial ownership increases financial performance*, is rejected.

Currently, Company X is fully owned by family members and no equity is in hands of executive directors or managers. Because managerial ownership does not significantly increase financial performance, in further strategic decisions managerial ownership should not be considered.

Foreign ownership

As the name suggests, foreign ownership occurs when foreign ownership or foreign investors own the firm. According to Douma et al. (2006) and Uwuigbe and Olusanmi (2012), the positive relationship between foreign ownership and financial performance is due to a stronger commitment and a higher level of managerial efficiency.

The results indicate an insignificant and negative relationship between foreign ownership and a firm's financial performance. Thus, the results presented are not in line with the literature. Therefore, the hypothesis *foreign corporate ownership increases financial performance*, is rejected.

Company X is currently not owned by foreign owners. For future strategic decisions, it is therefore not advisable to take into consideration to let foreign owners buy the equity of the firm, because the results do not indicate that the financial performance will increase.

Gender diversity

The third hypotheses and sub-research questions are about the influence of gender and national diversity on a firm's financial performance. First, gender diversity occurs when there are women on the board or in the management team. Thoughts are that increasing the percentage of women on the board or management can improve monitoring, moderates excessive firm risk, brings new perspectives, enhances the collaboration with managers and that it improves the relationship with stakeholders (Ahmadi et al., 2018; Hutchinson et al., 2015; Solakoglu & Demir, 2016).

The results do confirm with the before mentioned researchers. The significant negative regression coefficients indicate a positive relationship between gender diversity and a firm's financial performance. So, the hypothesis *gender diversity increases financial performance*, can be accepted. Thus, the token status theory and critical mass theory are applicable in the Dutch liquor industry. For further strategic decisions, it is thus worth for Company X to consider increasing the percentage of women in the management team.

National diversity

The last hypothesis states that national diversity increases financial performance. To clarify, the presence of non-Dutch members on the board or management team should increase a firm's financial performance. The results are in line with researchers such as Carter et al. (2010) and Salloum et al. (2019). National diversity significantly increases financial performance of firms active in the Dutch liquor industry. Therefore, the hypothesis *national diversity increases financial performance*, can be accepted. So also increasing the percentage of non-Dutch persons in the management team can be considered by Company X when taking strategic decisions in the future.

To summarize, the answer to the research question "*Which firm characteristics caused a competitive advantage in the liquor industry in the period 2017 and 2018?*" is synergy, gender diversity and national diversity. The literature proposed a positive relationship for all firm characteristics, but also mentioned that it can depend on the industry. Therefore, this research was examined to see whether these positive relationships are also present in the Dutch liquor industry. So for synergy, gender diversity and national diversity, this is the case. Having an intra-business synergy and performing more than one activity, leads to better results than performing one activity does. Also, both gender diversity and national diversity can significantly increase the financial performance and thus cause a competitive advantage for firms active in the Dutch liquor industry.

For Company X, it is thus advisable to keep performing the three activities: (1) wholesale of liquor and wine; (2) brand building wine; and (3) brand building spirits. Concerning ownership, it seems like their current family-ownership structure increases financial performance following the descriptive statistics. Five out of eight healthy firms are family-owned. However, the statistical analysis does not confirm this. Lastly, both gender and national diversity increase financial performance significantly. Company X has no female and non-Dutch representation and thus changing the formation of the management team can be considered when strategic decisions are made in the future.

5.2. Discussion

This chapter will first summarize why this research was performed and what the main findings are. Then, limitations from this research will be discussed, followed by some recommendations for further research.

This research was performed to give more insight to Company X into their financial performance compared to their industry peers. Company X performs more than one activity and they expected that this can give them a competitive advantage leading to superior financial performance. However, the literature mentioned those other firm characteristics can also cause a superior financial performance. So, therefore the goal of this research was to establish characteristics that cause a competitive advantage in the Dutch liquor industry. The research question w*hich firm characteristics caused a competitive advantage in the Dutch liquor industry in the period 2017 and 2018?* was answered. It appeared that synergy, gender diversity and national diversity do significantly increase financial performance and thus can cause a competitive advantage in the Dutch liquor industry.

5.2.1. Limitations

This research also has some limitations. The first limitation is that the results are based on a very small sample of thirteen firms. Whereas the PLS analysis is a statistical technique suitable for this research and applicable to small samples, larger samples do give more reliable statistical results. However, this research was performed with this small sample, because the chosen firms are competitors from Company X. Adding non-competitors to the sample would not provide better advice to Company X.

A second limitation is related to the time frame of this research. This research includes data from 2017 and 2018, whereas a longer period would give more reliable results. However, data from 2019 was not yet available for all firms, and therefore there was decided to exclude 2019 also for the firms that had data for 2019 available. Besides, data from 2016 and earlier was also not accessible for all firms. Therefore, the choice was made to only include 2017 and 2018.

A third limitation is related to the investigated firm characteristics. This research focuses only on synergy, ownership and diversity. However, as mentioned in the introduction and theoretical framework, other firm characteristics can also explain superior financial performance. A few examples of characteristics are the remuneration of executives and employees, CSR activities and innovation. Remuneration can for instance increase the costs and thus decrease performance, but it can also increase performance due to more motivated employees who increase the overall performance of the firm. Also, CSR activities and innovation are financial investments, but it can increase performance. Further research should give more insight into these relationships.

The last limitation is related to COVID-19. COVID-19 made the world suffer both socially and economically. The sample firms act in the Dutch liquor market and can suffer from this pandemic. Especially those firms depending on the hospitality businesses have faced and still face economic hard times. However, some firms mainly depend on supermarkets and liquor stores, which sold more during the lockdown than before. Thus, some firms prosper from COVID-19 while others suffer from it. Concluding, the results of this study might not be applicable anymore to the current situation.

5.2.2. Further research

Besides the limitations of this study, suggestions for further research can also be given. The first suggestion related to the last recommendation. Further research can focus on the results for 2020 and possibly 2021 to examine whether the same results are present during the COVID-19 pandemic. Furthermore, future research should include other firm characteristics to test whether the results change. Examples of such characteristics have been mentioned in the introduction of this paper and are the

remuneration of employees and executives, CSR activities and the level of innovation. For instance, remuneration of employees and executives can influence the pay-performance relationship positively (Gopalan et al., 2017). Besides, for future research, it can be recommended to distinguish between the three different activities: (1) wholesale of liquor; (2) brand builder; and (3) importer to see whether there are differences in these activities. Due to the small sample size of this research, there is chosen to not distinguish because it would make the results less reliable. In the case of larger sample sizes in future research, it is interesting to distinguish between those activities. Fourthly, future research could also distinguish between factors causing the positive relationship between synergy and financial performance. As mentioned in Chapter 2, synergy can be caused by factors that can be customer-specific or diversification, shared-knowledge or shared tangible resources. This research did not take these factors into account, because the data of these factors could not be retrieved due to the confidentiality of this research. Finally, future research can also choose to use another model for financial performance. In Chapter 3.4.1., there was chosen for the Zmijewski model because it has the highest accurate prediction. However, other models may also be suitable for this research and therefore could give other results. Examples of other models are the Altman's model and Springate model.

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Appendices

Appendix A. Data

Dependent variable

Information about the dependent variable can be seen in Table 11 below. The first columns are data about the ROA, total debt ratio and the current ratio. A formula of these three ratios gives the Zmijewski score for each firm.

Case number	ROA (2018)	ROA (2017)	Total debt ratio (2018)	Total debt ratio (2017)	Current ratio (2018)	Current ratio (2017)	Zmijewski score (2018)	Zmijewski score (2017)
Case 1	0.044	0.047	0.711	0.734	1.320	1.260	-0.440	-0.325
Case 2	0.159	0.108	0.509	0.590	1.870	1.610	-2.109	-1.417
Case 3	0.126	0.105	0.904	0.898	1.070	1.070	0.290	0.352
Case 5	0.132	0.121	0.259	0.242	3.600	3.390	-3.404	-3.456
Case 6	0.001	0.011	0.584	1.000	1.370	1.390	-0.971	1.358
Case 8	-0.040	-0.061	0.087	0.073	2.330	2.780	-3.616	-3.602
Case 11	0.106	0.122	0.162	0.413	6.830	2.470	-3.825	-2.484
Case 13	0.021	0.020	0.686	0.618	1.010	1.180	-0.479	-0.867
Case 14	-0.220	-0.354	1.633	1.599	0.520	0.480	6.002	6.411
Case 17	0.049	0.054	0.726	0.712	1.095	1.121	-0.375	-0.477
Case 18	0.119	0.105	0.189	0.240	4.600	3.500	-3.738	-3.391
Case 19	0.008	-0.002	0.871	0.870	1.429	1.473	0.635	0.673
Case 23	0.093	0.010	0.929	1.017	0.950	0.850	0.580	1.455

Table 11. *Sample characteristics - Dependent variable.* This table describes the ROA, Total-debt ratio, Current ratio and the Zmijewski score for all cases in the year 2017 and 2018.

Financial data about the dependent variable is mainly received from the Dutch Chambre of Commerce (KvK). For case 1, 3, 6, 13, 14, 17 and 19, all information could be retrieved from the Chambre of Commerce. For case 2, 5, 8, 11, 18 and 23, a combination of information from the Chambre of Commerce and LexisNexis Company Dashboard was used. Moreover, all financial data has been cross-checked via the Chambre of Commerce, LexisNexis Company Dashboard and/or the Orbis database.

To illustrate, for Case 2, the Chambre of Commerce mentions a net income in 2018 of €1,998,741 and total assets in 2018 of €12,577,031. A calculation of 1,998,741/12,577,031=0.159. The ROA in 2018 of case 2 is thus 0.159. The same information is retrieved from LexisNexis Company Dashboard.

Another illustration is the total debt-ratio of Case 11 in 2017. The Chambre of Commerce and LexisNexis Company Dashboard give a total debt of €6,077,585. Besides, the total assets for Case 11 are €14,703,251 in 2017. The total debt-ratio is thus 6,077,585/14,703,251=0.413.

The last illustration is the current ratio of Case 18 in 2018. The Chambre of Commerce and LexisNexis Company Dashboard give a value for current assets of €4,148,54. Furthermore, the value for total assets is €21,932,416. A calculation of 4,148,54/21,932,416=0.189. The current ratio is thus 0.189.

Independent variables

Data for the independent variables can be found in Table 12 below. The dummy variables receive a value ‘1’ is the variable is present and a value of ‘0’ if they are not present. Gender diversification and national diversification are operationalized as a percentage of the total board or management.

Case number	Synergy dummy	Family ownership dummy	Managerial ownership dummy	Foreign ownership dummy	Gender diversification	National diversification
Case 1	1	1	1	0	0.00%	0.00%
Case 2	0	0	1	0	22.22%	0.00%
Case 3	0	0	0	1	0.00%	50.00%
Case 5	1	1	-	0	-	0.00%
Case 6	0	1	0	0	25.00%	0.00%
Case 8	1	0	0	1	0.00%	100.00%
Case 11	1	1	1	0	0.00%	0.00%
Case 13	1	1	0	0	0.00%	0.00%
Case 14	1	-	-	0	0.00%	0.00%
Case 17	1	0	1	0	0.00%	0.00%
Case 18	0	1	0	0	0.00%	0.00%
Case 19	0	0	0	1	20.00%	0.00%
Case 23	0	1	1	0	0.00%	0.00%

Table 12. *Sample characteristics - Independent variables.* This table describes synergy by a dummy variable, where 1 is a synergy and 0 is no synergy. Furthermore, family ownership, managerial ownership and foreign ownership are measured by a dummy variable. Again, 1 indicates the presence of the ownership form and 0 indicates no presence. Diversity is measured in terms of gender (female board-members) and national (non-Dutch board-members).

Data for the independent variables are mainly received from company websites and LexisNexis Company Dashboard. Additional information is received from the Orbis database.

To illustrate, Company X (Case 1) mentions on the company website that they perform three activities: importer, brand builder and wholesaler. Therefore, Case 1 receives the value '1' for the synergy dummy. Besides, LexisNexis Company Dashboard and the company website mention that the firm is fully owned by two family members. These family members are also the directors (managers) of the firm. Therefore, case 1 also receives the value '1' for the family ownership dummy, '1' for the managerial ownership dummy and '0' for the foreign ownership dummy. Furthermore, the management team consists of only Dutch male persons. Thus both diversity variables are 0.00%.

Another illustration is Case 8. The company website mentions that case 8 is responsible for the sales, marketing and distribution of wine and spirits. Therefore, Case 8 receives the value '1' for the synergy dummy. Moreover, LexisNexis Company Dashboard and the Orbis database mention that Case 8 is fully owned by a French company. Therefore, Case 8 receives the value '1' for the foreign ownership dummy. Moreover, these owners have no family ties and are not the managers or directors of the firm. Therefore they receive the value '0' for both the family ownership dummy and the managerial ownership dummy. Furthermore, the directors are all male and non-Dutch. Therefore gender diversity is 0.00% and the national diversity is 100.00%.

The last illustration is Case 19. The company website mentions that Case 19 performs one activity and therefore they receive the value '0' for the synergy dummy. LexisNexis Company Dashboard and the Orbis database mention that Case 19 is fully owned by a French company. So therefore the firm receives the value '1' for foreign ownership dummy. These owners have no family ties and are not the managers or directors of the firm. So therefore the firm receives the value '0' for both the family ownership dummy and the managerial ownership dummy. Lastly, the company website mentions that the management team exists of 5 Dutch persons, of which 1 is female. Therefore, gender diversity is 20.00% and national diversity is 0.00%.

Control variables

Information about the control variables can be found in Table 13 below. The control variables are used for 2018 and not for 2017 because the values of the variables are almost similar for 2017 and 2018. Also, in Table 13, there can be seen that the values for 2017 and 2018 correlate significantly. Therefore, there will only be controlled for 2018.

Pearson's correlation matrix						
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
(1) Firm size 2018	1					
(2) Firm size 2017	0.979**	1				
(3) Firm assets 2018	0.907**	0.907**	1			
(4) Firm assets 2017	0.876**	0.891**	0.994**	1		
(5) Number employees 2018	0.442	0.383	0.167	0.133	1	
(6) Number employees 2017	0.426	0.369	0.142	0.109	0.996**	1

Table 13. *Pearson's correlation matrix.* The Pearson's correlation matrix measures the correlation among variables. ** denote significance at the 1% level.

Case number	Firm size (2018)	Firm age (2018)	Firm assets (2018)	number of employees (2018)
Case 1	7.437	102	27,375,767	101
Case 2	7.100	15	12,577,031	46
Case 3	7.309	21	20,384,924	61
Case 5	7.143	137	13,900,331	30
Case 6	7.685	325	48,398,000	114
Case 8	8.296	32	197,764,000	53
Case 11	7.065	48	11,618,206	20
Case 13	7.479	73	30,139,990	109
Case 14	7.026	151	10,617,423	51
Case 17	7.905	35	80,437,100	79
Case 18	7.341	42	21,932,416	16
Case 19	7.533	52	34,104,000	56
Case 23	7.034	41	10,822,274	29

Table 14. *Sample characteristics – Control variables.* This table described the control variables firm size, firm age, firm assets and the number of employees for the year 2018.

Data for the control variables are mainly received from the Chambre of Commerce and LexisNexis Company Dashboard. For additional information and to cross-check, the Orbis database was used.

An illustration is Case 5. The Chambre of Commerce and the LexisNexis Company Dashboard mention total assets of €13,900,331. The natural logarithm of €13,900,331 is 7.143. Besides, the company website mentions an age of 137 years for Case 5. The number of employees of 30 is confirmed by both the Chambre of Commerce and the LexisNexis Company Dashboard.

Another illustration is Case 13. The Chambre of commerce and the LexisNexis Company mention total assets of €30,139,990. The natural logarithm of €30,139,990 is 7.479. Besides, the company website mentions the age of 73 in the year 2018. Lastly, the number of employees of 109 is confirmed by both the Chambre of Commerce and the LexisNexis Company Dashboard.

Appendix B. PLS: SPSS output results from the Zmijewski model

Excluding control variables (model 1 and 2)

In this Appendix, all tables from the SPSS output are presented. The PLS regression analysis gives five different tables. The various firm characteristics are used as the independent variables, while the Zmijewski score is used as a dependent variable. This PLS regression analysis is performed thrice. First, without control variables followed by a PLS regression analysis including control variables. The last is a PLS regression analysis including control variables but excluding firm size. In the follow-up sections, the Zmijewski score will be compared with the individual cases and the announced correlational analysis will take place to look at the strength of the relationships between firm characteristics and financial performance.

Proportion of Variance Explained					
Latent Factors	**X Variance**	**Cumulative X Variance**	**Y Variance**	**Cumulative Y Variance (R-square)**	**Adjusted R-square**
1	0.275	0.275	0.194	0.194	0.093
2	0.067	0.342	0.275	0.469	0.318
3	0.408	0.750	0.026	0.495	0.243
4	0.116	0.865	0.020	0.516	0.128
5	0.106	0.971	0.005	0.521	-0.078
6	0.029	1.000	0.006	0.526	-0.421

Table 15. *Proportion of variance explained*

In Table 15, the proportion of variance explained is given. This is the first table shown in the SPSS output. This tables gives several latent factors, of which the factor with the highest variance explained should be used in the other tables. These latent factors explain as much of the covariance as possible between the independent and dependent variables. This PLS regression analysis gives six latent factors, of which latent factor 1 has the highest variance explained. 27.5% of the variance is explained by X, the independent variable, while 19.4% of the variance is explained by Y, the dependent variable. The other latent factors have lower variance explained. Therefore, the rest of the analysis will use latent factor 1.

Parameters		
Independent Variables	**Zmijewski 2018**	**Zmijewski 2017**
(Constant)	-0.767	-1.328
Synergy	-0.816	-0.413
Family ownership	-0.392	-1.135
Managerial ownership	1.814	0.949
Foreign ownership	4.007	3.753
Gender diversity	-0.092	-0.110
National diversity	-0.053	-0.060

Table 16. *Parameters.* The parameters table shows the estimated regression coefficient of each independent variable for predicting the dependent variable.

Table 16 is the second table from the SPSS output. This parameters table shows the estimated regression coefficients of each independent variable for predicting the dependent variable. It describes the association between the independent and dependent variables. Foreign ownership has the highest association in both 2017 and 2018. The regression coefficients indicate that foreign ownership leads to a higher Zmijewski score and thus lower financial performance. Also, managerial ownership decreases

financial performance. On the other hand, the regression coefficients for synergy, family ownership, gender diversity and national diversity indicate an increasing financial performance.

Variable Importance in the Projection						
Variables	**1**	**2**	**3**	**4**	**5**	**6**
Synergy	1.423	0.953	0.950	1.000	0.997	0.991
Family ownership	0.512	0.450	0.448	0.470	0.470	0.499
Managerial ownership	0.685	0.596	0.701	0.688	0.712	0.712
Foreign ownership	0.480	1.365	1.337	1.335	1.329	1.331
Gender diversity	0.777	1.197	1.207	1.188	1.182	1.179
National diversity	1.552	1.428	1.498	1.493	1.495	1.487

Table 17. *Variable importance in the projection.* Cumulative Variable Importance. The table shows the importance of variables in a given factor.

Table 17 shows the importance of variables in a given factor. Following factor 1, synergy and national diversity are the most important variables in the projection. Foreign ownership is the least important variable.

When combining these results with the previous table, there can be mentioned that national diversity decreases the Zmijewski score and thus increases the financial performance. So national diversity increases performance and it is an important variable to consider. The same is the case for synergy. Foreign ownership has the highest regression coefficients, but it is the least important variable.

Weights						
Variables	**1**	**2**	**3**	**4**	**5**	**6**
Synergy	-0.581	-0.143	0.365	0.748	0.252	0.078
Family ownership	-0.209	-0.163	0.172	-0.343	0.204	0.674
Managerial ownership	0.280	0.214	0.702	0.052	-0.802	0.318
Foreign ownership	0.196	0.709	0.262	0.530	0.111	0.595
Gender diversity	0.317	-0.580	-0.558	0.236	0.063	0.344
National diversity	-0.634	-0.545	-0.993	-0.567	-0.674	0.136
Zmijewski 2017	0.427	1.127	0.141	0.120	-0.015	0.256
Zmijewski 2018	0.326	1.117	0.065	0.239	0.128	-0.045

Table 18. *Weights.* This table shows the relationship between the independent and dependent variables.

The weights show the relationship between the independent and dependent variables. Thus, a positive association means that when the independent variable increases, the dependent variable also increases, and the other way around. A negative association means an increase in the independent variable causes a decrease in the dependent variable and the other way around.

To illustrate the values given in the table, synergy is negatively associated with the Zmijewski score, indicating a higher financial performance. Of the various ownership structures, family ownership is negatively associated, following latent factor 1. Managerial ownership and foreign ownership are positively associated with the Zmijewski score. Furthermore, gender diversity is positively associated, while national diversity is negatively associated.

Loadings						
Variables	**1**	**2**	**3**	**4**	**5**	**6**
Synergy	-0.645	-0.381	0.282	0.644	-0.047	-0.022
Family ownership	-0.193	-0.312	0.446	-0.671	0.491	0.745
Managerial ownership	0.222	-0.323	0.507	0.101	0.750	0.139
Foreign ownership	-0.087	0.945	-0.562	0.344	-0.036	0.532
Gender diversity	0.673	-0.730	-0.245	0.471	-0.010	0.338
National diversity	-0.515	0.236	-0.478	0.018	-0.466	0.170
Zmijewski 2017	0.715	0.684	0.734	0.668	0.940	1.249
Zmijewski 2018	0.711	0.730	0.796	0.783	1.118	1.335

Table 19. *Loadings.*

The last table from the SPSS output of the PLS regression analysis presents the factor loadings. Following the guidelines from Hair et al. (1995), a factor loading greater than 0.300 indicates significance, a loading greater than 0.400 is considered more important and a loading greater than 0.500 is considered to be very significant. Following latent factor 1, synergy, gender diversity and national diversity are very significant. The other variables are not significant.

These results indicate the relationship between firm characteristics and financial performance, excluding the control variables.

Table 16 shows the regression coefficients. Taking into account all hypotheses, there can be seen that synergy is significantly and negatively associated with the Zmijewski score and thus increase performance. Thus, firms can better focus on performing more than one activity. Therefore, **the first hypothesis**, *the application of an intra-business synergy model in a firm increases the financial performance*, can be accepted.

Family ownership is insignificantly negatively associated with the Zmijewski score. Thus, family-owned firms have higher performance, but not significant. Therefore, **hypothesis 2a**, *family-ownership increases financial performance*, cannot be accepted.

Managerial ownership is, on the other hand, insignificantly and positively associated with the Zmijewski score. **Hypothesis 2b**, *managerial ownership increases financial performance in a dispersed environment*, can therefore not be accepted.

Foreign ownership is also insignificantly and positively associated with the Zmijewski score, according to the results. Therefore, **hypothesis 2c**, *foreign corporate ownership increases financial performance*, cannot be accepted.

In this research, diversity was measured in terms of national and gender diversity. Gender diversity is significantly and negatively associated with the Zmijewski score and therefore increases the financial performance. Therefore, **hypothesis 3a**, *gender diversity increases financial performance*, can be accepted. Moreover, national diversity also has a significant and negative association and thus increases the financial performance. Thus, **hypothesis 3b**, *national diversity increases financial performance*, can be accepted.

Summarizing, excluding the control variables, hypothesis 1 (synergy), 3a (gender diversity) and 3b (national diversity) can be accepted. However, including the control variables, results can change. Therefore, the same analysis will be performed including control variables.

Including control variables (model 3 and 4)

Proportion of Variance Explained					
Latent Factors	**X Variance**	**Cumulative X Variance**	**Y Variance**	**Cumulative Y Variance (R-square)**	**Adjusted R-square**
1	0.277	0.277	0.370	0.370	0.291
2	0.218	0.494	0.216	0.585	0.467
3	0.142	0.637	0.132	0.717	0.575
4	0.180	0.817	0.067	0.783	0.610
5	0.041	0.858	0.053	0.836	0.631
6	0.091	0.948	0.017	0.853	0.560
7	0.018	0.966	0.084	0.937	0.716
8	0.019	0.985	0.062	0.999	0.994
9	0.015	1.000	0.001	1.000	

Table 20. *Proportion of variance explained*

Table 20 indicates that latent factor 1 has the highest variance explained of the nine latent factors that are given. Latent factor 1 indicates that 27.7% of the variance is explained by X, the independent variable, while 37.0% of the variance is explained by Y, the dependent variable.

Parameters		
Independent Variables	**Zmijewski 2017**	**Zmijewski 2018**
(Constant)	8.227	2.941
Synergy	-2.621	-3.029
Family ownership	4.694	4.395
Managerial ownership	3.498	3.041
Foreign ownership	7.616	7.306
Gender diversity	-0.069	-0.082
National diversity	-0.090	-0.092
Firm size 2018	-2.061	-1.383
Firm age 2018	-0.079	-0.077
Firm assets 2018	3.790E-8	3.764E-8
Number employees 2018	0.081	0.092

Table 21. *Parameters.* The parameters table shows the estimated regression coefficient of each independent variable for predicting the dependent variable.

Table 21 shows that a synergy leads to a decreasing Zmijewski score, which indicates an increasing financial performance. These results are in line with the results excluding control variables.

When the control variables are included, all ownership variables show positive regression coefficients. Thus, when the control variables are included, family ownership changes from a negative association to a positive association. This means that family ownership, managerial ownership and foreign ownership increase the Zmijewski score and thus decrease the financial performance.

Also, diversity shows negative regression coefficients, both for gender diversity and national diversity. These results are in line with the results excluding control variables. So both gender diversity and national diversity increase financial performance.

Variable Importance in the Projection									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	1.149	1.100	1.070	1.318	1.319	1.336	1.275	1.241	1.242
Family ownership	0.429	1.004	0.907	0.899	0.883	0.934	1.049	1.385	1.384
Managerial ownership	0.534	0.425	0.809	1.013	1.044	1.039	0.993	1.022	1.022
Foreign ownership	0.404	1.240	1.205	1.309	1.295	1.312	1.318	1.604	1.604
Gender diversity	0.629	0.505	1.205	1.346	1.303	1.296	1.237	1.216	1.215
National diversity	1.252	0.995	0.901	0.862	0.956	1.000	1.118	1.196	1.196
Firm size 2018	0.938	0.791	0.716	0.694	0.737	0.736	0.713	0.824	0.824
Firm age 2018	0.657	0.626	0.571	0.682	0.664	0.657	0.895	1.033	1.032
Firm assets 2018	1.543	1.247	1.133	1.085	1.117	1.127	1.187	1.366	1.366
Number employees 2018	1.547	2.061	1.946	1.861	1.801	1.783	1.750	1.742	1.741

Table 22. *Variable importance in the projection.* Cumulative Variable Importance. The table shows the importance of variables in a given factor.

The variable importance in the projection table shows that synergy, national diversity, firm assets and the number of employees are the most important variables in the projection.

Weights									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	-0.363	-0.320	-0.294	-0.900	-0.425	-0.626	-0.005	0.165	-0.501
Family ownership	-0.136	-0.492	-0.017	-0.254	0.192	0.733	0.585	1.191	0.376
Managerial ownership	0.169	0.008	0.526	0.710	0.451	-0.237	0.062	0.438	0.114
Foreign ownership	0.128	0.624	0.328	0.671	0.338	0.625	0.435	1.231	-0.330
Gender diversity	0.199	-0.038	-0.823	-0.753	-0.058	-0.282	-0.016	0.262	0.203
National diversity	-0.396	-0.012	-0.035	-0.041	-0.588	-0.712	-0.617	-0.643	0.412
Firm size 2018	-0.296	0.139	-0.029	-0.124	0.381	0.204	-0.129	-0.571	-0.109
Firm age 2018	0.208	0.180	0.055	-0.444	0.090	0.000	-0.675	-0.712	-0.055
Firm assets 2018	-0.488	-0.119	-0.087	-0.048	0.481	0.478	0.531	0.936	0.383
Number employees 2018	0.489	0.862	0.416	-0.002	-0.023	0.053	0.431	0.511	0.389
Zmijewski 2017	0.483	0.265	0.449	0.243	0.523	0.122	1.171	0.698	0.018
Zmijewski 2018	0.423	0.411	0.458	0.149	0.488	0.193	1.375	0.412	0.095

Table 23. *Weights.* This table shows the relationship between the independent and dependent variables.

The weights in Table 23 show the relationship between the independent and dependent variables. Following latent factor 1, a synergy is negatively associated with the Zmijewski score. Thus, a synergy increases financial performance. Furthermore, managerial ownership, foreign ownership and national diversity are positively associated and thus indicate a lower financial performance. Also, the control variables firm age and the number of employees are positively associated and indicate a lower financial performance. So, older firms and larger firms in terms of the number of employees can indicate decreasing financial performance.

Loadings									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	-0.314	0.004	0.512	-0.542	0.037	-0.434	0.107	0.222	-0.514
Family ownership	0.159	-0.497	0.470	-0.325	-0.287	0.471	-0.331	0.274	0.276
Managerial ownership	0.234	-0.342	0.402	0.037	0.869	-0.787	-0.262	0.283	0.095
Foreign ownership	-0.275	0.523	-0.304	0.275	-0.222	0.291	-0.799	0.575	-0.423
Gender diversity	0.343	0.192	-0.968	0.083	0.383	-0.299	-0.275	0.256	0.191
National diversity	-0.609	0.296	-0.011	0.180	-0.461	-0.019	-0.736	0.319	0.471
Firm size 2018	-0.550	0.388	-0.012	-0.205	0.631	-0.039	0.348	-0.381	-0.066
Firm age 2018	0.201	0.029	0.531	-0.581	0.308	0.329	-1.230	0.352	0.014
Firm assets 2018	-0.664	0.250	-0.093	-0.097	0.487	-0.138	0.086	0.066	0.308
Number employees 2018	0.133	0.482	0.509	-0.439	-.086	-0.191	0.622	-0.168	0.337
Zmijewski 2017	0.710	0.683	0.742	0.772	0.728	0.743	0.752	0.859	0.188
Zmijewski 2018	0.708	0.749	0.673	0.653	0.685	0.714	0.673	0.513	0.982

Table 24. *Loadings.*

Following again the guidelines from Hair et al. (1995), synergy and gender diversity are significant. National diversity, firm size and firm assets are considered to be very significant.

The acceptance of **hypothesis 1** (synergy), **hypothesis 3a** (gender diversity) and **hypothesis 3b** (national diversity), remains the same with inclusion of the control variables. So, *synergy, gender diversity and national diversity increase financial performance*..

Moreover, without control variables, **hypothesis 2a** (family ownership), **hypothesis 2b** (managerial ownership) and **hypothesis 2c** (foreign ownership) could not be accepted. This remains the same with the inclusion of control variables.

Including control variables (model 5 and 6)

Proportion of Variance Explained					
Latent Factors	**X Variance**	**Cumulative X Variance**	**Y Variance**	**Cumulative Y Variance (R-square)**	**Adjusted R-square**
1	0.223	0.223	0.429	0.429	0.358
2	0.247	0.470	0.164	0.593	0.476
3	0.161	0.631	0.129	0.722	0.583
4	0.181	0.813	0.068	0.790	0.621
5	0.046	0.859	0.047	0.836	0.632
6	0.089	0.048	0.027	0.864	0.591
7	0.031	0.979	0.044	0.908	0.585
8	0.006	0.985	0.084	0.992	0.926
9	0.015	1.000	0.008	1.000	-

Table 25. *Proportion of variance explained*

Parameters		
Independent Variables	**Zmijewski 2017**	**Zmijewski 2018**
(Constant)	-7.407	-7.407
Synergy	-2.992	-2.992
Family ownership	5.136	5.136
Managerial ownership	3.341	3.341
Foreign ownership	7.555	7.555
Gender diversity	-0.063	-0.063
National diversity	-0.087	-0.087
Firm age 2018	-0.085	-0.085
Firm assets 2018	2.877E-8	2.877E-8
Number employees 2018	0.093	0.093

Table 26. *Parameters.* The parameters table shows the estimated regression coefficient of each independent variable for predicting the dependent variable.

Variable Importance in the Projection									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	1.136	1.103	1.072	1.281	1.258	1.278	1.255	1.212	1.212
Family ownership	0.433	0.829	0.751	0.731	0.728	0.815	0.856	1.101	1.120
Managerial ownership	0.518	0.441	0.807	1.023	1.045	1.031	1.006	0.982	0.980
Foreign ownership	0.408	1.130	1.120	1.188	1.201	1.237	1.223	1.334	1.328
Gender diversity	0.622	0.592	1.219	1.315	1.278	1.265	1.240	1.195	1.193
National diversity	1.238	1.067	0.967	0.927	0.595	1.052	1.221	1.220	1.217
Firm age 2018	0.658	0.577	0.529	0.638	0.625	0.617	0.798	0.971	0.974
Firm assets 2018	1.524	1.301	1.191	1.147	1.205	1.261	1.346	1.299	1.296
Number employees 2018	1.553	1.778	1.705	1.631	1.585	1.561	1.564	1.527	1.528

Table 27. *Variable importance in the projection.* Cumulative Variable Importance. The table shows the importance of variables in a given factor.

Weights									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	-0.379	-0.337	-0.305	-0.875	-0.260	-0.600	-0.216	0.192	-0.372
Family ownership	-0.144	-0.471	0.011	-0.155	0.223	0.732	0.478	0.844	0.836
Managerial ownership	0.173	0.000	0.552	0.766	0.455	-0.121	0.048	0.224	0.241
Foreign ownership	0.136	0.682	0.358	0.586	0.466	0.683	0.307	0.733	0.036
Gender diversity	0.207	-0.168	-0.862	-0.693	0.025	-0.254	-0.187	0.166	0.319
National diversity	-0.413	0.109	-0.015	-0.071	-0.462	-0.876	-0.997	-0.403	0.289
Firm age 2018	0.219	0.089	0.063	-0.443	0.119	-0.079	-0.792	-0.688	-0.423
Firm assets 2018	-0.508	-0.063	-0.134	-0.162	0.645	0.802	0.827	0.192	0.318
Number employees 2018	0.518	0..755	0.438	-0.075	0.016	0.126	0.537	0.348	0.546
Zmijewski 2017	0.567	0.234	0.416	0.263	0.608	0.207	0.343	1.608	0.250
Zmijewski 2018	0.536	0.375	0.427	0.140	0.465	0.271	0.554	1.147	0.251

Table 28. *Weights.* This table shows the relationship between the independent and dependent variables.

Loadings									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	-0.305	-0.047	0.482	-0.575	0.303	-0.528	0.094	0.609	-0.478
Family ownership	0.103	-0.550	0.458	-0.250	-0.339	0.560	-0.453	0.333	0.374
Managerial ownership	0.222	-0.411	0.356	0.135	1.109	-0.836	0.063	0.101	0.125
Foreign ownership	-0.260	0.628	-0.279	0.166	0.138	0.302	-0.552	0.712	-0.360
Gender diversity	0.413	0.149	-0.915	0.088	0.546	-0.302	-0.122	0.135	0.236
National diversity	-0.662	0.424	-0.010	0.073	-0.083	-0.076	-0.410	-0.055	0.518
Firm age 2018	0.269	-0.076	0.519	-0.576	0.526	0.384	-0.589	-0.215	-0.032
Firm assets 2018	-0.674	0.310	-0.092	-0.193	0.732	-0.141	0.358	-0.457	0.209
Number employees 2018	0.263	0.399	0.483	-0.501	-0.069	-0.272	0.389	-0.138	0.344
Zmijewski 2017	0.708	0.699	0.750	0.791	0.735	0.711	0.745	0.806	0.707
Zmijewski 2018	0.707	0.743	0.666	0.641	0.685	0.715	0.715	0.593	0.707

Table 29. *Loadings*

Appendix C. OLS: Additional robustness test

In this Appendix, an additional robustness check is performed. Whereas this research does not meet the assumptions of ordinary least squares (OLS) regression, the additional robustness check will use this technique. It will be used to check for the direction, not for significance. The choice for this technique is based on argumentation that OLS regression is often used as an alternative to PLS regression (Lewis-Beck, Bryman, & Liao, 2011b). PLS is known as a variation to OLS (Lewis-Beck, Bryman, & Liao, 2011a). Furthermore, OLS regression is a frequently used technique in examining financial performance (Ahmadi et al., 2018; Alessandri & Seth, 2014; Cheng et al., 2012; Cui & Mak, 2002; Hutchinson et al., 2015; Lee & Li, 2012; Li et al., 2007; Low et al., 2015; Paniagua et al., 2018). Therefore, OLS regression seems to fit to test the sensitivity of the results when the method is changed. And by performing this additional robustness check, more certainty can be given about certain hypotheses.

In Table 30, the relationship between the various firm characteristics and financial performance is presented. The Zmijewski score is used as the dependent variable, while the firm characteristics and control variables are the independent variables. In model 1 and 2, the regression analysis performed excluding control variables. Model 1 contains the results for 2018 and model 2 contains the results for 2017. In model 3 and 4, the regression analysis is performed including control variables. Model 3 contains the results for 2018 and model 2 contains the results for 2017.

Coefficients				
	Model 1 (2018)	**Model 2 (2017)**	**Model 3 (2018)**	**Model 4 (2017)**
Synergy	-0.118	-0.252	-0.858	-0.791
Family ownership	-0.325	-0.121	1.473	1.789
Managerial ownership	0.272	0.560	0.958	1.217
Foreign ownership	0.986	1.133	1.985	2.258
Gender diversity	-0.531	-0.481	-0.307	-0.217
National diversity	-1.107	-1.047	-1.591	-1.614
Firm age 2018			-1.185	-1.374
Firm assets 2018			0.899	0.830
Number employees 2018			1.612	1.550
Adjusted R^2	-0.597	-0.244	-	-
N	13	13	13	13

Table 30. *Presence of firm characteristics on Zmijewski score.* This table presents the results of the OLS regression of the influence of various firm characteristics on financial performance. Standardized coefficients are reported. Variable definitions are described in Table 3. Financial performance is the dependent variable and is measured by the Zmijewski score. Model 1 and model 2 present the influence of firm characteristics on the Zmijewski score in 2018 and 2017, excluding control variables. Model 3 and 4 present the influence of firm characteristics on the Zmijewski score in 2018 and 2017, including control variables.

In Table 30, there can be seen, despite the insignificance, that the variables **synergy**, **gender diversity** and **national diversity** again show a negative regression coefficient in all models. Thus, based on the OLS regression analysis, these characteristics again decrease the Zmijewski score and thus increase financial performance. These results are consistent with the PLS regression results in Table 8.

Table 30 also shows that managerial ownership and foreign ownership have a positive regression coefficient. These ownership forms thus increase the Zmijewski score and therefore decrease the financial performance of firms active in the Dutch liquor industry. These results are also consistent with the PLS regression results in Table 8.

Family ownership again shows a negative regression coefficient in model 1 and 2. In model 3 and 4, where the control variables are included, the coefficient change from negative into positive. The same

happened in Table 8. The results are thus consistent, but because of the changing direction, a conclusion about family ownership cannot be made.

Overall, the OLS regression gives the same results as the PLS regression analysis. Therefore, there can be concluded that the first PLS regression analysis in Chapter 4.2.2. was performed well and that the results are robust.

Appendix D. PLS: SPSS output results from the ROA

Excluding control variables

Proportion of Variance Explained					
Latent Factors	**X Variance**	**Cumulative X Variance**	**Y Variance**	**Cumulative Y Variance (R-square)**	**Adjusted R-square**
1	0.376	0.376	0.344	0.344	0.262
2	0.305	0.682	0.080	0.424	0.259
3	0.126	0.808	0.063	0.487	0.231
4	0.112	0.919	0.013	0.500	0.100
5	0.056	0.975	0.015	0.515	-0.091
6	0.025	1.000	0.005	0.519	-0.442

Table 31. *Proportion of variance explained*

Parameters		
Independent Variables	**ROA 2017**	**ROA 2018**
(Constant)	0.122	0.141
Synergy	-0.044	-0.095
Family ownership	-0.037	-0.023
Managerial ownership	0.004	0.027
Foreign ownership	-0.051	-0.077
Gender diversity	-0.002	-0.001
National diversity	-0.001	0.000

Table 32. *Parameters.* The parameters table shows the estimated regression coefficient of each independent variable for predicting the dependent variable.

Variable Importance in the Projection						
Variables	**1**	**2**	**3**	**4**	**5**	**6**
Synergy	1.224	1.529	1.538	1.519	1.496	1.489
Family ownership	0.457	0.544	0.515	0.617	0.659	0.657
Managerial ownership	1.000	0.901	0.859	0.850	0.885	0.884
Foreign ownership	1.230	1.108	1.077	1.082	1.082	1.089
Gender diversity	0.317	0.287	0.785	0.781	0.789	0.790
National diversity	1.297	1.178	1.153	1.138	1.144	1.147

Table 33. *Variable importance in the projection.* Cumulative Variable Importance. The table shows the importance of variables in a given factor.

Weights						
Variables	**1**	**2**	**3**	**4**	**5**	**6**
Synergy	-0.500	-0.996	-0.653	-0.053	0.010	-0.031
Family ownership	0.187	-0.334	-0.104	-0.895	-0.609	0.070
Managerial ownership	0.408	0.021	0.198	0.163	-0.683	-0.275
Foreign ownership	-0.502	0.031	-0.341	-0.521	-0.433	-0.715
Gender diversity	0.129	0.030	-0.836	-0.249	-0.415	0.354
National diversity	-0.529	0.143	0.394	0.024	-0.545	0.575
ROA 2017	0.374	0.092	0.196	0.174	0.303	-0.081
ROA 2018	0.451	0.336	0.386	0.164	-0.002	0.235

Table 34. *Weights.* This table shows the relationship between the independent and dependent variables.

Loadings						
Variables	**1**	**2**	**3**	**4**	**5**	**6**
Synergy	-0.209	-0.803	-0.120	0.335	-0.097	-0.017
Family ownership	0.340	-0.479	0.389	-0.899	0.004	0.207
Managerial ownership	0.462	-0.252	0.095	0.718	-0.836	-0.398
Foreign ownership	-0.568	0.426	-0.204	-0.187	-0.172	-0.644
Gender diversity	0.162	0.506	-0.906	0.161	-0.267	0.384
National diversity	-0.637	0.114	0.295	0.138	-0.454	0.486
ROA 2017	0.706	0.814	0.851	0.829	1.005	2.230
ROA 2018	0.714	0.814	0.689	0.579	0.659	1.823

Table 35. *Loadings.*

Including control variables

Proportion of Variance Explained					
Latent Factors	**X Variance**	**Cumulative X Variance**	**Y Variance**	**Cumulative Y Variance (R-square)**	**Adjusted R-square**
1	0.303	0.303	0.564	0.564	0.510
2	0.295	0.598	0.063	0.627	0.521
3	0.125	0.723	0.096	0.724	0.586
4	0.091	0.814	0.056	0.780	0.604
5	0.024	0.838	0.069	0.850	0.662
6	0.098	0.936	0.017	0.867	0.601
7	0.031	0.968	0.047	0.914	0.613
8	0.017	0.985	0.052	0.966	0.698
9	0.015	1.000	0.034	1.000	-

Table 36. *Proportion of variance explained*

Parameters		
Independent Variables	**ROA 2017**	**ROA 2018**
(Constant)	0.350	0.272
Synergy	0.071	-0.006
Family ownership	-0.279	-0.148
Managerial ownership	-0.087	-0.027
Foreign ownership	-0.238	-0.177
Gender diversity	-0.003	-0.001
National diversity	0.003	0.002
Firm age 2018	0.003	0.001
Firm assets 2018	-2.363E-9	-1.680E-9
Number employees 2018	-0.002	-0.001

Table 37. *Parameters.* The parameters table shows the estimated regression coefficient of each independent variable for predicting the dependent variable.

Variable Importance in the Projection									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	1.039	1.009	1.008	1.005	1.134	1.128	1.115	1.084	1.067
Family ownership	0.388	0.493	0.486	0.620	0.620	0.651	0.696	0.910	1.129
Managerial ownership	0.848	0.806	0.751	0.757	0.776	0.777	0.761	0.799	0.787
Foreign ownership	1.043	0.992	0.965	0.930	0.895	0.915	1.045	1.190	1.188
Gender diversity	0.269	0.336	0.859	0.828	0.816	0.818	0.802	0.783	0.809
National diversity	1.099	1.108	1.099	1.069	1.059	1.095	1.393	1.375	1.356
Firm age 2018	0.786	1.023	1.085	1.056	1.018	1.015	1.113	1.152	1.263
Firm assets 2018	1.754	1.685	1.719	1.838	1.841	1.830	1.842	1.797	1.781
Number employees 2018	0.995	0.972	0.923	0.969	1.014	1.006	0.989	0.996	1.044

Table 38. *Variable importance in the projection.* Cumulative Variable Importance. The table shows the importance of variables in a given factor.

Weights									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	-0.346	-0.229	0.333	0.322	0.699	0.255	-0.279	-0.027	-0.069
Family ownership	0.129	-0.346	-0.146	-0.503	-0.207	-0.512	-0.420	-0.871	-1.254
Managerial ownership	0.283	-0.049	0.038	-0.276	-0.322	0.262	-0.124	-0.432	-0.072
Foreign ownership	-0.348	0.079	-0.258	-0.012	-0.092	-0.540	-0.803	-0.887	-0.372
Gender diversity	0.090	-0.229	-0.731	0.009	0.224	0.304	0.137	-0.104	-0.454
National diversity	-0.366	0.394	0.345	0.192	0.313	0.743	1.316	0.335	0.203
Firm age 2018	-0.262	-0.737	-0.474	-0.189	0.129	0.294	0.748	0.565	1.021
Firm assets 2018	-0.585	-0.281	-0.643	-0.988	-0.627	-0.375	-0.682	-0.206	-0.408
Number employees 2018	-0.332	-0.246	0.166	0.476	-0.474	-0.170	-0.198	-0.370	-0.660
ROA 2017	0.423	0.099	0.405	0.363	0.924	0.234	0.306	1.089	0.679
ROA 2018	0.514	0.247	0.302	0.213	0.196	0.242	0.566	0.530	0.179

Table 39. *Weights.* This table shows the relationship between the independent and dependent variables.

Loadings									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	-0.335	-0.427	0.458	-0.162	0.558	0.572	-0.519	0.070	-0.105
Family ownership	0.232	-0.470	0.371	-0.453	0.399	-0.628	0.549	-0.255	-0.322
Managerial ownership	0.319	-0.207	0.267	-0.234	-0.488	1.213	-0.314	-0.785	0.389
Foreign ownership	-0.386	0.400	-0.415	0.240	0.234	-0.349	0.160	-1.013	0.556
Gender diversity	0.177	0.149	-0.936	0.386	0.116	0.566	-0.129	0.123	-0.361
National diversity	-0.494	0.383	0.098	-0.228	0.072	0.138	0.515	-0.314	-0.099
Firm age 2018	-0.084	-0.703	-0.045	0.000	0.039	-0.296	0.384	-0.370	0.433
Firm assets 2018	-0.534	0.154	-0.048	-0.466	-0.239	0.347	-0.335	0.446	-0.204
Number employees 2018	-0.297	-0.433	0.087	0.719	-0.745	0.180	0.005	0.106	-0.235
ROA 2017	0.706	0.867	0.859	0.879	0.927	0.801	0.851	0.932	0.967
ROA 2018	0.714	0.730	0.521	0.478	0.448	0.616	0.677	0.370	0.255

Table 40. *Loadings.*

Appendix E. PLS: SPSS output results from the debt ratio

Excluding control variables

Proportion of Variance Explained					
Latent Factors	**X Variance**	**Cumulative X Variance**	**Y Variance**	**Cumulative Y Variance (R-square)**	**Adjusted R-square**
1	0.283	0.283	0.249	0.249	0.155
2	0.268	0.551	0.148	0.397	0.225
3	0.218	0.769	0.148	0.545	0.317
4	0.109	0.879	0.029	0.573	0.232
5	0.094	0.973	0.007	0.581	0.057
6	0.027	1.000	0.006	0.587	-0.240

Table 41. *Proportion of variance explained*

Parameters		
Independent Variables	**Debt ratio 2017**	**Debt ratio 2018**
(Constant)	0.617	0.730
Synergy	-0.178	-0.148
Family ownership	-0.098	-0.219
Managerial ownership	0.322	0.188
Foreign ownership	0.663	0.598
Gender diversity	-0.018	-0.020
National diversity	-0.010	-0.010

Table 42. *Parameters.* The parameters table shows the estimated regression coefficient of each independent variable for predicting the dependent variable.

Variable Importance in the Projection						
Variables	**1**	**2**	**3**	**4**	**5**	**6**
Synergy	1.457	1.249	1.078	1.111	1.108	1.102
Family ownership	0.344	0.523	0.464	0.499	0.502	0.522
Managerial ownership	0.790	0.648	0.975	0.958	0.969	0.968
Foreign ownership	0.151	1.117	1.474	1.470	1.465	1.465
Gender diversity	0.726	0.961	1.804	1.759	1.747	1.741
National diversity	1.607	1.409	1.866	1.849	1.849	1.840

Table 43. *Variable importance in the projection.* Cumulative Variable Importance. The table shows the importance of variables in a given factor.

Weights						
Variables	**1**	**2**	**3**	**4**	**5**	**6**
Synergy	-0.595	-0.320	-0.125	0.646	0.339	0.052
Family ownership	-0.140	-0.298	-0.098	-0.385	0.281	0.635
Managerial ownership	0.323	0.114	0.629	0.233	-0.641	0.377
Foreign ownership	0.062	0.742	0.881	0.575	0.398	0.597
Gender diversity	0.296	-0.515	-1.260	0.088	0.108	0.303
National diversity	-0.656	-0.404	-1.119	-0.614	-0.738	0.150
Debt ratio 2017	0.461	0.532	0.394	0.223	0.057	0.250
Debt ratio 2018	0.366	0.608	0.298	0.243	0.153	-0.070

Table 44. *Weights.* This table shows the relationship between the independent and dependent variables.

Loadings						
Variables	**1**	**2**	**3**	**4**	**5**	**6**
Synergy	-0.573	-0.714	0.201	0.687	0.019	-0.023
Family ownership	-0.053	-0.834	0.479	-0.645	0.448	0.656
Managerial ownership	0.314	-0.704	0.413	0.384	-0.763	0.373
Foreign ownership	-0.238	1.201	-0.396	0.204	0.093	0.533
Gender diversity	0.583	0.069	-0.582	0.401	0.052	0.292
National diversity	-0.599	0.624	-0.382	-0.095	-0.456	0.246
Debt ratio 2017	0.713	0.679	0.697	0.644	0.670	1.499
Debt ratio 2018	0.710	0.735	0.737	0.767	0.817	1.635

Table 45. *Loadings.*

Including control variables

Proportion of Variance Explained					
Latent Factors	**X Variance**	**Cumulative X Variance**	**Y Variance**	**Cumulative Y Variance (R-square)**	**Adjusted R-square**
1	0.260	0.260	0.435	0.435	0.365
2	0.218	0.478	0.208	0.644	0.542
3	0.201	0.679	0.114	0.758	0.637
4	0.135	0.814	0.083	0.841	0.713
5	0.047	0.861	0.032	0.873	0.714
6	0.090	0.951	0.020	0.893	0.678
7	0.028	0.980	0.037	0.930	0.686
8	0.006	0.986	0.061	0.991	0.922
9	0.014	1.000	0.009	1.000	-

Table 46. *Proportion of variance explained*

Parameters		
Independent Variables	**Debt ratio 2017**	**Debt ratio 2018**
(Constant)	-0.236	-0.336
Synergy	-0.394	-0.533
Family ownership	0.799	0.787
Managerial ownership	0.625	0.567
Foreign ownership	1.216	1.188
Gender diversity	-0.009	-0.012
National diversity	-0.012	-0.013
Firm age 2018	-0.014	-0.014
Firm assets 2018	2.470E-9	3.747E-9
Number employees 2018	0.013	0.015

Table 47. *Parameters.* The parameters table shows the estimated regression coefficient of each independent variable for predicting the dependent variable.

Variable Importance in the Projection									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	1.239	1.207	1.134	1.259	1.242	1.256	1.244	1.214	1.213
Family ownership	0.302	0.857	0.790	0.760	0.754	0.808	0.842	1.011	1.038
Managerial ownership	0.658	0.542	0.765	0.992	1.015	1.004	0.985	0.966	0.965
Foreign ownership	0.138	1.066	1.050	1.101	1.122	1.153	1.145	1.228	1.223
Gender diversity	0.617	0.545	1.135	1.330	1.305	1.296	1.274	1.239	1.238
National diversity	1.361	1.122	1.034	0.982	0.994	1.048	1.189	1.193	1.190
Firm age 2018	0.430	0.362	0.365	0.529	0.527	0.521	0.666	0.820	0.826
Firm assets 2018	1.759	1.486	1.391	1.336	1.351	1.376	1.455	1.416	1.413
Number employees 2018	1.187	1.600	1.624	1.542	1.514	1.497	1.500	1.474	1.476

Table 48. *Variable importance in the projection.* Cumulative Variable Importance. The table shows the importance of variables in a given factor.

Weights									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	-0.413	-0.378	-0.192	-0.693	-0.220	-0.581	-0.303	0.203	-0.351
Family ownership	-0.101	-0.481	-0.008	-0.128	0.197	0.690	0.478	0.803	0.901
Managerial ownership	0.219	0.019	0.497	0.717	0.501	-0.073	0.088	0.199	0.278
Foreign ownership	0.046	0.621	0.320	0.494	0.526	0.703	0.303	0.708	0.124
Gender diversity	0.206	-0.117	-0.874	-0.828	0.025	-0.267	-0.185	0.150	0.333
National diversity	-0.454	0.050	-0.001	0.023	-0.419	-0.809	-1.000	-0.416	0.259
Firm age 2018	0.143	0.046	0.127	-0.425	0.152	-0.023	-0.711	-0.680	-0.456
Firm assets 2018	-0.586	-0.200	-0.207	-0.218	0.561	0.735	0.912	0.183	0.324
Number employees 2018	0.396	0.743	0.585	-0.029	-0.017	0.098	0.519	0.333	0.557
Debt ratio 2017	0.535	0.309	0.318	0.316	0.494	0.173	0.286	1.406	0.189
Debt ratio 2018	0.473	0.448	0.348	0.211	0.349	0.247	0.538	0.994	0.316

Table 49. *Weights.* This table shows the relationship between the independent and dependent variables.

Loadings									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	-0.332	-0.163	0.524	-0.513	0.270	-0.541	0.047	0.685	-0.473
Family ownership	0.155	-0.609	0.402	-0.183	-0.351	0.583	-0.437	0.268	0.403
Managerial ownership	0.272	-0.407	0.252	0.198	1.122	-0.832	0.107	0.004	0.175
Foreign ownership	-0.322	0.645	-0.258	0.126	0.238	0.348	-0.550	0.661	-0.291
Gender diversity	0.363	0.262	-0.735	-0.127	0.534	-0.322	-0.083	0.080	0.259
National diversity	-0.655	0.346	-0.048	0.137	-0.050	-0.059	-0.406	-0.159	0.544
Firm age 2018	0.177	-0.110	0.570	-0.600	0.499	0.430	-0.516	-0.332	0.012
Firm assets 2018	-0.676	0.198	-0.059	-0.177	0.587	-0.156	0.443	-0.484	0.191
Number employees 2018	0.102	0.419	0.573	-0.530	-0.103	-0.282	0.363	-0.116	0.314
Debt ratio 2017	0.709	0.674	0.729	0.764	0.721	0.672	0.703	0.790	0.514
Debt ratio 2018	0.708	0.750	0.688	0.657	0.713	0.750	0.759	0.615	0.858

Table 50. *Loadings.*

Appendix F. PLS: SPSS output results from the current ratio

Excluding control variables

Proportion of Variance Explained					
Latent Factors	**X Variance**	**Cumulative X Variance**	**Y Variance**	**Cumulative Y Variance (R-square)**	**Adjusted R-square**
1	0.382	0.382	0.068	0.068	-0.048
2	0.309	0.691	0.079	0.148	-0.096
3	0.146	0.837	0.054	0.202	-0.198
4	0.072	0.909	0.047	0.248	-0.353
5	0.027	0.936	0.018	0.266	-0.651
6	0.062	1.000	0.002	0.268	-1.196

Table 51. *Proportion of variance explained*

Parameters		
Independent Variables	**Credit ratio 2017**	**Credit ratio 2018**
(Constant)	1.761	0.561
Synergy	-0.041	0.315
Family ownership	0.599	2.086
Managerial ownership	-0.807	0.176
Foreign ownership	-1.296	-0.227
Gender diversity	0.039	0.053
National diversity	0.021	0.016

Table 52. *Parameters.* The parameters table shows the estimated regression coefficient of each independent variable for predicting the dependent variable.

Variable Importance in the Projection						
Variables	**1**	**2**	**3**	**4**	**5**	**6**
Synergy	0.709	0.491	0.555	0.597	0.587	0.597
Family ownership	1.929	1.474	1.445	1.321	1.320	1.316
Managerial ownership	0.166	1.354	1.274	1.148	1.127	1.129
Foreign ownership	0.959	0.676	0.826	1.011	1.082	1.079
Gender diversity	0.906	0.689	1.000	1.177	1.148	1.144
National diversity	0.080	1.162	1.088	1.389	1.344	1.344

Table 53. *Variable importance in the projection.* Cumulative Variable Importance. The table shows the importance of variables in a given factor.

Weights						
Variables	**1**	**2**	**3**	**4**	**5**	**6**
Synergy	0.290	0.050	-0.286	0.306	0.178	-0.584
Family ownership	0.788	0.373	0.556	0.214	0.532	0.268
Managerial ownership	-0.068	-0.751	-0.419	0.029	0.321	0.543
Foreign ownership	-0.391	0.100	-0.464	-0.643	0.739	0.030
Gender diversity	-0.370	-0.172	0.637	0.711	0.248	-0.165
National diversity	0.033	0.646	0.349	0.924	-0.105	0.581
Credit ratio 2017	0.097	0.319	0.410	0.435	-0.320	0.047
Credit ratio 2018	0.250	0.019	0.202	0.193	0.345	0.087

Table 54. *Weights.* This table shows the relationship between the independent and dependent variables.

Loadings						
Variables	**1**	**2**	**3**	**4**	**5**	**6**
Synergy	0.372	0.090	-0.814	0.686	0.297	-0.670
Family ownership	0.661	-0.032	0.460	-0.205	0.459	0.132
Managerial ownership	0.199	-0.672	-0.401	0.337	0.218	0.481
Foreign ownership	-0.511	0.495	-0.236	-0.177	0.712	0.029
Gender diversity	-0.521	-0.346	0.623	0.274	0.414	-0.323
National diversity	-0.238	-0.609	-0.467	0.558	-0.035	0.444
Credit ratio 2017	0.706	0.959	0.755	0.756	0.052	0.658
Credit ratio 2018	0.799	0.712	0.731	0.762	1.412	0.782

Table 55. *Loadings.*

Including control variables

Proportion of Variance Explained					
Latent Factors	**X Variance**	**Cumulative X Variance**	**Y Variance**	**Cumulative Y Variance (R-square)**	**Adjusted R-square**
1	0.131	0.131	0.509	0.509	0.448
2	0.360	0.491	0.054	0.563	0.438
3	0.149	0.640	0.136	0.699	0.548
4	0.171	0.810	0.070	0.769	0.584
5	0.083	0.893	0.052	0.821	0.597
6	0.060	0.954	0.038	0.859	0.578
7	0.031	0.985	0.026	0.886	0.485
8	0.005	0.990	0.102	0.988	0.892
9	0.010	1.000	0.012	1.000	-

Table 56. *Proportion of variance explained*

Parameters		
Independent Variables	**Credit ratio 2017**	**Credit ratio 2018**
(Constant)	5.196	8.404
Synergy	0.761	4.475
Family ownership	-3.084	-4.125
Managerial ownership	-2.028	-2.639
Foreign ownership	-3.574	-3.665
Gender diversity	0.003	0.020
National diversity	0.031	0.043
Firm age 2018	0.058	0.069
Firm assets 2018	-9.404E-9	-3.939E-8
Number employees 2018	-0.051	-0.106

Table 57. *Parameters.* The parameters table shows the estimated regression coefficient of each independent variable for predicting the dependent variable

Variable Importance in the Projection									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	0.382	0.367	0.939	1.005	1.140	1.199	1.187	1.124	1.118
Family ownership	1.091	1.064	0.977	0.952	0.959	0.945	0.964	1.135	1.161
Managerial ownership	0.472	0.689	0.827	0.891	0.884	0.894	0.919	0.886	0.882
Foreign ownership	0.414	0.486	0.477	0.467	0.491	0.599	0.689	0.883	0.881
Gender diversity	0.566	0.545	0.740	1.205	1.166	1.145	1.129	1.069	1.071
National diversity	0.366	0.541	0.504	0.565	0.548	0.535	0.532	0.768	0.770
Firm age 2018	0.470	0.453	0.671	0.646	0.639	0.626	0.716	0.834	0.851
Firm assets 2018	0.417	0.652	0.668	0.641	0.708	0.979	0.975	1.010	1.004
Number employees 2018	2.534	2.410	2.212	2.216	2.155	2.115	2.084	2.002	1.994

Table 58. *Variable importance in the projection.* Cumulative Variable Importance. The table shows the importance of variables in a given factor.

Weights									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	0.127	-0.056	0.665	0.504	0.790	0.698	0.233	-0.008	-0.140
Family ownership	0.364	-0.251	0.157	-0.217	-0.351	-0.189	-0.486	-0.699	-0.836
Managerial ownership	-0.157	-0.564	-0.415	-0.458	0.257	-0.363	-0.508	-0.171	-0.148
Foreign ownership	-0.138	0.309	-0.144	-0.119	0.253	0.568	-0.687	-0.616	-0.233
Gender diversity	-0.189	0.087	0.420	1.077	-0.016	-0.175	-0.080	-0.030	-0.410
National diversity	0.122	0.447	-0.102	-0.328	0.040	0.020	0.137	0.600	-0.309
Firm age 2018	-0.157	-0.084	0.403	0.103	-0.177	0.044	-0.072	0.617	0.582
Firm assets 2018	0.139	0.558	0.243	-0.087	-0.452	-1.093	-0.290	-0.422	0.092
Number employees 2018	-0.845	0.002	-0.347	-0.752	-0.285	-0.297	-0.064	-0.353	-0.408
Credit ratio 2017	0.694	0.156	0.507	0.217	-0.098	-0.041	0.519	2.100	0.496
Credit ratio 2018	0.721	-0.113	0.428	0.229	0.526	0.379	0.258	1.343	0.124

Table 59. *Weights.* This table shows the relationship between the independent and dependent variables.

Loadings									
Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Synergy	-0.131	-0.016	0.896	-0.402	0.806	-0.137	0.288	-0.192	-0.094
Family ownership	0.375	-0.391	0.497	-0.256	-0.573	0.226	-0.173	-0.008	-0.459
Managerial ownership	-0.029	-0.417	-0.181	-0.040	0.821	-0.572	-0.580	0.328	-0.063
Foreign ownership	-0.128	0.511	-0.192	0.082	0.025	0.440	-0.756	-0.107	0.153
Gender diversity	-0.383	0.031	-0.212	0.739	-0.053	-0.187	-0.277	0.281	-0.416
National diversity	0.171	0.518	-0.023	-0.255	0.258	-0.105	-0.266	0.821	-0.635
Firm age 2018	-0.325	-0.234	0.839	-0.277	-0.436	0.228	-0.714	0.544	0.250
Firm assets 2018	0.073	0.454	0.413	-0.193	0.375	-0.585	-0.070	-0.250	-0.247
Number employees 2018	-0.833	0.010	0.370	-0.359	-0.091	-0.001	0.345	-0.162	-0.230
Credit ratio 2017	0.705	1.019	0.723	0.670	0.243	0.712	0.868	0.860	0.970
Credit ratio 2018	0.709	-0.299	0.694	0.742	1.063	1.083	0.499	0.512	0.243

Table 60. *Loadings.*