Shared Capitalism across Europe: What is the influence of national culture on the effectiveness?

The moderating effects of power distance and individualism on employee share ownership and firm performance

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Project information

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Executive summary

According to influential economists, alternative, structural innovations of the capitalist model are needed, as the capitalist model has become more and more incompatible. Employee share ownership is gaining popularity in search for such innovations. This research first investigates the effect of broad-based employee share ownership on firm performance in European firms, including the influence of national cultural values on the effectiveness. Based on agency theory, psychological ownership theory, reflection theory, and gift exchange theory, the relationship is hypothesized to be positive. Second, the relationship of broad-based employee share ownership on firm performance is hypothesized to be stronger in low power distance countries and high individualistic countries. Based on data from the Cranet Network, a linear mixed model analysis was conducted with a sample of 2,347 private firms from 26 different European countries. The results of the analysis support all three hypotheses, meaning that broad-based employee share ownership positively effects firm performance, and low power distance and high individualism are important contextual variables strengthening the positive relationship of broad-based employee share ownership and firm performance. With testing the employee share ownership-firm performance relationship, and the influence of the contextual national cultural values, this research especially contributes to the employee share ownership literature within HRM.

Content

1 Introduction

After the Great Recession, which started in 2008, the question if capitalism still works got more and more attention. The system of capitalism seems to have gotten into a permanent crisis. According to economist Corneo (2017), our economic system has become 'wasteful, unjust and alienating'. Capitalism and our democracy have gotten more and more incompatible, according to influential economists as Joseph Stiglitz, Paul Krugman, Mariana Mazzucato, Richard Wollf and Thomas Piketty according to an article on Vrij Nederland (Roeters, 2020). The *Financial Times* commented at the World Economic Forum 2019 in Davos that the capitalist model needs to be seriously discussed (Roeters, 2020).

In search for alternative, structural innovations of the capitalist model, employee share ownership is gaining popularity worldwide. This alternative economic model offers other perspectives and can possibly even revive capitalism (Blasi, as cited in Roeters, 2020). The number of companies at which also employees are shareholders has risen an is still on the rise (EFES, 2019). Employees get more involved with the company by receiving shares, increasing their productivity and responsibility (Braam & Poutsma, 2010). Employee share ownership can change the capitalist system as it brings in another important stakeholder: the employees. Employees have other interests and priorities than maximizing short-term profit, opposed to some shareholders (Roeters, 2020).

1.1 Current literature and relevance of the research

Employee share ownership is one of the two main forms of financial participation or 'economic democracy', next to profit-sharing (Pendleton, Poutsma, & Ligthart, 2018). Considerable research has been done about the effects of employee share ownership on firm performance. The key limitation of the research done is the inconsistence of the results (Kang & Kim, 2019). O'Boyle, Patel and Gonzalez-Mulé (2016) for example, found a significant positive relationship of employee share ownership with firm performance in the United States, while Kang and Kim (2019), found a significant positive relationship on return on assets (ROA), which they used as firm performance indicator, looking at firms from 21 European Countries. On the other side, Poulain-Rehm and Lepers (2013), for example, did not confirm potential benefits of employee ownership. They found that employee share ownership plans did not result in higher value creation within French firms. The inconsistence of the results is substantiated by Kaarsemaker (2006), who reviewed 70 studies on employee share ownership and HRM outcomes. Although

the majority, of 48 studies, found favourable results relating to employee share ownership, the remaining 22 studies had negative or insignificant findings (Kaarsemaker, 2006).

The use and effectiveness of employee share ownership can differ between firms and countries, because there are organizational level differences between firms, and country-level differences between countries (Kang & Kim, 2019). The country-level differences are because of different cultures and institutions between countries. Kim and Patel (2017) found that, within European firms, the effectiveness of employee share ownership significantly differs per country. The differences in effectiveness between countries are given the variety of cultural and institutional motivations for the adoption and prevalence of employee ownership plans. Culture and institutions are endogenous variables possibly determined by geography, technology, epidemics, wars, and other historical events. They interact and evolve in a complementary way, with mutual feedback effects. The same institutions may can function differently in different cultures (Alesina & Giuliano, 2015).

In most papers culture is defined as "those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation" (Alesina & Giuliano, 2015; Guiso, Sapienza, & Zingales, 2006). Institutions are defined as "the humanly devised constraints that structure human interactions. They are made up of formal constraints (rules, laws, constitutions), informal constraints (norms of behaviour, convention, and self-imposed codes of conduct), and their enforcement characteristics" (North, 1990). Greif (2006) defines institutions as systems of social factors that conjointly generate a regularity of behaviour. The problem with both definitions described is that there is too much overlap with culture (Alesina & Giuliano, 2015). Therefore, institutions are referred as formal institutions. Formal institutions include the written constitution, laws, policies, rights and regulations enforced by official authorities (Carter, 2014). Culture will still refer to the set of beliefs, values, and attitudes within a certain social group.

National culture theory (Hofstede, Hofstede, & Minkov, 2010) states that country-level cultural norms and beliefs are powerful forces shaping people's perceptions, dispositions, and behaviours. Therefore, cultural norms and beliefs, can be important variables to take into account when looking at effectiveness of employee share ownership across countries. This research focusses especially on people's perceptions, rather than on different forms of formal institutions. Formal institutions concern the more hard measures, while culture has more soft characteristics. Chapter 2 gives several theoretical perspectives why employee share ownership can affect firm performance and specific cultural values can influence the effectiveness of

employee share ownership across countries. The theories in chapter 2 describe changes in people's attitudes and therefore fit the line of reasoning that different cultures can influence the effectiveness of employee share ownership.

Kang and Kim (2019) investigated the effect of employee stock ownership on financial performance in Europe, adding the cultural dimensions uncertainty avoidance and social trust to their analysis. Next to the significant positive relationship on ROA, they found that uncertainty avoidance has a significantly negative moderating effect on the positive relationship between employee stock ownership and ROA, and social trust a significantly positive effect on the relationship. In the discussion section of their study, Kang & Kim (2019) state that other country-level differences may also be relevant. Other country-level aspects are for instance institutional, economic, and political differences or other cultural dimensions. Current research lacks literature on the effect of other cultural dimensions and therefore it is relevant to investigate the possible effects of other cultural dimensions. Van Hoorn (2014) states that considering the influence of other cultural dimensions is the next step in understanding cultural roots of management practices and effects on firm performance. Though, data availability is a constraining factor, in determining what can be researched and what not (Van Hoorn, 2014). As the Cranet dataset is used for this research, data is available on firms and their use of employee shares and performance, leaving out the constraint of the absence of data. The scientific relevance is that new theory can fill the gap of the lacking literature on the specific topic of employee share ownership and firm performance and the effects of country-level cultural dimensions.

Based on earlier research and its limitations, this research dives deeper into the relationship of employee share ownership on firm performance, and specifically on the effects of cultural differences within Europe. Specifically, drawing on the national culture theory of Hofstede et al. (2010), which states that country-level cultural norms and beliefs are powerful forces shaping the perceptions, dispositions, and behaviours of people. I suggest that the firm-level relationship between employee share ownership and firm performance will be stronger in countries with low rather than high power distance, and in individualistic rather than collectivistic countries.

1.2 Issue

Research about the role of national cultural values on the effects of employee share ownership on firm performance can add interesting, new insights to the literature on the field of financial

participation/HRM. In this section the objective of the research is first presented, after which the main question of the research is shown.

1.2.1 Objective of the research

To eventually come to insights on the issue, the objective of the research is set. It is as follows:

'Gain insights on the effects of employee share ownership on firm performance, to thereafter, look at differences in national cultural values and its effects on the relationship of employee share ownership and firm performance.'

1.2.2 Main question

'What effects does employee share ownership have on firm performance in Europe, and what is the moderating effect of the national cultural values power distance and individualism on the relationship of employee share ownership on firm performance?'

1.3 Thesis outline

After this introductive chapter, the thesis consists of theoretical framework, including the three hypotheses. The third chapter is about the methodology of the research, including measurement variables, the sample, used data analysis procedures, and ethical considerations. The methodology chapter will be followed by the findings of the analysis and a robustness analysis. Finally, chapter five will provide a discussion and conclusion, including implications, limitations of the research, and possibilities for future research.

2 Theoretical framework

This chapter consists of the theories and perspectives on the key concepts of the research. Based on the theories, the hypotheses are drawn up and eventually reflected in the conceptual model.

2.1 Employee share ownership

Employee share ownership, or employee stock ownership, occurs when employees acquire shares in their employer so they become shareholders of the firm (Kaarsemaker, Pendleton & Poutsma, 2010). There are several possible forms of employee share ownership. Namely, giving free shares to employees, giving employees the opportunity of purchasing shares, possibly on advantageous terms, and creating a stock options plan for employees. In the case of the last form, employees can get rights to acquire shares at some point in the future. Employee share ownership can be both individual, when arrangements differ per employee, and collective. When employee share ownership is collective, it is done by using a trust or foundation (Pendleton et al., 2018). Typically, a portion of the company's shares is reserved for employees and are offered on privileged terms. In the "mainstream" employee share ownership plans employees own a small minority of the company's shares, typically 5% or less (Poutsma, Ligthart, & Veersma, 2017). "Mainstream" employee share ownership plans are much more common than the other forms (Kaarsemaker et al., 2010), and were used in this research.

Within employee share ownership a distinction is made between narrow-based and broad-based financial participation schemes. Narrow-based schemes are directed to top management and executives only, while broad-based schemes are targeted to (all) employees (Pendleton, Poutsma, Van Ommeren, & Brewster, 2001). In this research the focus is on broad-based employee share ownership schemes as the focus of the research is on employee motivations rather than on motivations of top management and executives.

2.2 The effects of employee share ownership on employees

The main reason to motivate employees is to change their attitudes and behaviour in a positive way, which can lead to better firm performance. Employees can be motivated through various ways. Earning reasonable salaries is seen as the most important incentive for employees to be motivated. Financial rewards make sure that individuals are motivated and maintain motivated, which can lead to a higher performance of the individual (Dobre, 2013). Nevertheless, earning salaries does not significantly raise the productivity of employees on the long term according to Whitley (2002). There are other important, non-financial factors, that can influence motivation in a positive way, such as rewards, social recognition, performance feedbacks, and

proper leadership, which can increase levels of morality and motivation both ways between managers and employees (Dobre, 2013).

But why does employee share ownership specifically, change attitudes and behaviour of employees in a positive way? The answer lies in what HRM researchers call 'the black box', the mechanisms behind the relationship of employee share ownership on HRM outcomes and firm performance. Kaarsemaker (2006), used three theories to explain the mechanism. Agency theory is the first one, and is rooted in the financial economies field. It is used to apply a contractual framework as vast array of situations in which one party, referred to as the principal, uses the services of another party, referred to as the agent. The contractual obligations of the agent to the principal can be negatively affected by the agent's self-interest and results in 'agency costs'. However, the principal should anticipate on the agency costs, and can proactively set up controls to keep the costs in check (Kessler, 2013). Agency costs are costs that are associated with differences in interests of the most directly involved stakeholders of the firm, who are assumed to act self-interested and utility-maximizing. Agency theory has been applied to employee ownership. In that case, managers are seen as the principals and employees as the agents. Within the firm, information can be costly and information asymmetries or unobservable behaviour might lead to moral hazard and adverse selection problems, which could cause the 'free-rider problem', in which there is a tendency to shirk responsibilities, since the consequences will be borne by the collective. Better information systems and outcome-based, risk-sharing contracts would be a solution for preventing the 'free-rider problem' (Kaarsemaker, 2006). Outcome-based, risk-sharing contracts aligns employee and other stakeholders' interests and could therefore diminish any goal conflicts (Alchian & Demsetz, 1972; Eisenhardt, 1989). Agency theory has an economic view, but according to Kaarsemaker (2006), individual-level and social issues cannot be ignored and play an important role in shaping employee share ownership.

Psychological ownership theory is the second theory. Pierce, Rubenfeld and Morgan (1991) suggest that "under certain moderating conditions, formal ownership leads to psychological ownership and an integration of the employee owner into the ownership experience, resulting in a number of social-psychological and behavioural outcomes". In their model, three basic rights of employee ownership are operationalized, resulting in three dimensions. First, the right to possess a share of the owned object's being or financial value, the "equity dimension". Second, the right to exercise influence or control over the owned object, the "influence dimension". And third, the right to information about the status of what is owned,

the "information dimension" (Kaarsemaker, 2006; Pierce et al., 1991). Effective employee ownership must be given meaning through the three dimensions. Then, meaningful employee ownership results in a sense of ownership or psychological ownership. The core of psychological ownership is the feeling of possessiveness and of being psychologically tied to an object (Pierce, Kostova, & Dirks, 2001), which results into the ownership experience. Psychological ownership reveals itself in changes of attitudes like organizational commitment and perceptions of common interests linking management and employee owners (Kaarsemaker, 2006; Pierce et al., 1991).

The third theory is the reflection theory, which explains that the specific configuration of employee share ownership and other organizational practices reflect a certain meaning to which the employees will respond according to their self-identity. Its main contention is that any pay system affects a person's behaviour at work through the meaning which pay reflects to that person (Thierry, 2001). If the meaning is that employees are taken seriously as owners of the shares, they are more likely to adapt and improve their attitudes and behaviour (Kaarsemaker, 2006). The reflection theory is about a response on self-identity of the employees, while the previously discussed psychological ownership theory is about the ownership experience, meaning the two theories differ from each other.

Besides the three theories described by Kaarsemaker, gift exchange theory is an additional theory. Gift exchanges, or social exchanges, are mechanisms used by organizations to build or strengthen relationships or ties (Balkin & Richebé, 2007). A key function of gift exchanges is sustaining the relationship between parties and concerning less on the actual resources being exchanged in a relationship going well (Blau, 2017). Gift exchanges are different from economic exchanges, where the exchanged resources are perceived to be equally valuable and the focus is on the exchange process and outcome (Emerson, 1987). Gift exchange relationships are considered as personal, where mutual empathy is developed. Examples of gift exchanges from employers to employees are providing training, giving advice, services, goods (such as a meal or equipment), and profit sharing options (Flynn, 2003). Firms following the gift exchange rules can expect to benefit because of higher levels of employee cooperation and higher employee productivity, as employees feel obligated to help those who have helped them (Flynn, 2003).

The four previous theories all describe positive effects of employee share ownership. But, theories discussing negative effects exist as well. Free riding theory is an example which states that employee share ownership can influence people's attitudes in a negative way. Free

riding refers to the phenomenon of individuals or groups acquiring more than their fair share on benefits of other people's efforts, according to Albanese and Van Fleet (1985). They state that those who receive benefits also should bear a reasonably proportional share of the costs of producing those benefits. Free riders are considered to have overly selfish motivations. A way to reduce or prevent free riding is to increase the benefits and incentives of public-good behaviour or to decrease the costs. The incentives can be extrinsic (additional compensation, added time of, or larger share in the public good for example) or intrinsic (giving sense of achievement or satisfaction). The ultimate control over free riding is in the way that people define their self-interests. Strong organizational norms can serve to assure that members of the organization will give themselves in pursuit of organizational goals and values (Albanese & Van Fleet, 1985).

The five theories each explain different mechanisms which may cause positive or negative outcomes resulting in better or worse firm performance. In other words, the theories open 'the black box'. Blasi, Freeman, Mackin and Kruse (2010), name six workplace outcomes which can be affected by having employee share ownership. Namely: 1) turnover (staying with the company instead of leaving the company for another job), 2) absenteeism, 3) workers' perceptions of discretionary effort of co-workers, 4) workers' loyalty towards the firm, 5) the willingness of the employees to work hard for the firm, and 6) the frequency of suggestions to improve efficiency within the firm. The six outcomes are related to each other and are more tangible examples of mechanisms within the black box.

The theories described are on individual, employee, level. But, how do possible individual improvements in behaviour and attitudes lead to better firm level outcomes? In search for the relationship of individual level and firm level, Coleman's bathtub framework, or boat framework, can be used as a theoretical basis for answering the question (Coleman, 1994). Coleman's bathtub framework is a social science framework. In case of this specific research, organizations are macro level, while individual employees are micro level.

The framework starts with the causal macro relationship, which in this case is use of employee participation possibly resulting in better firm performance. It can be studied whether a certain causal relation makes sense, by reconstructing the underlying mechanism (Coleman, 1994), which starts with the offered employee share ownership plans, with which macro organizations influence individuals, resulting in changes of their beliefs, behaviours and attitudes. The next step of the framework is called the theory of individual behaviour, which looks at the changes of individuals and where the changes lead to. An example of such change

is a changed attitude leading to greater productivity or commitment of an individual. Improved productivity or commitment of individuals can lead to macro effects on organizational level, like better firm performance and synergy between employees, closing the underlying mechanism. Therefore, changes on macro level, by changes of individuals, complete Coleman's sociological framework. The bathtub framework is relevant as it links the individual's actions to organizational outcomes.

In line with most theoretical arguments addressed, this research starts with testing the positive relationship between employee share ownership and firm performance. It is worth retesting the relationship due to the inconsistent findings of previous research and the available dataset, which can be different from other used datasets. Also possible negative effects (free riding) are substantiating the need for re-testing the hypothesis 1, which is shown below and in the conceptual model in figure 1.

Hypothesis 1: *Broad-based employee share ownership is positively related to firm performance in European countries.*

2.3 National cultural values

Country-level differences can cause variation in the effectiveness of employee share ownership across countries. Research has been done on the national cultural values uncertainty avoidance and social trust by Kang and Kim (2019). This research looks at other cultural dimensions. Namely, power distance and individualism.

2.3.1 Power Distance

According to Hofstede and Minkov (2013), power distance is defined as the extent to which the less powerful members of institutions and organizations within a society expect and accept that power is distributed unequally. Power distance influences the formal hierarchy, degree of centralization, and the amount of participation in decision-making. Firms from high power distance countries, tend to be more centralized and have less employee participation (Newman & Nollen, 1996).

Existing research states that employees have different thoughts and reactions on different leadership styles (House et al., 1999), empowerment (Robert, Probst, Martocchio, Drasgow, & Lawler, 2000), conflict management (Van Oudenhoven, Mechelse, & De Dreu, 1998), voice and participation in decision-making (Brockner et al., 2001) in low and high power distance countries. In low power distance countries people are more likely to believe that they should have voice in decision processes, at least more than in countries with high power

distance (Caramelli & Briole, 2007). In high power distance countries, employees are likely to view participative management with fear, distrust and disrespect, as participation is not consistent with the national culture (Newman & Nollen, 1996). Also, in high power distance organizations, employees have little inclination to take responsibilities outside of the scope of their jobs, act on urgent marketplace information, or to provide individual input into the strategy and planning process (Yilmaz, Alpkan, & Ergun, 2005). Asymmetric power relationships, usually present in high power distance organizations, generally lead to the lack of informal communication patterns, which may impede knowledge acquisition, generative learning and inhibit diffusion of knowledge within the organization (Slater & Narver, 1995). Further existing literature shows that employee empowerment leads to positive performance (Robert et al., 2000). But, only if organizations are able to understand the influence of the country's power distance (Oloko & Ogutu, 2012). Newman & Nollen (1996) found that increased levels of participation and other forms of employee empowerment translated into higher financial performance in low power distance cultures, while the opposite happened in high power distance countries.

Existing literature seems to aim at a particular direction. Namely, employee share ownership probably being more effective in low power distance countries. In high power distance countries, employees accept unequal divided power and they are likely to view such management with fear and distrust. In low power distance countries, employees do want to have voice and influence, especially looking at outcomes for them. Therefore, I assume that employees from low power distance countries want to have voice and influence, and will get motivated more through the use of employee share ownership, as it gives them the opportunity for gaining more influence. Looking at the described theories, the influence dimension of psychological ownership theory also suggests more positive perceptions of employees in low power distance countries. As a result, hypothesis 2 is formed, which is shown below and in the conceptual model in figure 1.

Hypothesis 2: *Country-level power distance moderates the relationship between broad-based employee share ownership and firm performance in European countries in the way that the relationship is more positive in low power distance countries.*

2.3.2 Individualism
Individualism stands for a society in which the ties between individuals are loose. Persons are expected to look after their self and immediate family only. The opposite is collectivism. In

collectivistic societies people are integrated into strong, cohesive in-groups from birth onwards. Throughout their lifetime, collectivistic societies continue to protect people in exchange for unquestioning loyalty (Hofstede & Minkov, 2013). Individualism and collectivism concerns most fundamental aspects of groups of people living and working together. Therefore, it is considered to be a primary dimension of culture (Oyserman, Coon, & Kemmelmeier, 2002). Van Hoorn (2014) states that individualism is the most significant cultural dimension of national culture to explain differences in economic development, as argued by various authors. Individualistic cultures value independence and competition, while collectivistic cultures encourage the subordination of personal interests to the goals of larger working groups where the emphasis is more on sharing and cooperation (Yilmaz & Hunt, 2001).

Within employee share ownership plans, employees are allowed to share in the profits of firms by participating. Therefore it can be considered as incentive compensation based on the collective performance of all employees in a firm. Management practices must be individualized in individualistic societies, meaning that bonuses must be based on individual performance to be effective in terms of satisfaction and motivation (Hofstede, 1994). Empirical evidence does not fully corroborate Hofstede's view though, according to Caramelli and Briole (2007).

Different arguments are given for positive effects of either individualistic or collectivistic cultures, in relation to different firm performance indicators, in existing literature. Within collectivistic cultures, priority is given to supportive organizational practices, interpersonal connectedness, group solidarity, joint responsibility, and harmony (Doney, Cannon, & Mullen, 1998; Newman & Nollen, 1996). Therefore, a greater proclivity to exchange information and ideas is present. Also, problems are discussed more openly and constructive, employees support and assist each other more often, and commitment to the organization is developed (Chen, Meindl, & Hui, 1998; Wasti, 2002). Yilmaz et al. (2005) state that such learning and responsiveness to market information can also occur in individualistic cultures. Although, certain actions are viewed as instrumental, meaning that people engage in such actions for reaching their own personal goals (Yilmaz et al., 2005). The likelihood that such behaviours occur in individualistic cultures largely depends on the degree to which they are supported by controls and rewards (Chen et al., 1998). According to Van Hoorn (2014), employees in individualistic cultures only pursue the firm's interests if it coincides with their own interest and management concerns. Individual-level monitoring is therefore more effective in high individualistic cultures (Earley, 1993). Van Hoorn (2014) found that the level of

individualism exerts a sizable influence on the quality of management, which appears to be an important channel through which economic performance is affected.

Theory suggests that arguments are given for both high individualism and high collectivism, leading to better performance on different indicators. Group solidarity, harmony and organizational commitment are examples indicators which seem to improve in collectivistic cultures. But, organizational commitment and synergy are already a characteristic of a collectivistic culture. Therefore, the need for creating commitment is less than in individualistic cultures. Looking at individualistic cultures, personal goals, rewards and own interest seem to improve performance. The individualistic employee motives are in line with the (economic) view of the agency theory. Also reflection theory, posing that any pay system affects a person's behaviour at work, is in line with individualistic cultures. Because employee share ownership is a form of rewarding employees, it might cause firm performance to be higher in individualistic cultures. Taking into account arguments from both the individualistic and collectivistic sides, and comparing them to the theories described in paragraph 2.2, the third hypothesis is formed. Hypothesis 3 is shown below and in the conceptual model in figure 1.

Hypothesis 3: *Country-level Individualism moderates the relationship between broad-based employee share ownership and firm performance in European countries the way that the relationship is more positive in individualistic rather than collectivistic countries.*

Conceptual model

Figure 1 shows the conceptual model of this research. Hypothesis 1 (H1) is shows the expected positive relationship (+) between broad-based employee share ownership and firm performance. Hypothesis 2 (H2) and 3 (H3) show the expectations that power distance and individualism moderate the relationship in such way that lower power distance (-) and higher individualism (+) strengthen the positive relationship of employee share ownership and firm performance.
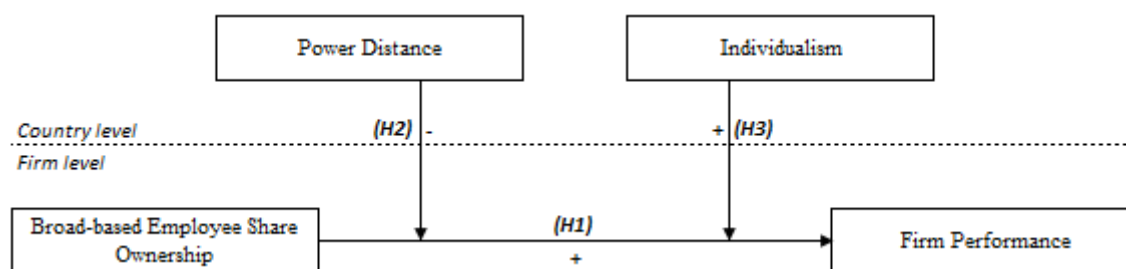

Figure 1. Conceptual model

3 Methodology

This chapter explains the data sources, how ethics of the research are addressed, reliability and validity of the research, measurement variables, and data analysis procedure.

3.1 Research design

A deductive research approach is used, meaning that the research is theory driven. Based on literature, hypotheses are explained and thereafter tested (Bleijenbergh, 2015). This quantitative research is descriptive, which means the aim is to accurately and systematically describe a population, situation or phenomenon (Sekaran & Bougie, 2016). The intention is to establish associations between variables (Mertler, 2018). For testing the hypotheses, secondary data of the Cranet Survey is used. Cranet currently is the largest HRM network in the world and the only one collecting comparative data on HRM in different countries for more than two decades. For participating firms, a threshold of 100 employees is used (Cranfield Network, n.d.-a). The questionnaire has been executed across various sectors in 40 countries (Cranet, 2014). Permission to work with the Cranet dataset has been granted by contact persons in the Netherlands, working at Nijmegen school of Management within the Radboud University, dr. Ligthart and dr. Poutsma. Only the relevant variables of the Cranet questionnaire were made available for the research.

Epistemology

Epistemology is the disagreement about the nature of knowledge or how we come to know (Sekaran & Bougie, 2016). The epistemological perspective which fits best with this research is positivism, or pre-modernistic view. In a positivistic view of the world, science and scientific research is seen as the way to get at the truth. In other words, within the positivistic perspective there is a reality and we can explore it. Deductive reasoning is used to put forward theories that can be tested and there is a focus on causality (Sekaran & Bougie, 2016).

3.2 Research ethics

Specific ethical standards for this research have been retrieved from *Ethical Principles of Psychologists and Code of Conduct (Ethics Code)* of The American Psychological Association (APA) (American Psychological Association, 2017). The *Ethical Principles of Psychologists and Code of Conduct* consists of specific ethical standards (American Psychological Association, 2017). The most applicable ethical standards of APA's code of conduct for this research are addressed, addressing reliability and validity of the research process.

First of all, Section 8.01 states that the research is conducted according to the approved research protocol of the according institution (American Psychological Association, 2017). The Master Thesis project has followed the instructions given by Nijmegen School of Management, within Radboud University, where needed.

Second, Section 4.01 of the specific ethical standards states that the researcher takes reasonable precautions to protect confidential information (American Psychological Association, 2017). Meaning that for this research, the Cranet data obtained, was treated in a strictly confidential way. The data was not spread and was not used for any other purpose than for the Master Thesis project. The collection of the data is done under the responsibility of each country partner of the Cranet Network (Cranfield Network, n.d.-b). I assume the data obtained by the Cranet Network is collected in the right way, upholding firms' rights to confidentiality and privacy as stated as a principle for research ethics (Smith, 2003). The firms in the dataset are anonymous. There were no further participants in the research.

Moving on to the next relevant ethical standard, which is about Section 5.01, states that researchers should not knowingly make public statements that are false concerning the research (American Psychological Association, 2017). This research does not contain any false statements or conclusions about any findings, of which I am aware the findings are incorrect. In this research specifically, public statements have not been, and will not be made. Also, the reported findings do not contain statements that are knowingly false. In line with Section 8.12 (American Psychological Association, 2017), I as the author take responsibility and credit, only for the work I have actually performed, not for any other resources used. Section 8.11 of the specific ethical standards states that researchers do not present portions of another's work or data as their own (American Psychological Association, 2017), in other words, commit plagiarism. I provide original work in this Master Thesis project. When work of others is used, proper use of references is provided, following the APA standards.

3.2.1 Reliability and validity

Besides following ethical standards of APA (American Psychological Association, 2017), the process of this research has been carried out in a reliable and valid way, according to criteria retrieved from the Business Administration department within Nijmegen School of Management. The data from Master Thesis project will remain the property of the Nijmegen School of Management. Appropriate information was provided to all involved in the project,

meaning that the supervisor, 2nd examiner, and dr. Ligthart were informed with the needed documents and data.

Furthermore, transparency about the data resources and analysis is given. The Cranet dataset contains cross-sectional data, which is measured at a single point in time (Field, 2018). The same questionnaires are administered by firms from different countries. The methods used differ between countries, using methods most appropriate for each country (Parry, Farndale, Brewster, & Morley, 2020). Rather than standardized data collection methods, Cranet sets criteria for the data collected, securing reliable responses to the questionnaires. Validity is checked by controlling each Cranet country partners' details of their data collection, and by taking away potential bias relating to the methods used (Parry et al., 2020). There have not been any fundamental changes to the methodology of Cranet over the years (Lazarova, Morley, & Tyson, 2008). The Cranet Network focuses on representativeness in relation to key characteristics of the population, rather than sample size or response rate (Parry et al., 2020). By having a large dataset, Cranet provides sufficient power in the data to undertake quantitative analyses (Parry et al., 2020). Even with the possibilities of some measurement errors creeping into the data, obtaining sufficient authoritative data, which is broadly representative of the organizations concerned, is what matters according in the view of Cranet scholars (Lazarova et al., 2008).

3.3 Data

The total number of firms present in the Cranet dataset is 6,801. For this research, only European firms are taken into account, as hypothesized. Furthermore, only organizations from the private sector are taken into account in the analysis, while those in the public sector are left out. Profit, which is an important indicator of firm performance, is not the driver for public or non-profit organizations, while it is the main driver for private firms (Boyne, 2002). Usually, public sector firms or non-profit organizations do not have shareholders and creating shareholder value is not the aim. Often public sector firms are governmental organizations. Looking at theoretical reasoning, public sector firms do not fit the hypothesized effects and are therefore not included in the analysis. To secure external validity, and generalizability, the sample size was demarcated by only taking into account European firms operating in the private sector. The eventual number of firms which were taken into account in the analysis is 3,430. The large sample size ensures a relatively high external validity of the research (Wright & Lake, n.d.), compared to a small sample size.

3.4 Operationalisation

There are three types of variables hypothesized in this research. First of all, the independent variable, which is employee share ownership. Second, the dependent variable, which is firm performance. And last, two moderating variables. Which are both national cultural values: power distance and individualism. Also, several control variables are included in the analysis.

3.4.1 Employee share ownership

Within the Cranet survey, responding firms have to indicate whether they use employee share ownership or not. Firms are asked if they offer any additional compensation and benefits, on top of regular salaries. Employee share schemes is one of the categories of compensation and benefits. It has to be indicated whether the schemes are generally offered, and to who. Employee share schemes can be offered to managers, professionals and clericals and/or manuals (Cranet, 2014). If employee share schemes are not generally used, it can be indicated by the firms as well.

When firms offer employee share schemes to '*professionals*', '*clericals and/or manuals*', or to both professionals and clericals and/or manuals, it is considered to be broad-based employee share ownership. Narrow-based employee share ownership occurs when employee share schemes are only offered to '*managers*', management-only employee share ownership in other words. When firms do not use either of the two forms of employee share ownership, it is also included into the variable in SPSS. In SPSS, a new variable was computed containing the three categories, after which dummy variables were made for broad-based employee share ownership and narrow-based employee share ownership. The reference category is no use of any form of employee share ownership at all. There are two possible answers on the question whether firms do or do not use broad-based employee share ownership, yes or no, and therefore employee share ownership is a nominal variable. But, if the regular broad-based employee share ownership dummy would be used, all scores on the interaction effects would be 0, for firms not using employee share ownership. To avoid that, the dummy variable of broad-based employee share ownership is mean centered. Mean centering does not affect the cluster results, but it often makes it easier to compare mean values on each variable for each cluster (Hair, Black, Babin, & Anderson, 2014). That means broad-based employee share ownership ends up being a scale variable.

372 (11.4%) of the firms offer broad-based employee share ownership plans, while 308 (9.4%) offer narrow-based employee share ownership schemes. The remaining 2,580 (79.1%)

firms do not offer any employee share ownership schemes. 170 of the 3,430 firms have missing values on this question and were not taken into account in the analyses. Table 1 shows the number of private firms per European country (number of observations) and the percentage of firms offering broad-based employee share ownership within each country.

3.4.2 Firm performance

Firm performance measurement refers to the process of measuring the efficiency and effectiveness of the firms actions (Neely, Gregory & Platts, 1995). Within the definition, effectiveness refers to the extent to which customer requirements are met. Efficiency is the measure of how economically the firm's resources are utilized when providing a certain level of customer satisfaction (Neely et al., 1995). There are multiple indicators which can determine firm performance. Indicators can be grouped into financial performance and strategic performance (Santos & Brito, 2012). Financial performance can be seen as involving 'hard' figures like ROA and profitability, while strategic performance involves the 'softer' indicators such as employee satisfaction and environmental performance.

Because the Cranet dataset has been used for the analysis in this research, firm performance indicators used, were derived from there. In the Cranet questionnaire, participating companies have to describe their firms' performance compared to other organizations operating in the same sector/industry. There are six indicators of firm performance in the Cranet questionnaire: service quality, level of productivity, profitability, rate of innovation, stock market performance, and performance on environmental matters (Cranet, 2014). Responding firms have to indicate their relative performance within their industry, on a 5-point Likert scale, reaching from poor to superior. Therefore, the original firm performance indicators are ordinal scaled.

Based on the six firm performance indicators an overall firm performance variable was created. Performance on environmental matters is left out of the overall firm performance as this indicator does not really fit with the theory on which the hypotheses are based. The other five indicators are taken into account. Before calculating the overall firm performance, internal reliability of the construct was checked. Internal consistency reliability is a measure of consistency between different items of the same construct. The extent to which those items are rated in a similar way is a reflection of internal consistency (OER services, n.d.). Testing the internal reliability of overall firm performance is done by calculating the inter-item correlation

of firm performance indicators, more commonly known as Cronbach's alpha. Cronbach's alpha is .830, representing a good level of reliability (Hair et al., 2014).

The overall firm performance variable was calculated by a categorical principal components analysis. Understanding the structure of a set of variables is a main use of principal component analysis (Field, 2018). Its goal is to reduce an original set of variables into a smaller set of components (IBM Knowledge Center, n.d.-a), one in this case, overall firm performance. Missing values on the indicators were imputed by the most frequent answered category, the mode (IBM Knowledge Center, n.d.-a). When controlling for outliers, which are observations very different from most others (Field, 2018), of the overall firm performance score, several were found at the left side of the distribution. Winsorizing was used for dealing with the outliers. Winsorizing means replacing the outliers' original value by the nearest value of an observation not seriously suspect (Tukey, 1962). The value which was used for winsorizing the data is -2.5, meaning that all values below -2.5 have been replaced by exactly -2.5. The number of European private firms for which the value is winsorized is 30 (0.9%). Winsorizing is a valid way of dealing with outliers (Dixon, 1980) The distribution of the winsorized overall firm performance after the categorical principal components analysis is shown in Appendix 1. The final overall firm performance is a scale variable. Eventually, tests of normality are conducted for the overall firm performance. Both tests show very significant results, but in large samples they can be significant even for small and unimportant effects (Field, 2018). Field (2018) therefore states that if the sample is large, significance tests of normality should not be used, as normality matters less, or not at all.

3.4.3 National cultural values

Now that the firm-level variables, employee share ownership and firm performance have been discussed, this paragraph continues with the country-level variables. Power distance and individualism are the country-level moderating variables in this research as shown in the conceptual model. In statistical terms, their effect is characterized as an interaction effect (Field, 2018). It is a quantitative variable that affects the direction and/or the strength of the relationship between the dependent and independent variable (Cohen, Cohen, West, & Aiken, 2003). In this research both moderating variables are hypothesized to strengthen the relationship between the dependent variable and independent variable.

Besides using secondary data of the Cranet dataset, secondary data is also used for the national cultural values. The secondary country-level data is retrieved from *Culture and*

Organizations (Hofstede et al., 2010). Hofstede's cultural dimensions are often used in cross-cultural management literature by researchers for measuring culture. Another commonly used source for measuring culture in management research is the GLOBE project (House, Hanges, Javidan, Dorfman, & Gupta, 2004). The GLOBE project contains scores on power distance, institutional collectivism, and in-group collectivism, two measures of individualism/collectivism. But, scores on only 16 of 27 countries are available from the GLOBE project. Therefore, country-scores of the GLOBE project are not included into this research.

Table 1. *Hofstede scores and Broad-based employee share ownership use percentage of all countries*

Country	Observations	Power distance	Individualism	Broad-based ESO (%)
Austria	145	11	55	.07
Belgium	102	65	75	.20
Denmark	103	18	74	.12
Estonia	60	40	60	.08
Finland	77	33	63	.16
France	131	68	71	.21
Germany	223	35	67	.05
Greece	144	60	35	.05
Hungary	165	46*	80*	.10
Italy	111	50	76	.18
Latvia	67	44	70	.06
Lithuania	88	42	60	.03
Netherlands	116	38	80	.04
Romania	225	90	30	.01
Slovakia	262	100	52	.31
Slovenia	90	71	27	.10
Spain	83	57	51	.11
Sweden	140	31	71	.11
United Kingdom	84	35	89	.21
Croatia	109	73	33	.11
Iceland	42	30*	60*	.21
Norway	112	31	69	.21
Russia	90	93	39	.04
Serbia	112	86	25	.04
Switzerland	182	34	68	.10
Turkey	125	66	37	.09

Note. N = 3,260. ESO: employee share ownership. * Estimated scores. Sources: Hofstede et al. (2010); Hofstede Insights (n.d.-a)

Culture and Organizations by Hofstede et al. (2010) offers scores on power distance and individualism for 24 of the 27 countries present in the research conducted in 2010. Hungary and Iceland have estimated scores, as shown in table 1. The estimated scores are not retrieved

from *Culture and Organizations* by Hofstede et al. (2010), but have been made available through later research projects of other researchers or internal projects of Hofstede Insights (Hofstede Insights, n.d.-b). Cyprus does not have scores on the cultural dimensions and was therefore not taken into account in the analysis. The estimated scores were retrieved from Hofstede Insights (n.d.-a). The country scores on Hofstede's culture dimensions are relative, meaning that they can only be used meaningfully by comparison (Hofstede Insights, n.d.-c). Also, the reliability and validity of the countries' diverse cultural measures was demonstrated by Hofstede (2001) (Kang & Kim, 2019). Power distance index and individualism-collectivism index are both scale variables, having possible scores of 0 up till and including 100, per country. Table 1 shows the score of each country on power distance and individualism. In the analysis, the scores on both national cultural values are mean centered.

3.4.4 Control variables

The hypotheses are controlled by several control variables. Control variables are characteristics not included in the analysis but which are expected to cause differences in the results (Hair et al., 2014). In other words, the control variables might affect the relationship between the hypothesized variables. Control variables are held constant throughout the course of investigation. The control variables used in the analysis of this research, are present in the Cranet dataset and are as follows: Firm size, industry membership, whether the firm is a public limited company or not, union density, influence of trade unions, use of collective bargaining by trade unions, education of the workforce, and international organization or not.

Firm size

Firm size, measured as the number of fulltime employees, could affect the effectiveness of employee share ownership (Kim & Ouimet, 2014). The mean firm size of the participating European private firms is 2,217. Skewness (36.760) and kurtosis (1,725.098) were very high, meaning that the distribution deviates from normal (Field, 2018). The distribution is positively skewed, meaning that the frequent scores are clustered at the lower end while the tail points towards the higher scores. To correct for this strong skew, a log transformation was done in SPSS, transforming skewed data to approximately conform to normality (Changyong, Hongyue, Naiji, Tian, Hua, & Ying, 2014), changing skewness and kurtosis to respectively .460 and .522. After that, outliers were replaced using winsorizing. Winsorizing of the European private firms has been done until the 0.8[th] percentage on the left side of the distribution and starting from 98.6% on the right side of the distribution. Replacing the values to 2.5 for 27 firms and to 9.9 for 47 firms.

Industry membership

Besides firm size, the analysis is controlled for industry membership. According to Zahra (1996) industries vary in their performance, so different industry memberships could possibly explain differences in firm performance. In the Cranet dataset, the responding firms have to indicate in which of the 20 industries they are active. The 20 industries are narrowed down to six, for making the analysis clearer. Appendix 2 shows the initial and new industry categories in the dataset, including the response per industry. As industry needs to be treated as a nominal variable in the analysis, rather than an ordinal one, the six industry categories are changed into dummy variables in SPSS. The reference category is '*Chemicals and Pharmaceuticals manufacturing*'.

Public limited company

The third control variable is whether a firm is a public limited company or not. Public limited companies are stock listed and their shares can be bought and sold by anyone, whereas other private firms are not, or to a lesser extent (BusinessDictionary, n.d.). Ownership is an important organizational and sociological variable that affects firm performance (Kang & Sørensen, 1999). When a firm is stock listed for example, shareholders can get influence in the firm and its operations. Therefore, interests can differ between firms which are a public limited company and firms who are not, possibly affecting the relationship of the hypotheses. As firms have to indicate whether they are, or are not a public limited company, it is a nominal variable.

Trade unions

Trade unions are used in different extents across European countries. They may attempt to discourage the use of individual performance pay, whereas decentralized bargaining is the primary form of pay determination (Kalmi, Pendleton, & Poutsma, 2012). As trade unions can influence the use of employee share ownership, they might affect the hypotheses. Therefore, several trade union variables are taken into account. First, union density, the percentage of employees who are member of trade unions, is controlled. Because categories in Cranet are not equally divided, class midpoints were calculated and used, making it a scale variable. Due to the high percentage of missing values (13.7%), a dummy variable is made for missing values as a group, which was also controlled for. Second, the influence of trade unions was controlled for. Firms have to indicate to what extent trade unions influence their organization on an ordinal scale from 0 (not at all) to 4 (to a very great extent). Third and last, it was checked if the trade unions are recognised for the purpose of collective bargaining or not, which is a nominal variable.

Educated workforce

According to Kang and Sørensen (1999), modern firms are becoming less reliant on physical assets and more dependent on intangible assets such as intellectual property and highly skilled employees. The effect of education on performance is positive and significant (Van der Sluis, Van Praag, & Vijverberg, 2008). When individuals perform better, firm performance is also likely to improve. Therefore, education of the workforce can influence the hypothesized relationships, and needs to be controlled for. In the Cranet questionnaire, firms have to indicate what percentage of their workforce has a university degree or has had higher education. Because the categories in Cranet are not equally divided, class midpoints were calculated and used. Therefore, education of workforce is a scale variable.

International organization

The last control variable of this research is whether the firm is an international organization or not. Within the Cranet questionnaire, firms have to indicate what type of organization or what part of an organization they are, by choosing one of the following categories: Corporate headquarter (HQ) of an international organization, corporate HQ of a national organization, subsidiary of an international organization, subsidiary of a national organization, independent organization with a single site, or independent organization with more than one site. Nationally based cultural characteristics of both headquarters and subsidiaries matter to the HQ-subsidiary relationship (Drogendijk & Holm, 2015). According to Drogendijk and Holm (2015), the relationship can decrease cultural distance, which makes it important to control if responding firms are international based firms or not. A dummy variable is created where Corporate HQ of an international organization and subsidiary of an international organization represent the international organization category. The remaining four categories represent national firms and are the reference category. As the dummy variable was used in the analysis, international organization is a nominal variable.

3.5 Analytical approach

As shown in the previous paragraph, the hypotheses consist of a scale independent variable, a scale dependent variable, two scale moderating variables and a number of control variables. Regression analysis and analysis of variance for one dependent variable by one or more independent variables is provided by the univariate general linear model procedure (IBM Knowledge Center, n.d.-b). But, specific countries in which the firms are nested can possibly affect firm performance. Differences between countries are not controlled for, meaning that conducting the univariate general linear model procedure does not satisfy all needs. Therefore,

a multilevel analysis needed to be done. The procedure that does meet the needs, which was used, is linear mixed model. The linear mixed model procedure is an expansion of the general linear model, in which random effects can be taken into account. Country is the random effect in this analysis, and is specified in the model as subject. Including country as a random effect is important especially for the first hypothesis. The second and third hypothesis already contain country-level variables. Though, the interaction effects of hypothesis 2 and 3, were also tested using the linear mixed model procedure. The interaction effects were calculated in two separate models. The effects of covariates, control variables, can be included when using linear mixed modelling. The analysis includes all control variables mentioned before. An alpha of .05 is used, meaning that the hypotheses are supported if $p < .05$.

There are five assumptions associated with a linear regression model (Hair et al., 2014; James, Witten, Hastie, & Tibshirani, 2013). Linearity and homoscedasticity are the first two assumptions and were checked by making a scatterplot. Linearity means that the relationship between X and the mean of Y is linear (Hair et al., 2014), which is checked by looking if the scatter plot follows a linear pattern, not a curvilinear one. Homoscedasticity means that the residuals at each level of the predictor (independent variable) have similar variances (Field, 2018). The scatterplot shows a positive linear relationship. Also the spread of the residuals is fairly equal, looking at the distance of the residuals on both side of the lines. Therefore, both the assumption of linearity and homoscedasticity were met.

The third assumption is independence of error terms (Hair et al., 2014), which means that for any two observations the regression should be uncorrelated (Field, 2018). To test this assumption, the Durbin-Watson test was conducted. According to Field (2018), the statistic can vary between 0 and 4. The value of 2 means that the residuals are uncorrelated, and values below 1 and above 3 are causes for concern. The Durbin-Watson test of the model is 1.820, showing that the residuals are fairly uncorrelated, and therefore meet the assumption of independence.

The fourth assumption is multicollinearity, of which Variance Inflation Factors (VIF) are measures. A VIF indicates whether a predictor has a strong linear relationship with other predictors (Field, 2018). Linear regression assumes that there is little or no multicollinearity, which occurs when independent variables correlate highly, in the data. The rule of thumb is that when the VIF is between 1 and 5, there is a moderate correlation (Glen, 2015). When the VIF is 5 or higher, there is a high correlation and so, there is multicollinearity (Glen, 2015). If the largest VIF is above 10, there is a serious problem (Bowerman & O'Connell, 1990; Field,

2018). The VIF score of Broad-based employee share ownership is 1.109, and its tolerance is .901. Narrow-based employee share ownership has a VIF of 1.075, with the according tolerance of .930. So, both independent variables have VIF around 1 and therefore the fourth assumption was met.

The fifth and last assumption of the linear regression is normality. To test normality, a histogram is drawn of the residuals. If the distribution is not skewed, the assumption is met (Bansal, n.d.). Looking at the histogram of the residuals, the distribution is normally distributed and not skewed, and therefore meets the last assumption.

4 Findings

4.1 Descriptive statistics

Table 2 shows the mean, standard deviation, and correlation for all variables in the analysis, except industry membership. Dummies are used for indicating different industries, as shown in the operationalisation. Including all dummies would expand the correlation matrix a lot and thereby making it less clear. The full correlation matrix with all industry dummies can be found in Appendix 3. Furthermore, Broad-based employee share ownership, narrow-based employee share ownership, public limited company or not, collective bargaining by trade union, and international organization or not, all are nominal variables with the possible answers yes and no. Therefore, the mean of those variables represents the percentage of the cases which answered yes. The correlations between variables are presented with Pearson's correlation (r), which is a statistic that measures linear correlation between X and Y.

Table 2. *Mean, Standard deviation and correlations among variables*

		Mean	SD	1	2	3	4	5	6	7	8	9	10	11
1.	Firm performance	.07	1.00											
2.	Broad-based ESO	.11	.31	.07**										
3.	Narrow-based ESO	.09	.29	.06**	-.11**									
4.	Firm size (log)	6.16	1.36	.00	.06**	.08**								
5.	Public limited company?	.38	.48	.04*	.21**	.14**	.15**							
6.	Union density	28.76	30.90	-.08**	-.02	-.01	.16**	-.01						
7.	Trade union influence	1.38	1.31	-.08**	-.01	.03	.29**	.08**	.66**					
8.	Collective barg. TU's	.66	.47	-.08**	-.02	.02	.27**	.05*	.49**	.60**				
9.	Educated workforce	33.61	27.02	.13**	.11**	.05*	-.11**	0.03	-.16**	-.16**	-.21**			
10.	International organization	.41	.49	.08**	.10**	.15**	.11**	.19**	-.08**	-.02	.00	.09**		
11.	Power distance	1.83	25.71	.02	.04**	-.06**	-.05*	.16**	-.10**	.00	-.20**	.07**	-.12**	
12.	Individualism	-1.94	18.53	-.03	.08**	.05*	.02	.02	-.10**	-.09**	.06**	.05*	.16**	-.66**

Note. N = 2,414; 26 countries. ESO: employee share ownership; TU: trade unions. * $p < .05$; ** $p < .01$

Firm performance is positively correlated with broad-based employee share ownership ($r = .07$, $p < .01$), as well as with narrow-based employee share ownership ($r = .06$, $p < .01$). Looking at the country-level variables, power distance and individualism are negatively correlated with each other ($r = -.66$, $p < .01$). Power distance is positively correlated with broad-based employee share ownership ($r = .04$, $p < .05$), while there is no significant correlation with firm performance ($r = .02$, $p = $ non-significant, n.s.). Individualism also shows a positive correlation with broad-based employee share ownership ($r = .08$, $p < .01$), and no significant correlation with firm performance ($r = -.03$, $p = $ n.s.) as well.

Furthermore, union density ($r = -.08$, $p < .01$), trade union influence ($r = -.08$, $p < .01$), and collective bargaining by trade unions ($r = -.08$, $p < .01$), all show negative correlations with firm performance. Education of the workforce, where employees have a university degree,

positively correlates with firm performance ($r = .13$, $p < .01$). Also international organizations show a positive correlation with firm performance ($r = .08$, $p < .01$).

4.2 Testing the hypotheses

The results of the linear mixed model procedure are shown in table 3, where country is selected as subject of the model. The models show the standardized beta coefficients (β) and standard error of the standardized beta ($SE\ \beta$), of each variable, per model. Model 1 presents the model with all control variables, where education of the workforce ($\beta = .004$, $SE = .001$, $p < .001$) and international organizations ($\beta = .140$, $SE = .043$, $p < .01$) show positive significant effects on firm performance. Missing values of union density are left out of the model due to being redundant. Their effect did not show any significance.

Table 3. *Results of Linear mixed model analysis*

Firm performance (DV)	Model 1	Model 2	Model 3	Model 4	Model 5
Variables	β (SE β)	β (SE β)	β (SE β)	β (SE β)	β (SE β)
Intercept	-.105 (.153)	-.118 (.153)	-.095 (.152)	-.091 (.152)	-.085 (.152)
Control variables					
Firm size	.015 (.017)	.015 (.017)	.011 (.017)	.010 (.017)	.008 (.017)
Agriculture	.060 (.117)	.053 (.117)	.062 (.116)	.068 (.116)	.066 (.116)
Manufacturing	-.049 (.112)	-.045 (.112)	-.031 (.112)	-.026 (.112)	-.029 (.112)
Services	.044 (.111)	.050 (.111)	.062 (.110)	.072 (.110)	.068 (.110)
Transportation	-.090 (.118)	-.091 (.118)	-.082 (.118)	-.072 (.118)	-.073 (.117)
Finance	.109 (.127)	.119 (.127)	.120 (.127)	.128 (.127)	.116 (.127)
Chemicals (reference)					
PLC	.050 (.044)	.071 (.045)	.037 (.046)	.037 (.046)	.040 (.046)
Union density	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)
TU influence	-.028 (.023)	-.026 (.024)	-.027 (.024)	-.029 (.024)	-.029 (.024)
collective bargaining	-.077 (.055)	-.074 (.057)	-.070 (.056)	-.064 (.056)	-.063 (.056)
Education	.004*** (.001)	.004*** (.001)	.003*** (.001)	.003*** (.001)	.003*** (.001)
International organization	.140** (.043)	.147** (.044)	.128** (.044)	.127** (.044)	.121** (.044)
Country-level variables					
Power distance		-.002* (.001)	-.002* (.001)	-.002 (001)	-.002* (.001)
Individualism		-.005** (.002)	-.005** (.002)	-.005** (.002)	-.005*** (.002)
Firm-level (independent) variables					
Narrow-based ESO			.207** (.073)	.211** (.073)	.214** (.073)
Broad-based ESO			.185** (.067)	.205** (.068)	.167* (.068)
Cross-level interactions					
ESO * Power distance				-.005* (.002)	
ESO * Individualism					.010* (.004)
Model statistics					
-2 Log Likelihood	6,570	6,570	6,557	6,553	6,550
Wald Z	34.256***	34.256***	34.256***	34.256***	34.256***

Note. $N = 2,347$, 26 countries. DV: dependent variable; ESO: employee share ownership; TU: trade unions. * $p < .05$; ** $p < .01$; *** $p < .001$

  Model 2 includes the direct effects of the national cultural values. Power distance has a significant negative effect on firm performance ($\beta = -.002$, $SE = .001$, $p < .05$). Also,

individualism shows a significant negative effect on firm performance (β = -.005, SE = .002, p < .01). Model 3 continues with adding the dependent variable, broad-based employee share ownership. Narrow-based employee share ownership is also included in the model, which means firms who do not offer employee share ownership are the reference category.

Hypothesis 1 predicted a positive relationship between employee share ownership and firm performance in European countries. When looking at model 3, there is a significant positive effect of employee share ownership on firm performance (β = .185, SE = .067, p < .01). Therefore, hypothesis 1 is supported. Also, narrow-based employee share ownership has a significant positive effect on firm performance (β = .207, SE = .073, p < .01). Hypothesis 1 being supported, makes it relevant to test hypothesis 2 and 3.

Model 4 includes the interaction effect of power distance, related to hypothesis 2. Hypothesis 2 predicted that country-level power distance moderates the relationship between employee share ownership in European firms in such way that the relationship is more positive in low power distance countries. Model 4 shows a significant negative effect of the interaction employee share ownership * power distance (β = -.005, SE = .002, p < .05). The negative β coefficient of the interaction indicates that the positive relationship between employee share ownership and firm performance becomes lower when power distance gets higher, and vice versa. As there is a significant effect, also hypothesis 2 is supported.

The last model of table 3, model 5, includes the interaction effect of individualism. Hypothesis 3 predicted that country-level individualism moderates the relationship between employee share ownership in European firms in such way that the relationship is more positive in high individualism countries. The model shows a significant positive effect of the interaction employee share ownership * individualism (β = .010, SE = .004, p < .05). The positive β coefficient of the interaction indicates that the positive relationship of employee share ownership is strengthened in high individualism countries, also supporting hypothesis 3.

4.3 Robustness analysis

In paragraph 3.4 Operationalisation is explained that five of the six performance indicators in the Cranet questionnaire are used for the overall firm performance indicator. Stock market performance, as one of six firm performance indicators, had a relatively low response (N = 1,188), as shown in Appendix 1. Therefore, it is interesting and relevant to check whether the hypotheses would still hold when excluding stock market performance of the overall firm

performance variable. This can be seen as a robustness test. In this case, the robustness check is a model variation test, where a change is made in the dependent variable.

Another overall firm performance variable was made based on four performance indicators: service quality, level of productivity, profitability and rate of innovation. The same transformation and checks have been done as for the original overall firm performance variable. Namely, controlling for inter-item correlation (Cronbach's alpha), conducting a categorical principal component analysis, and winsorizing the outliers.

Appendix 4 Shows all results from the linear mixed model procedure with the new overall firm performance indicator. Model 3 shows that there is still a significant positive effect of broad-based employee share ownership on firm performance (β = .156, SE = .060, p < .05). So hypothesis 1 is still supported. Model 4 in Appendix 4, including the predicted interaction effect of broad-based employee share ownership * power distance, shows a negative effect, as hypothesised, which is almost significant (β = -.004, SE = .002, p = .056). When leaving out the direct effect of country-level individualism, the interaction effect would be significant. To conclude, hypothesis 2 is not supported when the dependent variable is the overall firm performance of the four indicators, although it almost is supported as p = .056. Lastly, Model 5 in Appendix 4 includes the predicted interaction effect of hypothesis 3, broad-based employee share ownership * individualism. It shows a significant positive effect (β = .008, SE = .004, p < .05), therefore hypothesis 3 is still supported. The full table with all 5 models is shown in Appendix 4.

Supplemental analysis on firm performance indicators

Besides the robustness test of using the overall firm performance variable containing four performance indicators, the relationship of broad-based employee share ownership on each firm performance indicator separately, was checked. All control variables were taken into account in the analysis, conducted with the linear mixed model analysis. Broad-based employee share ownership does not have a significant positive effect on service quality (N = 2,275, β = .080, SE = .052, p = .126) and level of productivity (N = 2,256, β = .034, SE = .057, p = .558). Broad-based employee share ownership does show significant positive effects on profitability (N = 2,211, β = .151, SE = .066, p = .022), rate of innovation (N = 2,226, β = .146, SE = .066, p = .028), and stock market performance (N = 842, β = .214, SE = .106, p = .043).

5 Discussion and Conclusion

Based on agency theory, psychological ownership theory, reflection theory, gift exchange theory, and other existing HRM literature, the relationship of offering broad-based employee share ownership on firm performance was hypothesized to be positive. Based on data from Cranet, world's biggest HRM network, the relationship was tested, confirming the positive relationship.

Besides testing the employee share ownership-firm performance relationship, this research went deeper into effects of cultural differences on the relationship. In the second hypothesis of this research was theorized that firms from low power distance countries moderate the relationship between employee share ownership and firm performance in such way that firm performance increases. The hypothesis was based on the fact that employees from low power distance countries like to have voice and influence in the organization, which employee share ownership can offer to them. The findings of the analysis support the second hypothesis. Looking at individualistic cultures, personal goals, rewards and own interest seem to improve performance. Employee share ownership can offers goals, rewards and interest to the employees. High individualistic, rather than collectivistic, countries are therefore hypothesized to gain a higher firm performance by offering employee share ownership in hypothesis 3. The findings also support the third hypothesis. The robustness analysis offers the results on the three hypotheses, when changing the dependent variable, based on four of the six firm performance indicators. Hypothesis 1 and 3 were still supported, while hypothesis 2 was almost supported. As the results on the main analysis and robustness analysis differ only a bit, the analysis can be seen as fairly robust. The supplemental analysis shows that broad-based employee share ownership positively relates to firm performance indicators profitability, rate of innovation and stock market performance. Due to the large dataset, external validity is high, and so is the generalizability of the findings. In this chapter, theoretical and practical implications are shown, followed by limitations of the research and suggestions for future research.

5.1 Theoretical implications

The majority of prior research has found that firms can benefit from the use of employee share ownership. But, in some cases negative and null effects were found (Kang & Kim, 2019). As findings of past research do not always result in the same evidence in literature, researchers have called for more empirical studies. Especially, including contextual variables which can

influence the relationship of employee share ownership and firm performance (Carberry, 2011). Management scholars have questioned whether management theories and practices can be generalized across different countries, as the same practices could have different effectiveness across different cultures (Kang & Kim, 2019). For that reason, prior research stated that there is a need for more studies on the influences of country-level contexts into financial participation models (Poutsma, Blasi, & Kruse, 2012).

With the evidence found on the three hypotheses, this research is a contribution to the literature on employee share ownership and broader (financial) participation within the HRM field. Broad-based employee share ownership is found to have a positive relationship on firm performance in Europe, yet again. The effects of the country-level contexts, cultural values particularly, imply that especially firms in low power distance and high individualistic countries can raise their firm performance by offering broad-based employee share ownership. As management scholars suggested, effectiveness of management theories and practices, such as offering employee share ownership, indeed differs across cultures, as a country-level context, based on findings of this research.

5.2 Practical implications

The findings of this research show cultural values influence the effectivity of offering broad-based employee share ownership. Although the results of the research are descriptive, the findings can guide decision-makers of European firms whether or not to offer broad-based employee share ownership, based on the country and culture of the firm. Though, country-level power distance and individualism might differ from power distance and individualism within firms itself. Therefore, also studying the employee base of the firm and its employee's characteristics can be an important step when deciding whether or not to offer broad-based employee share ownership.

5.3 Limitations

There are several limitations in this research. First of all, the Cranet dataset is cross-sectional data, meaning that causality is difficult to ascribe from the results and there may be reverse causality (Gerhart, 1999; Lazarova et al., 2008). Conducting a longitudinal research would tell what naturally goes on in the world without directly interfering with it (Field, 2018). Secondly, the firm performance indicators in the Cranet dataset are subjective measures, as a particular person, the most senior HR executive of the firm, has to judge the performance of the complete firm compared to other firms in the industry. Using objective measures of firm performance

could improve reliability of the results. National cultural values, power distance and individualism, have been used in the analysis as moderating effects on the employee share ownership-firm performance relationship. Underlying institutional differences have not been taken into account, but can also affect the relationship in practice though. Future research might address this research's limitations in order to further expand employee share ownership literature.

5.4 Future research

Some institutional factors were included as control variables in this research, while power distance and individualism as national cultural values were moderating variables. And although papers of institutional influences on employee share ownership have been published in the past, in future research, the influence of institutional differences should be further examined. Measuring the influence of institutions on firm performance can lead to new insights. So can checking for correlations between cultural values and institutions, which together can also influence effectiveness of employee shared ownership. Examples of types of institutions which might influence effectiveness of employee share ownership or financial participation in general, and thus are relevant to investigate, are political institutions, regulatory authorities, and social institutions like interest groups and media (Voinea & Van Kranenburg, 2017). Also, economic differences and type of markets where firms operate (free-market economy, coordinated market economy or hierarchical society) are relevant factors of which the influence is interesting to investigate.

The influence of other cultural values may also offer new interesting insights. So far, Kang & Kim (2019) investigated the effects of country-level uncertainty avoidance and social trust. This research continued on investigating the effects of power distance and individualism. Hofstede and other research like the GLOBE project offer some more (country-level) cultural values, which can be important for the effectiveness of employee share ownership.

Besides institutional and cultural factors, international organizations were related to firm performance in the analysis. So, international organizations might also relate to effectiveness of employee share ownership. So, characteristics of organizations, like degree of a firms' internationalisation are also directions for future research on employee share ownership.

5.5 Conclusion

The majority of existing theory already suggested that offering the opportunity of broad-based employee share ownership leads to better overall firm performance. Based on an analysis

conducted with data from the Cranet Network, world's largest HRM network, this relationship was proved. Further, new theory was derived about the influence of national cultural values, in this research. Gaining insights on the influences of power distance and individualism on the effectiveness of employee share ownership within Europe was the main goal of this research. The insights of this research show that the positive relationship of employee share ownership on firm performance, was stronger for firms from low power distance, and high individualism countries. Meaning that the effectiveness of employee share ownership varies across Europe. So, in search for alternative, structural innovations of the capitalist model, offering employee share ownership plans is definitely a way with which firm performance can be improved. Especially, in countries with low power distance and high individualism.

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Thank you for reading this paper,

Koen Baltussen

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Appendix I. Firm performance within European private firms

	Service	Productivity	Profitability	Innovation	SMP	Environment
Valid N	3,269	3,224	3,161	3,169	1,188	2,876
Missing	161	206	269	261	2,242	554
Mean (1-5 Likert scale)	4.1	3.78	3.54	3.62	3.37	3.67
Standard deviation	.75	.83	.95	.97	1.10	.91
Poor	0.2%	0.3%	2.0%	1.6%	7.5%	1.6%
Below average	1.0%	4.5%	10.8%	10.5%	10.0%	5.5%
Average	19.5%	32.8%	35.1%	31.5%	36.1%	37.4%
Better than average	47.0%	42.0%	35.8%	36.6%	30.6%	35.3%
Superior	32.2%	20.4%	16.4%	19.8%	15.7%	20.2%

Note. SMP: Stock market performance. Source: Cranet dataset.

When overall firm performance was calculated with categorical principal components analysis, and outliers were removed by winsorizing, it results in the following descriptives and distribution:

Firm performance	
Valid N	3,430
Mean	.07
Std. Deviation	.98
Skewness	.002
Std. Error of Skewness	.042
Kurtosis	-.227
Std. Error of Kurtosis	.084
Minimum	-2.50
Maximum	2.35

Overall firm performance scores
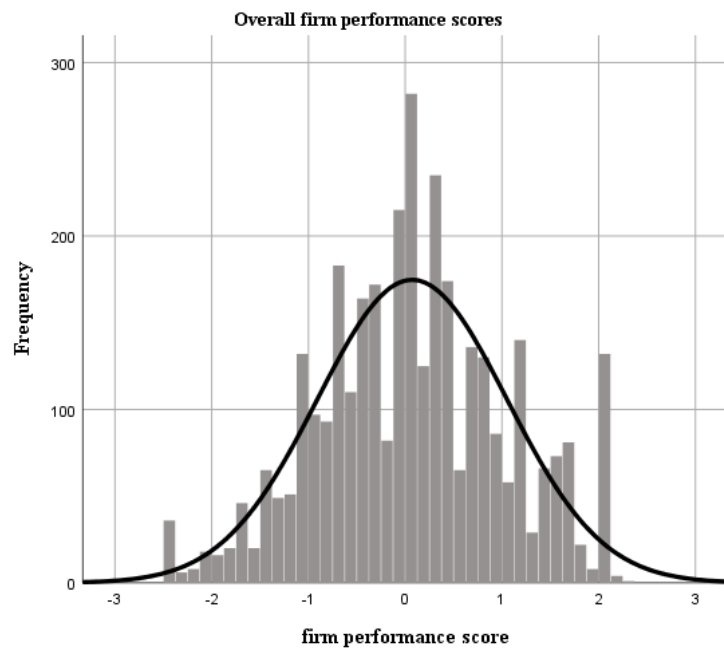
Appendix II. Industry

Main Sector of operation	Frequency	Percentage
Agriculture, food and water supply	**499**	**15.0%**
Agriculture, hunting, forestry, fishing, mining and quarrying	91	2.7%
Manufacture of food, beverages, textiles, wood and paper, coke and refined petrol	306	9.2%
Electricity, gas, steam, and water supply, waste management	102	3.1%
Manufacturing	**821**	**24.6%**
Manufacture of basic metals and metal products, plastic and other non-metallic products	194	5.8%
Manufacture of computer, electronic products, electrical equipment	84	2.5%
Manufacture of machinery and equipment	157	4.7%
Manufacture of transport equipment	70	2.1%
Other manufacturing	136	4.1%
Construction	180	5.4%
Services	**1,109**	**33.3%**
Accommodation and food service activities, publishing, broadcasting activities	90	2.7%
Telecommunications, IT and other information services	232	7.0%
Accounting, management, architecture, engineering, scientific research, and others	108	3.2%
Public administration and compulsory social security	58	1.7%
Education	34	1.0%
Human health services, residential care and social work activities	148	4.4%
Other industry or services	439	13.2%
Transportation, storage, wholesale and retail trade	**497**	**14.9%**
Wholesale and retail trade	340	10.2%
Transportation and storage	157	4.7%
Financial and insurance activities	**278**	**8.3%**
Financial and insurance activities	278	8.3%
Chemicals and pharmaceuticals manufacturing	**127**	**3.8%**
Manufacture of chemicals, pharmaceuticals, and medicinal chemical products	127	3.8%
Total	**3,331**	**100.0%**
Missing values	99	
Total including missing values	3,430	

Note. Source: Cranet dataset.

Appendix III. Full correlation matrix

		Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.	Firm performance	.07	1.00																	
2.	Broad-based ESO used	.11	.32	.07**																
3.	Narrow-based ESO	.09	.29	.07**	-.11**															
4.	Firm size (log	6.17	1.34	-.01	.06**	.08**														
5.	Agriculture	.16	.37	-.00	-.03	.01	-.02													
6.	Manufacturing	.25	.43	-.05*	-.02	-.00	.02	-.25**												
7.	Service sector	.32	.47	.05*	-.00	-.03	-.08**	-.30**	-.40**											
8.	Transportation	.15	.36	-.05*	-.03	-.00	.03	-.18**	-.24**	-.29**										
9.	Finance sector	.08	.27	.05*	.11**	-.00	.07**	-.13**	-.17**	-.20**	-.12**									
10.	Chemicals	.04	.19	.01	.03	.05*	.04	-.09**	-.12**	-.14**	-.08**	-.06**								
11.	Public limited company?	.38	.49	.04*	.21**	.14**	.14**	.04*	.05*	-.11**	-.06**	.10**	.07**							
12.	Union density	29.09	30.85	-.08**	-.02	-.01	.15**	.14**	.06**	-.07**	-.11**	-.02	.00	-.02						
13.	Trade union influence	1.40	1.31	-.08**	-.01	.03	.29**	.11**	.06**	-.08**	-.08**	-.00	.01	.07**	.66**					
14.	Collective bargaining TU's	.67	.47	-.08**	-.02	.02	.26**	.02	.08**	-.07**	-.05*	.01	.03	.04*	.48**	.60**				
15.	Educated workforce	33.28	26.89	.14**	.11**	.05*	-.10**	-.14**	-.22**	.31**	-.16**	.17**	.05**	.03	-.16**	-.15**	-.20**			
16.	International organization	.41	.49	.08**	.11**	.15**	.12**	-.05**	.11**	-.08**	-.01	-.02	.09**	.20**	-.08**	-.01	.00	.09**		
17.	Power distance	1.92	25.99	.02	.04	-.06**	-.06**	.06**	.01	-.02	-.02	-.01	-.02	.16**	-.10**	-.00	-.20**	.07**	-.12**	
18.	Individualism	-1.89	18.45	-.03	.08**	.07**	.04	-.11**	-.00	.05*	-.00	.06**	.02	.03	-.10**	-.08**	.08**	.05*	.16**	-.66**

Note. $N = 2{,}347$ observations: 26 countries. ESO: employee share ownership; TU: trade unions. * $p < .05$, ** $p < .01$

Appendix IV. Robustness test

Firm performance 4 (DV)					
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Variables	β (SE β)	β (SE β)	β (SE β)	β (SE β)	β (SE β)
Intercept	-.042 (.137)	-.054 (.137)	-.035 (.137)	-.031 (.137)	-.026 (.137)
Control variables					
Firm size	.007 (.015)	.007 (.015)	.003 (.015)	.002 (.015)	.001 (.015)
Agriculture	.063 (.105)	.056 (.105)	.064 (.105)	.069 (.105)	.068 (.104)
Manufacturing	-.043 (.101)	-.039 (.101)	-.027 (.101)	-.022 (.101)	-.025 (.100)
Services	.042 (.100)	.047 (.099)	.058 (.099)	.066 (.099)	.063 (.099)
Transportation	-.062 (.106)	-.063 (.106)	-.055 (.106)	-.047 (.106)	-.048 (.106)
Finance	.056 (.114)	.066 (.114)	.067 (.114)	.074 (.114)	.063 (.114)
Chemicals (reference)					
PLC	.045 (.039)	.065 (.040)	.035 (.041)	.035 (.041)	.038 (.041)
Union density	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)	-.001 (.001)
TU influence	-.025 (.021)	-.023 (.021)	-.024 (.021)	-.025 (.021)	-.026 (.021)
collective bargaining	-.069 (.050)	-.066 (.051)	-.063 (.051)	-.058 (.051)	-.057 (.051)
Education	.003*** (.001)	.003*** (.001)	.003*** (.001)	.003*** (.001)	.003*** (.001)
International organization	.116** (.039)	.122** (.039)	.106** (.040)	.105** (.040)	.100* (.040)
Country-level variables					
Power distance		-.002* (.001)	-.002* (.001)	-.002 (.001)	-.002* (.001)
Individualism		-.005** (.001)	-.005*** (.001)	-.005** (.001	-.005** (.001)
Firm-level (independent) variables					
Narrow-based ESO			.181** (.065)	.184** (.065)	.186** (.065)
Broad-based ESO			.156* (.060)	.174** (.061)	.142* (.061)
Cross-level interactions					
ESO * Power distance				-.004 (.002)	
ESO * Individualism					.008* (.004)
Model statistics					
-2 Log Likelihood	6,077	6,067	6,054	6,050	6,049
Wald Z	34.256***	34.256***	34.256***	34.256***	34.256***

Note. N = 2,347, 26 countries. DV: dependent variable; ESO: employee share ownership; TU: trade unions. * $p < .05$; ** $p < .01$; *** $p < .001$

Appendix V. Reflection

Looking at my background as a student, I have studied Business Administration & Agribusiness at HAS University of Applied Sciences, after which I followed the Pre-master Business Administration at Nijmegen School of Management, Radboud University. That means this Master Thesis project was the first time writing an academic paper for me.

At the end of March 2020, the research proposal had to be delivered. My experience on making the research proposal is that it took a lot of time, as I have searched for and read, many academic papers. By working really hard at that time, as there were also several courses and exams which were followed at the same time, I was very happy and proud to present my research proposal. When looking back, a difficult, time consuming part was getting familiar with papers within financial participation/HRM especially, for creating the introduction and theoretical framework. Later in the process, when I was getting more familiar with the literature, looking for useful papers got a bit easier.

Going into the research phase, where my predictions were being analysed, I can summarize the process as being very iterative. The lecturers at Radboud University always tell that research is an iterative process, and things have to be done over and over. And at this point I know what they have always been talking about. The analyses have been done many times, as variables needed to be changed sometimes. With the knowledge I have at this point, not only about subject itself, but also the process of the Master Thesis, I think the process would be easier to do. On the other side, I can say that undergoing the Master Thesis proposal, and final research trajectory, is what I have learned from a lot.

Besides learning about the process itself, I have definitely gotten better at finding and interpreting useful academic papers. Also, my knowledge on the particular subject has increased, especially by reading a lot, and by working with data and people within the particular field of HRM. To conclude, the Master Thesis project was a tough, but really fun experience. Though, I am also happy the paper has come to an end, and the end of the trajectory is getting close.

Koen Baltussen,

Asten, June 12, 2020