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The Perception and Impact of Cultural Differences in Cross-Border Acquisitions

An analysis of how cultural differences affect the post-acquisition
performance of acquiring companies in cross-border acquisitions

Master Thesis

MSc in Innovation and Industrial Management

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Written by Adam Lundquist and Sebastian Strömland

Abstract

This thesis examines the relationship between cultural differences and the post-acquisition performance of cross-border acquisitions. Cross-border transactions have increased substantially in the last decades which has led to an increase in studies interested in finding key drivers of performance in these transactions. The cultural difference between the acquirer and acquiree is one of the drivers which has attracted a lot of attention, however the findings on the subject are contradicting. Advantages such as diversification of resources and increased market power and disadvantages such as increased costs of integration have been brought to attention, but the results from previous studies on how these drivers and barriers impact the performance are inconclusive.

This thesis uses a sample of 128 cross-border acquisitions between 2010 and 2020 within the IT industry where the acquiring company is located in the United States. This thesis uses Hofstede´s framework for calculating cultural differences and multiple event windows for short- and long-term abnormal returns: Cumulative Abnormal Return (CAR) and Buy-and-Hold Abnormal return (BHAR). Furthermore, several control variables were incorporated. The findings display a negative long-term relationship between increased cultural differences and performance. Furthermore, the control variables; earnout clause, corporate divestiture, and cash payments display a significant positive impact on abnormal returns when using long-term event windows. Finally, relative buying size returns significant short-term results indicating that companies acquiring larger companies relative to themselves experience increased abnormal returns. The findings of this thesis contribute knowledge regarding the impact cultural differences have on shareholder wealth and further illustrate the complexity of identifying certain key drivers of transaction performance. We believe that this thesis can provide insights for both professionals within the M&A field as well as act as a basis for scholars interested in further work within the area.
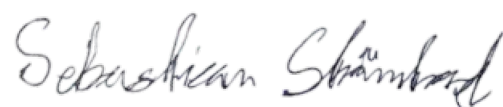
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Abbreviations and Definitions

BHAR – Buy-and-Hold Abnormal Return

CAR – Cumulative Abnormal Return

CBA – Cross-Border Acquisition

CBM – Cross-Border Merger

CBT – Cross-Border Transaction

CRM – Constant Average Mean Return Model

IDV – Individualism versus Collectivism

M&A – Mergers & Acquisition

MAM – Market-Adjusted Model

IVR – Indulgence versus Restraint

LTO – Long-Term Orientation

PDI – Power Distance Index

T0 – Event return on the announcement date

T2 – Event return the day before T0, T0, and day after T0

T3 – Event return 10 days before T0, T0, and 10 days after T0

T4 – Event return after 1 year

T5 – Event return after 2 years

UAI – Uncertainty Avoidance Index

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1. Introduction

Mergers and Acquisitions (M&A) is one of the largest growing types of economic transactions between companies where globalization and the growth of new emerging economies have been pushing companies to exploit cross-border markets even further (Zamborsky et al., 2021). Since the year 2000, more than 790 000 transactions have been announced with a total value of over 57 trillion USD (IMAA, 2021). M&A is a broad subject with many different forms of transactions and the terms "merger" & "acquisition" are both part of the transaction vocabulary. They are often interchangeably used but have separate definitions. A merger can be defined as two entities combining their business and sharing their resources to achieve common goals. In a merger, shareholders remain as shared (joint) owners of the combined company. An acquisition, on the other hand, takes place when one firm (acquirer) purchases the shares or assets of another firm (target) and takes control of the acquired firm.

In recent years the number of transactions made by companies into foreign countries has increased substantially (Zamborsky et al., 2021). M&A has been used as a tool to gain new insights, to be able to quickly reinvent, and to gain competitive advantages through complementary assets. A large percentage of research surrounding M&A has been solely focused on domestic M&As, whereas cross-border M&As are still considered a relatively new subject (Kiesling et al, 2021). This thesis studies acquisitions done between companies from different countries and a few key terms will be used to differentiate the multiple types of transactions. Cross-border transactions (CBT) refer to all types of transactions done cross-border, but most papers study either cross-border mergers (CBMs) or cross-border acquisitions (CBAs). This thesis focuses on CBAs, where the target firm sells the majority share of its stock or assets to the acquirer and a clear change of control within the acquired target is taking place. The acquired firm becomes a subsidiary to the acquirer which the acquirer can either gradually integrate into the main business or keep outside the current business (Chen & Findlay, 2003).

The approach to CBTs is not as straightforward as the approach to domestic transactions. CBTs are more complex due to multiple differences in the economic and political environment, corporate structures, culture, tradition, tax rules etcetera (Stahl & Voigt, 2004). CBTs have in recent years become the overwhelming component of foreign direct investments (FDI) made

by companies, and in terms of the value, they have risen from 200B USD in 1990 to 1637B USD in 2007. In relation to the world GDP, the value of CBTs has risen from 0.1 percent in 1990 to 3 percent in 2007 (Reuters, 2021). The growing number of CBTs has resulted in a massive shift of corporate control and capital around the world where more than 80 percent of the deals have taken place in the US, Europe, and Japan. This thesis focuses on CBAs where the acquirer is active within the IT sector in the United States of America. The American IT sector is the single largest sector when it comes to cross-border transactions according to data retrieved from Capital IQ (2022) and is also the largest sector by market cap with 14.67 trillion USD (Fidelity, 2022).

1.1 Problem discussion

It is crucial for companies to manage their M&A and CBT strategy to remain competitive, however, as mentioned above, partaking in CBTs is a strenuous and complex task with multiple key issues. The goal is to maximize company value, but common knowledge regarding which variables in CBTs lead to a higher post-acquisition value is debated. King et al., (2004) in their meta-analysis covering 206,910 M&A transactions found that none of the three, previously, most researched variables in M&A – degree of relatedness between the acquiring firm and the acquired firm, degree of diversification of acquirer, and prior buyer experience in acquisitions could not explain any variance in the shareholder wealth effect. The meta-analysis of King et al., (2004) suggests that future studies should aim their attention toward softer variables that have been underrepresented in research, of which cultural difference is one of the mentioned variables. Cultural differences are thought to be especially important in CBTs, due to the required coordination between people with potentially conflicting values. Historical evidence of clashes of culture in cross-border transactions are many and previous studies have shown that the culture of a target affects the decision-making of acquirers (Guiso et al., 2006).

This thesis has the main goal of understanding how cultural differences between two firms within the IT sector might impact the short- and long-term post-acquisition performance of the acquirer. However, other variables might affect performance such as the pattern of dominance and size between combining firms (Hitt et al., 2009), whether the acquisition is friendly or hostile (Chakrabarti et al., 2009) as well as organizational fit (Cartwright & Cooper, 1996; Morosini et al., 1998). These researchers have all found variables that have a significant impact on post-acquisition value and will therefore be incorporated into this research. The question of

whether and how cultural distance affects post-acquisition value provides findings which are contradicting each other, and a common opinion has not been developed. Ahern et al. (2015) argue that the larger the cultural differences, the lower the probability of succeeding with attaining value from a merger. On the contrary, Morosini et al., (1998) find that cross-border acquisitions (CBAs) perform better the greater the cultural difference between the two firms.

In the 1980s, the well-known author, Gert Hofstede, coined the term "cultural distance", which is defined as the cultural differences between two countries on four different dimensions of culture created by Hofstede (1980). This framework has been used in many studies focusing on the relationship between culture and M&A performance. Hence, this thesis will follow its predecessors and use the framework built and developed by Hofstede; therefore, cultural differences will hereinafter be referred to as cultural distance. The framework and the changes made to it throughout the years will be further discussed in the methodology section.

1.2 Purpose and research question

In this thesis, the authors want to explore and better understand how cultural distance affects the post-merger valuation. By studying the cultural distance on a national level using a framework introduced by Hofstede (1980) and worked on until 2010, in parallel to abnormal returns, the aim is to find whether a relationship between the two exists.

The formulated research question for this thesis is:

1. *How is the shareholder wealth effect in cross-border acquisitions affected by cultural differences as defined by Hofstede?*

Furthermore, three sub-questions have been developed:
   a. *How is the short-term shareholder wealth effect impacted by cultural differences?*
   b. *How is the long-term shareholder wealth effect impacted by cultural differences?*
   c. *How do the control variables highlighted in this thesis impact the short- and long-term performance?*

1.3 Delimitations

The amount of literature written on culture and its connection to company performance is substantial, and some delimitations have been made to be able to emphasize the specific areas of interest for this thesis. The success of a transaction can be measured from many perspectives due to many different shareholders such as employees, managers, consumers, and the community at large. A higher employee retention rate can for example be a measurement of M&A success. However, the focus of this thesis is solely on how cultural distance impacts shareholder wealth for the acquiring company, using abnormal returns. Furthermore, a comparison between the performance of CBAs to domestic acquisitions will not be made. The interest lies in analysing the relationship between the level of cultural distance and performance, not how CBTs overall perform versus domestic transactions. The geographic focus of the thesis has been narrowed down to CBAs within the IT sector where the acquirer is based in the United States. Furthermore, by choosing to analyse one type of transaction (CBAs), the possibility of attaining results that differ due to the transactions embracing different structures is reduced. This thesis focuses on the impact on shareholder wealth affect for the buying firm that CBAs have, thus the stock fluctuations studied are of the acquiring firm. There are two arguments underlying this delimitation. Firstly, it allows the authors to collect more data since transactions between two public companies are limited. Secondly, the idea that acquired targets often attain a positive shareholder wealth effect as a consequence of being bought is somewhat proven already (Loughran & Vijh, 1997).

1.4 Disposition of research

The following disposition of research has been used in this thesis. Chapter 2 introduces a selection of previous studies made within the area and a theoretical framework is developed. The method, research approach, and variables used in the thesis are presented in Chapter 3. Results from the thesis are presented in Chapter 4. In Chapter 5, the results are discussed and compared to the theoretical development made, furthermore, the research questions posed above are answered. A summary of the findings is presented in Chapter 6. The references and appendix are available in Chapters 7 and 8.

2. Literature review

The relationship between the cultural distance of two companies and the post-acquisition performance is, as mentioned in the introduction, inconclusive and several peer-reviewed articles draw conclusions that are contradicting. This section covers the definition and explanation of the variable of culture that will be used in this thesis. It will highlight the main drivers of cross-border transactions and deep-dive into a selection of articles studying the relationship between culture and post-transaction performance of the acquiring firm, the methodology used, and present theory that is argued to be underlying to those results.

2.1 Cultural distance as defined by Hofstede

Hofstede's framework for cultural distance called the 6-D model is based on the works of Geert Hofstede, dating back to the 1980s (Hofstede, 1980) and worked on until the 3rd edition of Cultures and Organizations: Software of the mind: Intercultural cooperation and its importance for survival by Hofstede et al., (2010). This model has been used extensively in other articles on the topic and Hofstede is seen as one of the leading academics on international research concerning culture and cultural differences between nations (Sent et al, 2022). The data collected for cultural distance is made possible by the website Hofstede Insights, where a model which quantifies cultural distance has been created based on Geert Hofstede's model of national culture. The model uses six different dimensions to measure cultural distance. *Power Distance Index* (PDI) communicates the extent to which members of society deal with power being unequally distributed. The dimensions aim to explain how a certain society deals with inequalities among different societal members. If the PDI is high, the society accepts that every member has a place in a hierarchical order while societies with a lower index will strive and demand to create a fair distribution of power. *Individualism versus Collectivism* (IDV) introduces two opposites. Societies with a high level of individualism prefer distant social ties, where individuals take care of themselves and their immediate families. Its opposite, collectivism, prefers a society with close social ties where the society at large takes care of each other, and a high level of loyalty is present. The third dimension by Hofstede (1980) is *Masculinity versus Femininity* (MAS). The upper side of this dimension, masculinity, stands for a preference toward achievements, assertiveness, and heroism. An achievement is rewarded with material goods such as higher salaries or promotions and the society is, in general, more competitive than its counterpart. In a society with a high level of femininity, modesty,

cooperation, and a caring mindset for peers are highly focused upon. Such a society is in general more oriented towards consensus and quality of life than a society that to a majority can be seen as masculine. This dimension can according to Hofstede (1980) be directly connected to business culture and seen as "tough" (masculine) and "tender" (feminine) working environments. The last dimension mentioned in the study made in the 1980s by Hofstede is the *Uncertainty Avoidance Index* (UAI). This dimension represents to which degree societal members feel comfortable with ambiguity and uncertainty. The issue brought forward by this dimension is whether a society can deal with the fact that some things in this world cannot and never will be known. Societies with a high level of UAI emphasize rigid beliefs and behaviour and do not approve of outliers displaying unorthodox behaviour. A society where religion is important is one example of a society with a high UAI. Societies with a low UAI have a more relaxed approach, where the emphasis is put on practice rather than principles (Hofstede, 1980).

In 2010, Geert Hofstede together with Gert Jan Hofstede and Michael Minkov expand the earlier work made by Geert Hofstede in the 1980s. Two dimensions are added. *Long-term versus Short-term orientation* (LTO) and *Indulgence versus Restraint* (IVR) (Hofstede et al., 2010). In LTO, the societal approach toward the future is studied. Every society must remember the past while dealing with the present and planning for future challenges. This dimension proposes two different approaches to how societies deal with this. Societies with a low LTO score (Short-term orientated societies) prefer to maintain norms and tradition with a pessimistic view of societal change. On the contrary, societies with a high LTO score (Long-term orientated societies) encourage development, innovation, and efforts on improving modern education, with less emphasis on norms and traditions. IVR presents two opposites, indulgence and restraint. In a society where indulgence is emphasized, members strive to have fun and enjoy life. The society aims to provide as much gratification of natural and basic human drives as possible to achieve their goal. In a society where restraint is emphasized, the society enforces strict societal norms to suppress the gratification of needs. (Hofstede et al., 2010)

2.2 Motivations for cross-border transactions

There is extensive literature covering the advantages and motivations underlying cross-border transactions (Francoeur, 2007; Aw, 2004, Moeller & Schlingemann, 2005). However, four main drivers of CBTs are mentioned more often than others, with them being *resource-seeking, market-seeking, diversification,* and *synergy realization.*

2.2.1 Resource-seeking motive

Cross-border transactions as a means of attaining resources are one of the major motivations for investing overseas (Glaister & Ahammed, 2010). A company's resources are not limited to tangible resources but also include intangible resources. This is connected to the resource-based view (RBV) (Barney, 1991) where organizational learning and intangible resources such as the acquisition of targets for their human resources, knowledge, and technology can be seen as the driver for CBTs. By successfully acquiring companies with superior technology, innovative capabilities, or know-how, the acquiring company can develop a competitive advantage if they manage to successfully integrate the two companies, which might lead to higher long-term company performance (Lamont & Reus, 2009).

2.2.2 Market-seeking motive

In contrast to the resource-seeking motives, the market-based motives describe acquiring companies with an already existing competitive advantage within their home markets that wants to expand their business internationally (Li et al., 2016). Martin et al., (1998) put forward that it is possible to treat CBTs as an approach for companies to increase their market shares by accessing new markets. This means that CBTs are one of the fastest ways to internationally expand, due to the transaction allowing the acquiring firm to enter a new market by acquiring a firm within it (Martin et al., 1998). Exploiting the firm's existing and superior products in new markets might lead to increased sales and a larger market share. This, according to Ittner and Markides (1994) present an opportunity to develop an economy of scale which would increase the company's profitability. Furthermore, a larger market share increases the company´s market power and ultimately bargaining power against suppliers resulting in an increased profit margin and higher firm performance (Kim & Singal, 1993).

2.2.3 Diversification and synergy realization

Diversification produces an approach to reducing the risk and cost of entering new markets (Boateng & Glaister, 2003). Many companies outsource their manufacturing to countries where the labour cost is low compared to other markets reducing costs while simultaneously increasing the company´s flexibility. For example, a company can take advantage of different tax rates to lower their tax rates by diversifying into new countries and markets (Ibid).

The fourth and last motivation for CBTs that will be covered is the realization of synergies. Synergies are a broad concept but can be defined as multiple sources of the gain of multiple advantages that brings value (Boateng et al., 2019). This includes increasing market power, taking advantage of different legal or tax structures to minimize cost, and economies of scope and scale (Boateng et al., 2019). Thus, this motivation is highly intertwined with both the resource-seeking motivations and the market-based motivations and can be viewed as the main driver for long-term performance within CBTs.

2.3 The relationship between culture and M&A performance

Given this background into cultural distance and drivers for CBTs, a summary of studies measuring acquiring companies' performance in relation to the level of cultural differences and their results will be highlighted. Rottig and Tarba (2013) find 83 studies that discuss the impact cultural distance has on CBTs with different definitions of performance. Six of the 13 different papers measuring success in terms of financial performance will be explained in-depth, concluding with a table summarizing the main findings. The papers are divided into three different categories; papers that find a positive correlation between cultural difference and performance, papers that present mixed findings when using different time frames, and papers that find a negative correlation between cultural difference and performance.

2.3.1 Positive correlation between higher cultural distance and abnormal returns

Chakrabarti et al., (2009) investigate the impact national cultural distance has on the short- and long-term performance of CBAs. They use a sample of over 1000 acquisitions between 1991 and 2004, where included transactions are completed and over 100MUSD in value. Furthermore, the acquirer owns 100 percent of the target shares after the transaction, the acquirer and target are from different countries (cross-border), and the acquirer is publicly traded. They account for whether the deal is friendly or hostile as well as the method of payment. The financial measure used is the *buy-and-hold abnormal return* (BHAR) with a three-day event window. To estimate the cultural distance between the two entities, four of Hofstede´s six cultural dimensions are used (PDI, IDV, MAS, and UAI) to establish the level of cultural differences. The authors furthermore incorporate three additional variables; religion, legal structure, and language to assess the cultural difference between the acquiring and target firm. In their research, cultural distance emerges as an economically significant and beneficial factor, thus, they find a positive relationship between a higher level of cultural distance and

post-acquisition value both short- and long-term. They also find that cash acquisitions and friendly deals perform better than their opposites and that the need for controlling these parameters is necessary. A final finding presented by Chakrabarti et al., (2009) is that there seem to be some indications that deals made by acquirers from countries with strong economic systems of targets within a country with a weaker economic system perform better than otherwise.

Morosini et al., (1998) constructed a detailed questionnaire where 52 companies from Europe that within the last six years had engaged in CBAs participated. The dependent variable, performance, is measured in terms of the percentage rate of growth in sales over the two years following the acquisition. It is argued that some of the countries within the sample such as Italy and France are known for a lack of market efficiency resulting in reduced usefulness of stock price measures. The key independent variable in the study is national culture distance, measured following Hofstede´s (1980) definition of cultural distance. Similar to the study of Chakrabarti et al., (2009), the authors use scores of four cultural dimensions; PDI, IDV, UAI, and MAS. They incorporate control variables such as relatedness of the acquiring and target firm, size of companies, post-acquisition strategy, and year of acquisition into their research as previous research has found significant patterns between these and performance. Additionally, the authors approached 16 senior executives involved in CBAs for their company and conducted field-based interviews as they argue that it is questionable whether exclusively quantitative approaches are appropriate when discussing M&A and its many and highly varying contextual aspects. The interviews were used to further understand the type of CBA that had been done and the underlying reasons as to why the transaction was initiated. The conclusion that is drawn is that there exists a positive relationship between national culture distance and performance. The CBAs that tended to perform better was acquiring and acquired companies with a larger cultural distance between them. However, the authors find no evidence that the variables; the relative size of the acquirer, relatedness, or post-acquisition strategy can explain differences in post-acquisition performance (Morosini et al., 1998).

2.3.2 Negative correlation between higher cultural distance and abnormal returns

Datta and Puia (1995) examined the influence of relatedness and cultural distance on shareholder value creation in the United States. They analysed 112 large cross-border acquisitions of majority stake between 1978 and 1990 with a deal value of over 10 MUSD. Relatedness was defined as a dummy variable where deals within the same industry were

considered related and deals between two companies active within two different industries unrelated. The cultural distance was evaluated by using the four of the six dimensions created by Hofstede (1980 & 2010); PDI, UAI, IDV, and MAS. Multiple event windows were used for calculating abnormal returns where the two-day event window is the shortest event window used and a one-year event window is the longest event window studied. The study finds a negative correlation between cultural distance and shareholder wealth effects for all 13 event windows studied. However, not all of the differences are significant, and in contrast to other papers, this study finds that the significant differences in post-acquisition value between targets and acquirers occur when using the longer event windows. Thus, the authors argue, in contrast to the previous studies, that cultural differences impact shareholder wealth negatively when using longer event windows (Data and Puia, 1995). Meanwhile, they are not able to find significant results using shorter event windows (ibid). The impact that relatedness has on shareholder value creation remains unclear according to the authors, as they find no significant differences in the shorter event windows. The longer event windows display significant differences, but these differences are both positive and negative.

2.3.3 Mixed correlation between higher cultural distance and abnormal returns

Ahern et al., (2015) find a negative correlation between a higher cultural distance and the short-term post-acquisition performance. The authors measure a cultural distance where the emphasis is put on three separate dimensions of Hofstede´s six-dimensional framework: PDI, IDV, and MAS. Using these dimensions of culture with a large sample of mergers with no size restrictions, from 52 different countries in the period 1991 to 2008, the authors find that large differences in national culture reduce the number of cross-border mergers closed. Furthermore, the authors find that a larger cultural distance results in lower gains from synergies when looking at *cumulative abnormal returns* (CAR) with a three-day event window. Another finding presented by the authors is that even though cultural differences incur large costs in cross-border mergers and reduce synergies, the abnormal returns of these mergers are higher than in domestic mergers when looking at long-term returns. According to Ahern et al., (2015) these findings imply that the potential synergies in these cross-border mergers are higher than the value of potential competing bids by local acquirers, even though the marginal effect of cultural differences is negative.

Alexandridis et al., (2015) present similar results to Ahern et al., (2015). They study the effect that cultural distance between acquirers and targets has on the cumulative abnormal return

(CAR) after the transaction has been completed. The paper uses a sample of 220 cross-border and domestic mergers and acquisitions between 2004 and 2012 with no size restrictions on the deal. Cultural distance is constructed by a framework incorporating seven different dimensions: Corporate governance, employee background, products and customers, community, environment, controversial business issues, and ethics. These seven dimensions all serve as separate control variables in the data analysis (Alexandridis et al., 2015). This is one study available that uses a framework of cultural distance that is not connected to the original work of Hofstede (1980). This framework allows the authors to follow the development of culture over the studied period, which is not possible when using Hofstede Insights. The paper uses cumulative abnormal returns (CAR) to study the post-acquisition performance of cultural differences in CBTs where the event window was set to five days prior and five days after the announcement of the deal. Furthermore, they are using both stock-market and accounting-based measurements to assess the long-term performance of the deals. The accounting-based performance measure used is the return on assets (ROA) where the event window is three years after the deal while the stock-market performance measurement used is BHAR and calculated three, four, and five years after the deal. Alexandridis et al., (2015) find that deals, where a large cultural difference is present, are also related to a significantly lower performance around and after the announcement of the deal in comparison to the opposite. This is argued to originate from the expected difficulties with post-acquisition integration. However, when looking at the long-term performance of cross-border deals with high cultural differences between the two entities involved, the relationship is reversed. Thus, they find both a significant positive and significant negative correlation between high cultural differences and post-acquisition performance when using different periods (Alexandridis et al., (2015).

2.3.4 Additional contributions from research

Variables that have previously been mentioned by the above authors include the method of payment and mode of acquisition (Chakrabarti et al., 2009). There are two fundamental methods when discussing the payment method for transactions and these are cash and equity. In deals where equity has been used to fund the transaction target, shareholders share the rewards and risks of the merged entity, whereas in cash deals the seller is barred from any type of "earn-out" which means that whatever happens to the merged entity post-acquisition, either good or bad, does not carry any impact for the seller (Sudarsanam, 2010). Financial theory states that top management will always try to finance a transaction in the most profitable way possible. Furthermore, the theory states that firms that are financed by equity often are

overvalued, whereas firms that are financed by cash often are undervalued (King et al., 2004). This results in transactions being financed by cash, being seen as a promising signal of the top management's expectations of post-acquisition value. This could according to King et al., (2004) also lead to cash transactions displaying an increased short-term abnormal return for the target firm´s shareholders caused by high expectations of the deal. According to Schwartz (2000) the mode of acquisition, friendly or hostile, does not matter in terms of financials. The shareholder wealth effect will thus not be affected whether the takeover is hostile or friendly. On the other hand, Vaara & Tienari (2011) argues that friendly takeovers open up for bargaining, and in turn focus on synergy gains from the deal. This in turn could then have an impact on abnormal returns. Religion and Language are also mentioned by Chakrabarti et al., (2009). They argue that different religions might create cultural barriers, and that differences between the two merging firms' native languages may create barriers to communication.

The relative size of the two firms has been discussed as a variable that will affect the post-merger value of a transaction. According to Gorton et al., (2009) the profitability tends to decrease with a higher relative size. The argument is made that larger firms often a higher premium since they have the financial power and rather avoid long periods of negotiation. Smaller acquiring firms in comparison to the target with less financial power engage more in negotiations and therefore often pay a smaller premium than larger firms. Furthermore, Cohen & Levinthal (1990) argue that it is easier for the acquiring company to recognize the knowledge, skills, and overall value of another company when both companies are of similar size. This in run leads them to be able to attain higher level of synergies, and thus, a lower relative buying size is beneficial for the shareholder value. Other authors, (Seth, 1990; Holmberg et al., 2009) argue the contrary. A larger relative size leads according to Seth (1990) to an increase in market power and the ability to develop economies of scope and scale to a higher level than otherwise. Holmberg et al., (2009) argue that the acquirer must be larger than the acquirer to realize planned synergies.

The year is another variable that needs to be taken under consideration according to Morosini et al., (1998). The stock market displays volatility and varying economic conditions over time need to be considered. Furthermore, Morosini et al., (1998) mention the relatedness of industry as a variable that needs to be considered. This statement is backed up by a paper by Scanlon et al., (1989) that points out that the relatedness of the industry will have an impact on the post-

acquisition value of a firm since different industries perform differently at different points in time.

According to Sudarsanam, (2010) the differences between a merger and an acquisition, as well as a majority acquisition versus a minority acquisition will be important for the end result. A merger entails that two different firms combine and share their resources, thus resulting in equal integration of the two entities worked-up resources. With an acquisition, there will be one acquirer and one target, where the target ceases to be the owners of their firm. The acquirer will thus own over 50 percent of the target, which results in more control and flexibility over the managerial decision-making and in turn speed of integration.

2.3.5 Summary of literature review

When summarizing the different papers that discuss the impact cultural differences have on post-acquisition performance, where performance is measured in financial terms, it is possible to see multiple differences in the applied methodology and dependent variable used (Table 1). Most authors use the framework for cultural distance developed by Hofstede (1980), but studies are using and applying their own developed frameworks as well. These studies often study domestic M&As and organizational cultural distances rather than national cultural distances and thus, do not assume that national and organizational cultural differences are connected and dependent on each other. In a larger sample of papers, also studying the impact cultural differences have on M&A performance, Stahl & Voigt (2008) finds similar results. They argue that the different findings can be accounted to different event windows for studying performance, different measurements for performance, and different methods for calculating cultural differences. The mentioned variables in the above chapter will be used as control variables and tested for replicability.

Table 1. Studies that examine the role of national culture in M&A

Study	Construct	Source	Sample	Method	D.V	Results
Ahammad & Glaister (2011)	Cultural distance	Hofstede (1980)	65 cross-border M&As	Survey	Financial performance	Limited support for a negative effect of organizational cultural differences on acquisition performance.
Ahern et al. (2015)	Cultural distance	Kogut & Singh (1988)	20,893 cross-border mergers	Archival	CAR	A larger cultural distance between two companies reduces the gains from synergies
Chakrabarti et al. (2009)	Cultural distance	Hofstede (1980)	1,157 cross-border acquisitions	Event study	BHAR & CAR	Acquisitions perform better inte the long run if the acquirer and target come from countries that are culturally more disparate.
Datta & Puia (1995)	Cultural distance	Hofstede (1980)	112 cross-border chemical M&As	Archival	Shareholder value change	Cultural distance is negatively associated with abnormal return.
Markides & Ittner (1994)	Cultural distance	Hofstede (1980)	276 US cross-border acquisitions	Archival	Shareholder value change	No support for a negative effect on cultural distance on value creation.
Morosini et al. (1998)	Cultural distance	Kogut & Singh (1988)	52 cross-border acquisitions	Archival	Sales growth	There is a positive relation between national cultural distance and the performance of cross-border M&As.
Morosini et al. (1994)	Cultural distance	Hofstede (1980)	52 cross-border acquisitions	Archival	Profitability & productivity growth	Higher uncertainty avoidance and independence leads to positive profitability
Reus & Lamont (2009)	Cultural distance	Kogut & Singh (1988)	118 cross-border acquisitions	Survey/Archival	Accounting performance & CAR	High cultural distance impedes understandability and have a negative indirekt on acquisition performance.
Rottig & Reus (2009)	Cultural distance	Kogut & Singh (1988)	247 foreign acquisitions in the US	Archival	CAR	Cultural distance have a negative indirect effect on acquisition performance through its effect on legitimacy of a foreign acquirer in the US.
Chatterjee et al. (1992)	Cultural distance	Own developed scale	30 domestic US acquisitions	Survey	Shareholder value change	Perception of cultural differences negatively influence shareholder value creation.
Datta (1991)	Cultural fit	Own developed scale	173 domestic US acquisitions	Survey	Financial performance	Differences in management style are negatively related to post-merger performance.
Weber (1996)	Cultural distance	Chatterjee et al (1992)	73 domestic US acquisitions	Survey	Financial performance	Cultural differences are not associated with financial performance.
Alexandridis et al (2015)	Cultural distance	Own developed scale	220 cross-border and domestic merg	Archival	CAR & Accounting based methods	A large cultural difference displays significantly lower CARs around and after the announcement, but the relationship is reversed when looking at long-term performance.

2.4 Theoretical development

Cultural distance has had both positive and negative findings in connection to post-acquisition performance. In this chapter, the motivations for M&As, culture and how it connects to M&As performance, and other theories coupled with the subject are put together to form an overall picture of the subject. The chapter ends with the formulation of hypotheses.

2.4.1 Theoretical Discussion

Morosini et al., (1998) argue that cross-border acquisitions give the company access to new resources and capabilities which enhances shareholder wealth. This can be connected to Barney (1991) and the resource-based view, which states that new resources could be made useful for different competitive advantages and thus be used for a company's benefit. The same sentiment could be prolonged for domestic M&As as well, but according to Morosini et al., (1998) there are more benefits with a bigger cultural distance since resources from a culture further away from the company is harder to copy and imitate. Furthermore, the argument is made that the farther away the merging companies are, the more rare and non-imitable the resources will be, because of cultural distance. This train of thought is corroborated by Page (2007) who argues for the benefits of diversity which comes naturally with cultural distance. Examples mentioned are innovation and new approaches to problem-solving. Chakrabarti et al., (2009) interpret their results similarly to Morosini et al., (1998), where they argue that the more the two companies differ in national culture, the better the performance is in the long run. Furthermore, they highlight that companies from countries with strong economies that acquire companies from weaker economies can realize a higher level of synergies. These synergies are not spelled out by Chakrabarti et al., (2009), but there are connections to both the market and resource-seeking drivers of CBTs. In a weaker economy, there is presumably less competition, and thus an acquirer from a stronger economy might have an advantage with a superior product to capture market shares. An assumption is also that a weaker economy has cheaper labour, thus a resource-seeking motive is applicable as well.

Both Ahern et al., (2015) and Alexandridis et al., (2015) present a different outlook on the impact culture has on performance and the underlying reasons for their results. Alexandridis et al., (2015) suggest that performance over a longer period increases for cross-border acquisitions compared to domestic acquisitions. Although when looking at short-term returns on the announcement day, the relationship between post-acquisition performance and cultural

distance is negative. Ahern et al., (2015) prove similar results, within a short event window, where they find a negative relationship between abnormal returns and cultural distance. In the long run, compared to domestic acquisitions, the relationship is reversed and positive. Their conclusions disclose that the abnormal returns are negatively impacted in the short-term perspective due to higher integration costs coupled with issues with realizing synergies between the entities. It could be argued that the synergies discussed by Boateng et al., (2019) such as market power or economies of scale take a longer time to realize than the increased integrational costs. This could be an explanation of the negative results found by Ahern et al., (2015) and Alexandridis et al., (2015) in the short term, and that the long-term relationship is reversed. The same sentiment could be prolonged for the argument made by Glaister and Ahammed (2010) who argues that the resources the acquirer is seeking need time to be incorporated and built up into the new entity. Looking at the evidence presented by Morosini et al., (1998), Goulet and Schweiger (2005), and Page (2007) there is evidence of where the positives of a cross-border acquisition come from. Ahern et al., (2015) and Alexandridis et al., (2015), use similar arguments, but add that the synergies will have to be worked up over time, resulting in a higher post-merger valuation.

Regarding the paper by Datta and Puia, (1995) their results indicate a negative impact on shareholder wealth given a larger cultural distance, even over a longer period. One of their reasons why is that hubris might occur in the transaction. Based on a theory of Roll (1986) regarding hubris, their reasoning is that overbidding, or overpayment occurs. This is arguably due to managers overestimating their capabilities to lead and attain synergies from complex CBTs (Datta & Puia, 1995). When overpayment occurs, the level of necessary synergy realisation becomes higher, and would thus entail a longer period before making the investment profitable. In contrast to the articles by Alexandridis et al., (2015), the synergies are never realised enough to see the benefits.

Other authors provide arguments for why varying cultural differences might affect post-acquisition performance. Goulet and Schweiger (2005) argue that a higher cultural distance makes the managers more aware of the problems that might arise and thus, more inclined to overcome different integration barriers. Solely based on being aware of the difficulties and the complications cultural distance can lead to, managers tend to mitigate these before they pose a problem. This argument is backed up by Evans et al., (2002) who find that managers in charge of cross-border mergers are more sensitive to differences in culture than managers who oversee

domestic mergers. It seems that managers who manage domestically are either not aware of cultural distance as a crucial aspect to monitor or that they tend to downplay the importance of culture for the same reason. As Barney (1991) argues there are competitive advantages to reap if the integration between the two entities is successful. One argument that could be made is that the managers that are undertaking a CBT compared to managers solely focusing on domestic M&As try to incorporate the advantages of diversification and synergy realization. In contrast, domestic M&As might solely be focused on a market or resource-seeking motive and thus neglect the differences in culture that might occur even if they exist within the same market. This relationship is assumed to be similar to when companies with a lower cultural distance undergo transactions in comparison to deals with a higher cultural distance.

The theoretical development has thus far had a clear focus on the internal advantages and disadvantages that acquisitions bring. Authors who find a negative correlation between cultural distance and performance mostly argue that the integrational costs connected to the post-acquisition integration are higher for transactions where the cultural similarities are lower. Whereas the authors who have found a positive correlation between cultural distance and performance somewhat agree that there is a higher cost connected to integrating the two dissimilar companies but argue that the acquiree preparedness, diversification of knowledge, resources, and skills that cross-border acquisitions bring are value-creating and outweigh the higher costs of integration. However, there is an additional perspective that needs to be presented. Since this thesis studies announcement effects, the investors' risk appetite needs to be considered. It can be argued that since this thesis from the short-term perspective will study event windows that are only a couple of days, the shareholder wealth effect and movements in the stock market will be highly dependent on the speculations of the investors rather than actual improvements or increased integrational costs for the acquiring firm. If a majority of investors perceive the deal as a bad investment, the announcement effects of the deal will be lower. If they instead view the deal as promising and value-creating, the announcement effects will positively impact the shareholder wealth effect. Thus, the authors of this thesis argue that in the long-term perspective the theoretical development presents several interesting and possible explanations for the performance of the acquiring firm post-acquisition. While the short-term perspective instead highlights how the investors perceive the deal and whether they believe that the deal will bring higher synergies or higher integrational costs.

From the theoretical development two hypotheses have been developed:

Hypothesis 1: *"Post-acquisition value will in the short-term be lower when there is a higher degree of cultural distance present between acquirer and acquiree"*

Hypothesis 2: "*Post-acquisition value will in the long-term be higher when there is a higher cultural distance present between acquirer and acquiree*"

3. Methodology

In this chapter, the research strategy and design are presented, the dependent, independent, and control variables that are used when measuring the impact of CBAs on shareholder wealth are defined, and a description of the sample of transactions used and their requirements, as well as the methodology for analysing the collected data, is presented.

3.1 Research Strategy

Quantitative research at its core emphasizes the quantification of the data gathered. The quantitative research strategy is also often coupled with a deductive approach to a problem. (Bell et al., 2019). A *deductive* research method follows the following pattern: theory, hypothesis, data collection, findings, confirmation or rejection hypotheses, and revision of the theory. A deductive approach according to Bell et al (2019) *''on the basis of what is known about a domain and the theoretical considerations within it, deduces a hypothesis that must be subjected to empirical scrutiny''.* An *inductive* method entails that the time frame available is non-existent and the work itself is not restricted by time. An inductive method also fits when there is non-existent information, which is not the case for this thesis. A *deductive* method allows the thesis to generalize the answer to a population when time is restricted and there is already existing information to build the hypothesis on (Bell et al., 2019). This thesis aims to answer the question of how cultural distance impact CBAs and the change in the acquiring company's shareholder value. Since there is existing theory and an abundance of data to be gathered, the authors of this thesis conclude that a deductive approach is a good fit.

The main point of criticism towards quantitative studies is that it does not distinguish people from the living world, meaning that the quantitative study ignores the differences between the *social* and *natural* world (Bell et al., 2019). The *social world* entails that the world is based on people and their interpretation of their surroundings, whereas the *natural world* relies on the facts of natural science. This thesis aims to answer the question of *if* rather than *why* and coupled with former literature try to find possible answers to the *why*. Other criticism towards the usage of quantitative studies is that numbers give a false sense of accuracy, the reliance on tools and instruments fails to capture the connection between research and everyday life and it creates a sense of a static social world that is separate from the individuals who make up that world (Bell et al., 2019). A qualitative approach could be argued for but seeing as there is no

conclusive evidence to if there is a negative or positive post-merger valuation based on the cultural distance the authors of this thesis argue to answer the *if* first. The *natural world* consists of numbers and facts, thus allowing the authors of this thesis to rely more on already existing hard data, rather than their own and others´ interpretations of the subject.

3.2 Research Design

A cross-sectional design allows for gathering data from more than one data point, or in other words more than one case. In this thesis, several different data points will be acquired since the sample needs to be bigger than one to be able to detect variations and prove relationships between the variables. The data is gathered at one single point in time. Since there is no time ordering the variables, the thesis will not be able to show a causal relationship, i.e., a cause-and-effect relationship. A causal relationship infers that if variable A happens, variable B will follow. The thesis aims to highlight the impact that cultural distance has on the shareholder wealth impact, thus not trying to prove a cause-and-effect relationship but rather whether there is any correlation, i.e., a relationship between cultural distance and performance. The data must be able to be quantified, to be able to examine the relationship between the variables (Bell et al, 2019). The stock-market data points are already numbers, i.e., following the natural world, and are quantified. The same goes for cultural distance, whereas Hofstede Insights has been able to quantify cultural differences and distance (Hofstede Insights, 2022). Thus, a cross-sectional design will be used in the thesis.

In the thesis, secondary data will be used. Firstly, deriving data from scratch is both time and cost-consuming (Bell et al., 2019). If there are no time constraints for the thesis, deriving the data from the ground up may be feasible. In this case where the data already exists, more time will be spent on the analysis and other measurements, and thus secondary data is used. Secondary data has been gathered from Capital IQ, Hofstede Insights, Yahoo Finance, and annual reports from the company's investor relations pages. Secondary data allows the researchers to gather cross-border data easier as well, and for the thesis at hand, this is crucial. Since the purpose is to look at cultural distance, which is identified by cross-border differences in culture secondary data is to prefer. This is in line with a cross-sectional design approach, using secondary data will allow the thesis to look at more than one case and is quantifiable.

According to Bell et al. (2019), the replicability of a cross-sectional design is often high, due

to its nature to disclose the procedures of choosing samples, tools for analysis, and the overall structure of gathering the data. The sample selection and the data, in general, will be disclosed in this thesis, thus allowing replicability to be high. For internal validity, this becomes harder, due to the cross-sectional design and its behaviour of not being able to show a causal relationship, but rather being able to infer it. As described above, the intention of this thesis is not to show a causal relationship, but rather to see if there is any relationship at all. Earlier theories and conclusions from researchers give the thesis a stronger leg to stand on when it comes to inferring the result. External validity tends to be high in a cross-sectional design. In the case of this thesis, the sample is the total population after implementing the restrictions mentioned, based on the variables the authors have argued for. To combat external validity the authors will do several robustness tests.

3.3 Data Collection

The data collection can be divided into two main steps. First, all types of transactions with a public acquirer in the IT sector and within the United States between 2010 and 2020 were retrieved from Capital IQ. This resulted in 5,441 transactions. The transactions were further grouped by acquiring company, which allowed the authors to remove all of the transactions which were within two years of each other (the length of the longest event window used in this thesis). This removes the risk of attaining stock-price fluctuations which are not related to the transaction of interest.

The following restrictions listed below were enforced:
1. The status of the deal is completed
2. The type of deals included are cross-border acquisitions of a majority stake of the target company, as a clear change in control is crucial for the thesis
3. The transaction value is reported
4. The consideration offered is either cash or common equity
5. Both acquirer and target are categorized as Information Technology companies
6. The data sample only includes deals where post-integration is necessary, thus, deals, where the acquirer and target are within the same parent company, have been excluded
7. The target companies need to be located in countries covered in Hofstede Insights

These criteria result in a data sample of 136 transactions being obtained. The two criteria's; 3 and 5, were responsible for the largest reduction of the sample due to lack of data in Capital IQ and studying a single sector. The number of samples has further been winsorized to limit the extreme values in the data, reducing the risk of attaining false results due to outliers (Chambers et al., 2000). After the winsorization, the remaining sample consists of 128 transactions in total. The number of transactions is around the average when comparing it to similar papers, and was thus, deemed comprehensive enough to be able to answer the posed research questions in a satisfactory manner (Table 1).

3.4 Operationalization of variables

The following section describes the variables included in this thesis. The dependent, independent, and other control variables will be introduced, and their use argued for.

3.4.1 Dependent variable

To measure the performance of a transaction post-acquisition, an event study was employed. It is a widely used method for evaluating the stock market reactions to a deal announcement (Stahl & Voight, 2008). Financial theory proposes that the stock markets reflect the available information existing regarding a firm (Chatterjee et al., 1992). Given this premise, it is possible to study how one particular event, which in this case is an acquisition, impacts shareholder wealth by quantifying the effect that the event has had on the firm´s stock price during a specified period.

The main measurement used for estimating the stock market performance is the abnormal return which assesses the impact a transaction announcement has on the shareholder wealth of the acquiring firm (Stahl & Voight, 2008). There are multiple benefits to using abnormal returns as a proxy for post-acquisition performance. One popular belief among financial scholars is that a company´s main goal is to maximize value for its shareholders, which will be reflected in the stock price, thus, using stock price as a proxy for company performance is recommended by several researchers (Boateng et al., 2019; Stahl & Voigt, 2008). Furthermore, as illustrated in Table 1, many previous studies have made use of abnormal returns for measuring the post-acquisition performance, making the results from this thesis comparable with other studies done within the same area. Additionally, an assumption is that the stock price considers both financial and strategic information, this means that the stock price instantly

reflects a change in performance (MacKinlay, 1997). Other measurements of performance such as growth in sales, or EBITDA needs a longer period of measurement to correctly assess the change in performance. This increases the risk of attaining results that are based on other events that have taken place before or during the event study which might impact the performance of the firm. Lastly, abnormal return is a simple method to use, and since it is not affected by different accounting principles, it is easily compared between different countries and regions (Boateng et al., 2019). This thesis will be based on the arguments made above only use abnormal returns for evaluating company performance.

3.4.1.1 Event window and announcement effects

Two terms that are important to highlight when using the event study methodology are event window and announcement effects. The event window refers to the period surrounding the CBA (which is the "event", defined as t=0). The use of an extended event window, which stretches some time before and after the transaction is common (MacKinley, 1997). If there are discrepancies such as information regarding the deal leaking to investors before the announcement or if the information is not instantly recognized by the market using an extended event window allow for capturing the effects of the announcement anyway (MacKinley, 1997). The event window usually ranges between one and 30 days, where the event is symmetrically centred between the first and last day in the event period. According to Oler et al., (2007), the most common choice of event window length is three days, which more than 76 percent of the reviewed studies use. However, using a single event period does according to Krivin et al., (2003) increase the risk of attaining misleading results due to having too short or long event windows (Krivin et al., 2003). This thesis uses three different event windows to mitigate the risk of failing to measure the announcement effects correctly for the short-term perspective. Namely, the 21-day event window, the three-day event window, and the day of the announcement. For the long-term perspective, two different event windows are used where the event windows stretch over one and two years.

3.4.1.2 Calculating abnormal- and cumulative abnormal returns

To study the effect of a CBA announcement, the abnormal return is necessary to calculate, to study the financial effect of such an announcement. Abnormal return is the difference between the actual return and the estimated normal return; thus, an initial estimation of the normal return is required. Several methods can be used to calculate the expected normal return, and this thesis

will use two of the most frequently used methodologies: The Market-Adjusted Model (MAM) and the Constant Mean Return Model (CRM).

The CRM calculates the abnormal return (AR_{it}) in the event window by subtracting the average return from the actual return of the firm within the *estimation window* (MacKinley, 1997).

$$AR_{it} = R_{it} - R_i \qquad (1)$$

Where R_{it} is the estimated normal return for company i at time t and R_i is the average return of the firm at time i during the estimation window. Estimation window is a term that is used when applying the constant mean return methodology and is defined as the period before the actual event (MacKinley, 1997). It needs to be long enough to allow for a proper estimation of how the firm of interest performed before the deal announcement was made, to assess how the company would potentially perform if the CBA would not take place. It is crucial that the estimation window is not too close to the announcement of the deal, to reduce the risk of leaking information affecting the results (MacKinley, 1997). On the other hand, having too long of an estimation window exposes the risk of including other factors that might affect the performance which is not connected to the announcement of the deal (Mitchell & Netter, 1994). Selecting an optimal estimation window is difficult and has been discussed to a great extent. A recent meta-analysis made by Holler (2014) shows that the estimation windows of event studies are between 30 and 750 days. Another study made by Park (2004) analysing the sensitivity of results suggests that as long as the estimation window exceeds 100 days, the results are not sensitive to varying window lengths. Consequently, this thesis uses a 120-day estimation window, in line with MacKinley (1997). Figure 1 illustrates the event study timeline when using the constant mean return model.
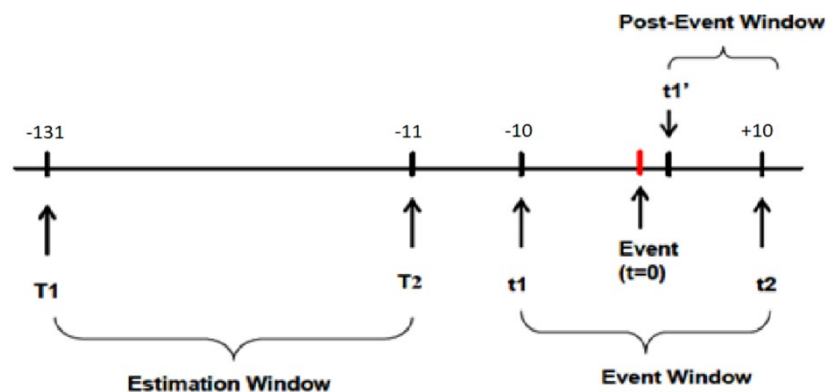
(Figure 1) Timeline for an event study.

T_1 is the beginning of the estimation window, 131 days before the event and T_2 is the end of the estimation window, 11 days prior to the event. t_1 is the beginning of the event window, 10 days before the announcement and t_2 is the end of the event window, 10 days after the announcement. Furthermore, t_1 to t_0 (which represents the event) is called the anticipation period and t_0 to t_2 is called the adjustment period (MacKinley, 1997).

The market adjusted model operates slightly differently, where the abnormal return in an event window is calculated by subtracting the average market return from the actual return (MacKinley, 1997).

$$AR_{it} = R_{it} - R_{mt} \tag{2}$$

R_{it} is the estimated normal return for company i at time t and R_{mt} is the market portfolio return at time t. The market portfolio will follow the index of the S&P 500 Information Technology sector from 2010 to 2020. The method couples the stock-price return of the chosen firms with the overall market return (MacKinley, 1997). An advantage of using this method is that the authors of this thesis can consider the overall market, which reduces the noise that comes with variation in market return which, consequently, increases the chances of detecting the effect of the actual CBA announcement (MacKinley, 1997). CRM calculates abnormal returns by studying a company´s returns prior to the announcement and after. Thus, the method calculates a company´s abnormal return by comparing it to itself, while MAM compares the return of the company with the market which in the short term is considered less precise. However, in the long-term, fluctuations of the market due to events such as COVID-19 or the aftermath of the financial crisis in 2008 need to be considered since transactions made within different years are compared. Therefore, the authors of this thesis argue for the use of CRM in the short-term perspective and MAM in the long-term perspective.

To allow for analysis and to draw inferences, it is necessary to aggregate the abnormal returns across securities and over time which is done by using two different methods: Cumulative abnormal returns (CAR) and Buy-and-Hold abnormal returns (BHAR). CAR is calculated as the sum of daily or monthly abnormal returns during the period. CAR for security i during period t is given by the following formula (Sudarsanam, 2010):

$$CAR_{iT} = \sum_{t=T_1+1}^{T_2} AR_{i,t} \tag{3}$$

BHAR is computed as the return on a buy-and-hold investment in the sample firm subtracted by the expected return on BHAR in a control firm or reference portfolio. BHAR for security i during period T is given by the following formula (Sudarsanam, 2010):

$$BHAR_{iT} = \prod_{t=T_1+1}^{T_2}(1 + R_{i,t}) - \prod_{t=T_1+1}^{T}[1 + E(R_{i,t})] \tag{4}$$

Several studies (Mitchell & Stafford., 2000; Kothari & Warner., 1997 & Brav, A., 2000) conclude that both measurements (CAR & BHAR) can be used in the short-term perspective and has been deemed quite reliable, stable, and free of limitations. However, when using CAR in the long-term perspective, several issues surface, and economists argue that CAR is not as precise as BHAR (Barber & Lyon, 1997; Ritter, 1991; Lyons et al., 1999). The difference is that CAR uses an arithmetic sum of means while BHAR uses a geometric sum of means. The geometric average considers the compounding of interest that occurs from period to period. The longer the time horizon, the more important the aspect of compounding and use of geometric returns becomes (Barber and Lyons, 1997). Given this background, this thesis will use CAR to measure the short-term abnormal return to increase comparability to previous studies as they to a majority use the measurement, however, the long-term abnormal return will be measured in BHAR.

3.4.2 Independent variable

The key independent variable in this thesis is national cultural distance. Hofstede et al. (2010) introduced a framework for cultural distance that is built on six different dimensions, power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, and indulgence. As discussed in the theoretical chapter the two dimensions long-term orientation and indulgence are recent additions to Hofstede´s framework and have not been actively studied. None of the peer-reviewed articles discussing the relationship between post-acquisition performance and the last two added dimensions have been found.

Based on the existing literature coupled with the possibility of contributing with new findings to the research area in connection to the two new dimensions, all dimensions of cultural distance mentioned in Hofstede´s framework will be incorporated into this thesis. The thesis

will use the Euclidean distance measurement based on Hofstede (1980, 2010). The measurement incorporates all six dimensions of culture and following the Euclidean distance concept. It measures the distance between merging firms on a six-dimensional space by taking the square root of the sum of six-dimensional differences squared and is furthermore divided by the variance in each dimension (Appendix A). Formally:

$$Cultural\ distance = \sum_{i=1}^{6} \sqrt{(B_{ia} - B_{iu})^2 / V_i} \qquad (5)$$

B_{ia} is country a´s score on the ith dimension on culture, B_{iu} is the score on the same cultural dimension but in the United States. The last factor in this equation, V_i, represents the variance between the two countries on a singular dimension.

3.4.2.5 Assumptions made for using Hofstede´s cultural distance framework

One implicit assumption that has been made which is crucial to highlight is that the authors of this thesis argue that cultural distance on a national level is reflected in corporate culture. It is thus argued that a low level of national cultural distance also indicates that the level of corporate cultural distance is low. Since we are collecting data for cultural distance on a national level, it is a necessary assumption to make to be able to answer the posed research question. This is further supported by Weber et al., (1996) and Schneider (1988). Weber et al., (1996) argue that in international M&A, it is the difference in national culture, rather than the difference in corporate culture that explains the fluctuations in the post-acquisition value found in their paper. Furthermore, Schneider (1988) finds that corporate culture is heavily influenced by national culture.

3.4.3 Control variables

In addition to the independent variable, cultural distance, there are several other factors identified in the existing literature that might affect the performance of cross-border acquisitions. A selection of these variables will therefore be included in this thesis and presented below.

3.4.3.1 Method of Payment

Most of the existing literature is consistent and agrees that cash transactions perform better than transactions financed with equity (Loughran & Vijh, 1997), which makes the mode of financing a necessary variable to consider. Data on the mode of financing has been retrieved

from Capital IQ (2022). The variable will be coded into a dummy variable, where transactions financed with cash attain the value of one and equity-financed transactions a zero.

3.4.3.2 Year

A market-adjusted model considers the fluctuations of the market, and thus considers yearly differences that other models such as the constant average mean return model do not include. However, it does not account for external yearly effects that might impact the results. Therefore, year as a fixed effect needs to be included (Morosini et al., 1998), and has been added to the analysis in SPSS.

3.4.3.3 Relative Buying Size

Relative buying size as described in the theory section is a variable that might have an impact on the results (Gorton et al., 2009; Cohen & Levinthal, 1990). Therefore, in this thesis, the value of the transaction, the acquired stake, and the yearly revenues of the acquirer are used to create a proxy for relative size.

3.4.3.4 Relatedness

Relatedness of the industry has been considered in other papers such as Datta and Puia (1995) because different industries perform differently. In this thesis, only one industry, namely the IT industry will be looked at, and thus relatedness of the industry is taken under consideration.

3.4.3.5 Level of control

To mitigate the effects that differences in levels of control could entail in an acquisition the thesis will only incorporate pure acquisitions of majority stakes, where a clear change of control is observable (Stahl & Voight, 2004).

3.4.3.6 Mode of acquisition

In the light of contradicting thoughts that are found in the literature (Vaara & Tienari, 2011; Schwartz, 2000), the variable will be included and analyzed. Data on the mode of acquisition is gathered from Capital IQ (2022). The variable will be coded into a dummy variable, where friendly transactions attain the value of one and hostile transactions a zero.

3.4.3.7 Earnout Clause

The earnout clause is a deal characteristic retrievable from Capital IQ. It is a contractual incentive from the buyer stating that the seller of a company will obtain future monetary compensation if the sold business reaches certain returns after the transaction is completed. Although not found in previous papers, this incentive might influence the strategy of the sold company to focus on financial returns and is therefore included as a control variable.

3.4.3.8 Corporate Divestiture

Corporate divestiture is also a deal characteristic retrievable from Capital IQ. It is defined as a full or partial disposal of a business through acquisition where the majority of the disposed business is acquired by another company. Although not found in previous papers, this variable might affect the transaction value as the business selling a part of itself is no longer interested in keeping said part, which might result in a discount on the deal as the leverage of the selling part is reduced and is therefore included as a control variable.

3.5 Empirical strategy

To conclude the methodology section, this thesis aims to explore whether any relationships between the dependent, independent, and control variables exist. This will be done using the statistical tool, SPSS. The statistical control is done through an OLS regression using robust standard errors. It is a common technique to use when the relationship between one or more dependent and independent variables is of interest (Weaver & Wunsch, 2013). When using the OLS regression, two notable assumptions are important to consider. Firstly, the OLS-regression method can only be implemented if the presence of homoscedasticity exists within the researched sample (Hayes & Cai, 2007). If the researched sample instead has a lack of homoscedasticity, heteroscedasticity exists, limiting the possibility to draw conclusions concerning the results. This has led to the use of robust standard errors (RSE) in the regression. RSE is a method for obtaining standard errors of the OLS coefficients which are unbiased, to mitigate the risk of heteroscedasticity (Hayes & Cai, 2007). Additionally, a Breusch-Pagan test has been performed in SPSS to test for heteroscedasticity (Breusch & Pagan, 1979).

Furthermore, the presence of multicollinearity needs to be explored. Multicollinearity is a statistical concept where one or more of the independent variables studied are correlating with each other (Pallant, 2007). To account for this phenomenon, a Variable Inflation Factor (VIF)

test will be conducted. The test highlights the presence of multicollinearity in the OLS regression and quantifies the output to a scale, where the cut-off point is set to 10 (Pallant, 2007). Finally, to use the OLS regression, the distribution of samples and their mean needs to be normal. According to the Central Limit Theorem, the distribution of sample means approaches a normal distribution the larger the sample size becomes. The common sentiment is that sample sizes equal to or greater than $n = 30$ are considered high enough for the theorem to hold (Kwak & Kim, 2017). Since this thesis studies 128 different transactions, this issue is deemed to be mitigated. Furthermore, the skew has been analysed. Skewness illustrates the direction of outliers and whether they are present on the left or right side of the distribution. Any skewness below -1 and above +1 is considered heavily skewed.

The section with results will be concluded with robustness tests. These robustness tests will further test the thesis structural validity. If the different coefficients used in the regression, remain the same when changing the dependent variable, this allows the authors to infer structural validity (Lu & White, 2014).

4. Results

Section four includes the results attained from SPSS. It is divided into two main parts: Descriptive statistics and the OLS regressions with robust standard errors.

4.1 Descriptive statistics

Table 2 displays descriptive statistics of the variables used in this thesis. On the day of the announcement and the event window for two days, the mean in 0.28 and 0.17 respectively. This means that the stock has a mean increase of 0.28% and 0.17% on the announcement- and two-day event window. The 21-day event window shows a mean decrease of 1.56% in the stock price. The standard deviation of the 21-day event window is larger compared to the two other event windows since the minimum of the 21-day event window is -61.66% and the maximum, is 83.15%. The increased standard deviation is to be expected with longer event windows since the market has more time to react and develop. For the market-adjusted model (MAM) the mean for the one-year event window is negative at 3.54%, thus continuing the trend set by the 21-day window. Though the one-year event window goes back to being positive with

a value of 1.10%. There is a trend looking at the standard deviation, where it continuously goes up, almost doubling for each event window.

For the control variables, Hofstede's six dimensions of cultural distance differ with a variance between 0.03, representing Australia, to 4.75, representing South Korea, and with a mean of 1.27. The method of payment has a mean of 0.7, meaning that 70% of the companies have been acquired with cash, and 30% have been acquired with equity. Looking at the mode of acquisition 99% of the deals have been friendly. There has been an earnout clause in 21% of the deals, and corporate divestiture has characterized the deal in 18% of the transactions. The mean for relative buying size is 14.03%, meaning that the average annual revenue of acquiring companies is 14.03% larger than the transaction value.

The level of control returns a highly right-skewed result. This is due to the vast majority of the deals being of friendly in their characteristic. In total, 125 of 128 deals were friendly.

Table 2. Descriptive statistics for included variables

	Min	Max	Mean	Std.Dev	Skewness	N
Constant Average Mean Return Model (CRM)						
Event return 0 (%)	-15.24	9.08	0.28	2.87	-0.15	128
Event return 2 days (%)	-11.57	13.82	0.17	5.29	0.03	128
Event return 21 days (%)	-61.66	83.15	-1.56	16.93	0.33	128
Market-Adjusted Model (MAM)						
Event return 1 year (%)	-93.31	131.95	-3.54	37.26	0.47	128
Event return 2 years (%)	-214.03	523.35	1.10	75.79	0.93	128
Control Variables						
Hofstede 6 dimensions	0.03	4.75	1.26	1.12	0.06	128
Method of payment	0	1	0.70	0.46	-0.88	128
Friendly or hostile	0	1	0.99	0.12	-8.15	128
Earnout clause	0	1	0.21	0.41	0.87	128
Corporate divestiture	0	1	0.18	0.39	0.98	128
Relative buying size (%)	0.0	295.26	14.03	32.23	0.08	128
Year	1	11	6.32	3.05	-0.28	128

4.1.1 Correlations

Table 3 displays several correlations between the different variables. Firstly, there are correlations between the different short-term event windows. The event return after two days is correlated with the event return on the announcement day, the event return for 20 days is correlated with the event return after two days, and so forth. Ergo, if there is an increase in stock price on the announcement day there will likely be an increase in stock price for the other short-term event windows. Looking at Hofstede's six dimensions of culture there is no

correlation, though all the numbers display a negative relationship between the dimensions of culture and event return.

For the control variables there is a significant correlation between the method of payment and the event return after two years. This indicates that if the deal was made with cash, the stock price will be affected two years after the transaction has transpired. For the mode of acquisition, there are no visible correlations, i.e., it does not single-handedly affect the stock price. The variable earnout clause is correlated with the event return after one year at 5% significance, and significant at 1% for the event return after two years. This indicates that the presence of an earnout clause positively impacts the stock price for the one- and two-year event windows. Corporate Divestiture and relative buying size have no correlations with event return in any event window. A correlation between method of payment and relative buying size is found and significant at 10%.

Table 3. Correlation table of Hofstede´s six dimensions, independent variable, and control variables

	Included variables	1	2	3	4	5	6	7	8	9	10	11	12
1	Event return 0	1											
2	Event return 2 days	.498**	1										
3	Event return 21 days	.163	.390**	1									
4	Event return 1 year	-.061	.063	.246**	1								
5	Event return 2 years	-.024	.115	.187*	.682**	1							
6	Hofstede 6 dimensions	-.083	-.087	-.062	-.152	-.105	1						
7	Method of payment	-.142	.010	.028	.167	.272**	-.089	1					
8	Mode of acquisition	-.004	-.011	.009	-.042	-.012	.044	-.08	1				
9	Earnout clause	.009	.145	.102	.175*	.321**	-.038	.097	.062	1			
10	Corporate divestiture	.057	-.004	-.058	.112	.098	.116	.146	.058	-.007	1		
11	Relative buying size	.128	.027	.086	-.069	-.066	-.056	-.202*	.001	-.08	.008	1	
12	Year	.150	.074	.054	.221**	.173*	.065	.007	.033	-.042	-.019	-.009	1

Significant at 1%   **
Significant at 5%   *

4.2 Regressions

Table 4 displays the results attained from the linear regressions with robust standard errors performed in this thesis. The table illustrates five different models with the different dependent variables (event windows) while incorporating all the control variables used and described in the section covering methodology (section 3.4.3).

The first hypothesis; *"post-acquisition value will in the short-term be lower when there is a higher degree of cultural distance present between acquirer and acquiree"* using the short-term event windows (1-3) with the CAR measurement, display no significant results (Table 3). Thus, the first hypothesis cannot either rejected or accepted.

The second hypothesis; "*post-acquisition value will in the long-term be higher when there is a higher cultural distance present due to synergy realization*" using the long-term models (4-5), using the one-year and two-year BHAR as the dependent variable, return significant results. The t-value is negative and significant at 10%, indicating that a higher level of cultural distance between the acquirer and acquired firm negatively impacts shareholder wealth. Our second hypothesis is thus rejected.

The first control variable, method of payment, displays no significant results in the first four event windows. However, when looking at the two-year event window significant results are visible. The t-value is positive and significant at 1%. This can be interpreted as an indication that transactions financed with cash experience higher abnormal returns two years after the announcement day than transactions financed by equity.

The second variable, *mode of acquisition*, displays no significant results in any of the event windows. It is the only control variable that does not attain significant results in any of the models.

The third variable, the *earnout clause*, returns significant t-values for both one- and two-year BHAR. Model four, using the one-year event window, displays a positive t-value of 1.717 significant at 10%, while model five calculating abnormal return for two years after the deal announcement return a t-value of 2.605, significant at 1%. The positive value indicates that transactions including earnout clauses significantly outperform transactions that do not.

The control variable*, corporate divestiture,* displays significant results when using the two-year event window. The t-value is positive and significant at 10%. The results indicate that transactions that are characterized as corporate divestitures attain higher abnormal returns than transactions that are not when studying abnormal returns over a two-year period.

Relative buying size in model 1 displays significant results at 10%, and significant at 1% in model 3. The t-value is positive, indicating that firms experience higher shareholder returns when acquiring larger targets on the day the deal is announced and 20 days after the deal has been announced. This relationship is, however, not significant in model 2 and the two-day event window.

Table 4. Presents the effects cultural distance and other control variables has on abnormal returns

Time horizon	(	Short-term		) (	Long-term	)
Model	(1)	(2)	(3)	(4)	(5)
Event window	Event day	2 Days	21 days	1 Year	2 Years
Hofstede 6 dimensions of culture	-.902				
	(.295)	-.427			
		(.519)	-.442		
			(1.649)	-1.789*	
				(3.239)	-1.742*
					(5.111)
Control Variable					
Method of payment	-.717	.222	-.372	1.490	3.003***
	(.687)	(1.373)	(4.346)	(6.403)	(13.748)
Mode of acquisition	-.117	-.365	-.731	-1.617	-.973
	(6.030)	(9.494)	(9.480)	(12.036)	(23.721)
Earnout clause	1.193	-.724	-.008	1.717*	2.605***
	(.821)	(1.584)	(4.663)	(8.978)	(21.248)
Corporate divestiture	.687	-.224	-.736	1.165	1.699*
	(.591)	(1.116)	(4.911)	(11.427)	(13.078)
Relative buying size	1.693*	.744	3.341***	-.577	.341
	(.009)	(.029)	(.025)	(.064)	(.136)
Observed power	.074	.131	.063	.173	.052
Fixed year effect	yes	yes	yes	yes	yes
N	128	128	128	128	128

Robust standard errors are presented in the parenthesis. *shows a significance of 10%, **
significance of 5% and ***significance of 1%

4.3 Robustness tests

To make sure that the assumptions the authors have made to test for the dependant, independent, and control variables are correct, several robustness tests have been made. To test for cultural distance, the authors argue for using Kogut and Sing´s measurement based on the cultural distance by Hofstede, rather than only using the Euclidian measurement. The difference between these two measurements is that Kogut and Singh treat each variable in Hofstede equally, whereas the Euclidian measurement weighs the variables differently based on variance (Drogendik & Slangen, 2006).

Furthermore, few research papers use Hofstede's six dimensions of culture in their work, instead, the same framework with the first four dimensions is used. The reason for this is that many of the papers were written before the fifth and sixth dimensions were constructed. To test for replicability and single out the effects the new dimensions could have on the results, a robustness test with Hofstede's four dimensions will be done.

Another test the authors argue for is the fact that the United Kingdom makes up for 41 *n* of the sample. Since the cultural distance then takes the same value for 41 different M&As, the authors want to make sure that this does not skew the results. Since the United Kingdom makes up approximately 30 percent of the sample, a robustness test where the United Kingdom is removed from the regressions will be carried out.

5. Analysis

This section will be divided into two parts. Section 5.1 discusses the results of our independent variable, while section 5.2 discusses the results of our control variables included in this thesis.

5.1 Analysis of independent variable

To commence the analysis, we will focus on the independent variable, namely Hofstede´s framework for cultural distance and its shareholder wealth impact. As visible in Table 4, the relationship between the dependent variable, shareholder wealth, and the independent variable, could not be proven at a significant level during the shorter event windows. When looking at the shorter event windows our assumption is that the actual post-acquisition performance is not studied, but rather the investors' perception of the deal itself. We argue that the common investors do not have the tools to perceive the intrinsic parts of the culture in Hofstede's framework and the barriers to synergies it can pose. This was argued for in the theoretical framework, whereas the investors' risk appetite and their perception of the deal are what determines the effects over the shorter event windows, rather than the company's way of integrating the companies and realising synergies. This raises the question of whether this measurement of culture defined by Hofstede, is an appropriate measurement to use when analysing the short-term impact culture has on performance.

The first hypothesis could not be deduced since no significant results were attained. The effects of the investors´ perception on the deal are thus not large enough to return significant results. We argue that the short-term perception investors have regarding cultural distance does not have an impact on post-acquisition value. Ahern et al., (2015), Alexandridis et al., (2015), and Glaister and Ahammed (2010) theorise that their significant negative results in the short term are based on that the synergies the acquiring company is trying to capture cost more than it can

provide value, due to its inability to be realised if not given enough time. However, our results show a non-significant relationship. We, therefore, argue that the findings imply that the investors of an acquiring company do not in the short-term perceive cultural distance as either good or bad for the post-acquisition value. The findings highlight that there are other variables that investors tend to focus on in the short-term perspective such as *Relative Buying Size*, which shows a negative significant result for the first event window.

For the long-term effects for the one- and two-year event windows there was a negative returning value, significant at 10%. This entails that a higher cultural distance between acquirer and acquiree will lower the performance of the stock, compared to the market (MAM). Our second hypothesis is as forementioned therefore rejected. Chakrabarti et al., (2009) and Morosini et al., (1998) find significant positive results when examining cultural distance and long-term abnormal return. They argue that the higher the cultural distance, the harder it is to capture and imitate the resources and capabilities, thus leading to competitive advantages for the acquiring company. This contrasts with our results, which display a negative relationship. We believe instead that the former results on short-term windows by Ahern et al., (2015) and Alexandridis et al., (2015) are applicable for the long-term event window, where the synergies that the acquiring companies are looking for, still have not had the chance to been worked up. This in turn leads to the shareholder value continuing to be negative in the one- and two-year event window.

Datta and Puia (1995) state that when the managers of the deals do not understand the massive undertaking of trying to incorporate different cultures from different entities, value is lost. Not being prepared for what challenges they will face, the solutions will take longer time to come to fruition, and thus the synergies the company was making the deal for will cost them more than they first thought. The theories of Datta & Puia (1995) could explain the results of this thesis, as we see a negative long-term relationship between performance and cultural distance. Cross-border acquisitions are complex, and a higher cultural distance is thought to increase the complexity of the deal (Stahl & Voigt, 2004). Thus, it could be argued that there is a higher probability of managers underestimating the difficulty of integration and overestimating the synergies leading to overpayment, which could be an explanation for the negative relationship found.

When replacing Hofstede´s four dimensions of culture instead of six (Appendix C1), we attain slightly different results. The returning t-value when comparing cultural distance with the long-term abnormal return remains negative, but not significant at 10%. This indicates that the two additional dimensions added significance to our analysis and that the two dimensions increase the cultural difference between the two firms rather than reducing it. We are thus, not able to attain significant results on how the four dimensions of cultural distance impact shareholder wealth in any of the event windows, although indications of a long-term negative relationship exist. The second robustness test using the Kogut & Singh measurement (Appendix C2) returns similar values to the ones shown in Table 4, with no significant differences between the robustness test and the regression results.

The third robustness test (Appendix C3), where all transactions between the UK and US were removed, increases the significance at which cultural distance impacts abnormal returns in the long-term significantly. When using the one-year event window the significance remains at 10%, but when observing the two-year event window, the negative relationship is significant at 5%. As previously discussed, deals made between the United Kingdom and the United States are a substantial part of our sample. Given that the cultural distance of these deals remains the same while the performance and abnormal return of these do not, the results were not surprising.

5.2 Analysis of included control variables

The analysis has covered and discussed the main relationship studied in this thesis i.e., the relationship between cultural distance defined by Hofstede and the shareholder wealth impact. Furthermore, three variables were formulated in connection to the established control variables used in the thesis: Method of payment, mode of acquisition, and relative buying size. Additionally, two control variables have been introduced by the authors of this thesis, the earnout clause, and corporate divestiture.

Method of payment is the first control variable that was used in the thesis. No significant results are found until using the two-year event window for abnormal returns where the returning t-value is positive and significant at 1%. The results can be interpreted following the thoughts of King et al., (2004) who argue that cash deals are often undervalued in comparison to deals financed by equity. As mentioned in the theoretical development, deals funded by cash remove

any risk of the acquired firm as it is considered "bought out" while the risk remains in deals funded with equity. This is due to the acquired company becoming a shareholder in the acquiring company. If the merged company does not perform well after the transaction, the acquired company shareholders will lose money as well (King et al., 2004). Thus, it is argued that deals financed by equity result in a higher transaction premium. This connects well with the results displayed in the two-year, long-term event window, where the level of synergies necessary to break even in cash transactions is lower than in equity. However, King et al., (2004) argue that cash deals can be seen as a promising signal for the shareholders' expectations of the post-acquisition value. This would result in positive t-values for the short perspective as well, which as seen in Table 4, cannot be deducted from our results. These results provide indications that shareholders in the transactions covered in this thesis do not interpret the method of payment as either positive or negative for their abnormal returns, for the short-term event windows. The robustness tests return no significant differences when studying this variable.

The second control variable, *level of control*, which represents whether the transactions were friendly or hostile, as mentioned in the results section, does not present any significant results. We argue that this is not due to the variable not being significant in this type of analysis, but the fact that only three out of 128 transactions were hostile. This leaves us with too little data to be able to draw any relevant conclusions. The robustness tests return similar values with no significance.

The third and fourth control variables, earnout clause and corporate divestiture have to our knowledge not been used in previous studies. We argue that they should. The regression results show that both variables are significant when using the two-year event window, and the earnout clause remains significant when using the one-year event window as well. The earnout clause should according to us intensify the focus of the top management to maximize returns the following years after a transaction as this leads to attaining incentives. This assumption seems to hold true as transactions incorporating earnout clauses perform significantly better in terms of abnormal return than if not in the long-term perspective. For corporate divestiture, it is argued that it might lead to a discount on the transactions as the "selling" company might be adamant to sell the asset to generate necessary cash, avoid bankruptcy, sell underperforming assets, or adhere to new regulations. This line of argumentation is made by the authors of this thesis, and there is no previous research exploring the shareholder wealth impact of transactions

characterized as corporate divestitures. Although, there are indications towards a positive and significant relationship between long-term shareholder returns for the acquiring company and transactions characterized as corporate divestitures when looking at the two-year event window.

When using the short-term event windows neither of the two forementioned variables (earnout clause and corporate divestiture) return significant results. We thus argue that the shareholders react neither positively nor negatively when these two deal characteristics are communicated and made public. The authors conclude that there might be some truth to the assumption that transactions characterized as corporate divestitures are discounted as they result in higher abnormal returns for the acquiring company. It would, however, for the sake of the argument be interesting to extend the timeframe studied to see whether the relationship remains significant after more than two years.

When studying the two variables using the three robustness tests, earnout clause remains significant in the two long-term event windows. However, robustness test 3 display a higher significance where the variable returns a positive t-value significant at 5% in both the one- and two-year event window, whereas the other regressions were only significant at 5% when using the two-year event window. There are 54 deals with earnout clauses, of which 15 are removed in the third robustness test. If every deal incorporating earnout clauses performs equally well, the removal of the United Kingdom would according to us result in a decreased significance. Thus, we argue that earnout clauses in deals made with companies from the United Kingdom have less effect on the long-term performance than the rest of our sample. Corporate divestiture returned significant results in the two-year event window in the original regression. This remains true for robustness tests one and two. However, in the third robustness test, the significant positive relationship between abnormal returns and deals characterized as corporate divestitures is no longer significant or close to being significant. Looking at the data, a majority of the deals characterized as corporate divestitures are made between the United States and the United Kingdom. In the sample, 32% of the deals between these two countries represent 56% of the deals characterized as corporate divestitures. We argue that the fact that more than half of our data on corporate divestitures is removed in the third robustness test is the main reason why the results are no longer significant in this test. However, it could also be an indication that companies acquiring companies or part of companies that are from the United Kingdom perform better than corporate divestitures from other parts of the world.

The final control variable, *relative buying size*, does on the contrary to the other variables, display significant results in the short-term perspective. The returning t-values are positive and significant at the announcement date and the 20 days event window. The findings are contradicting to Morosini et al., (1998) who found no relationship between this variable and abnormal returns. They are instead in line with the thoughts of Gorton et al., (2009) and Cohen & Levinthal (1990). Gorton et al., (2009) argue that larger acquiring firms relative to the acquired firms often pay overprice due to their financial power and unwillingness to spend longer periods of time negotiating the deal. Thus, a higher relative size difference results in lower value creation for shareholders. Cohen and Levinthal (1990) argue that companies of similar size easier recognize necessary skills, knowledge, and synergies which enhances the value creation. The results in model 1 and model 3 indicate that a lower relative buying size increases abnormal returns. However, it is important to note that the significant results do not remain when using longer event windows. We argue that this indicates that the relative size is not something that impacts the long-term value creation in the deals as argued by some of the previous studies, but instead a characteristic of which investors react to when made public. Thus, we argue that our findings are not in line with Cohen and Levinthal (1990), because if an acquiring company of similar size to its acquired peer is better to realize synergies, the long-term performance should be higher as well, contradicting the results attained in this thesis. However, since we are analysing transactions that have been closed, the assumptions of Gorton et al., (2009) arguing for lower prices due to a longer negotiation period before close when the relative buying size is smaller could hold true and impact the attitude and beliefs of the investors. The argument we make is that if the findings of Gorton et al., hold true and that the longer negotiation period results in a lower price than what was originally announced for acquiring firms that are relatively smaller than the acquired firm, then this will positively impact the shareholders' reaction on the announced transaction value. This results in the short-term increased abnormal returns seen in our regressions.

The results remain the same when analysing robustness tests one and two. There is, however, a large difference in the results attained through the regression and the third robustness test. In the third robustness test, no significant results remain in any of the event windows. This could be due to the sample becoming too small with the removal of deals made between the United Kingdom and the United States. It could also be a result of American investors perceiving an

acquisition of a company of similar size more positively when the acquired company is from the United Kingdom than otherwise.

6. Conclusion

This final section includes our concluding remarks, limitations, and further research. In our concluding remarks we summarize our findings and discuss how we interpret the results. Limitations and further research discuss insights gained during the time writing this thesis which could if implemented in future research, improve, and create new knowledge within the area.

6.1 Concluding remarks

This thesis has had the purpose of analysing the relationship between cultural distance and abnormal returns with the following main research question: *How is the shareholder wealth effect in cross-border acquisitions affected by Hofstede´s six dimensions of cultural distance*?

The introduction highlights that cross-border transactions have become increasingly important in the last decades where globalisation and increased mobility have played a large part in its growth. Arguments for partaking in CBTs are many and include resource- and market-seeking motives, diversification, and the possibility of higher synergy realization. Other scholars argue that CBTs result in increased costs of integration and the creation of different types of cultural barriers. In the literature review, we highlighted several of these advantages and disadvantages where it was made clear that no consensus existed on how cultural distance impact abnormal returns. The subject is complex as many different factors could influence the result. We concluded the introduction with the thought that some of the reasons for the differing results could be the different methodologies for calculating cultural distance, the use of different event windows, and different measurements of performance. To attain a high level of comparability of our thesis to previous ones and shine some new light on the posed research question, we incorporated the most frequently used method for calculating M&A performance, abnormal return. We also used five of the most frequently used event windows, and one of the most popular ways of calculating cultural distance, the Euclidean Distance measurement. Furthermore, we incorporated the two new dimensions of cultural distance introduced by Hofstede et al., (2010) which are yet to be included in a published and peer-reviewed paper

studying the relationship between performance and culture to contribute something new to the research area.

This thesis posed two hypotheses connected to cultural distance:

Hypothesis 1: *"Post-acquisition value will in the short-term be lower when there is a higher degree of cultural distance present between acquirer and acquiree"*

Hypothesis 2: *"Post-acquisition value will in the long-term be higher when there is a higher cultural distance present between acquirer and acquiree"*

With our results, we were not able to neither reject nor accept the first hypothesis and found that cultural distance does not have any apparent short-term effect on abnormal returns. Furthermore, the second hypothesis was rejected as we found a significant negative effect of an increasing cultural distance on abnormal return. However, we believe it is important to note that we do not suggest that these results should be interpreted as evidence that companies should avoid acquiring companies within countries where the cultural differences are high. Instead, we want the results to highlight the complexity of CBAs and that the use of one- or two-year event windows to study the realization of synergies to its full extent might be flawed.

The control variables display both comparability with previous studies and new results. Transactions paid with cash perform better when studying long-term event windows, which has also been concluded by King et al. (2004). Furthermore, we find that a lower relative size impacts the short-term abnormal return positively which has been discussed by Gorton et al. (2009). Finally, we find a positive relationship between the presence of an earnout clause and deals characterized as corporate divestitures when studying long-term event windows. These variables have not been previously mentioned in peer-reviewed articles and we argue for the necessity to include them in further research.

6.2 Limitations and further research

Some limitations need to be mentioned which we suggest are considered for any further work within the area. First of all, and briefly introduced above is the choice of event windows. Although the thesis incorporates five of the most used event windows, we argue that the long-

term event windows are too short in both this thesis and in previous studies. CBTs are highly complex and the integration of one company into another takes time. The aim of this thesis is to further illustrate the synergy realizations of a CBT in terms of abnormal return which takes an even longer time. There is no consensus on how long this takes, and it is highly dependent on each specific transaction. Thus, there is a possibility that we have found a negative relationship due to the synergies present not yet being realized, and therefore missing crucial parts of the integration process and its results. Alexandridis et al., (2015) find a significant positive relationship between higher cultural differences and performance when studying event windows extending over three, four, and five years. Thus, it could be argued that the results attained in our thesis could have been replicated using a longer timeframe. We thus recommend future researchers within the area to extend the long-term timeframe in their studies to increase the possibility of finding the effects cultural differences might have on the post-acquisition performance of cross-border acquisitions.

Secondly, we are using similar measurements for cultural distance in this thesis and its robustness tests. As mentioned by many previous authors and us, culture is not easily quantified. In this thesis, the Euclidean distance and the Kogut & Singh measurement are used, but since they are both based on Hofstede´s work, they return very similar values although calculated differently (Appendix A). Other sources such as the Anglo-Globe project and the framework for cultural distance created by Alexandridis et al., (2015) could be incorporated as a robustness test as they are both quite different from the frameworks used in this thesis. This would according to us complement the current framework better and increase the reliability of the results. Another limitation connected to the calculation of cultural distance is the framework itself which has received some critique from scholars. Graves (1986) and Olie (1995) criticise the one-company approach and mean that a drawback with the framework is that is based on a single company, IBM, and that findings from one company cannot be expected to reflect an entire country. Furthermore, McSweeney (2000) argues that the framework is outdated and too old to be effectively incorporated in the present era which is rapidly evolving with a high degree of globalisation. It is important to address that there is probably no framework that reflects the cultural differences between two countries perfectly and there will most likely never be, but a better approach for future research would be to incorporate differing frameworks to further increase the validity of results.

When discussing the sample used, two limitations become apparent. Firstly, 41 of our 128 transactions were made between the United Kingdom and the United States. This could skew our results due to external political factors only influencing the performance of acquisitions in the UK, thus, lowering the reliability of our results. Additionally, it adds unwanted homogeneity to the sample. Secondly, the sample itself is small compared to the total amount of transactions being made between 2010 and 2020 (5441 transactions) which could affect the generalisability of the results. A larger sample of transactions would be beneficial both to increase generalisability and also increase our ability to analyse the different control variables adequately. In our sample, we were not able to analyse the relationship between abnormal returns and whether the deal was friendly or hostile due to the shortage of data (only three transactions were characterized as hostile). With a larger sample, this issue would most likely be solved.

We would suggest future researchers to consider using both quantitative and qualitative approaches when addressing a similar research question to the one used in this thesis. M&As and especially CBTs are not easily generalised as there are many different characteristics of the deal to consider. Thus, we would argue that qualitative interviews could help in clarifying the difference between different transactions. Additionally, only relative size had a short-term effect on the abnormal returns, and we have thus unsuccessfully managed to include more than one variable that provides indications towards impacting the shareholders' perception of what makes a deal good or bad. We believe that complementary interviews with investors could shine some light on the different motivations of investors reacting a certain way to a deal announcement, which could later be proven or disproven with a quantitative approach. Finally, including qualitative interviews could help to explain and highlight different corporate cultures. One key assumption of this thesis was that national and organizational cultures are highly interlinked. This is an assumption that is made in the majority of papers studying the relationship between culture and performance (Ahern et al., 2015; Boateng et al., 2019; Morosini et al., 1998, etc.) as most of the data on culture is linked to national culture. However, this assumption is a limitation itself. The use of qualitative interviews to build a framework of corporate culture to compare between acquirer and acquiree and in connection to post-acquisition performance could lead to more detailed findings on the relationship between culture and transaction performance.

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8. Appendix

Appendix A

Country list order

Ranging from smallest to largest difference in cultural distance using three different measurements: Hofstede 6D, Hofstede 4D and the Kogut & Singh measurement.

Rank	Country	Hofstede 6D score		Rank	Country	Hofstede 4D		Rank	Country	Kogut & Singh
1	Australia	0,03		1	Australia	0,02		1	Australia	0,39
2	Canada	0,11		2	United Kingdom	0,08		2	Canada	0,80
3	Ireland	0,23		3	Canada	0,11		3	Ireland	1,17
4	United Kingdom	0,25		4	Ireland	0,34		4	United Kingdom	1,22
5	Switzerland	0,96		5	Switzerland	0,34		5	Switzerland	2,39
6	Denmark	1,25		6	Germany	0,42		6	Denmark	2,74
7	Israel	1,32		7	Italy	0,55		7	Israel	2,82
8	Norway	1,41		8	Netherlands	1,42		8	Norway	2,91
9	Italy	1,45		9	Belgium	1,47		9	Italy	2,95
10	Netherlands	1,47		10	France	1,49		10	Netherlands	2,97
11	Brazil	1,55		11	India	1,54		11	Brazil	3,05
12	Spain	1,60		12	Israel	1,62		12	Spain	3,10
13	France	1,62		13	Spain	1,75		13	France	3,11
14	Germany	1,68		14	Denmark	1,84		14	Germany	3,18
15	Sweden	1,77		15	Norway	1,95		15	Sweden	3,25
16	Belgium	2,03		16	Brazil	2,12		16	Belgium	3,49
17	India	2,08		17	Sweden	2,23		17	India	3,53
18	Mexico	2,44		18	Hong Kong	2,39		18	Mexico	3,83
19	Malaysia	2,84		19	Japan	2,51		19	Malaysia	4,13
20	Japan	3,21		20	Taiwan	2,88		20	Japan	4,39
21	Singapore	3,22		21	Mexico	3,05		21	Singapore	4,39
22	Hong Kong	3,24		22	China	3,09		22	Hong Kong	4,41
23	Taiwan	3,51		23	South Korea	3,43		23	Taiwan	4,59
24	China	4,17		24	Singapore	3,48		24	China	5,00
25	South Korea	4,75		25	Malaysia	4,07		25	South Korea	5,34

Appendix B

VIF-values for included variables

VIF-values can be seen in each column. The VIF-value remains the same in different event windows and there are thus only three models important to cover. The first model presents VIF-values of the independent variable used in the thesis. The second and third model present the VIF-values of robustness test 1 and 2.

Model	(1)	(2)	(3)
Hofstede 6D	1.050		
Hofstede 4D		1.074	
Kogut & Singh			1.029
Control Variable			
Method of payment	1.086	1.096	1.086
Mode of acquisition	1.023	1.022	1.022
Earnout clause	1.070	1.071	1.053
Corporate divestiture	1.090	1.101	1.087
Relative buying size	1.065	1.064	1.065

Appendix C

Appendix C1 - Robustness test with Hofstede 4 dimensions (1980)

This robustness test uses Hofstede´s four dimensions (1980) of cultural distance instead of all six (2010), all else equal.

Time horizon	(	Short-term	)	(	Long-term	)
Model	(1)	(2)	(3)	(4)	(5)
Event window	Event day	2 Days	20 days	1 Year	2 Years
Cultural distance by Kogut & Singh	-1.071				
	(.262)	-.426			
		(.486)	-.500		
			(1.470)	-1.650*	
				(2.957)	-1.972**
					(4.525)
Control Variable					
Method of payment	-.772	.205	-.393	1.443	2.974**
	(.687)	(1.379)	(4.345)	(6.482)	(13.915)
Mode of acquisition	-.119	-.368	-.758	-1.546	-1.037
	(5.882)	(9.463)	(9.156)	(13.033)	(23.740)
Earnout clause	1.250	.737	.017	1.837*	2.670**
	(.819)	(1.600)	(4.673)	(8.856)	(21.179)
Corporate divestiture	.705	-.225	-.735	1.146	1.641*
	(.589)	(1.112)	(4.947)	(11.386)	(13.142)
Relative buying size	1.661*	.736	3.295***	-.596	.317
	(.009)	(.029)	(.025)	(.067)	(.144)
Observed power	.082	.136	.069	.210	.058
Fixed year effect	yes	yes	yes	yes	yes
N	128	128	128	128	128

Robust standard errors are presented in the parenthesis. *shows a significance of 10%, ** significance of 5% and ***significance of 1%

Appendix C2 - Robustness test with Kogut and Singh measurement

This robustness test uses Kogut and Singh´s measurement of cultural distance instead of Hofstede´s six dimensions of cultural distance, all else equal.

Time horizon	(	Short-term		)	(	Long-term	)
Model	(1)	(2)	(3)	(4)	(5)
Event window	Event day	2 Days	20 days	1 Year	2 Years
Hofstede 6 dimensions of culture	-.397				
	(.278)	-.215			
		(.510)	-.210		
			(1.797)	-1.588	
				(3.739)	-1.260
					(5.583)
Control Variable					
Method of payment	-.639	.259	-.336	1.692*	3.182***
	(.681)	(1.356)	(4.354)	(6.391)	(13.604)
Mode of acquisition	-.130	-.367	-.721	-1.919*	-.960
	(6.270)	(9.669)	(9.984)	(10.649)	(25.987)
Earnout clause	1.187	.720	-.005	1.688*	2.602***
	(.828)	(1.599)	(4.707)	(9.051)	(21.201)
Corporate divestiture	.630	-.242	-.745	1.159	1.684*
	(.587)	(1.129)	(4.947)	(11.649)	(13.287)
Relative buying size	1.718*	.765	3.295***	-.480	.403
	(.009)	(.029)	(.026)	(.065)	(.139)
Observed power	.071	.127	.061	.153	.050
Fixed year effect	yes	yes	yes	yes	yes
N	128	128	128	128	128

Robust standard errors are presented in the parenthesis. *shows a significance of 10%, ** significance of 5% and ***significance of 1%

Appendix C3 - Robustness test without United Kingdom

The robustness test excludes transactions done between the United States and the United Kingdom, all else equal.

Time horizon	(	Short-term		)	(	Long-term	)
Model	(1)	(2)	(3)	(4)	(5)
Event window	Event day	2 Days	20 days	1 Year	2 Years
Hofstede 6 dimensions of culture	-1.130				
	(.388)	-.400			
		(.608)	-.962		
			(1.930)	-1.749*	
				(3.133)	-2.369**
					(5.951)
Control Variable					
Method of payment	-.366	.083	-.284	.867	2.433**
	(.885)	(1.680)	(5.577)	(6.857)	(15.624)
Mode of acquisition	.708	.373	-.266	-.526	-.722
	(4.945)	(2.523)	(9.851)	(69.609)	(36.313)
Earnout clause	-.141	-.121	-.007	2.756**	2.950**
	(.859)	(1.758)	(5.696)	(10.599)	(26.910)
Corporate divestiture	.459	.449	.506	.099	.326
	(.725)	(1.369)	(0.093)	(10.767)	(14.306)
Relative buying size	.142	-1.474	.506	-.186	-.002
	(.042)	(.040)	(.093)	(.175)	(.323)
Observed power	.050	.150	.084	.067	.058
Fixed year effect	yes	yes	yes	yes	yes
N	91	91	91	91	91

Robust standard errors are presented in the parenthesis. *shows a significance of 10%, ** significance of 5% and ***significance of 1%