

**The Relationship between Organizational Culture  
Differences and Employee Performance in Mergers**  
*A data analysis of a merger between two large Dutch banks*

Author: B. Keijzers

Date of Completion: 22-01-2012

# **The Relationship between Organizational Culture Differences and Employee Performance in Mergers**

*A data analysis of a merger between two large Dutch banks*

Master Thesis  
MSc Strategic Management  
Department of Organisation & Strategy  
Tilburg School of Economics and Management  
Tilburg University

Name of Graduate Student: B. Keijzers  
Registration Number: s793039  
Number of Words: 13.422

Company: ABN AMRO Bank N.V.  
Location: Oosterhout  
Branch Manager: J.P. Bolsius

Date of Defense: 02-2012  
Name of Supervisor: Dr. A. Tatarynowicz

## Management Summary

This is a study of the effect of cultural differences in mergers on the performance of employees. This topic has received considerable research attention in previous years. However, clear relationships could not always be established since the results and conclusions are conflicting among researchers. This thesis tries to close this gap in research and attempts to establish a clear relationship between cultural differences and employee performance. A theoretical framework is tested, which includes the basic relationship between cultural differences and performance. This relationship is complemented with three moderating variables: the level of integration, decrease in autonomy and uncertainty about the future of employees.

The structure of this thesis is as follows: firstly a literature review of mergers, organizational culture and performance is conducted. Secondly, the research methods are justified and the sample is discussed. Thirdly, the results of the empirical part of this thesis are analysed. And finally, a discussion of the results and the conclusion is presented, together with the limitations, suggestions for future research and the managerial implications.

The results of this study indicate that a direct linear relationship between cultural differences and employee performance cannot be established, at least not in the long term, after the merger. Nevertheless, the results do support an inverted u-curve relationship between cultural differences and performance. This suggests that high cultural differences have a negative effect on performance, but low cultural differences increase performances in the long term. Furthermore, no significant moderating effect of the level of integration, autonomy decrease and uncertainty about the future on the culture-performance relationship has been found.

Finally, the managerial implications include finding a balance between the creation of synergies and the costs of cultural differences in situations when cultural differences are great. Furthermore, ABN AMRO Bank could reduce their post-merger integration problems by stimulating the use of their social network, thereby trying to reduce the gap between both organizational cultures.

## Foreword

This document is the final thesis for the Strategic Management Master programme at Tilburg University. It is a data analysis of a merger between two large Dutch banks. This study focuses on the relationship between cultural differences and performance.

This research is combined with an internship at ABN AMRO Bank N.V. This means that I had the advantage to be close to the necessary data for the empirical part of this study and the advantage of gaining practical experience. This particular organization suited the conditions for writing my master thesis, since ABN AMRO Bank merged with Fortis Bank Nederland in July 2010 and multiple observations needed further research.

During the internship I had the opportunity to work for a financial institution and I must say that I have really enjoyed my time working there. Furthermore, the internship gave me the opportunity to collect structured observations to complement the quantitative data. Moreover, the interaction with both former employees from Fortis Bank Nederland and employees from ABN AMRO Bank led to useful insights for developing the theoretical framework.

This thesis is a study of the effects of cultural differences on employee performance in situations when organizations merge. The relationship is substantiated with quantitative data, collected at ABN AMRO Bank. I hope that you will enjoy reading this thesis and that it will lead to new valuable insights regarding the theory about organizational culture and performance. Furthermore, I sincerely hope that the results of this thesis contribute to minimizing the post-merger integration difficulties at ABN AMRO Bank.

I would like to thank ABN AMRO Bank, and Jean-Pierre Bolsius in particular, for giving me the opportunity to do the internship. Moreover, I would like to thank Dr. Tatarynowicz for guiding me through the research process.

# Table of Contents

Front Page.....	I
Title Page.....	II
Management Summary.....	III
Foreword.....	IV
Chapter 1: Introduction.....	7
1.1 Problem Indication .....	7
1.2 Problem Statement.....	8
1.3 Research Questions .....	8
1.4 Research Methodology .....	9
1.5 Structure of the Thesis.....	9
Chapter 2: Organizational Culture & Performance .....	10
2.1 Culture .....	10
2.2 Organizational Culture .....	11
2.3 Organizational Culture and Performance .....	13
2.4 Summary & Conclusion .....	14
Chapter 3: Mergers & Performance .....	15
3.1 Mergers.....	15
3.2 Merger Performance .....	16
3.4 Summary & Conclusion .....	18
Chapter 4: Organizational Cultures & Performance in Mergers .....	19
4.1 Cultural Fit.....	19
4.2 Integration.....	20
4.3 Autonomy Decrease .....	23
4.4 Uncertainty about the Future .....	25
4.5 Summary & Conclusion .....	26
Chapter 5: Research Methodology .....	28
5.1 Research Design .....	28
5.2 Data Collection and Analysis .....	28
5.3 Measurements.....	29
5.4 Sample .....	31
5.5 Reliability & Validity .....	32

Chapter 6: Results.....	34
6.1 Collinearity.....	34
6.2 Regression Analyses.....	36
6.3 Higher Order Models.....	37
6.4 Summary & Conclusion.....	39
Chapter 7: Discussion and Conclusions.....	41
7.1 Discussion.....	41
7.2 Conclusions.....	42
7.3 Limitations and Suggestions for Future Research.....	43
7.4 Managerial Implications.....	44
Literature List.....	XLV
Appendices.....	XLIX
Appendix 1: Performance Questionnaires.....	XLIX
Appendix 2: Cultural Differences Questionnaire.....	LI
Appendix 3: Level of Integration Questionnaire.....	LII
Appendix 4: Autonomy Decrease Questionnaire.....	LIII
Appendix 5: Uncertainty about the Future Questionnaire.....	LIV
Appendix 6: Inter-Item Consistencies.....	LV
Appendix 7: Multiple Regression Analysis.....	LVI
Appendix 8: Multiple Regression Analysis.....	LVII
Appendix 9: Heteroskedasticity and Non-Normality.....	LVIII
Appendix 10: Control Variables.....	LX

## Chapter 1: Introduction

This document is a master thesis for the Strategic Management Master programme of Tilburg University. It is a data analysis combined with an internship at ABN AMRO Bank N.V. The topic under investigation is the influence of different organizational cultures on performance, in situations when two organizations have merged.

In the remainder of this chapter, the problem indication, problem statement, research questions and the structure of this thesis are discussed. Next, the literature review is presented, followed by the research methodology and the results. And finally, this thesis gives some conclusions and managerial implications on the topic of interest.

### 1.1 Problem Indication

Nowadays, executing mergers is daily business for many large organizations. Mergers are used as a way to achieve rapid growth through diversification. They are executed on a regular basis and researchers often speak about merger waves. During the past century five different merger waves have occurred, with the largest wave in the 1980's (Lambrecht, 2004). Nevertheless, today mergers are still an important part of corporate strategy (Teerikangas & Very, 2006).

Mergers are extensively studied in academic literature and, together with acquisitions, they are the fastest and easiest way to grow, compared to all other modes of diversification (Larsson & Finkelstein, 1999). However, problems with this mode of diversification have already been noticed since the first merger wave and despite the wide variety in merger literature, mergers are often followed by divestiture. Previous research indicates that up to 60% of all mergers fail, do not live up to the expectations, fall short of their stated goals and objectives, or even destroy value (Pablo, 1994; and Weber, Shenkar & Raveh, 1996). In other words, in the majority of the executed mergers synergies are not created.

It is often argued that cultural problems are the leading factor of merger failure; in most cases the term "cultural clash" is explicitly mentioned (Birkinshaw, Bresman & Hakanson, 2000; and Very, Lubatkin, Calori & Veiga, 1997). Cultural clashes can be defined as "*the disturbance of human rights, cultural retrenchment, countercultures, and cultural rejection*" (Larsson & Finkelstein, 1999, pp. 6). When two organizations execute a merger, two separate

organizational cultures are combined. It follows logically that a cultural fit between the organizations is not self-evident (Adkins & Caldwell, 2004). Moreover, it is argued that human integration is the real key to achieve synergistic efficiencies (Schuler & Jackson, 2001).

However, there is some inconsistency in academic research about the effects that the combination of organizational cultures has on other factors, such as profitability, employee & customer satisfaction, and on performance in general, particularly in situations when organizational cultures are different. Many researchers argue that combining different organizational cultures always leads to human integration problems or problems with the creation of synergies, but examples of merger success and synergy creation are also present (Chakrabarti, Gupta-Mukherjee & Jayaraman, 2009; and Stahl & Voigt, 2008). For this particular research, the topic of interest describes how performances are affected when two different organizational cultures are combined.

The remaining question for this thesis is how the relationship between merging different organizational cultures and employee performance can be described. The theoretical framework is tested with the unit of analysis being ABN AMRO Bank N.V., which recently merged with Fortis Bank Nederland N.V. From an academic perspective, this thesis tries to close the gap in research on the relationship between merging different organizational cultures and the effect on performance. From a practical perspective, this thesis tries to provide an explanation for the observations of the client company.

## **1.2 Problem Statement**

What is the influence of mergers with different organizational cultures on the performances of employees?

## **1.3 Research Questions**

In order to answer the problem statement, four research questions will be answered consecutively in this thesis. Since an internship is involved with this research, the first three research questions are of a theoretical nature and the last research question is of a more practical nature.

**RQ1:** How do organizational cultures influence organizational performances?

**RQ2:** What is the effect of mergers on the performance of organizations?



- RQ3:** How are performances affected in mergers between organizations with different organizational cultures?
- RQ4:** How did the merger between Fortis Bank Nederland N.V. and ABN AMRO Bank N.V. influence performances?

#### 1.4 Research Methodology

This research can be described as a quantitative study; data from the merger between ABN AMRO Bank and Fortis Bank Nederland are used to establish the relationship between different merging organizational cultures and employee performance. The first three research questions are answered by a review of the academic literature concerning this topic. To answer the fourth research question, quantitative data from the merger between Fortis Bank Nederland and ABN AMRO Bank will be used. The dataset is compiled of questionnaires concerning the satisfaction and commitment, cultural differences, level of integration, autonomy decrease and uncertainty about the future of employees. Apart from the secondary data, the dataset will be complemented with direct observations collected during the internship. Furthermore, there is controlled for the former organization (acquiring vs. acquired) of the employees and the corresponding size. The quantitative data are analysed by multiple regression analyses. The research methods will be further elaborated on in [Chapter 5](#).

#### 1.5 Structure of the Thesis

This thesis connects the academic literature on mergers with different organizational cultures and the relationship with performance to a dataset of ABN AMRO Bank in the Netherlands. The first three chapters focus on the literature review, while the last two chapters are ascribed to the methodology and the data analysis of the merger between ABN AMRO Bank and Fortis Bank Nederland. [Chapter 2](#) focuses on organizational culture and the relationship with performance. In [Chapter 3](#) the topic of mergers is addressed; general information about mergers is discussed, together with their high failure rate. In addition the relationship between mergers and performance is described. [Chapter 4](#) describes the relationship between mergers with different organizational cultures and performance. The chapter subsequently describes the cultural fit between the organizations, together with the level of integration, decrease in autonomy and uncertainty about the future of employees. Finally, the relationship between merging organizations with different organizational cultures and performance is established. Following this, the research methods are explained in [Chapter 5](#). [Chapter 6](#) reports on the results based on the data collected during the internship. And the final chapter, [Chapter 7](#), is used to present the conclusions and the managerial implications.

## Chapter 2: Organizational Culture & Performance

In this chapter the relationship between organizational culture and performance is discussed. At first some general information about culture is provided. Following this, the concept of organizational culture is discussed. And finally, the relationship between organizational culture and performance is described. It is argued that it is difficult to estimate the relationship between the two, because of the subjective nature of organizational culture and because a general organizational culture does not exist. Nevertheless, despite these difficulties, it seems that the relationship is characterized by the commitment from and satisfaction of employees.

### 2.1 Culture

Culture, in general, can be defined as *“the norms, values and beliefs that the members of a certain group share, that are created by its members shared history and expectations”* (Larsson & Lubatkin, 2001, pp. 1576). It is impossible to frame culture within geographical boundaries, because multiple groups can exist within these boundaries. Teerikangas and Very (2006) suggest a continuum of cultures: national cultures are followed by the culture of a social class, by professions, by industries and finally by organizational cultures. It is argued that every nation has an almost infinite number of organizational cultures, and various subcultures can exist within a single organizational culture (Very et al., 1997). Societies, occupations, regulatory environments and history generate cultural contexts that influence the organization’s culture; and besides, the organization’s culture is influenced by the national’s, social class’, profession’s and industry’s culture (Denison & Mishra, 1995).

However, since the different cultural levels are interconnected with each other, it seems difficult, if not impossible, to study cultures separately (Teerikangas & Very, 2006). Moreover, culture is a subjective phenomenon and therefore difficult to measure accurately. Nevertheless, several measurements of culture do exist and Hofstede’s (1984) cultural dimensions are the most frequently used method to analyse cultures on a national level (Chakrabarti et al, 2009). Hofstede (1984) focuses on four dimensions according to which cultural differences between nations can be measured, namely: individualism, power distance, uncertainty avoidance and masculinity. In addition, in some cases a fifth and/or sixth dimension are used, known as: long-term orientation and indulgence vs. restraint. These dimensions allow Hofstede (1984) to divide nation’s cultures into clusters between countries, e.g. the Anglo and Germanic clusters.

Since this research focuses solely on the effect of merging organizational cultures on performance, hereafter only the concept of organizational culture is further elaborated. Nevertheless, organizational culture is being compared to national culture, to explicitly state the difference between the two. A priori, it seems that national culture can be described using a similar definition as the one used for organizational culture, but with the level of analysis being the national one (Teerikangas & Very, 2006).

## 2.2 Organizational Culture

Organizational culture is a widely studied topic in academic literature. Hence, multiple definitions about organizational culture exist, but when most definitions are combined organizational culture generally refers to the *“norms, values and beliefs that the members of an organization maintain about rules of conduct, leadership styles, administrative procedures, rituals and customs”* (Elsass & Veiga, 1994; Larsson & Lubatkin, 2001; Teerikangas & Very, 2006; and Tetenbaum, 1999). Thus the level of analysis simply shifts from a national to an organizational level. These shared norms, values and beliefs are expressed by, and demonstrated in, organizational myths, legends and specialized language (Elsass & Veiga, 1994). It is argued that the culture of an organization is one of the primary methods to measure how organizations interact with their environments, but is also very difficult to change (Denison & Mishra, 1995). Furthermore, it is argued that organizational and national cultures are separate domains, and it is stated that national culture operates at a deeper level than organizational culture. Therefore, national culture determines the shape of organizational culture; and this may be the only relationship that national culture has with organizational culture (Teerikangas & Very, 2006; and Weber et al., 1996).

Previously, it was argued that an almost infinite number of organizational cultures exist. Despite this, many researchers have tried to allocate organizational cultures to groups, trying to make the distinction among organizational cultures easier. This led to different results, but the following statement is often used: a distinction between clan, adhocracy, hierarchy and market cultures (Cameron & Freeman, 1991; and Wilkins & Ouchi, 1983). The distinction is based on (1) the dominant characteristics or values, (2) the dominant style of leadership, (3) the bases for bonding or coupling and (4) the strategic emphases present in the organization. It is argued that every organizational culture is characterized by unique attributes and therefore organizational cultures can only be compared on a relative basis (Cameron & Freeman, 1991; and Wilkins & Ouchi, 1983). However, allocating cultures over four distinct groups appears to be difficult, since it is argued that every organizational culture has multiple

interacting subcultures. Furthermore, the subcultures of an organization interact with each other and whether a general organizational culture can be described depends on the level of integration of the subcultures (Nahavandi & Malekzadeh, 1988). The level of integration can vary from a 'unitary' culture with high compliance and disagreement, to a limited set of rules regarding when and how to agree with each other (Denison & Mishra, 1995). Nevertheless, seeing the culture of an organization as unified can be a mistake, since subcultures may need to be managed differently (Nahavandi & Malekzadeh, 1988; and Teerikangas & Very, 2006). Hence, in most definitions a monolithic culture is described, but it is argued that a common organizational culture does not exist (Nahavandi & Malekzadeh, 1988; and Teerikangas & Very, 2006). To summarize, an organizational culture can only exist in the configuration of a set of norms, values and beliefs regarding the integration of the subcultures into the whole; thus an organization will only present a dominant culture (Denison & Mishra, 1995; Elsass & Veiga, 1994; and Nahavandi & Malekzadeh, 1988).

The distinction among the different organizational cultures seems easy, but it appears to be very hard to measure organizational cultures due to the abstract nature of it. It can be stated that there is no consensus about how to measure organizational culture and it is sometimes even wondered if organizational culture can be measured at all (Denison & Mishra, 1995). Hofstede, Neuijen, Ohayv and Sanders (1990) argue that organizational cultures are compiled of elements other than national cultures. Since the place of socialization is different, there is a significant difference between organizational and national culture; therefore it is not reasonable to measure organizational culture with Hofstede's (1984) national dimensions. Hence, Hofstede's (1984) national dimensions are adjusted to organizational cultural dimensions, which has resulted in the following dimensions: process-oriented vs. results-oriented, job-oriented vs. employee-oriented, professional vs. parochial, open systems vs. closed systems, tightly vs. loosely controlled, and pragmatic vs. normative (Hofstede et al., 1990). These dimensions allow researchers to divide organizations in certain groups, based on their characteristics. However, as Chakrabarti et al. (2009) argue, because of the subjective nature of culture, all measurements are imperfect and have shortcomings. But that, among the existing measurements, in terms of use and acceptability across the different layers of the organization, Hofstede's et al. (1990) dimensions remain the dominant method to measure organizational culture. Hence it can be argued that Hofstede's et al. (1984; 1990) dimensions have become the standard for analysing cultural differences on a national and on an organizational level, but that inconsistent use of the different methods of analysis may lead to variance in the results on this topic (Chakrabarti et al., 2009; Denison & Mishra, 1995; and Very et al., 1997).

The discordance over the measurement of organizational culture is increased by the fact that a general organizational culture does not exist. Therefore, it is difficult to link different organizational cultures to objective numbers such as for example profit or performance (Denison & Mishra, 1995). Nevertheless, it seems possible to establish a relationship between organizational culture and performance, and this is described in the next paragraph.

### **2.3 Organizational Culture and Performance**

The subjective nature of organizational culture has consequences for establishing the relationship between organizational culture and performance. It turns out that organizational cultures prove to be weak predictors of sales, growth and profit, but strong predictors of quality, employee satisfaction and overall performance of the organization (Denison & Mishra, 1995). Organizational culture is regarded as important in determining individual's commitment, satisfaction and longevity with the organization, and thereby playing an important role in the every-day life of organizations (Larsson & Lubatkin, 2001; and Teerikangas & Very, 2006). Denison and Mishra (1995) state that higher levels of commitment increase the individual performance of employees, which increases the overall performance of the organization. Commitment, in turn, is positively related to employee retention (Meyer, Hecht, Gill & Toplonysky, 2010). Whitman, Rooy and Viswesvaran (2010), and Williams and Anderson (1991) argue that employee satisfaction increases the performance of employees but also increases employee productivity and customer satisfaction. Hence, previous research indicates that employee commitment and satisfaction are determinants of employee performance (Lum, Kervin, Clark, Reid & Sirola, 1998). Moreover, compared to satisfaction, some researchers conclude that commitment has a stronger and more consistent relationship with organizational culture and performance (Lum et al., 1998; and Meyer et al., 2010). Commitment can be defined as *“the strength of one's identification with, and involvement in, a particular organization”* and it is characterized by a willingness to exert considerable effort on behalf of the organization and a desire to maintain membership in it (Weber, 1996, pp. 1186). See [Figure 1](#) for the relationship between organizational culture and performance.

Furthermore, there are conditions under which some organizational cultures perform better than others. For example, clan forms of culture will be more effective under conditions of ambiguity, complexity and interdependence of transactions, while market and hierarchy will be more effective where the level of complexity or uncertainty is relatively low or moderate (Wilkins & Ouchi, 1983). Above all, it is argued that the adhocracy form is less relevant to performance.

## 2.4 Summary & Conclusion

To summarize, organizational culture refers to “*the norms, values and beliefs that the members of an organization maintain about rules of conduct, leadership styles, administrative procedures, rituals and customs*” (Elsass & Veiga, 1994; Larsson & Lubatkin, 2001; Teerikangas & Very, 2006; and Tetenbaum, 1999). Furthermore, it is argued that culture is a subjective phenomenon, with multiple interacting subcultures, and therefore culture is difficult to measure. Nevertheless, several measurements exist, but Hofstede’s (1984; 1990) cultural dimensions remain the dominant type for national and organizational culture, respectively. In the final paragraph, the relationship between organizational culture and performance is described. It can be concluded that organizational culture is important in determining individuals’ commitment, satisfaction and retention with the organization. In turn, commitment and satisfaction are positively related to employee performance, see also [Figure 1](#).

In the next chapter mergers and their performance are discussed. Firstly some general information about mergers is provided. Secondly, the performances of mergers are discussed. It appears that most mergers do not achieve their initial goals and sometimes value is even destroyed.

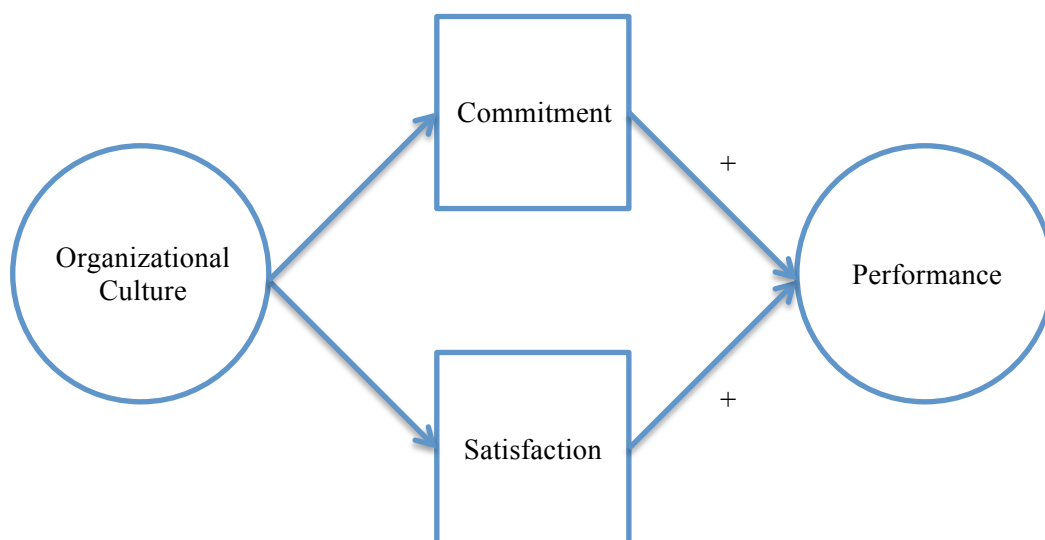


Fig. 1. Organizational Culture and Performance.

## Chapter 3: Mergers & Performance

In this chapter the topic of mergers and the performance of mergers is addressed. Firstly, general information about mergers and the distinction between mergers and acquisitions is provided. Furthermore, it is explained why mergers are executed and how they create value. Next, the performance of mergers is discussed; their success rates and different performance measures are discussed. Previous research indicates that not even half of all mergers are successful. Furthermore, both financial and non-financial measurements of merger performance exist, but some have limitations.

### 3.1 Mergers

Mergers, together with acquisitions, are an often-used mode of diversification; it is the end of the continuum of options that organizations have in combining with each other. Less intense and complex forms of diversification are licensing, alliances & partnerships, and finally joint ventures (Schuler & Jackson, 2001). It is argued that mergers and acquisitions (M&As) are the fastest and easiest way to grow of all modes of diversification. Researchers often speak about a merger wave when unusual merger activity is discovered (Lambrecht, 2004). In the past century five merger waves have occurred, with the largest wave in the 1980s; numbers estimate that 25% of the US workforce was affected in that period, and 45% of all US organizations employing more than 1000 people had been involved in M&As, during a two year period (Cartwright & Cooper, 1995). Nowadays, companies still often engage in mergers and mergers continue to be a periodical process with great magnitude (Lambrecht, 2004). Since they heavily influence organizational structures, this topic is widely addressed in academic literature (Kummer & Steger, 2008; and Teerikangas & Very, 2006).

In literature the words merger and acquisition are often used interchangeably. However, there is a significant difference between the two. Mergers generally involve two organizational entities of relatively equal stature coming together and creating a completely new organization by taking the best of each company. Diversification through acquisition involves the process of fitting a smaller organization into the existing structure of the larger organization (Epstein, 2004). However, there are also differences between mergers: a merger can be between equals and between non-equals, and an acquisition can be with inclusion or with separation of the other organization (Schuler & Jackson, 2001). Nevertheless, most researchers distinguish between mergers on the basis of relatedness, which results in horizontally related, vertically related and unrelated mergers (Harrison, Hitt, Hoskisson &

Ireland, 1991; Larsson & Finkelstein, 1999; Schuler & Jackson, 2001; and Walter & Barney, 1990). Moreover, Teerikangas and Very (2006) argue that in practice many mergers turn out to be acquisitions; in such cases the term ‘merger’ is used by the acquiring firm as a diplomatic weapon, trying to reduce the post-acquisition problems.

From a strategic management perspective, mergers are executed to create synergistic value. Synergy can be described as *“the situation in which two companies create more value combined than either could achieve alone”* (Stahl & Voigt, 2008, pp. 163). Motives underlying the value creation can be the ability to reduce the costs of the new organization, or the ability to charge higher prices. The abilities are known as cost- and revenue-based, respectively (Capron, 1999; and Chatterjee, 1986). However, within the strategic management school there is some disagreement about how synergies exactly lead to the creation of value. Two perspectives exist within this school: the industrial organization economics perspective and the resource-based view perspective. The industrial organization economics perspective argues that all types of synergies will have a positive impact on the acquirer’s performance, while the resource-based view perspective argues that only unique synergies will have a positive impact on performance (Birkinshaw et al., 2000; and Larsson & Finkelstein, 1999). From a resource-based view different, but complementary, resources create unique synergies, rather than similar resources (Chatterjee, 1986; Harrison et al., 1991; and Larsson & Finkelstein, 1999). However, both perspectives argue that the actual value creation takes place in the post-merger integration process. Nevertheless, despite the great amount of academic literature on mergers, it is estimated that up to 60% of all mergers fails to achieve the promised synergies (Kummer & Steger, 2008). This problem is addressed in the following paragraph.

### **3.2 Merger Performance**

As argued above, less than half of all mergers is successful (failure rates are up to 60%) and research indicates that mergers fall short of their stated goals and objectives, do not live up to the expectations, or even destroy value (Cartwright & Cooper, 1995; Epstein, 2004; Pablo, 1994; Schuler & Jackson, 2001; Weber et al., 1996; etc.). This indicates that neither practitioners nor academicians perfectly understand the process (Larsson & Finkelstein, 1999; and Nahavandi & Malekzadeh, 1988). Above all, cultural differences have often been blamed for unsuccessful mergers (Nahavandi & Malekadeh, 1988; and Teerikangas & Very, 2006). Hence, researchers have tried to determine factors for achieving merger success; this has led to a variety of variables, but in general, merger planning, management team, prior experience, strategic and organizational fit, and the post-merger integration process are described as



important indicators for success (Chakrabarti & Mitchell, 2005; Epstein, 2004; and Nahavandi & Malekzadeh, 1988). Particularly the management of the post-merger integration process is argued to be critical, because the actual value is created during this process (Epstein, 2004; and Pablo, 1994).

Despite the fact that merger goals are not always achieved, the main objective of any merger is to improve the performance of the combined organization by means of a competitive advantage (Nahavandi & Malekzadeh, 1988; and Weber, 1996). As argued in the previous sections, performances are increased when mergers create synergistic benefits; and their success depends upon synergy realization (Barkema & Schijven, 2008). The success of mergers can be measured in financial and in non-financial performance measurements. Financial performance measurements include reduced cost per unit, increased net income, stock market returns and general accounting performance measurements (Larsson & Finkelstein, 1999). Nevertheless, financial performance measurements have a major drawback; the effect of the merger usually becomes noticeable after at least three years from the execution date (Zollo & Singh, 2004). Therefore financial measurements are only applicable for long-term measurements of performance and non-financial measurements may be a better representation to determine merger success in the short term following the merger date (< 3 years after the merger date) (Lamrbecht, 2004; and Weber, 1996). The non-financial measurements consist of customer satisfaction and retention, cultural integration, employee satisfaction, commitment & productivity, operational reliability, and risk management (Epstein, 2004).

When measuring the effects of merging organizational cultures on performance one could use both financial and non-financial measurements. Nevertheless, as previously argued, organizational cultures prove to be weak predictors of sales, growth and profits, but strong predictors of quality, employee satisfaction and overall performance of the organization (Denison & Mishra, 1995). Since organizational culture is regarded as important in determining individual's commitment, satisfaction and longevity with the organization one could argue that the employees' commitment and satisfaction are better representatives of the overall performance of the organization than financial measurements; at least in the short term following the merger date (Larsson & Lubatkin, 2001; and Teerikangas & Very, 2006).

Furthermore, it is argued that change is frequently one-sided, occurring at the acquired organization<sup>1</sup> (Pablo, 1994). Previous research concludes that acquired employees often experience higher levels of trauma than employees of the acquiring organization; this explains why performances sometimes differ between employees from both organizations (Teerikangas & Very, 2006). Larsson and Finkelstein (1999) therefore argue that success of the merger largely depends on the reaction of the acquired employees. It is even argued that a decline in performance of the acquired employees can be noticed directly after the merger announcement (Chakrabarti & Mitchell, 2005).

### **3.4 Summary & Conclusion**

To summarize, although often used interchangeably, mergers and acquisitions are two distinct entities. It is described that mergers can be distinguished on the basis of relatedness and that they are executed to create synergistic value. Moreover, it is stated that up to 60% of all mergers fail and that failure is often caused by cultural differences (Nahavandi & Malekzadeh, 1988). Furthermore, merger success can be measured by financial and by non-financial methods. Nevertheless, non-financial measurements represent in a better way the impact of mergers with different organizational cultures on performance in the short term following the merger date, because financial methods will take at least 3 years before the effects become noticeable. Hence, employee satisfaction and commitment are often used to measure the effect on performance in the short term following the execution of the merger.

In the next chapter the relationship between merging cultures and the effect on performance is explained. It follows that the cultural fit between both organizations describes the effect on performance, but there are three moderators of the relationship present. These moderators increase the strength of the culture-performance relationship. In the following chapter the hypotheses are presented together with the theoretical framework.

---

<sup>1</sup> It is argued that also in mergers an acquired side exists, since many mergers turn out to be acquisitions. Furthermore, in almost every merger a dominant organization is present; in such cases the dominant organization is referred to as the acquirer (Teerikangas & Very, 2006).

## Chapter 4: Organizational Cultures & Performance in Mergers

In this chapter the influence of combining different organizational cultures on performance is described. It is argued that cultural fit explains the effect of these mergers on employee performance. In general it seems that merging different organizational cultures negatively affects performances, but three apparent moderators can influence the strength of the relationship. It is argued that the level of integration, the decrease in autonomy and uncertainty about the future of employees affect the relationship between cultural fit and performance. First, the concept of cultural fit is further elaborated on. Next, the moderating variables are described in the following three paragraphs. And finally, the theoretical framework is presented in the summary & conclusion section.

### 4.1 Cultural Fit

When two organizations merge, two distinct organizational cultures come together and need to be combined. It is often argued that the success of a merger is dependent upon the cultural fit between the two organizations, and moreover that a cultural fit between both organizations is not self-evident (Adkins & Caldwell, 2004; and Slangen, 2006). Cultural fit can be defined as *“the compatibility of employees their norms, values and beliefs with the organizational structure”* (Ostroff, Shin & Kinicki, 2005, pp. 593). In general, it is argued that the greater the cultural differences, the less the cultural fit between both organizations. However, as with organizational culture, there is a difficulty; since in organizational cultures multiple subcultures interact, the cultural fit may vary across the different subcultures of the organization (Ostroff et al., 2005; and Vandenberghe, 1999).

According the majority of the literature concerning this topic, merging different organizational cultures always results in human integration problems. Human integration problems are often referred to as cultural clashes; and the larger the differences between both organizations, the greater the clash (Cartwright & Cooper, 1995; and Stahl & Voigt, 2005). Cultural clashes can be defined as *“the disturbance of human rights, cultural retrenchment, countercultures and cultural rejection”* (Larsson & Finkelstein, 1999, pp. 6). Furthermore, it is argued that the term “cultural clash” is used to capture the emotions and conflicts associated in mergers with a cultural misfit (Very et al., 1997). The difficulties caused by human integration may add significant cost to the integration process and may undermine the realization of the potential synergies of the merger (Weber, 1996). Previous research indicates that cultural clashes reduce the commitment and cooperation of employees, and therefore

negatively affect employee performance (Larsson & Lubatkin, 2001; and Ostroff et al., 2005). Furthermore, it is argued that a cultural clash is best noticeable at the acquired side of the merger (Very et al., 1997).

Hence, it can be stated that the cultural fit between both organizations explains the success of the merger and that a lack of cultural fit can undermine the ability to create synergistic benefits (Weber et al., 1996). Above all, a lack of cultural fit has frequently been mentioned as a key failure factor in many mergers and acquisitions (Nahavandi & Malekzadeh; and Weber et al., 1996). The effect of cultural fit on performance is characterized by attitudinal variables including the satisfaction and commitment of employees (Adkins & Caldwell, 2004; Meyer et al., 2010; and Weber, 1996). It can be argued that when a cultural fit is present, individuals' satisfaction and commitment increase, and as a result the overall performance of the organization also increases. Hence it is proposed that performances will decrease after a merger when organizational cultures are different (Adkins & Caldwell, 2004; Meyer et al., 2010; Ostroff et al., 2005; and Sheridan, 1992). This leads to the following hypotheses:

*Hypothesis 1a: Cultural differences have a negative effect on employee satisfaction.*

*Hypothesis 1b: Cultural differences have a negative effect on employee commitment.*

Nevertheless, there are examples of mergers between organizations with different cultures that did not lead to clashes, but instead led to value creation and learning for organizations. It is argued that culturally distant organizations can also have complementary benefits for the combined organization (Chakrabarti et al., 2009; Teerikangas & Very, 2006; and Stahl & Voigt, 2008). However, in practice, situations in which culturally distant organizations have complementary benefits appear to be rare and only noticeable when the distance between the organizational cultures is small (Weber et al., 1996). Furthermore, there appear to be three moderators that influence the direction and/or strength of the relationship between cultural fit and performance. These are discussed in the following paragraphs.

## **4.2 Integration**

To create synergistic value in mergers, the two organizations need to be integrated. Integration can be defined as *“the making of changes in the functional activity of arrangements, organizational structures and systems, and cultures of combining organizations to facilitate their consolidation into a functioning whole”* (Pablo, 1994, pp. 806). The level of integration depends on the merger type and thus on the amount of synergy

necessary to be created; moreover, level of integration is known as “*the degree of post-merger change*” (Pablo, 1994, pp. 806) and varies between low, moderate and high (Chakrabarti & Mitchell, 2005). Previous research indicates that the degree of relatedness between both organizations is positively related to the level of integration (Elsass & Veiga, 1994). Furthermore, a low level of integration results in a limited degree of sharing financial risk and resources, while basic management systems and processes are standardized. A moderate level of integration involves increased alternations in the value chain, e.g. selective adjustment of reporting relationships, authority, structure and cultural elements. And a high level of integration results in extensive sharing of all resources in the acquiring and the acquired organization (Chakrabarti & Mitchell, 2005; and Pablo, 1994). Thus, it can be stated that: horizontally related mergers require a high level of integration, while in vertically related mergers a moderate level is sufficient and in unrelated mergers a low degree of integration is satisfactory because only financial synergies need to be achieved (Cartwright & Cooper, 1995; Nahavandi & Malekzadeh, 1988; and Shrivastava, 1993).

The process of post-merger integration can be separated in task and human integration. Task integration involves the integration of production and technology. Human integration involves the integration of people, together with their systems, procedures and practices (Cartwright & Cooper, 1995; and Chakrabarti & Mitchell, 2005). It follows that the integration of organizational cultures takes place in the human integration process. Research indicates that one third of all merger failures are caused by incorrect integration of the two organizations and are in particular caused by failures during the cultural integration process (Shrivastava, 1993). Furthermore, it is argued that the likelihood of a cultural clash is greater when the level of integration is higher (Birkinshaw et al., 2000). Moreover, the ability to integrate both organizations was ranked as the most important factor for merger success (Weber 1996); the cultural integration process of both organizations is actually creating the value of the merger (Schuler & Jackson, 2001; and Shrivastava, 1993). Zollo and Singh (2004) state that to realize merger success, striking the right balance between the necessary level of integration and minimizing the cultural clash is mandatory.

Hence, it follows that the relationship between cultural differences and performance is likely to be influenced by the level of post-merger integration (Chakrabarti & Mitchell, 2005; and Stahl & Voigt, 2008). Since a high level of integration implies that the acquiring organization imposes all of its practices on the acquired organization (Pablo, 1994) and these practices are highly culture-specific, they are therefore causing friction and incompatibility between both organizational cultures (Slangen, 2006). Friction and incompatibility lead to post-merger integration problems and consequently to a lower post-merger performance (Stahl & Voigt,

2008). Nevertheless, higher levels of integration are also associated with more difficulties when there is a cultural fit; hence friction between the combining organizations is also present when there is a cultural fit and may add to the cost of the integration process (Chakrabarti & Mitchell, 2005). Assuming that post-merger integration moderates the relationship described in H1, the following hypotheses are established:

*Hypothesis 2a: The level of integration between both organizations has a negative effect on the relationship between cultural differences and employee satisfaction.*

*Hypothesis 2b: The level of integration between both organizations has a negative effect on the relationship between cultural differences and employee commitment.*

Managerial skills and the process of acculturation are part of integrating the two organizations. Firstly, the managerial skills play an important role in providing structure and strategy, managing the change process, communicating with stakeholders, and in the retention and motivation of key employees (Schuler & Jackson, 2001). Furthermore, managerial experience in integrating companies is positively related to merger success (Stahl & Voigt, 2008). Second, acculturation is the process whereby the beliefs, values and assumptions of the two independent organizations form a jointly determined culture, and forms also part of the integration process (Larsson & Lubatkin, 2001). Acculturation can be defined as “*the changes induced in two cultural systems as a result of the diffusion of cultural elements in both directions*” (Nahavandi & Malekzadeh, 1988, pp. 81). The mode of acculturation depends on the degree of cultural differentiation and on the degree of relatedness between the organizations (Nahavandi & Malekzadeh, 1988; and Teerikangas & Very, 1997). Combining the two forces results in four different acculturation modes, see [Figure 2](#).

Based on [Figure 2](#), when the degree of cultural differentiation is low, a cultural fit is present. Otherwise, when the degree of cultural differentiation is high there appears to be no cultural fit (Elsass & Veiga, 1994; and Larsson & Lubatkin, 2001). Furthermore, the degree of relatedness between the two organizations, determines the level of integration. It is argued that the higher the degree of cultural differentiation, the more likely a cultural clash will develop; since the organizations need to be integrated to create synergies (Nahavandi & Malekzadeh, 1988; and Weber, 1996). Moreover, the magnitude of the clash depends on the degree of integration of both organizations and is therefore most likely to occur in ‘integration’ modes (Very et al., 1997).

		<b>Degree of Cultural Differentiation</b>	
		<b>Low</b>	<b>High</b>
<b>Degree of</b>	<b>Unrelated</b>	Deculturation	Separation
<b>Relatedness</b>	<b>Related</b>	Assimilation	Integration

Fig. 2. Four Acculturation Modes.

Furthermore, the decrease in autonomy from employees is also likely to influence the relationship between cultural fit and performance and is discussed in the following paragraph.

### 4.3 Autonomy Decrease

Generally, in most mergers some form of autonomy is removed from the acquired side of the merger (Weber, 1996). The motivation behind this decrease in autonomy is that the acquiring organization believes that it can utilize the acquired firm's physical and human capital more efficiently than was the case beforehand (Very et al., 1997). Moreover, in exceptional situations the autonomy from the acquiring organization is decreased (Weber, 1996). It is argued that the amount of autonomy given to either the acquired and/or the acquiring organization affects the culture-performance relationship of the combined organization (Elsass & Veiga, 1994; Schweiger & Very, 2003; and Very et al., 1997). Autonomy decrease can be defined as *"the degree to which strategy, systems and procedures associated with the management of the acquired company are removed from their discretion"* (Larsson & Lubatkin, 2001, pp. 1577).

Hence, at first sight a decrease in autonomy has a positive effect on the performance of the organization, because synergies can be created (Very et al., 1997). However, in practice, the removal of autonomy from the acquired organization generally has a negative effect on the performance of the combined organization (Nahavandi & Malekzadeh, 1988). A decrease in autonomy is an indicator of a diminished relative standing of employees (Weber, 1996). It is argued that during the combination process of two organizations at least the autonomy of the

acquired organization is removed and their organizational culture is changed (Teerikangas & Very, 2006). This indicates that autonomy decrease is positively related to the likelihood of cultural conflicts; since the more autonomy removed from the organization, the more likely that employees feel dominated by the other organization (Larsson & Lubatkin, 2001; and Teerikangas & Very, 2006). On the other hand, when acquired organizations have been granted a considerable degree of autonomy, it results in less post-merger stress and higher levels of commitment; and ultimately an increase in the performance of the employees (Stahl & Voigt, 2008). Therefore, when cultural differences are great, autonomy decrease should be reduced to prevent a cultural clash from developing (Weber et al., 1996).

When cultural differences are great, the effects of a decrease in autonomy on performance are characterized by an increased turnover and reduced intention to stay of the employees, and hence negatively affecting the culture-performance relationship (Porter, Mowday & Steers, 1979; and Very et al., 1997). Furthermore, previous research indicates that efficiencies are only realized when cultural conflicts are minimized. It is also argued that when cultural differences are great, the efficiencies will be outweighed by the costs of cultural conflicts (Chakrabarti et al., 2009; and Weber, 1996). Assuming that autonomy decrease moderates the relationship described in H1, the following hypotheses are established:

*Hypothesis 3a: Decrease in autonomy makes the negative relationship between cultural differences and employee satisfaction stronger.*

*Hypothesis 3b: Decrease in autonomy makes the negative relationship between cultural differences and employee commitment stronger.*

Hence it is proposed that a decrease in autonomy strengthens the culture-performance relationship. When organizational cultures are different, the benefits created by efficiencies at higher levels of autonomy decrease are outweighed by the costs of cultural problems. Furthermore, it is likely that this effect particularly takes place at the acquired side of the merger.

Many researchers argue that a diminished relative standing is one of the main causes of the departure of employees (Pablo, 1994; Very et al., 1997; and Weber, 1996). However, it needs to be noticed that mergers invariably result in job losses, since the combination of organizations brings in an overlap of job losses, so coincides with forced removals. But next to forced removals, mergers are also associated with a high rate of voluntary departures. Often, the voluntarily departing employees are key employees, who can easily get other jobs.



Therefore, the motivation and retention of key employees remains a major issue and is a key cause of merger failure (Schweiger & Very, 2003). Research indicates that mergers experience an overall rate of employee turnover in the first two years from the merger date of at least 30% (Cartwright & Cooper, 1995). It appears that a decrease in the commitment of employees is the major factor for employee turnover and that a decrease in satisfaction has an indirect effect on turnover (Lum et al., 1998; and Porter et al., 1979). Lubatkin, Schweiger & Weber (1999) argue that voluntary turnover of employees has a negative influence on commitment and post-merger productivity and has therefore also an indirect relationship with the post-merger performance of employees.

Furthermore, it is argued that the level of uncertainty during the post-merger integration process also moderates the culture-performance relationship. This is described in the following paragraph.

#### **4.4 Uncertainty about the Future**

Finally, it is argued that the uncertainty about the future of employees during the post-merger integration process moderates the relationship between cultural differences and performance. Uncertainty can be defined as “*a lack of information provided to the employees of the combined organization*” (Schweiger & Very, 2003, pp. 13). Several factors make employees concerned about their future in the combined organization, such as slow speed of implementation, poor communication and lack of strong leadership (Chakrabarti & Mitchell, 2005; Schuler & Jackson, 2001; and Elsass & Veiga). Nevertheless, despite the wide variety in literature about the moderating effects of the level of integration and decrease in autonomy on the culture-performance relationship, the literature base about the moderating effect of uncertainty on the culture-performance relationship is small (Waldman, Ramirez & House, 2001).

Previous research indicates that uncertainty is created when employees may not know if they have to move to another geographical location, have to learn new skills, are forced to depart, etc. (Schweiger & DeNisi, 1991). Furthermore, uncertainty is causing stress, absenteeism, departure, loss of productivity, poor morale and resistance to change for employees from both the acquired and acquiring organization (Epstein, 2004; Quah & Young, 2005; and Schweiger & Very, 2003). Therefore, it is argued that uncertainty increases the negative effect of cultural differences on performance (Chakrabarti & Mitchell, 2005). Hence, it is argued that higher levels of uncertainty about the future of employees lower the satisfaction and commitment of

employees and thereby prevent the creation of synergies (Cartwright & Cooper, 1995; and Epstein, 2004).

Nevertheless, researchers argue that the costs of uncertainty have not been taken much into consideration in accounting for merger failure. Hence the moderating effect of uncertainty on the culture-performance relationship has remained an important hidden factor (Cartwright & Cooper, 1995; and Waldman et al., 2001). Assuming that the uncertainty of employees about their future moderates the relationship described in H1, the following hypotheses are established:

*Hypothesis 4a: Uncertainty about the future makes the negative effect of cultural differences on employee satisfaction stronger.*

*Hypothesis 4b: Uncertainty about the future makes the negative effect of cultural differences on employee commitment stronger.*

Hence it is proposed that uncertainty about the future of employees also reinforces the culture-performance relationship. Since performances will decrease further when employees from both the acquired and the acquiring organizations perceive a larger amount of uncertainty about their future in the combined organization.

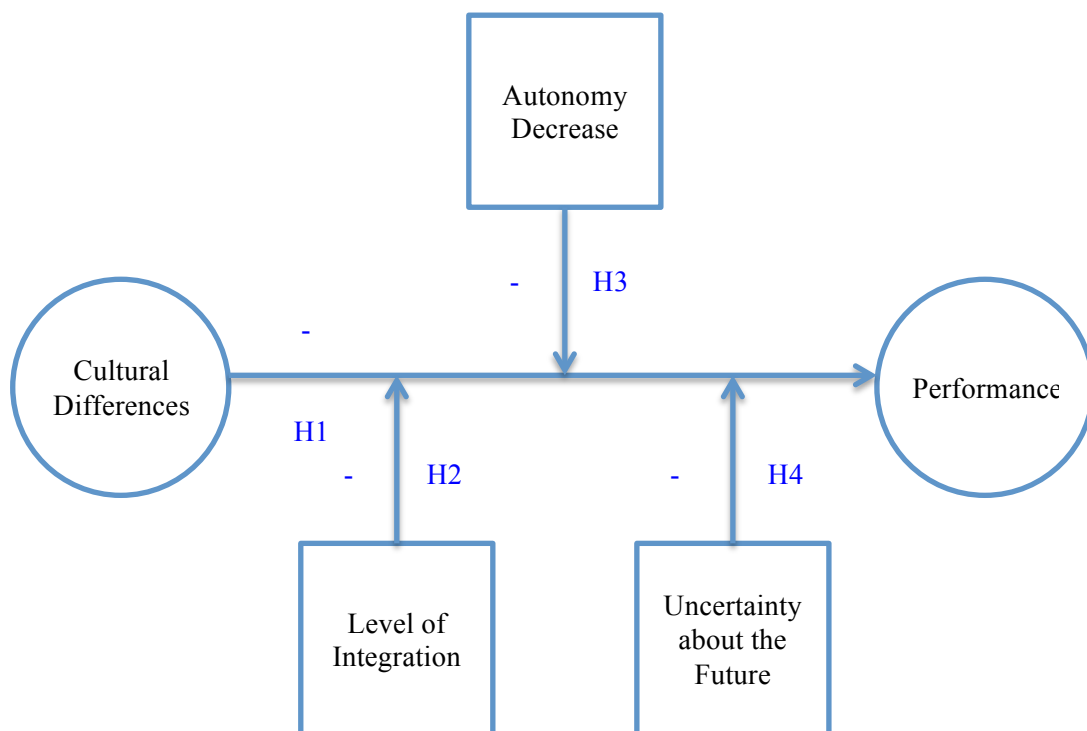
#### **4.5 Summary & Conclusion**

To summarize, in this chapter it is argued that the relationship between merging different organizational cultures and performance depends upon the cultural differences between both organizations. Furthermore, three potentially moderating variables of this relationship have been discussed: the level of integration, autonomy decrease and uncertainty about the future of employees.

Firstly, it is proposed that cultural differences have a negative effect on both the satisfaction and commitment of employees. Secondly, it is argued that the level of post-merger integration increases the strength of this relationship; and subsequently performances decrease further. Thirdly, it is proposed that a decrease in autonomy of employees also makes the negative relationship between cultural differences and the satisfaction and the commitment of employees stronger. And finally, it is hypothesized that uncertainty about the future of employees makes the negative effect of cultural differences on performance greater. Hence,

overall it is argued that all three moderating variables reinforce the culture-performance relationship.

Combining the culture-performance relationship with the three moderating variables results in a theoretical framework. This theoretical framework is illustrated in [Figure 3](#). In the next chapters the research methodology and results are presented.



*Fig. 3. Theoretical Framework*

## **Chapter 5: Research Methodology**

In the previous chapters, a literature review was conducted regarding the relationship between merging different organizational cultures and performance. This theoretical background will be used to provide structure and meaning to the following empirical chapter. Firstly, the research design is discussed and the use of quantitative data is justified. Secondly, the data collection and analysis are addressed. Following the data collection and analysis the variable measures are discussed. Then, together with a short description of the company the sample strategy is provided. And finally, the reliability and validity of the research are discussed.

### **5.1 Research Design**

This research is a data analysis combined with an internship at ABN AMRO Bank N.V., and concerns applied research in a non-contrived setting (Sekaran, 2003). The purpose of this research is explanatory research, since hypotheses are formally stated on the basis of prior literature and the research is devoted to finding causal relationships between certain variables (Malhorta & Grover, 1998). Hence, the hypotheses are tested by using statistical analysis, with the purpose of increasing our existing knowledge base and to give explanations for the observations of the client company.

The research type is a survey research, since it allows the collection of quantitative data from an organization and structured observations can be used to complement the data (Sekaran, 2003). According to Malhorta and Grover (1998), a survey research has three distinct characteristics; (1) it involves the collection of information by asking people for information in some structured format, (2) it is usually a quantitative method that requires standardized information in order to study relationships between variables and (3) information is gathered via a sample. All three conditions are present in this particular research, and there is therefore, sufficient reason to answer the research questions by using the survey method. Furthermore, the research has a cross-sectional time horizon, because the time frame of this study does not allow a longitudinal time horizon. The data collection and analysis are discussed in the following paragraph.

### **5.2 Data Collection and Analysis**

Corresponding with the research type, the collected data are quantitative. Quantitative data follow numerical data or data that have been quantified (Saunders, Lewis & Thornhill, 2009). The quantitative data are primary in nature, retrieved from distributed questionnaires with the

purpose of this specific research. Furthermore, the quantitative data are complemented by structured direct observations; primary qualitative data that are specifically collected for the research project being undertaken (Sekaran, 2003).

The questionnaires are distributed to collect data concerning the satisfaction, commitment, cultural differences, level of integration, decrease in autonomy and uncertainty about the future of employees. All questionnaires make use of a 5-Point Likert Scale. In total, the questionnaires consist of 97 closed-end questions concerning the 6 topics. It is argued that questionnaires are useful for collecting explanatory data in a quantitative format and are therefore appropriate for collecting data in a survey research type (Malhorta & Grover, 1998). The questionnaires are pretested on a group of employees to test for ambiguities and irregularities. Furthermore, the collected data are statistically analysed with SPSS by means of multiple regression analyses. Which is regarded as an appropriate method to establish causal relationships between variables (Bryman & Cramer, 2001).

### **5.3 Measurements**

*Performance.* The dependent variable is measured by the satisfaction and commitment of employees. These specific variables were chosen since it is argued that non-financial measurements of performance may be a better representation of merger performance at this point in time; approximately 1½ year from the legal merger date (Lambrecht, 2004; Zollo & Singh, 2004; and Weber, 1996).

In order to measure employee satisfaction, an infinite variety of questionnaires exist, but it appears that most are composed of similar questions and use the same scaling (Adkins & Caldwell, 2004; and Williams & Anderson, 1991). One of the more often used methods is the Minnesota Satisfaction Questionnaire (MSQ); the questionnaire consists of 20 questions and addresses all aspects of satisfaction. It is therefore used for this specific research (Adkins & Caldwell, 2004; and Williams & Anderson, 1991). One item is removed from the original questionnaire, because it did not fit the context of this specific research. Furthermore the questionnaire measures employee satisfaction on a 5-Point Likert Scale, ranging from ‘very dissatisfied’ (1), to ‘neither satisfied nor dissatisfied’ (3), to ‘very satisfied’ (5) (Cronbach’s Alpha = 0.880).

Second, following Weber et al. (1996), commitment is measured by Porter’s commitment scale (Porter et al., 1979); this particular questionnaire is used because it has consistently demonstrated a high level of reliability. This questionnaire measures employee commitment

by asking 15 questions on a 5-Point Likert Scale and taps into all aspects of the definition of commitment. This scale ranges from ‘strongly disagree’ (1), to ‘neither disagree nor agree’ (3), to ‘strongly agree’ (5) (Cronbach’s Alpha = 0.838). See [Appendix 1](#) for both questionnaires.

*Cultural Differences.* Following Lubatkin et al. (1999) and Very et al. (1997) the independent variable is measured with a structured perception questionnaire about cultural differences. Respondents were asked to indicate the extent to which organizational cultures differ between their previous and their current situation, on 25 items. In general, Lubatkin et al. (1999) and Very et al. (1997) used the same values items, but the scale used by Lubatkin et al. (1999) allows a better differentiation between the two organizational cultures; hence the scale of Lubatkin et al. (1999) is used. Furthermore, the items are developed in conjunction with Hofstede’s (1990) cultural dimensions. Each item was constructed to measure cultural differences on a 5-Point Likert Scale, ranging from ‘very similar’ (1), to ‘very different’ (5) (Cronbach’s Alpha = 0.945). See [Appendix 2](#) for the questionnaire.

*Level of Integration.* The moderating variable “level of integration” is measured with a questionnaire developed by Homburg and Bucerius (2006), who partly based the specific items on items used by Datta (1991). The questionnaire asked the respondents to what extent certain organizational aspects were made similar between the two organizations after the merger using eight items covering product and service offer, branding strategy, prices, advertising activities, sales channels, organizational structures in the field force, etc. The questionnaire consists of 8 questions and measures the level of integration on a 5-Point Likert Scale, ranging ‘from no integration’ (1), to ‘partial integration’ (3), to ‘complete integration’ (5) (Cronbach’s Alpha = 0.903). See [Appendix 3](#) for the questionnaire.

*Autonomy Decrease.* The moderating variable “autonomy decrease” is measured with a questionnaire developed by Very et al. (1997). This particular questionnaire was also used in the research of Lubatkin et al. (1999) and asks respondents which firm is involved in the key decisions of the combined organization. The questionnaire consists of 10 questions concerning the acquired firm’s goals, operational- and business- level strategies, personnel strategies and policies about major capital investments, based on a 5-Point Likert Scale. This scale ranges from ‘the acquired firm decides’ (1), to ‘both firms decide’ (3), to ‘the acquiring firm decides’ (5) (Cronbach’s Alpha = 0.978). See [Appendix 4](#) for the questionnaire.

*Uncertainty about the Future.* The moderating variable “uncertainty about the future” is measured with a questionnaire developed by Schweiger and DeNisi (1991). Respondents

were asked to what extent that they are uncertain about certain aspects, when thinking about their future with the company. The questionnaire consists of 20 questions and answers need to be indicated on a 5-Point Likert Scale ranging from 'very certain' (1), to 'very uncertain' (5) (Cronbach's Alpha = 0.822). See [Appendix 5](#) for the questionnaire.

*Control Variables.* In this research there has been controlled for the background of the employees (acquiring vs. acquired organization) and the size of the corresponding organizations at the legal merger date. Since these two constructs may correlate with cultural differences and employee satisfaction and/or commitment, it is important whether cultural differences have the predicted effect on employee performance after accounting for the variance explained by the employees' background and firm size. The employees' background was measured by asking all respondents for their employer at the legal merger date. The number of employees measures the firm size at the time of the legal merger date; these numbers are extracted from internal company documents.

#### **5.4 Sample**

The sample consists of data from the merger between ABN AMRO Bank and Fortis Bank Nederland. This merger has a long history: in 2007, a banking consortium consisting of Fortis, RBS and Santander acquired ABN AMRO Bank N.V. However, in 2008, due to the financial crisis, Fortis Bank Nederland was heading towards bankruptcy. As a result of that the Dutch Government decided to nationalise the activities of ABN AMRO Bank and Fortis Bank Nederland. On July 1<sup>st</sup> 2010, Fortis Bank Nederland and ABN AMRO merged and started operating under the name ABN AMRO Bank N.V. However, it appears that in practice this merger turned out to be an acquisition: in reality ABN AMRO Bank took over Fortis Bank Nederland. The motivation behind this merger is cost-based and thus requires a high level of integration to create the synergistic benefits. At this point in time, approximately 1½ year from the legal merger date, both companies are still in the integration process. The question arises how the performances of employees are affected, particularly by the combination of different organizational cultures.

The questionnaire has been distributed among all employees in district Oosterhout; this district offers employment to 68 individuals. This particular district was chosen because this is where the internship took place there. Nevertheless, the district is considered to be an average district with regard to the whole organization. The response rate is 79.4 % yielding an overall sample of 54 employees. One third of the sample consists of former Fortis Bank Nederland employees, amounting to 18 employees. Two third of the sample consists of ABN

AMRO Bank employees, amounting to 36 employees. Since the questionnaire was distributed to all employees in this particular district, every member of the population had a known and equal chance of being selected. Hence, the sampling strategy is classified as stratified random and selection bias is minimized with this strategy (Sekaran, 2003).

### **5.5 Reliability & Validity**

Reliability refers to consistency in the findings of the research, similarity in observations or conclusions from other researchers, and transparency in how sense was made from the raw data (Sekaran, 2003). With regard to the quantitative data, the Cronbach's Alpha analysis measures the inter-item consistency of the sample; this is a statistic calculated from the pairwise correlations between items (Sekaran, 2003). In general, it argued that in research on organizations an alpha greater than 0.60 is considered adequate and an alpha greater than 0.80 is considered as good (Larsson & Finkelstein, 1999). Since the alphas of all variables exceed the 0.80 level, it is argued that the inter-item consistency of the measurements is very good<sup>2</sup>. Furthermore, the selection of an average district with former Fortis Bank Nederland and ABN AMRO Bank employees, will lead to similar observations and conclusions when the research is performed with another sample from this population. And since a response rate of 79.4% of the questionnaire is more than sufficient for representativeness of the sample, similarity will be achieved in observations and conclusions from other researchers (Malhorta & Grover, 1998).

Validity refers to the extent to which the collected data accurately measures what it intended to measure, and the extent to which the research findings are really about what they professed to be (Sekaran, 2003). Content validity is assessed through the use of prior literature from quality journals in the Strategic Management area: journals that are familiar with the given construct. To guarantee internal validity the data are statistically analysed and a discussion of the results takes place to establish the cause and effect relationship (Malhorta & Grover, 1998). The validity of the questionnaires is assured since all measurements made use of multiple questions for a particular variable and therefore bias is minimized. Furthermore some questions have been reverse phrased in order to reduce response bias; respondents need to actually read the items before answering (Sekaran, 2003). Moreover, employees did not have any incentive not to be sincere because the researcher was an external party and their anonymity was guaranteed.

---

<sup>2</sup> Figure 4 in Appendix 6 reports the results of the individual Cronbach Alpha tests.



Finally, the combination of the primary and secondary quantitative data will provide a sound basis for establishing the causal relationship between merging different organizational cultures and employee performance. However, with regard to the external validity of this research there are some limitations. The generalizability of the research to the population is moderate since the sample consists of only one district of the organization and hence the sample size is relatively low. Furthermore, the generalizability to organizations in general is low, since the sample consists only of data from one single merger between two strongly horizontally related, service-oriented firms. It is unlikely that an exact copy of this situation will occur in the future, due to the multiple indicators that make this merger unique. Nevertheless, the research still contributes to the existing knowledge about the relationship between cultural differences and performance in mergers.

## Chapter 6: Results

The results of the data analysis are presented in this chapter. In the previous chapters a theoretical background was established regarding cultural differences and the effect on performance. Following, the research methodology is discussed. The four hypotheses are subsequently tested in this chapter. Firstly, the linear relationship between cultural differences and performance is examined. Secondly, a non-linear relationship between the two variables is explored. Nevertheless, establishing a significant relationship between cultural differences and performance turned out more complex than expected.

### 6.1 Collinearity

Firstly, the correlation coefficients between all variables are measured. [Table 1](#) shows the means, standard deviations, medians, minimums & maximums, and Pearson Correlation coefficients for all variables of interest in the study. However, some correlations among the independent variables are of sufficient magnitude to warrant concern. Computation of the correlation coefficients between the interaction terms and the main variable yield high correlations: .621, .545, and .832 for the interaction term with level of integration, autonomy decrease and uncertainty, respectively. Furthermore, the correlation coefficients between the interaction terms and the specific moderating variables also yield high correlations: .649, .917, and .618 for the interaction term with level of integration, autonomy decrease and uncertainty, respectively. Although Brambor, Clark and Golder (2005) indicate that models with interaction terms always increase the correlation among variables and that collinearity problems are overstated, collinearity problems<sup>3</sup> may indeed have been the cause of the unexpected results<sup>4</sup>, since all correlation coefficients exceed the 0.6 level (Bryman & Cramer, 2001).

Multiple solutions are present to reduce the impact of collinearity problems, but since increasing the sample size and excluding a variable are not appropriate in this case<sup>5</sup>, centering the basic variables could make collinearity less problematic (Nieuwenhuis, 2008). A variable can be centered by subtracting the mean from every case (Brambor, Clark & Golder, 2005). The corresponding results are shown in [Table 2](#).

---

<sup>3</sup> Collinearity problems can be defined as “the situation that an independent variable is strongly related to a linear combination of the other independent variables” (Nieuwenhuis, 2008, part 2, pp. 204).

<sup>4</sup> All, except five, regression coefficients appeared insignificant for the 10% level in all models with uncentered variables. The results are shown in [Table 6](#) in [Appendix 7](#).

<sup>5</sup> The time scope of this research does not allow an increase in sample size. Furthermore, excluding the variables with the highest *p*-values is not desired, since in that case one of the hypotheses expires.

Constructs / Interaction Terms	Mean	S.D.	Median	Minimum	Maximum	Correlations														
						1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.				
1. Cultural Differences	3.02	.73	3.18	1.00	4.60	1.00														
2. Employee Satisfaction	3.68	.50	3.66	2.58	4.63	-0.039	1.00													
3. Employee Commitment	3.22	.50	3.30	2.27	4.27	-0.065	.560***	1.00												
4. Former Organization	.67	.48	1.00	.00	1.00	-.324**	-.078	.325**	1.00											
5. Organization Size	13.91	5.88	18.00	6.00	18.00	-.324**	-.078	.325**	.325**	1.00										
6. Level of Integration	3.68	.90	3.88	1.88	5.00	-.157	.150	.093	-.097	-.097	1.00									
7. Autonomy Decrease	2.73	1.26	2.85	1.00	5.00	.195	.206	-.257	-.791***	-.791***	.094	1.00								
8. Uncertainty	3.06	.51	3.08	1.65	3.95	.089	-.389**	-.132	-.016	-.016	.064	-.004	1.00							
9. Level of Integration x Cultural Differences	11.02	3.50	11.03	3.11	19.00	.621***	.105	.087	-.322**	-.322**	.649***	.234*	.146	1.00						
10. Autonomy Decrease x Cultural Differences	8.42	4.92	7.08	2.00	19.20	.545***	.124	-.240*	-.803***	-.803***	.020	.917***	.052	.438***	1.00					
11. Uncertainty x Cultural Differences	9.28	2.83	9.45	3.00	14.17	.832***	-.232	-.114	-.264*	-.264**	-.070	.165	.618***	.583***	.467***	1.00				

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 1. Correlation Matrix with Regular Variables ( $N = 54$ ).

Constructs / Interaction Terms	Correlations											
	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	
1. cCultural Differences	1.00											
2. cEmployee Satisfaction	-.039	1.00										
3. cEmployee Commitment	-.065	.560***	1.00									
4. cFormer Organization	-.324**	-.078	.325**	1.00								
5. cOrganization Size	-.359***	-.024	.368***	.960***	1.00							
6. cLevel of Integration	-.157	.150	.093	-.097	-.050	1.00						
7. cAutonomy Decrease	.195	.206	-.257*	-.791***	-.733***	.094	1.00					
8. cUncertainty	.089	-.389***	-.132	-.016	-.015	.064	-.004	1.00				
9. cLevel of Integration x cCultural Differences	-.116	.087	.306**	.008	.044	-.044	.053	.131	1.00			
10. cAutonomy Decrease x cCultural Differences	-.060	-.119	-.097	-.387***	-.317***	.069	.421***	.121	.174	1.00		
11. cUncertainty x Cultural Differences	-.034	.079	.080	-.008	-.002	.190	.134	.084	.180	.025	1.00	

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 2. Correlation Matrix with Centered Variables ( $N = 54$ ).

Computation of the correlation coefficients of the centered pairs of variables yields -.116, -.060, -.034 and -.044, .421, .084, respectively. Obviously, collinearity is less of a problem with centered variables.

## 6.2 Regression Analyses

In the next step, multiple regression analyses are conducted to examine the effect of cultural differences on both employee satisfaction and commitment. A first order model with four predictors and two control variables is used to examine the effects of cultural differences on performance (Nieuwenhuis, 2008). Hence, two baseline regression models are analysed (model *a* with employee satisfaction and model *b* with employee commitment as dependent variable), which have cultural differences as independent variable, the three moderating variables and both control variables. The corresponding results for the models with centered variables are shown in Table 3. Interestingly, the regression coefficient for cultural differences is statistically insignificant in both the model with employee satisfaction as dependent variable and in the model with employee commitment as independent variable ( $\beta = 0.032, p > 0.1$ ; and  $\beta = 0.084, p > 0.1$  respectively). Besides all variables, except one, in this model are insignificant for the 10% level; the uncertainty variable is statistically significant for the 1% level in all models *a*. Nevertheless, as reported in Table 2, collinearity is not causing these unexpected results since Pearson Correlation tests reveal low correlation coefficients. Besides, a model with exclusion of the uncertainty variable confirms this<sup>6</sup>. Furthermore, within this model there are no signs of heteroskedasticity or non-normality<sup>7</sup>. Thus, it can be stated that on the basis of the overall sample, cultural differences do not have a direct linear effect on either employee satisfaction and employee commitment.

Following, the analysis of the interaction of the three potentially moderating variables of the culture performance relationship takes place. Although no support has been found for a direct relationship between cultural differences and performance, it is possible that an indirect relationship exists between the two; hence the interaction terms are consecutively added to both baseline models. Since it is likely that the relationship between cultural differences and performance is different for different levels of the moderating variables, a first order model with interaction terms is used (Nieuwenhuis, 2008). Six regression models (three with employee satisfaction and three with employee commitment as dependent variable) are

---

<sup>6</sup> It is argued that when collinearity is the cause of insignificant regression coefficients, excluding the variable with the highest p-value should raise the individual p-values of the other values (Nieuwenhuis, 2008). In this case, the uncertainty variable is significant for the 0.01 level; and is therefore excluded. Nevertheless, the results of this model coincide with the correlation coefficients in Table 2, since again none of the individual regression coefficients is significant for the 10% level. See Appendix 8 for the table.

<sup>7</sup> Heteroskedasticity and non-normality cause that the results of multiple regression analyses cannot be trusted (Nieuwenhuis, 2008). See Appendix 9 for the plots.

analysed, having as independent variable cultural differences, a specific moderating variable, the interaction term between cultural differences and the moderating variable, and the control variables (organization and organization size). Again, the corresponding results are shown in [Table 3](#). Nevertheless, the results indicate that five of the potentially moderating variables are insignificant for the 10% level. Furthermore, the only statistically significant variable, the interaction term in model 1b is in the opposite direction as predicted ( $\beta = .232, p < 0.05$ ). Moreover, within model 1b, the regression coefficient of cultural differences is insignificant for the 0.10 level. Since also within model 1b no support has been found for the culture-performance relationship, it cannot be stated that the level of integration has a moderating effect on that relationship. Therefore, on the basis of the overall sample, also no support has been found for an indirect linear relationship between cultural differences and performance.

Constructs/Interaction Terms	Baseline Model a	Model 1a	Model 2a	Model 3a	Baseline Model b	Model 1b	Model 2b	Model 3b
Cultural Differences	.032	.043	.004	.032	.084	.115	.089	.084
Former Organization Size	-.264	-.223	-.438	-.284	-.396	-.279	-.365	-.434
Level of Integration	.042	.037	.052	.042	.065	.053	.063	.066
Autonomy Decrease	.084	.090	.079	.079	.071	.089	.072	.062
Uncertainty	.133	.128	.155*	.127	-.018	-.034	-.022	-.030
Level of Integration x Cultural Differences	-.394***	-.412***	-.364***	-.397***	-.146	-.196	-.151	-.152
Autonomy Decrease x Cultural Differences		.083				.232**		
Uncertainty x Cultural Differences			-.141				.025	
$R^2$				.077				.151
	.252	.266	.288	.254	.187	.294	.188	.193

*Standardized Centered Regression Coefficients (Beta Coefficients) are Shown.*

*Models a and b have respectively employee satisfaction and commitment as dependent variable.*

*\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$*

*Table 3. Results of Moderated Regression Analysis (N = 54).*

### 6.3 Higher Order Models

Since neither a direct, nor an indirect linear relationship has been found between cultural differences and performance, a possible non-linear relationship between both variables is examined in the following step. A second order model is developed to test for a quadratic (parabolic) relationship between cultural differences and either employee satisfaction or commitment. See [Table 4](#) for the corresponding results. Interestingly, the results of both baseline models reveal a statistically significant relationship between the squared cultural differences variable and both the employee satisfaction and the commitment variable for the 1% level ( $\beta = -.285, p < 0.01$ ;  $\beta = -.268, p < 0.01$  for the model with employee satisfaction and commitment as dependent variable, respectively). Since  $\beta < 0$ , the parabolas are mountain-shaped (Nieuwenhuis, 2008). With respect to the results reported in [Table 3](#) it seems that the quadratic model offers a better description of the relationship between cultural differences and performance. Although the relationship is moderately strong, the results indicate that lower levels of cultural differences have a positive effect on performance and

higher levels of cultural differences have a negative effect on employee performance. Hence, partial support has been found for Hypothesis 1a and 1b.

Next, the moderating effect of the level of integration, autonomy decrease and uncertainty about the future on the culture-performance relationship is examined. Therefore, the three corresponding interaction terms are consecutively added to the second order model. The results are shown in Table 4. The results indicate that all interaction terms in the model with employee satisfaction as dependent variable are in the predicted direction. However, none of the interaction terms in model *a* are significant for the 10% level; furthermore, the explanatory power ( $R^2$ ) of each model barely increases with the added interaction term<sup>8</sup>. For the models with employee commitment as dependent variable, the interaction term between cultural differences and level of integration is significant for the 10% level<sup>9</sup>. Nevertheless, the regression coefficient of this interaction term is positive and therefore in the opposite direction as proposed; the results indicate that the relationship between cultural differences and employee commitment weakens with higher levels of integration (.164 is added to the intercept of the main variable). Besides only a small increase in explanatory power of this model is noticed ( $\Delta R^2 = 0.46$ ).

Furthermore, both control variables are insignificant for the 10% level<sup>10</sup>. Hence, it appears that on the basis of the overall sample, the former organization of the employees (acquiring vs. acquired organization) and the size of that organization do not have a significant influence on the results. It is satisfactory that the control variables are statistically insignificant in all models.

---

<sup>8</sup> A variable is argued to have a moderating effect when the explanatory power ( $R^2$ ) of the particular model significantly increases when the interaction term is added (Bryman & Cramer, 2001).

<sup>9</sup> A significance level of 0.05 is argued as truly significant in quantitative research (Bryman & Cramer, 2001).

<sup>10</sup> The control variable "former organization" is insignificant at the 10% level for 0 = Fortis Bank Nederland, 1 = ABN AMRO Bank and for 0 = ABN AMRO Bank, 1 = Fortis Bank Nederland. See Appendix 10 for the corresponding tables.

Constructs/Interaction Terms	Baseline Model a	Model 1a	Model 2a	Model 3a	Baseline Model b	Model 1b	Model 2b	Model 3b
Cultural Differences	-.077	-.083	-.085	-.085	-.039	.017	-.015	-.044
Cultural Differences <sup>2</sup>	-.285***	-.291***	-.279***	-.298***	-.268***	-.205**	-.287***	-.276***
Former Organization Size	-.305	-.312	-.351	-.264	-.395	-.331	-.262	-.368
Level of Integration	.318	.036	.039	.034	.058	.052	.049	.057
Level of Integration <sup>2</sup>	.097	.095	.094	.109	.100	.118	.109	.108
Autonomy Decrease	.129	.131	.123	.144*	.174*	.162*	.192**	.184*
Autonomy Decrease <sup>2</sup>	.146*	.147*	.154*	.161**	.011	-.004	-.012	.021
Uncertainty	-.042*	-.042	-.037	-.038	-.007	-.006	-.020	-.005
Uncertainty <sup>2</sup>	-.445***	-.440***	-.433***	-.438***	-.181	-.224*	-.215	-.177
Level of Integration x Cultural Differences	-.325*	-.324*	-.313*	-.334*	-.285	-.293	-.319	-.291
Autonomy Decrease x Cultural Differences		-.016				.164*		
Uncertainty x Cultural Differences			-.043				.126	
R <sup>2</sup>	.478	.478	.481	.483	.382	.428	.407	.384

*Standardized Centered Regression Coefficients (Beta Coefficients) are Shown.*

*Models a and b have respectively employee satisfaction and commitment as dependent variable.*

*\* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01*

*Table 4. Results of Moderated Regression Analysis with Squared Variables (N = 54).*

## 6.4 Summary & Conclusion

This chapter described the results of the multiple regression analyses. During the first regression analyses, collinearity problems appeared to bias the results. Nevertheless, after centering all variables, collinearity problems were minimized, but the results of multiple regression analyses were not in line with the hypotheses. The results indicate that there is no direct linear relationship between cultural differences and either employee satisfaction or employee commitment. Furthermore, no support has been found for the moderating effect of the other three variables on the culture-performance relationship. Hence, a possible indirect relationship between cultural differences and performance is also not supported within this sample.

Nevertheless, the results of the second order models indicate that the relationship between cultural differences and both employee satisfaction and commitment is statistically significant in a quadratic (parabolic) model. The parabola is mountain-shaped, indicating that low levels of cultural differences lead to higher levels of employee satisfaction and commitment and high levels of cultural differences correspondingly lead to lower levels of employee satisfaction and commitment, hence providing partial support for Hypothesis 1a and 1b. Hypothesis 2a till 4b need to be rejected, since no support has been found for a linear relationship between cultural differences and performance. Nevertheless, the results of the three moderating variables on the parabolic culture-performance relationship appeared insignificant for the 5% level. Thus, within this sample no support has been found for the moderating effect of the level of integration, autonomy decrease and uncertainty about the future of employees on the culture-performance relationship. See [Table 5](#) for an overview of the results.

		Hypothesis	Result	Sign. Level
Basic Relationship	1a.	<i>Cultural differences have a negative effect on employee satisfaction.</i>	Partially Supported	$p < 0.01$
	1b.	<i>Cultural differences have a negative effect on employee commitment.</i>	Partially Supported	$p < 0.01$
Moderating Variables	2a.	<i>The level of integration between both organizations has a negative effect on the relationship between cultural differences and employee satisfaction.</i>	Rejected	$p > 0.1$
	2b.	<i>The level of integration between both organizations has a negative effect on the relationship between cultural differences and employee Commitment.</i>	Rejected	$p > 0.1$
	3a.	<i>Decrease in autonomy makes the negative relationship between cultural differences and employee satisfaction stronger.</i>	Rejected	$p > 0.1$
	3b.	<i>Decrease in autonomy makes the negative relationship between cultural differences and employee commitment stronger.</i>	Rejected	$p > 0.1$
	4a.	<i>Uncertainty about the future makes the negative effect of cultural differences on employee satisfaction stronger.</i>	Rejected	$p > 0.1$
	4b.	<i>Uncertainty about the future makes the negative effect of cultural differences on employee commitment stronger.</i>	Rejected	$p > 0.1$

Table 5. Overview of Results.



## Chapter 7: Discussion and Conclusions

In the final chapter of this thesis the discussion of the results takes place and the conclusions are presented. Overall, it appears that the relationship between cultural differences and performance is more complex than expected. But the results of this study are generally in line with the results of previous research. The results prove that the argument that cultural differences lead per definition to lower performances is overstated; in fact, cultural differences may even increase the performance of employees. Firstly, the discussion of the results takes place. Next, the conclusions are presented, followed by the limitations and some suggestions for future research. And finally, the managerial implications are presented.

### 7.1 Discussion

This research was carried out to study the effects of cultural differences on employee performance in situations when organizations merge. This topic has received considerable research attention in recent years, but clear relationships could not always be established. This is because previous research concluded that multiple variables influence the culture-performance relationship, but the perspectives and results are conflicting among researchers (e.g., Stahl & Voigt, 2008; and Very et al., 1997). In an attempt to reconcile these conflicting perspectives and findings, four hypotheses are developed in this research: a basic linear relationship and three potentially moderating variables that might influence that relationship.

However, the findings of this study show that there is no simple answer to the question whether cultural differences between two merging organizations have a significant impact on the performance of employees, as the results of multiple regression analyses do not support a direct linear relationship between cultural differences and either employee satisfaction or commitment. A possible explanation may be that this research took place approximately 1½ year since the legal merger date. This suggests that the direct negative effect of cultural differences on performance has faded away in the long term. Since the execution of the merger, as other researchers have found a direct negative relationship in the short term after the merger date (e.g. Adkins & Caldwell, 2004; and Chakrabarti & Mitchell, 2005).

The results concerning the proposed moderating variables indicate that there is no statistically significant indirect linear relationship either between cultural differences and performance. Since none of the moderating variables is significant at the 5% level, it cannot be concluded within this sample that different levels of integration, decrease in autonomy and uncertainty

about the future lead to an indirect relationship between cultural differences and performance. Hence, these results proved contrary to previous research (e.g. Schweiger & Very, 2003; Stahl & Voigt, 2008; and Weber, 1996).

Nevertheless, concluding that cultural differences have no effect on performance is premature. Since the results prove that there is a significant non-linear relationship between cultural differences and performance: a second order model with interaction terms leads to a mountain-shaped parabola of the culture-performance relationship. Although the relationship is moderately strong, the relationship is statistically significant. This indicates that high cultural differences indeed have a negative effect on performance, but lower cultural differences increase the performance of employees in the long term. These results are in line with previous research (e.g. Slangen, 2006; and Stahl and Voigt, 2008), which concludes that organizations learn to deal with lower cultural differences over time. Furthermore, these results are in line with researchers who argue that combining organizations with different organizational cultures may lead to value creation, instead of value destruction (e.g. Teerikangas & Very, 2006). Hence, the results prove that low cultural differences between both organizations can have complementary benefits for the combined organization.

Moreover, none of the variables level of integration, autonomy decrease and uncertainty about the future has been found to influence the direction and/or strength of the culture-performance relationship, at the 5% significance level. At the 10% significance level, the level of integration weakens the strength of the culture-performance relationship. Furthermore, contrary to previous research, no significant difference in the effect of cultural differences on performance has been found between the acquiring and the acquired organization and between the individual organization size at the time of the merger. Possible explanations are the relatively low sample size and/or the specific merger type. Moreover, it is also possible that these moderating effects have faded away in the long term since the merger.

## **7.2 Conclusions**

Firstly, it can be concluded cultural differences do not have a direct linear negative effect on performance in the long term (1½ year) following the merger date. Hence, it can be concluded that mergers between organizations with different organizational cultures do not per definition lead to lower long-term performances.

Secondly, it can be concluded that the relationship between cultural differences and performance has a moderately strong inverted u-shape. It can therefore be concluded that high cultural differences do lead to lower performances and consequently may lead to value destruction in the long term. Furthermore, the inverted u-shape relationship between cultural differences and performance also indicates that lower cultural differences increase performances in the long term. Therefore, it can be concluded that low cultural differences between both organizations have complementary benefits for the combined organization. Hence, combining different organizational cultures can in fact lead to value creation.

Finally, it can also be concluded that the level of integration, autonomy decrease and uncertainty about the future of employees do not have a significant impact on the strength and/or direction of the culture-performance relationship in the long term since the merger date.

### **7.3 Limitations and Suggestions for Future Research**

A number of limitations of this study and areas for future research should be mentioned. Firstly, this study is restricted to only one merger, which reduces the external validity of the research. In this particular situation, two strongly horizontally related, service-oriented firms merged and it is unlikely that an exact copy of this merger will take place in the future. Therefore, the theoretical reasoning and the results are not necessarily generalizable to other organizations. Hence, a study with an extended sample size could possibly confirm the relationship between cultural differences and performance and provide a sound literature base for this topic.

Secondly, since the time frame of this research is cross-sectional, it is hard to establish relationships between variables. Moreover, this research is performed after approximately 1½ year from the legal merger date and it would be interesting to see how a longitudinal time frame would influence the results. For example, a longitudinal time frame might confirm the suggestion that cultural differences have a direct negative linear effect on performance in the short term following the merger date.

Thirdly, future research about the inverted u-shape relationship between cultural differences and performance is recommended. Since this study is not originally designed to test for a quadratic relationship between cultural differences and performance, future research may probably confirm these results. Furthermore, future research should focus on disclosing variables that moderate the culture-performance relationship in the long term. In this context

it would be particularly interesting to study possible non-linear effects of the level of integration on the culture-performance relationship. As an example, one might argue that an inverted u-curve relationship exists. Finally, future research about the moderating effect of the uncertainty of employees about their future is recommended, since the theoretical base of this variable is low.

#### **7.4 Managerial Implications**

Finally, this study also has implications for managers. Firstly, managers should classify more carefully an organization as appropriate for a merger candidate, taking into consideration the differences in organizational culture between the firms, since the results of this study reveal that high cultural differences still negatively affect performances after 1½ year from the merger date. Hence, managers should try to find a balance between the creation of the necessary synergies of a merger and the costs associated with high cultural differences (cultural clash) between both organizations, in order to secure a high long-term performance of the combined organization.

Secondly, managers should not seek merger candidates with perfectly similar organizational cultures. Since the results indicate that cultural differences to some extent have complementary benefits for the combined organization, it is argued that managers should try to find merger candidates with moderate cultural differences in order to achieve the highest post-merger performance of employees.

Thirdly, the management of ABN AMRO Bank should focus on a more efficient integration between both organizational cultures, since 1½ year from the merger date high cultural differences still negatively affect performances in the combined organization. For example, the organization could stimulate the use of Arena (the social network of ABN AMRO), to increase contact between employees from both organizations and thereby reduce the gap between both cultures.

## Literature List

- Adkins, B., & Caldwell, D. (2004) Firm or subgroup culture: where does fitting in matter most?, *Journal of Organizational Behaviour*, 25, pp. 969-978.
- Barkema, H. G., & Schijven, M. (2008) How do firms learn to make acquisitions? A review of past research and an agenda for the future, *Journal of Management*, 34 (3), pp. 594-634.
- Birkinshaw, J., Bresman, H., & Håkanson, L. (2000) Managing the post-acquisition integration process: How the human integration and task integration processes interact to foster value creation, *Journal of Management Studies*, 37, pp. 395-425.
- Brambor, T., Clark, W. R., & Golder, M. (2005) Understanding interaction models: Improving empirical analyses, *Political Analysis*, 14, pp. 63-82.
- Bryman, A., & Cramer, D. (2001) *Qualitative data analysis with SPSS Release 10 for Windows: a guide for social scientists*, Routledge, Hove.
- Cameron, K. S., & Freeman, S. J. (1991) Cultural congruence, strength, and type: relationships to effectiveness. *Research in Organizational Change and Development*, 5, pp. 23-58.
- Capron, L. (1999) The long run performance of horizontal acquisitions, *Strategic Management Journal*, 20, pp. 987-1018.
- Cartwright, S., & Cooper, C. L. (1995) Organizational marriage: "hard" versus "soft" issues?, *Personnel Review*, 24 (3), pp. 32-42.
- Chakrabarti, R., Gupta-Mukherjee, S., & Jayaraman, N. (2009). Mars-Venus marriages: Culture and cross-border M&A, *Journal of International Business Studies*, 40, pp. 216-236.
- Chakrabarti, A., & Mitchell, W. (2005) A corporate level perspective on acquisitions and integration, *Mergers and Acquisitions*, 4, pp. 1-21.
- Chatterjee, S. (1986) Types of synergy and economic value: The impact of acquisitions on merging and rival firms, *Strategic Management Journal*, 7, pp. 119-140.
- Datta, D. K. (1991) Organizational fit and acquisition performance: effects of post-acquisition integration, *Strategic Management Journal*, 12 (4), pp. 281-297.
- Denison, D. R., & Mishra, A. K. (1995) Toward a theory of organizational culture and effectiveness, *Organization science*, 6 (2), pp. 204-223.
- Elsass, P. M., & Veiga, J. F. (1994) Acculturation in acquired organizations: a force-field perspective, *Human relations*, 47(4).

- Epstein, M. J. (2004) The drivers of success in post-merger integration, *Organizational Dynamics*, 33 (2), pp. 174-189.
- Harrison, J. S., Hitt, M. A., Hoskisson, R. E., & Ireland, R. D. (1991) Synergies and post-acquisition performance: Differences versus similarities in resource allocations, *Journal of Management*, 17(1), pp. 173-190.
- Hofstede, G. (1984) Cultural dimensions in management and planning, *Asia Pacific Journal of Management*.
- Hofstede, G., Neuijen, B., Ohayv, D. D., & Sanders, G. (1990) Measuring organizational cultures: A qualitative and quantitative study across twenty cases. *Administrative Science Quarterly*, 35 (2), pp. 286-316.
- Homburg, C., & Bucerius, M. (2006) Is speed of integration really a success factor of mergers and acquisitions? An analysis of the role of internal and external relatedness, *Strategic Management Journal*, 27, pp. 347-367.
- Kummer, C., & Steger, U. (2008) Why merger and acquisition (M&A) waves reoccur: The vicious circle from pressure to failure, *Strategic Management Review*, 2 (1).
- Lambrecht, B. M. (2004) The timing and terms of mergers motivated by economies of scale, *Journal of Financial Economics*, 72, pp. 41-62.
- Larsson, R., & Finkelstein, S. (1999) Integrating strategic, organizational, and human resource perspectives on mergers and acquisitions: A case survey of synergy realization, *Organization Science*, 10, pp. 1-26.
- Larsson, R., & Lubatkin, M. (2001) Achieving acculturation in mergers and acquisitions: An international case survey, *Human Relations*, 54, pp. 1573-1607.
- Lubatkin, M., Schweiger, D., & Weber, Y. (1999) Top management turnover in related M&As: An additional test of the theory of relative standing, *Journal of Management*, 25(1), pp. 55-73.
- Lum, L., Kervin, J., Clark, K., Reid, F., & Sirola, W. (1998) Explaining nursing turnover intent: job satisfaction, pay satisfaction, or organizational commitment?, *Journal of Organizational Behaviour*, 19, pp. 305-320.
- Malhorta, M. K., & Grover, V. (1998) An assessment of survey research in POM: From constructs to theory, *Journal of Operations Management*, 16, pp. 407-425.
- Meyer, J. P., Hecht, T. D., Gill, H., & Toplonysky, L. (2010) Person–organization (culture) fit and employee commitment under conditions of organizational change: A longitudinal study, *Journal of Vocational Behaviour*, 76, pp. 458-473.
- Nahavandi, A., & Malekzadeh, A. R. (1988). Acculturation in mergers and acquisitions, *Academy of Management Review*, 13(1), pp. 79-90.
- Nieuwenhuis, G. (2008) *Statistical thinking and methodology for business and economics*, McGraw-Hill, Custom Publishing.

- Ostroff, C., Shin, Y., & Kinicki, A. J. (2005) Multiple perspective of congruence: relationships between value congruence and employee attitudes, *Journal of Organizational Behaviour*, 26, pp. 591-623.
- Pablo, A. L. (1994) Determinants of acquisition integration level: A decision-making perspective, *Academy of Management Journal*, 37, pp. 803-836.
- Porter, L. W., Mowday, R. T., & Steers, R. M. (1979) The measurement of organizational commitment, *Journal of Vocational Behaviour*, 14, pp. 224-247.
- Quah, P., & Young, S. (2005) Post-acquisition management: A phases approach for cross-border M&As, *European Management Journal*, 23 (1), pp. 65-75.
- Saunders, M., Lewis, P., & Thornhill, A. (2009) *Research Methods for Business Students*, Harlow, England, Prentice Hall 5th Edition
- Schuler, R., & Jackson, S. (2001) HR issues and activities in mergers and activities, *European Management Journal*, 19 (3), pp. 239-253.
- Schweiger, D. M., & DeNisi, A. S. (1991) Communication with employees following a merger: A longitudinal field experiment, *The Academy of Management Journal*, 34 (1), pp. 110-135.
- Schweiger, D. M., & Very, P. (2003) Creating value through merger and acquisition integration, *Advances in Mergers and Acquisitions*, 2, pp.1-26.
- Sekaran, U. (2003) *Research methods for business: A skill building approach*, 4<sup>th</sup> edition, John Wiley & Sons, Inc.
- Sheridan, J. E. (1992) Organizational culture and employee retention, *The Academy of Management Journal*, 35 (5), pp. 1036-1056.
- Shrivastava, P. (1993) Postmerger integration, *The Journal of Business Strategy*.
- Slangen, A. H. L. (2006) National cultural distance and initial foreign acquisition performance: The moderating effect of integration, *Journal of World Business*, 41, pp. 161-170.
- Stahl, G. K., & Voigt, A. (2005) Impact of cultural differences on merger and acquisition performance: A critical research review and an integrative model, *Advances in Mergers and Acquisitions*, 4, pp. 51-82.
- Stahl, G. K., & Voigt, A. (2008) Do cultural differences matter in mergers and acquisitions? A tentative model and examination, *Organization Science*, 19, pp. 160-176.
- Teerikangas, S., & Very, P. (2006) The culture-performance relationship in M&A: From yes/no to how, *British Journal of Management*, 17, pp. 31-48.
- Tetenbaum, T. J. (1999) Beating the odds of merger & acquisition failure: Seven key practices that improve the chance for expected integration and synergies. *Organizational Dynamics*.

- Very, P., Lubatikin, M., Calori, R., & Veiga, J. (1997) Relative standing and the performance of recently acquired European firms, *Strategic Management Journal*, 18 (8), pp. 593-614.
- Vandenberghe, C. (1999) Organizational culture, person-culture fit, and turnover: A replication in the health care industry, *Journal of Organizational Behaviour*, 20, pp. 175-184.
- Waldman, D. A., Ramírez, G. G., & House, R. J. (2001) Does leadership matter? CEO leadership attributes and profitability under conditions of perceived environmental uncertainty, *The Academy of Management Journal*, 44 (1), pp. 134-143.
- Walter, G. A., & Barney, J. B. (1990) Management objectives in mergers and acquisitions, *Strategic Management Journal*, 11 (1), pp. 79-86.
- Weber, Y. (1996) Corporate cultural fit and performance in mergers and acquisitions, *Human Relations*, 49 (9).
- Weber, Y., Shenkar, O., & Raveh, A. (1996) National and corporate cultural fit in mergers/acquisitions: An exploratory study, *Management Science*, vol. 42 (8), pp. 1215-1227.
- Whitman, D. S., Van Rooy, D. L., & Viswesvaran, C. (2010) Satisfaction, citizenship behaviours, and performance in work units: A meta-analysis of collective construct relations, *Personnel Psychology*, 63, pp. 41-81.
- Wilkins, A. L., & Ouchi, W. G. (1983) Efficient cultures: Exploring the relationship between culture and organizational performance, *Administrative Science Quarterly*, 28 (3), pp. 468-481.
- Williams, L. J., & Anderson, S. E. (1991) Job satisfaction and organizational commitment as predictors of organizational citizenship and in-role behaviours, *Journal of Management*, 17 (3), pp. 601-617.
- Zollo, M., & Singh, H. (2004) Deliberate learning in corporate acquisitions: Post-acquisition strategies and integration capability in US bank mergers, *Strategic Management Journal*, 25, pp. 1233-1256.



## Appendices

### Appendix 1: Performance Questionnaires

#### Employee Satisfaction Questionnaire

Employee satisfaction is measured by using the Minnesota Satisfaction Questionnaire (Adkins & Caldwell, 2004; and Williams & Anderson, 1991). Respondents are asked to report on a 5-Point Likert Scale “*how satisfied they are with a certain aspect of their job*”, ranging from ‘very dissatisfied’ (1), to ‘neither satisfied nor dissatisfied’ (3), to ‘very satisfied’ (5).

1. Being able to keep busy all the time.
2. The chance to work alone on the job.
3. The chance to do different things from time to time.
4. The chance to be ‘somebody’ in the community.
5. The way my boss handles his/her employees.
6. The competence of my supervisor in making decisions.
7. Being able to do things that don’t go against my conscience.
8. The way my job provides for steady employment.
9. The chance to do things for other people.
10. The chance to tell people what to do.
11. The chance to do something that makes use of my abilities.
12. The way my company policies are put into practice.
13. My salary and the amount of work I do.
14. The chances for advancement on this job.
15. The freedom to use my own judgement.
16. The chance to try my own methods of doing the job.
17. The way my co-workers get along with each other.
18. The praise I get for doing a good job.
19. The feeling of accomplishment I get from the job.

## Employee Commitment Questionnaire

Employee commitment is measured by using Porter's commitment scale (Porter et al., 1979). Respondents are asked to report on a 5-Point Likert Scale "*the degree of their agreement or disagreement with each statement*", ranging from 'strongly disagree' (1), to 'neither disagree nor agree' (3), to 'strongly agree' (5). An "R" denotes a negatively phrased and reverse scored items; this is used to control for respondent bias in the questionnaire. The answers of these questions are re-scaled in the dataset.

1. I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful.
2. I recommend this organization to my friends as a great organization to work for.
3. I feel very little loyalty to this organization. (R)
4. I would accept almost any type of job assignment in order to keep working for this organization.
5. I find my values and the organization's values very similar.
6. I am proud to tell others that I am part of this organization.
7. I could just as well be working for a different organization as long as the type of work is similar. (R)
8. This organization really inspires the very best in me in the way of job performance.
9. It would take very little change in my present circumstances to cause me to leave this organization. (R)
10. I am extremely glad that I chose this organization to work for over others I was considering at the time I joined.
11. There's not too much to be gained by sticking with this organization indefinitely. (R)
12. I often find it difficult to agree with this organization's policies on important matters relating to its employees. (R)
13. I really care about the fate of this organization.
14. For me this is the best of all possible organizations to work for.
15. Deciding to work for this organization was a definite mistake on my part. (R)

## Appendix 2: Cultural Differences Questionnaire

Cultural differences are measured by using a questionnaire of Lubatkin et al. (1999). In general, Lubatkin et al. (1999) and Very et al. (1997) used the same value items, but the scale used by Lubatkin et al. (1999) allows a better differentiation between the two organizational cultures; hence the this scale is used. Respondents are asked to indicate on a 5-Point Likert Scale “*how their former organization differed, or was similar, compared to the combined organization, on 25 aspects of culture*”, ranging from ‘very similar’ (1), to ‘very different’ (5).

1. Encourages creativity.
2. Cares about health and welfare of employees.
3. Is receptive to new ways of doing things.
4. Encourages teamwork among all departments.
5. The measures used to judge employee performance.
6. The promotion of employees.
7. Gives responsibility to employees.
8. Acts in a responsible manner towards customers.
9. Explains reasons for decisions to all employees.
10. Has managers who give attention to individual’s personal problems.
11. Allows employees to adopt his/her own approach to the job.
12. The risks an employee is allowed to take.
13. The communication between departments.
14. The autonomy in decision-making given to employees.
15. Encourages competition among employees.
16. Gives recognition to employees when deserved.
17. Encourages cooperation among employees.
18. Takes long-term view.
19. Challenges employees to give their best effort.
20. Adherence to formal rules and procedures.
21. Provides lifetime job security.
22. The way employees are rewarded.
23. The pressure to improve personal and group performance.
24. The height of performance goals.
25. The way conflicts are solved.

### Appendix 3: Level of Integration Questionnaire

The level of integration is measured by using a questionnaire designed by Homburg and Bucerius (2006). Respondents are asked to report on a 5-Point Likert Scale “*to what extent the following aspects were made similar between the two firms after the merger*”, ranging from ‘no integration’ (1), to ‘partial integration’ (3), to ‘complete integration’ (5).

1. Products/services offered (e.g. harmonization of product ranges, brand names).
2. New product development.
3. Prices (e.g. harmonization of the price positioning).
4. Communication (e.g. harmonization of advertisement).
5. Sales system (e.g. harmonization of sales channels, sales partners, sales offices).
6. Sales force management (e.g. harmonization of the incentive and provision systems).
7. Information systems (e.g. harmonization of the marketing/sales information systems).
8. Internal marketing/sales support.

#### Appendix 4: Autonomy Decrease Questionnaire

Decrease in autonomy is measured by using a questionnaire designed by Very et al. (1997). Respondents are asked to report on a 5-Point Likert “*Scale who decides about the following aspects in the combined organization*”, ranging from ‘Fortis Bank Nederland decides’ (1), to ‘consensus, both firms decide’ (3), to ‘ABN AMRO Bank decides’ (5).

1. Setting key performance goals.
2. Setting key competitive strategies.
3. Defining key administrative policies.
4. Deciding major capital investments.
5. Defining marketing budget and strategies.
6. Setting research and development budgets.
7. Setting production schedules and plans.
8. Setting managers rewards.
9. Defining recruitment and promotion policies.
10. Defining social and societal policies.

## Appendix 5: Uncertainty about the Future Questionnaire

Uncertainty about the future is measured using a questionnaire designed by Schweiger and DeNisi (1991). Respondents are asked to report on a 5-Point Likert Scale “*as they have thought about your future in the company, to what extent they are uncertain about the following*”, ranging from ‘very certain’ (1), to ‘very uncertain’ (5).

1. Whether your pension plan will be changed.
2. Whether you will have to relocate (transfer).
3. Whether you will get to work with the same colleagues.
4. Whether you will have control over your job.
5. Whether you will have enough information to do your job.
6. Whether you will have to move to a new geographical location.
7. Whether you will have influence over changes in your job.
8. Whether you will have to take on more work than you are capable of handling.
9. Whether you will be able to get promoted.
10. Whether you will have to take a pay cut.
11. Whether you will have to learn new job skills.
12. Whether you will be forced to take a demotion.
13. Whether you will get to work with people that you have become friends with.
14. Whether you will be required to take on jobs that you have not been trained for.
15. Whether there will be opportunities to advance in the company.
16. Whether friends and colleagues lose their jobs.
17. How performances will be measured.
18. Whether the company will be a good place to work.
19. Whether you will ‘fit’ with the culture of the company.
20. Whether the culture of the company will change.

## Appendix 6: Inter-Item Consistencies

The tables in Figure 4 present the Cronbach Alpha's of each individual variable. As the results indicate, all alphas exceed the 0.6 level; in fact, the lowest alpha is 0.822 and therefore the inter-item consistency is considered as very good. Hence, the data are argued to be reliable and measurement error by the questionnaires is excluded within this sample.

### Reliability Statistics

Cronbach's Alpha	N of Items
,880	19

Dependent Variable: Employee Satisfaction

### Reliability Statistics

Cronbach's Alpha	N of Items
,838	15

Dependent Variable: Employee Commitment

### Reliability Statistics

Cronbach's Alpha	N of Items
,945	25

Independent Variable: Cultural Differences

### Reliability Statistics

Cronbach's Alpha	N of Items
,903	8

Independent Variable: Level of Integration

### Reliability Statistics

Cronbach's Alpha	N of Items
,978	10

Independent Variable: Autonomy Decrease

### Reliability Statistics

Cronbach's Alpha	N of Items
,822	20

Independent Variable: Uncertainty

*Fig. 4. Cronbach Alphas*

## Appendix 7: Multiple Regression Analysis

The results of the models with uncentered variables are presented in Table 6. The results are strange and unexpected since only a handful of variables are significant at the 10% level. Furthermore, in both baseline models none of the variables is statistically significant. And even more striking, 5 out of 6 proposed moderating variables are in the opposite direction as predicted. Hence, it is likely that this model suffers from collinearity problems.

Constructs/Interaction Terms	Baseline Model a	Model 1a	Model 2a	Model 3a	Baseline Model b	Model 1b	Model 2b	Model 3b
Cultural Differences	.032	-.263	.388	-.203	.084	-.739**	.021	-.378
Former Organization Size	-.264	-.223	-.438	-.284	-.396	-.279	-.365	-.434
Level of Integration	.042	.037	.052	.042	.065	.053	.063	.066
Autonomy Decrease	.084	-.160	.079	.079	.071	-.611**	.072	.062
Uncertainty	.133	.128	.579	.127	-.018	-.034	-.097	-.030
Level of Integration x Cultural Differences	-.394	-.412**	-.364**	-.629	-.146	-.196	-.151	-.608
Autonomy Decrease x Cultural Differences		.083				.232**		
Uncertainty x Cultural Differences			-.141				.025	
$R^2$				.077				.151
	.252	.266	.288	.254	.187	.294	.188	.193

Standardized Regression Coefficients (Beta Coefficients) are Shown.

Models a and b have respectively employee satisfaction and commitment as dependent variable.

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 6. Results of Moderated Regression Analysis ( $N = 54$ ).



## Appendix 8: Multiple Regression Analysis

Table 7 shows a multiple regression analysis with exclusion of the moderating variable “uncertainty”. In case collinearity problems would have influenced the results, the individual  $p$ -values of the remaining variables would have significantly raised (Nieuwenhuis, 2008). Nevertheless, none of the individual  $p$ -values is statistically significant in this model. These results coincide with the correlation coefficients in Table 2. Hence, this model indicates that the unexpected results are not caused by collinearity problems.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	,176	,404		,436	,665
cCulturalDifferences	,002	,103	,002	,015	,988
Dummy	-,250	,584	-,238	-,429	,670
cSize	,040	,044	,466	,923	,360
cIntegration	,065	,079	,118	,831	,410
cAutonomyDecrease	,138	,091	,348	1,526	,134

a. Dependent Variable: aSatisfaction

Table 7. Multiple Regression Analysis.

## Appendix 9: Heteroskedasticity and Non-Normality

According to Nieuwenhuis (2008) heteroskedasticity can be detected from the scatter plot of the residuals  $\varepsilon_i$  on the predictions  $\hat{y}$ . When the plot shows a cloud of dots where the variation along vertical lines increases with  $\hat{y}$ , a heteroskedasticity problem is present. In such cases the resulting confidence intervals, prediction intervals and conclusions of tests cannot be trusted. Furthermore, the claimed confidence intervals of the statistical procedures may not be valid. Second, creating a histogram of the residuals can check for non-normalities (Nieuwenhuis, 2008). When the error variable is not normally distributed, the resulting interval estimates and conclusions of hypothesis tests cannot be trusted.

Figure 5.1 and 5.2 plot the results of the residuals against the standardized predicted values. There are no signs of heteroskedasticity, since none of the plots has a funnel shape (“fanning”). Second, as Figure 5.3 and 5.4 show, although the distributions are not perfectly normally distributed, they are not of sufficient magnitude to warrant concern. The added normal probability plots (P-P plots) in Figure 5.5 and 5.6 confirm that non-normality is not an issue in this research; the variables show a good fit to the normal distribution line. The small deviations are probably caused by the relatively small sample size of this study.

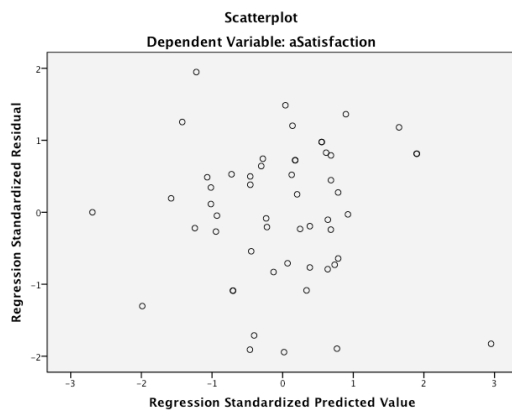


Fig. 5.1

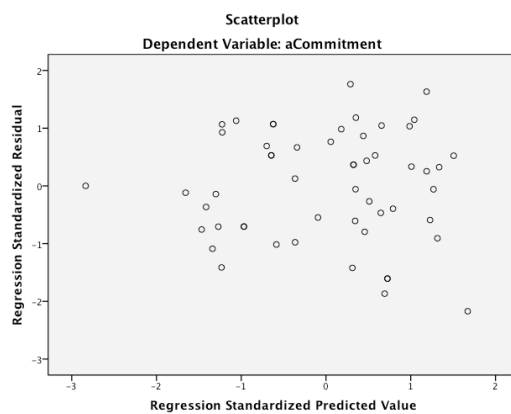


Fig. 5.2

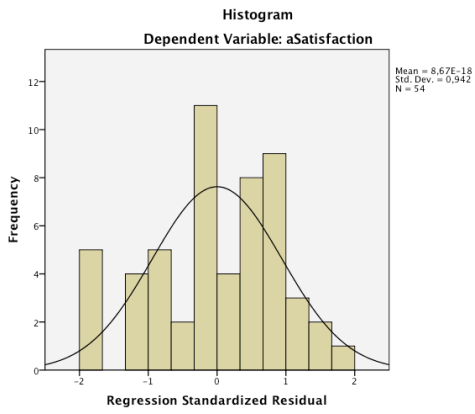


Fig. 5.3

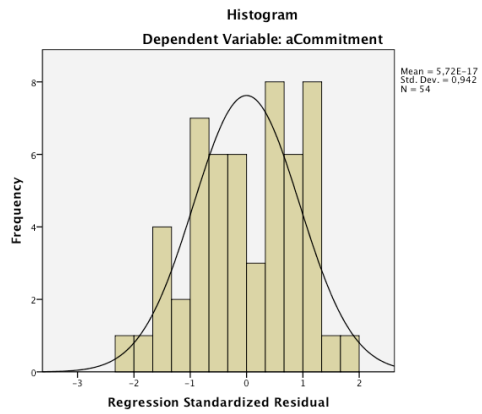


Fig. 5.4

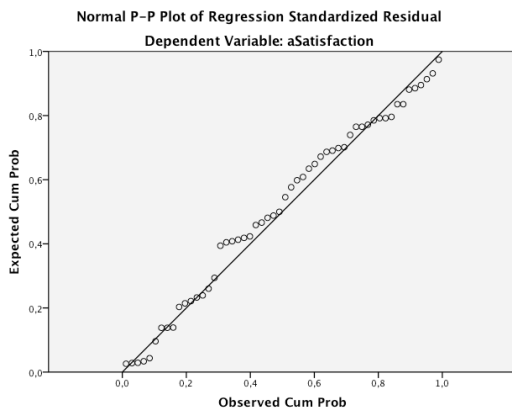


Fig. 5.5

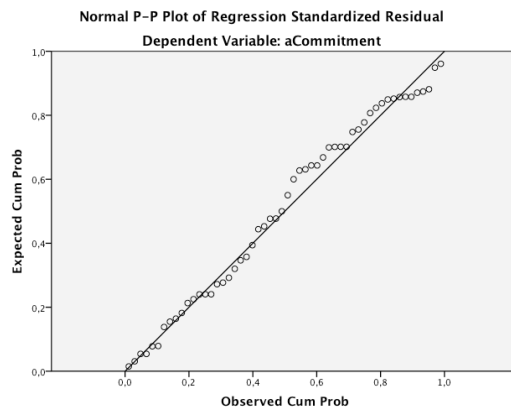


Fig. 5.6

## Appendix 10: Control Variables

In this study there has been controlled for the organization the employees worked for at the moment of the merger (acquiring vs. acquired organization) and for the size of that organization. Nevertheless, the results of the control variables are statistically insignificant for the 10% level.

At first, the effect of the control variable “Former Organization” was assessed with 0 = Fortis Bank Nederland and 1 = ABN AMRO Bank. These results are presented in [Table 3](#). However, the variable “Former Organization” is insignificant for the 10% level in both baseline model *a* and model *b*. Second, the effect of the control variable “Former Organization” was assessed with 0 = ABN AMRO Bank and 1 = Fortis Bank Nederland. These results are presented in [Figure 6 \(Dummy\\_2\)](#), in this Appendix. Nevertheless, the results are statistically insignificant again in both baseline model *a* and model *b*. Finally, the effect of the control variable “Size” is insignificant at the 10% level in all models, as shown in [Table 3](#).

Hence, it can be concluded that the type of organization (acquiring or acquired organization) and the size of the organization do not have a significant influence on the culture-performance relationship within this particular sample.

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
				Beta		
1	(Constant)	-,079	,182		-,434	,667
	cCulturalDifferences	,032	,095	,047	,336	,738
	cSize	,042	,040	,482	1,038	,305
	Dummy_2*	,264	,537	,252	,493	,625
	cIntegration	,084	,072	,151	1,155	,254
	cAutonomyDecrease	,133	,083	,335	1,600	,116
	cUncertainty	-,394	,126	-,398	-3,132	,003

a. Dependent Variable: cSatisfaction

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
				Beta		
1	(Constant)	-,118	,192		-,613	,543
	cCulturalDifferences	,084	,100	,122	,841	,405
	cSize	,065	,042	,742	1,531	,132
	Dummy_2*	,396	,565	,373	,700	,487
	cIntegration	,071	,076	,126	,927	,358
	cAutonomyDecrease	-,018	,088	-,045	-,205	,838
	cUncertainty	-,146	,132	-,146	-1,099	,277

a. Dependent Variable: cCommitment

\* Dummy\_2 0 = ABN AMRO Bank and 1 = Fortis Bank Nederland  
 Fig. 6. Results of Multiple Regression Analysis.