



MASTER THESIS

Implications of Tone at the Top and Leadership:
The Effect of Authenticity on Market Value for Tough and Tender Cultures

Tobias C. Buechsenschuetz, i6138047 (Maastricht University SBE), 3445 (Nova SBE)

Supervisors: Prof. Dr. Boris Lokshin & Prof. Dr. Miguel Pina e Cunha

Abstract

This thesis integrates research fields of tone at the top and leadership to investigate how CEOs can positively influence their organizations' market value. It determines authenticity scores for CEOs' tone at the top based on their letters to shareholders which indicate the practice of authentic leadership, a transformational leadership style with a strong moral compass. As leadership effectiveness is culturally contingent and there is a value match between authentic leaders and more tender cultures, the model includes Hofstede's *Masculinity* dimension as a moderator. However, the analysis of longitudinal data from 146 organizations does not find any significant relationship between authentic leadership, *Masculinity* scores, and market value. Only CEO attributes and organizational or contextual indicators included as control variables significantly explain the observed variance. The results show that the role of organizational leaders in determining their organization's success may be inflated by overly heroic depictions of leadership and encourage researchers to try linking tone at the top to culture and leadership theories in different ways.

Keywords: Tone at the Top, Authentic Leadership, Market Value, Tobin's q, Culture, Masculinity

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Table of Contents

1. Introduction	5
2. Literary Background	8
2.1 Authentic Leadership	8
2.2 Tone at the Top	10
2.3 Cultural Moderation	12
2.4 Hypothesis Development	15
3. Analysis	17
3.1 Research Context.....	17
3.2 Sample and Procedure	18
3.3 Measures.....	18
3.4 Analytical Strategy	23
3.5 Results	24
4. Discussion	30
4.1 Summary of Findings	30
4.2 Relevance to Literature	31
4.3 Relevance to Practice	33
4.4 Limitations	34
References	36
Appendix	39

Table of Figures

Figure 1: Conceptual model of the thesis16

Table of Tables

Table 1: Descriptive statistics with bivariate correlations25

Table 2: Inferential statistics for the DV Market Value27

List of Abbreviations

CEO – Chief Executive Officer

DV – Dependent Variable

et al. – and others (Latin: et alii)

etc. – and so on (Latin: et cetera)

i.e. – that is (Latin: id est)

IV – Independent Variable

LIWC – Linguistic Inquiry and Word Count

MV – Moderating Variable

PsyCap – Psychological Capital

SIC – Standard Industrial Classification

VIF – Variance Inflation Factor

1. Introduction

Maximizing market value is a central task of for-profit organizations. Decision-makers are struggling to keep up with an environment which is heavily impacted by global competition and an increasing pace of change. They need to fine-tune their organizational engine to ensure global competitiveness and growth. Chief Executive Officers (CEOs) can turn many different screws to reach this goal, but the one that lies particularly close to them is their respective leadership style.

Today, positive forms of leadership are in high demand, after unethical conduct has risen as the ugly quick-response to modern corporate and societal challenges. As a result, researchers have developed new forms of leadership which place ethics closer to the heart of all action (Avolio & Gardner, 2005). Authentic leadership, for instance, recognizes flaws in the idea of transformational leadership which has turned out to be vulnerable to exploitation by (pseudo-)transformational leaders who influence follower behavior for their own gain (Bass & Steidlmeier, 1999). In response, authentic leadership emphasizes morals and more altruistic intentions.

Stemming from Greek philosophy, the word authenticity means “truth to self” (Avolio & Gardner, 2005). It requires leaders to act consistently based on a strong moral compass (Bass & Steidlmeier, 1999). Consensus exists that authentic leaders’ emphasis on values such as optimism, transparency, and humility can positively influence an organization’s performance, business conduct and work climate well beyond their active involvement (Avolio & Gardner, 2005; Morris, Brotheridge, & Urbanski, 2005). While authentic leadership has gained acceptance as a naturally beneficent leadership style, some researchers are criticizing the increasingly heroic depictions of leadership, which exaggerate CEOs’ ability to influence events within and around their organizations (Tourish, Craig, & Amernic, 2010). After all, the effectiveness of a leader’s action is subject to a variety of factors, leaving the need to shed light on the opportunity and threat CEOs face in themselves.

Traditionally, CEOs have been able to exert their moral example by adjusting their respective “tone at the top” (Staicu, Tatomir, & Lincă, 2013). This term has its roots in the accounting field where the representation of ethical values in executive communication has gained interest after several major company crises had been linked to a dysfunctional tone at the top (Amernic, Craig, & Tourish, 2010). However, tone at the top still lacks a clear theoretical framework, making it a challenging theme to approach. Nevertheless, researchers are confident that tone has scientific potential beyond risk assessments and push to extend the focus on organizational culture and leadership matters. Given the unique glimpse, tone provides into the minds of CEOs (Yadav, Prabhu, & Chandy, 2007), it could be the missing factor in the ongoing debate about leadership’s actual contribution to organizational outcomes (Tourish et al., 2010).

Therefore, this thesis simultaneously addresses research gaps of both modern leadership theory and tone at the top with the goal to create links between the seemingly interrelated fields. The implications of tone at the top have not yet been sufficiently linked to modern conceptions of leadership. As authenticity is both a summary variable used by the tone-analysis software Linguistic Inquiry and Word Count (LIWC) and a core theme in modern leadership theory, it provides the ideal starting point to move tone research toward more qualitative aspects of business and introduce a new, more quantitative way to research the effects of authentic leadership. The software will analyze the tone CEOs use in their annual letters to shareholders because these signed personal letters are essential for CEOs to build credibility and confidence (Hyland, 1998).

Finally, as I am contributing to leadership theory, I must acknowledge that there is no “one-size-fits-all” approach to leadership. Especially in intercultural environments, culture has proven to play a central role in determining the success of leadership practices (Amornpipat & McLean, 2016; Furmańczyk, 2014). Therefore, a cultural moderator is required. Since the values attributed to

authentic leadership match those of tender (or feminine) cultures particularly well, it is reasonable to include Hofstede's dimension of *Masculinity*. This dimension suggests that every group can be ranked on a scale from tough (or masculine) to tender (or feminine). The former emphasizes achievement, competitiveness, assertiveness, and material rewards, while the latter stands for cooperation, modesty, caring for the weak, and quality of life (Hofstede, 2001). Society at large is more consensus-oriented, very much like CEOs practicing authentic leadership. I will need to elaborate this likely match as well as other implications of dealing with Hofstede dimensions in greater detail as part of the literature review contained in this thesis.

In sum, my work promises to clear up uncertainty regarding the implications of tone at the top and, more specifically, the influence of authentic leadership on an organization's market value. The limited overall concept is particularly attractive to study because there have been insufficient efforts to link tone, leadership, culture, and market value. Černe, Jaklič, and Škerlavaj (2013) related leaders' authenticity to their team's innovativeness in a similar effort but using surveys to obtain their data. However, they recommended further exploration of the relationship in a longitudinal study using objective measures and including relevant cultural aspects, which is precisely what this thesis does by seeking answers to the following questions:

Research Question: *How does authenticity, as indicated by quantitative measures of tone at the top, influence an organization's market value?*

Sub-Question 1: *Does authentic leadership invoke the overvaluation of organizations?*

Sub-Question 2: *Does the degree to which a culture is tough or tender influence the strength and direction of the effects of authentic leadership on market value?*

2. Literary Background

2.1 Authentic Leadership

Authentic leadership has emerged from transformational leadership to meet the moral requirements of modern leadership styles (Bass & Steidlmeier, 1999) and overcome challenges of intention and consequence across different organizational contexts (Tourish et al., 2010). Unlike pseudo-transformational leaders who would differentiate between the “right” own values and the “wrong” values of others, authentic leaders use their strong moral compass to invoke unity (Bass & Steidlmeier, 1999). With their awareness of both own and others’ values, perspectives, and attributes, as well as their contextual awareness, authentic leaders make consistent altruistic decisions (Avolio & Gardner, 2005; Kernis, 2003). Kernis (2003) adds that authentic leaders should be unbiased in their processing and maintain authenticity across leader-follower relationships. These relationships are characterized by transparency, openness, and trust, a guidance toward worthy objectives, and an emphasis on follower development (Gardner, Avolio, Luthans, May, & Walumbwa, 2005) through self-regulation and positive modeling (Avolio & Gardner, 2005). Conclusively, authenticity is defined as “the unobstructed operation of one’s true [...] self in one’s daily enterprise” (Kernis, 2003, p. 1).

So how do authentic leaders utilize their traits, behaviors, and attributes to advance organizations? Their strong psychological capital (PsyCap) around identification, hope, and trust (Avolio, Gardner, Walumbwa, Luthans, & May, 2004) has a positive impact on followers. Additionally, authentic leaders’ moral influence and commitment to well-being foster inclusive ethical work environments (Avolio & Gardner, 2005). The thus more trusting and engaged followers will thrive in the positive work environment and ultimately drive sustainable performance improvements (Gardner et al., 2005). Mentionably, the works of Avolio, Gardner and alike are of mostly

theoretical nature, actively calling for future research measuring the effects of leaders' PsyCap on followers as well as followers' mediating effects on performance and the moderation effects of work culture and climate (Avolio & Gardner, 2005).

For this purpose, Luthans joined forces with a team of Chinese researchers in 2014 to develop a model describing the influence of PsyCap. However, they laid their primary focus on the moderating effect of follower PsyCap, building on the perspective of complementary congruity. The latter suggests that leaders can fill missing components which are valued by followers and thus contribute to their performance. Their analyses provided support for the mediating role of a leader-member exchange in a leader's influence on follower performance which was stronger for followers with a low PsyCap (Wang, Sui, Luthans, Wang, & Wu, 2014). Another study revealed that perceived authentic leaders reduce followers' fear of failure and thus positively influence followers' creativity and innovativeness (Černe et al., 2013), which have been linked to a firm's market value (Cho & Pucik, 2005). Although a direct link does not yet exist, these pieces of literature provide an essential stepping stone for answering my research questions.

While many researchers agree that authentic leaders' values and behaviors have a direct influence on long-term success (Amernic et al., 2010), criticisms of "heroic" depictions of leadership have grown. The direct effects of leadership, therefore, should not be overestimated. Critics demand a stronger acknowledgment of other determinants of organizational success in leadership research. Some call for models promoting the idea of reciprocal relationships, emphasizing the role of followers (Tourish, 2008), whereas others emphasize the intangible nature of leadership as a connector and enhancer of more direct determinants (Marr, Schiuma, & Neely, 2004). Nevertheless, I purposely simplify the leadership model in my thesis to determine direct influences

of authentic leaders on their firms' market values. Thus, I am looking to add clarity to this discussion from the new perspective of tone research.

2.2 Tone at the Top

This perspective needs to be explored in greater detail to determine whether dimensions of tone at the top are sufficient indicators of authentic leadership being practiced. Furthermore, it is essential to understand the dynamics of what letters to shareholders reveal about CEOs.

Traditionally, researchers have gained insight into tone at the top by analyzing letters to shareholders in annual reports. As CEOs authorize and sign these letters, they are legally responsible for their content and participate actively in their composition. Many prominent CEOs like Warren Buffett have acknowledged their involvement in drafting these letters, and there has been a push to encourage CEOs to make use of their authentic voice in communications (Jones, 2005). However, even if a CEO remained uninvolved throughout the writing process, the effect would be identical, as readers would still take each word as the CEO's speech. Therefore, the letters represent a trustworthy medium reflecting a CEO's credibility, priorities, and mindset (Amernic et al., 2010; Weber, 2009). Based on the analysis, researchers assign scores to the observed tone at the top for a wide range of dimensions. These range from simple word counts to constructs like inclusive language, positivity, or relationship to time. Researchers then determine which dimensions provide them with the desired insight into the CEO and overall organization.

King (2013), for instance, used tone at the top to distinguish CEOs who realistically reported both good and bad economic results from those who covered up bad results or acted overoptimistically about the future. After all, the concept of tone at the top has its roots in the accounting field as an

indicator of fraud, corruption and ethical behavior (Groves, Osborne, Tomlinson-Roe, & Tracey, 2012). However, to fully understand how important tone at the top is both internally and externally, its influence beyond these matters needs to be considered: Multiple researchers have already conducted work linking tone at the top to the overall work environment (Bruinsma & Wemmenhove, 2009) and employee attributes. The latter include but are not limited to employee competence (Bruinsma & Wemmenhove, 2009), performance consistency (Weber, 2009), control consciousness (Abbott, Parker, & Presley, 2012), and moral principles (Amernic et al., 2010; Bruinsma & Wemmenhove, 2009).

As the reflection of executive action in their tone invokes a shared set of values within the organization, tone at the top creates an unwritten cultural code (Cunningham, 2005), defining an organization's identity and its members' behavior (Amernic et al., 2010; Bruinsma & Wemmenhove, 2009). The CEO's commitment to ethical practices thus tends to "trickle-down" on employees. Therefore, tone at the top is regularly referred to as tone "from" the top (Bandsuch, Pate, & Thies, 2008; Staicu et al., 2013), emphasizing this transfer of values into the organization and its environment. Because of this cascading effect on employee behavior and despite its outward-facing nature in shareholder communications, tone at the top is now perceived to have more impact internally than externally (Groves et al., 2012; Staicu et al., 2013). Therefore, setting the right tone is a critical but still underexplored leadership skill of CEOs.

In conclusion, tone at the top is not just an interesting theoretical concept but draws value especially from its practical implications, shaping values and behaviors across an organization. This realization moves tone at the top from its rather specific roots in business ethics and auditing into the broader research areas of leadership and organizational culture. Due to this shift, modern

analysis of tone at the top tends to combine multiple dimensions of measurement in increasingly complex constructs which better capture psychological and social processes.

Similarly, I can assume that algorithms providing scores for authenticity in tone mirror the degree by which CEOs execute authentic leadership. Originally, the Pennebaker Lab had developed such algorithms to identify liars by their linguistic style, awarding higher scores for a more honest, personal, positive, and disclosing tone, and lower for a simpler, more distanced one (Newman, Pennebaker, Berry, & Richards, 2003; Pennebaker, Booth, Boyd, & Francis, 2015). However, there appears to be a match between their definitions of authentic tone and those of authentic leadership. Furthermore, the glimpse tone at the top provides into a CEO's mind suggests that it is indeed representative of leadership behavior. In this context stands a study which analyzed the leadership language of US President George W. Bush after 9/11. It contended that the analysis provided insight into the President's emotions and symbolic use of language and thus represented a particularly valuable tool for leadership research (Bligh, Kohles, & Meindl, 2004). My assumptions regarding the indication of authentic leadership in the Pennebaker Lab's authenticity scores for tone at the top are essential for the validity of this thesis.

2.3 Cultural Moderation

Culture on both national and organizational levels is receiving a lot of attention as a determinant of competitive advantage and successful business (Furmańczyk, 2010). However, particularly culture's relation to leadership is of interest to this thesis. Therefore, my model needs to introduce a suitable moderator to the relationship of authentic leadership and market value, acknowledging concerns regarding cultural influences on leadership effectiveness.

Crucially for authentic leadership, the adoption of an authentic leader's values and PsyCap is culturally contingent. Followers may trust and respect leaders because they act consistently on their values but that does not necessitate followers to replicate them (Furmańczyk, 2014). While leaders play an essential role in initiating internal cultural processes by imposing their beliefs, values, and assumptions on followers (Schein, 2004), they cannot expect to abruptly change something deeply rooted within them (Al-Alawi & Alkhodari, 2016; Wilkins, 1983). After all, national cultures set the stage for organizational cultures emerging within them (Furmańczyk, 2014). Only eventually, concepts like tone at the top and authentic leadership step in to (re-)shape the latter. Reciprocally, the evolving organizational culture then directs all leader and follower interaction (Furmańczyk, 2014). Therefore, the national culture of an organization's headquarters appears to be a valid external moderator for the relationship between authentic leadership and market value.

One of the most comprehensive and popular studies dealing with national culture is Hofstede's survey of international IBM employees from 1980. The theories have received substantial criticism which Hofstede has responded to in later editions of his work. Therein, Hofstede agrees with his critics that values indicated at a countrywide level should not induce assumptions about individuals. He further acknowledges the dismissal of sub-cultural subtleties and contradictions leading to inappropriate generalizations and assumptions (Hofstede, 2001). Besides his response to criticisms, Hofstede has refined his work by adding countries and dimensions to his work. The six dimensions included today are: *Power Distance*, expressing the expectancy and acceptance of unequal power distribution; *Individualism*, describing a preference for loosely-knit social frameworks and independence; *Masculinity*, differentiating tough cultures focusing on achievement, heroism, and assertiveness from tender ones; *Uncertainty Avoidance*, expressing discomfort with uncertainty and ambiguity; *Long-Term Orientation*, indicating a preference for dealing with issues of the

presence or future; and *Indulgence*, differentiating cultures with loose social norms from those with stricter ones (Hofstede, 2001).

This thesis will focus on the *Masculinity* dimension because of the apparent parallels between tender cultures and authentic leadership scenarios. The dimension presents two distinctive perceptions of success within the dualism of tough and tender cultures. More masculine or tough cultures define success as beating the competition and achieving quantitative targets, whereas more feminine or tender cultures find success in improving quality of life and assuring all members are cared for (Al-Alawi & Alkhodari, 2016). This perception makes any self-serving behavior inconsistent with the value system of tender cultures. Instead, members desire both humility and behavioral conformity (Doney, Cannon, & Mullen, 1998). Additionally, the caring nature of tender cultures emphasizes human development, and while tougher cultures are indicative of team members' anger, tender ones appear to create more favorable work environments (Kirsch, Chelliah, & Parry, 2012).

Of course, this described dualism is not absolute. Most national cultures are placed somewhere in-between on the cultural spectrum, combining elements of purely tough and tender cultures. However, the critical aspects of tender cultures – humility, conformity, human development, and positive psychological processes – also represent core elements of authentic leadership. This strong match suggests that Hofstede's *Masculinity* dimension is a suitable moderator for my model.

In fact, previous research has already successfully applied the *Masculinity* dimension to authentic leadership. Efforts to fine-tune the leadership style for the collectivist and tender Thai culture resulted in an inclusion of relational harmony as a core construct of authentic leadership (Amornpipat & McLean, 2016). However, there is no consistent approach to linking authentic leadership and national culture. Moreover, not all models include *Masculinity* as a dimension

influencing the practice of authentic leadership (Furmańczyk, 2010). Both are complex constructs that demand clear definitions and contextual validity.

2.4 Hypothesis Development

Based on the previously discussed literature, I can develop hypotheses about the interrelations of authentic leadership, market value, and tough or tender cultures. These assume that the authenticity of the observed tone at the top is representative of authentic leadership practices. Furthermore, this link of tone at the top to authentic leadership's versatile influence on an organization may provide statistical evidence for the belief that well-managed companies with a good (i.e., authentic) tone at the top tend to perform better (Weber, 2009).

Authentic CEOs, as identified by their respective tone at the top, are thus expected to exert a positive influence on their organizations. They do so by encouraging openness and transparency to create more inclusive work environments and by fostering the exchange of PsyCap with followers built on a strong foundation of ethical values. Therefore, I propose the following hypotheses:

Hypothesis 1a: *Authentic leadership is related to an organization's market value, where organizations with more authentic CEOs are more likely to be overvalued.*

Hypothesis 1b: *Authentic leadership is related to an organization's market value, where organizations with less authentic CEOs are more likely to be undervalued.*

Additionally, there has been sufficient evidence in support of national culture as a determinant of the effectiveness of authentic leadership practices. Hofstede's *Masculinity* dimension has received only limited attention in leadership research, despite an apparent match of values emphasized by authentic leaders and tender cultures. To fill this research gap while adding a valuable moderator

to my model, I will include Hofstede's *Masculinity* dimension in this research context and hypothesize the following:

Hypothesis 2a: *The Masculinity level of an organization's national culture moderates the relationship between authentic leadership and market value, such that the relationship is stronger in tender cultures.*

Hypothesis 2b: *The Masculinity level of an organization's national culture moderates the relationship between authentic leadership and market value, such that the relationship is weaker in tough cultures.*

If *Masculinity* influences followers' receptiveness of authentic leadership, its influence on a CEO's ability to successfully practice authentic leadership might also be worth considering. Upper echelons theory suggests that the demographic profiles of organizational leaders influence their success (Hambrick & Mason, 1984). For this purpose, the inclusion of *Masculinity* scores based on the nationality of CEOs might be helpful, too. However, as most CEOs' nationality is identical to the country of their organization's headquarters, this cultural factor is not of primary concern and will likely add multicollinearity to the model. Therefore, CEO-specific *Masculinity* will be considered as a potential control variable next to other demographic attributes but evaluated carefully as to whether it is worth inclusion in the actual analysis.

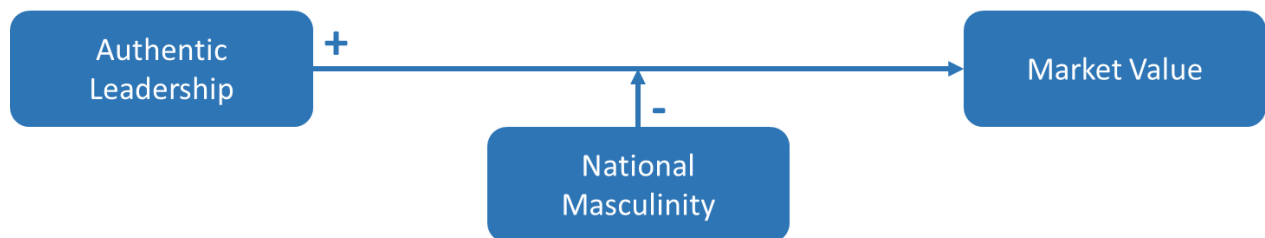


Figure 1: Conceptual model of the thesis

Combining hypotheses 1a, 1b, 2a, and 2b, I propose the conceptual moderation model shown in Figure 1. More specifically, authentic leadership is expected to have a positive effect on a firm's market value. Furthermore, the national culture's degree of *Masculinity* moderates the effectiveness with which authentic leadership efforts are executed and perceived within an organization and therefore the successes they will ultimately create for the respective organization. While I acknowledge mediators of the relationship between leadership and market value in the literary background, the scope of my thesis only allows for a simplified model.

3. Analysis

3.1 Research Context

This thesis aims to explore the concept of tone at the top from novel perspectives. As described before, tone at the top has strong roots in the accounting field, acts, however, as a window into the mind of CEOs which is underused as an indicator of organizational factors beyond risk-assessments. In this context, I could choose to either focus on determinants of tone at the top or its implications for an organization. The former provides an opportunity to analyze the setup of an organization's top management team and dig deeper into ways by which culture, gender, or education levels might influence tone at the top. In the latter case, characteristics of tone at the top such as (over)confidence, affect, or, in this case, authenticity are measured and linked to relevant organizational outcomes like innovativeness, corporate entrepreneurship, or financial performance.

Given its focus on elements of authenticity in CEOs' tone, this thesis is not only positioned in the research field surrounding tone at the top but also in that of modern leadership theories. Authentic leadership is one of the most popular modern leadership styles and has become a core element of

leadership classes taught in universities. It promises to overcome criticisms and resolve challenges of other leadership styles. This has created potentially inflated expectations regarding the impact on a firm's performance and even market value which leaders are struggling to deliver. Criticisms of too heroic portrayals of leadership and the potential ignorance of cultural factors continue to dominate debates on this topic. Therefore, this thesis acts as a stepping stone, bridging the gap between leadership expectations and reality, while fulfilling its premier purpose of shedding light on underexplored implications of tone at the top.

3.2 Sample and Procedure

To do so, I have accessed data from 166 organizations from 21 different countries by extracting the CEO's letter to shareholders from annual reports for the years 2008 through 2016. Consequently, the letters were run through a tone-analysis software, generating actionable scores for the analyses. The majority of additional data required for the analyses was gathered from the Worldscope database, including but not limited to each organization's financial performance data and CEO background information for the considered years. Due to some missing letters to shareholders and values obtained from the database, I further reduced and adapted the sample for the specific purpose of this thesis.

3.3 Measures

This thesis' theoretical model is composed of the independent variable (IV) *Authenticity*, the moderating variable (MV) *Masculinity*, and the dependent variable (DV) *Market Value*. However, it also considers the year, the organization's industry, its employee number, net income, and

revenue to control for their respective effects on *Market Value*. Additional control variables considered are based directly on CEO attributes to account for influences described by the upper echelons theory (Hambrick & Mason, 1984). Namely, these are CEOs' role duality (some CEOs also act as President or Chairman of their organization), their respective nationality's *Masculinity* score, gender, education, tenure, and age. Working with these variables required the sample to be reduced to 146 organizations from 20 different countries. These organizations were managed by 273 different CEOs with 27 nationalities over the considered year. As a result, I was able to include an overall of 1166 data points in my analyses. I have added a more detailed description of the measures used to describe each of my variables below.

Authenticity

First and foremost, the IV *Authenticity* uses scores generated from the tone analysis software LIWC for CEOs' letters to shareholders. This purely quantitative analysis approach has proven more effective for timely and reliable analyses of large collections of CEO letters (Amernic et al., 2010; Short, Broberg, Cogliser, & Brigham, 2010). Ideally, analyses of letters to shareholders should combine quantitative approaches with close reading, evaluating a letter's content more intensively and allowing for conclusions from between the lines. However, the amount of letters analyzed makes a qualitative approach inefficient, and I have to accept working with less comprehensive results (Amernic et al., 2010).

LIWC tracks language use across a variety of text sources by employing a word count strategy for over 2300 words or word stems. These are pre-assigned to over 70 linguistic dimensions, most of which act on basic linguistic and psychological levels. However, some more complex dimensions incorporate entire psychological theories, and the software even allows users to define custom dimensions (Pennebaker, Mehl, & Niederhoffer, 2003). The LIWC's 2015 version introduced four

summary variables from the Pennebaker Lab. One of them scores authenticity in tone on a scale from 0 to 100. I use this variable to measure the degree by which CEOs exert authentic leadership in their organization. Scores are higher for a more honest, personal, and positive tone, and lower for a simpler, more distanced one (Newman et al., 2003; Pennebaker et al., 2015).

Masculinity

I have obtained the scores for both the MV *Masculinity* and the potential control variable *CEO Masculinity* from the country comparison tool of Hofstede Insights. Hofstede's comprehensive study of cultural dimensions has been validated by multiple subsequent studies and is a popular yet frequently criticized tool for cultural analysis, as elaborated in chapter 2.3. It enables researchers to conduct comparative analyses between national cultures by making them measurable toward six distinct dimensions (Furmańczyk, 2010), one of which is *Masculinity*.

Each organization and CEO receives a score based on the location of its headquarters and nationality respectively. Early analysis work found that these scores for CEOs and their organizations were identical in 73.24% of all cases, thus leading to substantial multicollinearity and an over-inflated R. Criticisms of Hofstede's research suggest that country-wide cultural scores should not be used to judge individuals and as there is no qualitative alternative to assess CEOs' culture within the scope of this thesis, I decided to cut *CEO Masculinity* from the list of control variables moving forward.

Market Value

Finally, the DV *Market Value* uses Tobin's q values. Tobin's q is the ratio between a firm's market value and the replacement value of its assets. Therefore, a Tobin's q greater than 1 indicates an overvaluation of an organization's stock, whereas a Tobin's q of less than 1 indicates undervaluation of the stock. It is a suitable measurement for the application of market value in this

thesis as it takes out any obvious market value changes due to differences in size or alike. While control variables could also take out this effect, Tobin's q makes the valuations of diverse international organizations directly comparable to one another. Moreover, I assume that an organization's leadership has a more direct influence on over- versus undervaluation in the market rather than immediate growth or decline of the organization's value itself. After all, matters of tone and leadership are unlikely to directly cause changes in an organization's assets.

CEO Duality

This binary control variable assigned zeros to CEOs holding only CEO roles in their organization and ones to those who were also their organization's Chairman or President. Thus, I do not differentiate between CEOs with two or more different roles. The control variable accounts for potential role-driven differences in CEOs' influence over their respective organization.

CEO Gender

The gender of CEOs was considered as a binary control variable, too, assigning zeros to male and ones to female CEOs. Only eight of the 273 CEOs considered were female. Nevertheless, the variable contributes to the control for each CEO's demographic profile according to upper echelons theory.

CEO Education

Using nominal data in SPSS, I further included the CEOs' education as a categorical variable. The five categories *Bachelor*, *Master*, *MBA*, *Ph.D.*, and *Other* were each assigned a unique numerical identifier from 0 to 4. Some education data required special attention: In the case of Co-CEOs acting on the same hierarchical level and jointly signing their letter to shareholders, I considered the higher level of education and assigned CEOs with incomplete data on their educational background to the *Other* category. While these are not ideal solutions, the impact of them is

expected to be insignificant to the overall results due to my large sample size. Thus, education contributes to the control for each CEO's demographic profile according to upper echelons theory.

CEO Tenure

The tenure of CEOs was also included based on the difference between the measurement year and a CEO's start year. One year has to be added to the result of this subtraction, as the start year marks the beginning and the measurement year the end of any given year. In the case of Co-CEOs acting on the same hierarchical level and jointly signing their letter to shareholders, I used the average of the two CEOs' tenures. This variable controls for factors like CEOs' experience with their organizations and familiarity with shareholders.

CEO Age

The CEOs' age was included by calculating the difference between the measurement year and a CEO's birth year. Similarly, in the case of Co-CEOs, the two CEOs' average age was considered. The inclusion of this variable added further control for the CEOs' demographic profiles according to upper echelons theory.

Net Income

The organizations' net incomes were retrieved from the Worldscope database and included in billion Euros. This variable acts as an additional financial measure controlling for other organizational factors which may explain variation in the *DV Market Value*.

Revenue

In the same way, the organizations' revenues were retrieved from the Worldscope database and included in billion Euros. This variable also acts as an additional financial measure controlling for other organizational factors which may explain variation in the *DV Market Value*.

Employees

Additionally, I included the number of people an organization employed in the measured years. This controls for implications of an organization's size and structure.

Country

A dummy variable was created for each country in which one or more of the sample's organizations are headquartered. That makes for twenty control variables where a value of one indicates headquarters in the respective country. These dummy variables control for institutional and economic differences across the considered countries.

Industry

Similarly, an overall of 19 dummy variables was created for the industries of the sampled organizations. Although some organizations act across multiple industries, only the core industry of each was considered based on the Standard Industrial Classification (SIC) code assigned to them in the Worldscope database. These dummy variables control for industry effects in the analysis.

Year

Finally, dummy variables were created for each measured year. Dealing with data from 2008-2016 thus resulted in the creation of nine more variables, controlling for the general economic performance in that year.

3.4 Analytical Strategy

All model variables, *Authenticity*, *Masculinity*, and *Market Value*, as well as the control variables, are analyzed in SPSS using multiple linear regression. This technique allows estimations of the DV based on observations of others. Therefore, the first step is to gather descriptive statistics of the

variables and ensure they meet all assumptions of a multiple linear regression. In a second step of inferential statistics, I identify the common variances between *Authenticity* and *Market Value*, while evaluating possible moderation effects of *Masculinity* and the influences of included control variables. At this point, I also identify collinearities between variables to deal with any distortions of the results sufficiently.

Based on the model described above, I propose the following line of best fit equation. Here, *MVal* is the predicted *Market Value* written in italics to distinguish it from the actual market value, AL is the *Authenticity* score, MAS is the organization's cultural *Masculinity* score, and CVs indexed 1 through 56 represent the included control variables:

$$MVal = b_0 + b_1*AL + b_2*MAS + b_3*AL*MAS + b_4*CV_1 + b_5*CV_2 + \dots + b_{59}*CV_{56}$$

3.5 Results

Performing a linear regression requires the DV *Market Value* to be normally distributed. A distribution is normal when it is symmetric with a skewness of zero (Mukherjee, White, & Wuyts, 1998). However, as displayed in Appendix 1, the distribution of Tobin's q values is positively skewed. The skewness of 2.33 is greater than 1, and the kurtosis of 8.409 is higher than 3, putting both values substantially outside of the acceptable limits for normal distributions (Bulmer, 1979).

Due to the volatile nature of financial measures like Tobin's q, this non-normality was expected and exists for valid reasons (Corrado & Su, 1996). A first step in dealing with non-normal data is to look at outliers. The removal of such extreme scores produces more desirable and honest results, while the existence of exceptions from the norm must be acknowledged (Osborne, 2002). For my set of Tobin's q values, SPSS has identified 84 outliers with a Tobin's q of more than 2.54 which

are removed and not considered in the analysis. The sample now consists of 1082 entries. As a result, the skewness decreases to 0.891 and the kurtosis to 0.048.

Despite these scores being within the established limits, the skewness remains at a moderate to high level. Therefore, a logarithmic transformation with the natural logarithm is performed to produce more desirable results. It reduces the skewness to 0.373 and the kurtosis to -0.621. The superimposed normal curve on the histogram now shows the distribution to be more normal (Appendix 1). While the scores are still not perfect, I can accept these measures into the model due to the large sample size. For large samples, non-normal distributions reach a similar level of power as normal ones (Jahan & Khan, 2012)

Having met this requirement of regression analyses, I can present descriptive statistics for all variables.

Table 1 includes the mean values and standard deviations for all included variables, as well as the bivariate Pearson Correlations between them.

Variable	Mean	Standard Deviation	Pearson Correlations										
			A	M	MV	CD	CG	CE	CT	CA	NI	R	E
Authenticity	30.77	11.98	1	-0.048	0.01	0.015	-0.080**	-0.038	-0.006	-0.05	-0.015	-0.01	-0.019
Masculinity	57.23	22.69	-0.048	1	0.001	0.037	0.03	0.065*	-0.012	0.274**	0.076*	0.184**	0.199**
Market Value	0.28	0.28	0.01	0.001	1	-0.099**	0.04	-0.051	0.034	-0.077*	0.297**	-0.077*	-0.046
CEO Duality	0.63	0.48	0.015	0.037	-0.099**	1	0.054	0.049	-0.045	0.122**	-0.092**	0.085**	0.011
CEO Gender	0.03	0.17	-0.080**	0.03	0.04	0.054	1	-0.033	-0.084**	-0.017	0.091**	0.148**	0.075*
CEO Education	1.42	1.25	-0.038	0.065*	-0.051	0.049	-0.033	1	-0.066*	-0.046	0.044	0.058	-0.006
CEO Tenure	5.86	4.74	-0.006	-0.012	0.034	-0.045	-0.084**	-0.066*	1	0.367**	0.054	-0.064*	-0.046
CEO Age	55.87	6.26	-0.05	0.274**	-0.077*	0.122**	-0.017	-0.046	0.367**	1	0.068*	0.163**	0.149**
Net Income	1.48	2.75	-0.015	0.076*	0.297**	-0.092**	0.091**	0.044	0.054	0.068*	1	0.559**	0.440**
Revenue	26.72	30.33	-0.01	0.184**	-0.077*	0.085**	0.148**	0.058	-0.064*	0.163**	0.559**	1	0.834**
Employees	91.50	101.29	-0.019	0.199**	-0.046	0.011	0.075*	-0.006	-0.046	0.149**	0.440**	0.834**	1

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Table 1: Descriptive statistics with bivariate correlations

Surprisingly, the set of Pearson coefficients do not indicate any significant bivariate correlations between *Authenticity* or *Masculinity* and *Market Value* at the 0.05 level, providing no support for my hypotheses. There is no evidence that my scores for authentic leadership, indicated by the authenticity measured in CEOs' letters to shareholders, are correlated to an organization's market valuation.

Notably, the Pearson Correlation indicates that a correlation between *Authenticity* and the respective organization's *Masculinity* score would be negative, with more tender cultures relating to more authentic leadership. While this correlation supports ideas presented in chapter 2.3 of the literary background, it would be evanescently small at -0.048 and is not significant at the 0.05 level either. Therefore, I do not consider this potential relationship in further analyses.

Significant correlations with the DV *Market Value* are reported for *CEO Duality* ($p=0.001$), *CEO Age* ($p=0.011$), *Net Income* ($p<0.001$), and *Revenue* ($p=0.011$). Only *CEO Gender* shows a significant correlation with the IV *Authenticity* ($p=0.009$). Additionally, *CEO Education* ($p=0.032$), *CEO Age* ($p<0.001$), *Net Income* ($p=0.013$), *Revenue* ($p<0.001$), and *Employees* ($p<0.001$) show significant correlations with the MV *Masculinity*. Table 1 highlights further correlations between control variables.

Despite the negative correlation findings, I need to perform inferential statistics (Table 2) to test my hypotheses conclusively. Therefore, I ran a linear regression with three regression models, the first of which only including the three model variables and the predicted interaction effect of *Authenticity* and *Masculinity*. The second model adds those determinants which can be directly attributed to the CEO. Finally, the third model adds all remaining control variables, including an overall of 48 dummy variables. I have included the histogram and scatter plot for the dependent variable in Appendix 2.

	Adjusted R Square	F	Significance	Variable	Std. Beta	t	Significance	Part Correlations
1	-0.001	0.501	0.681	(Constant)		5.015	0.000***	
				Authenticity	-0.082	-0.981	0.327	-0.030
				Masculinity	-0.095	-1.090	0.276	-0.033
				Interaction	0.135	1.182	0.237	0.036
2	0.016	3.246	0.001***	(Constant)		5.630	0.000***	
				Authenticity	-0.052	-0.623	0.534	-0.019
				Masculinity	-0.030	-0.342	0.733	-0.010
				Interaction	0.091	0.798	0.425	0.024
				CEO Duality	-0.083	-2.689	0.007***	-0.081
				CEO Gender	0.046	1.525	0.128	0.046
				CEO Education	-0.047	-1.558	0.119	-0.047
				CEO Tenure	0.068	2.061	0.040**	0.062
CEO Age	-0.102	-2.970	0.003***	-0.090				
3	0.545	24.085	0.000***	(Constant)		6.001	0.000***	
				Authenticity	-0.084	-1.390	0.165	-0.029
				Masculinity	-0.378	-5.343	0.000***	-0.11
				Interaction	0.136	1.655	0.098*	0.034
				CEO Duality	0.030	1.011	0.312	0.021
				CEO Gender	-0.049	-2.115	0.035**	-0.043
				CEO Education	-0.037	-1.462	0.144	-0.030
				CEO Tenure	-0.018	-0.693	0.488	-0.014
				CEO Age	-0.045	-1.567	0.117	-0.032
				Net Income	0.206	6.880	0.000***	0.141
				Revenue	-0.606	-10.620	0.000***	-0.218
				Employees	0.428	8.080	0.000***	0.166

Note. 48 dummy variables were included in Model 3 to control for effects of countries, industries, and years; 31 were significant.

*. Correlation is significant at the 0.1 level (2-tailed).

**. Correlation is significant at the 0.05 level (2-tailed).

***. Correlation is significant at the 0.01 level (2-tailed).

Table 2: Inferential statistics for the DV Market Value

For the first model, a standard multiple regression was performed with the *Market Value* of multinational corporations as the DV and the tone-based *Authenticity* score indicating authentic leadership practices, Hofstede's *Masculinity* score for the organization's headquarters, and their *Interaction* as IVs. The adjusted squared multiple correlation was not significantly different from zero ($F=0.501$, $p=0.681$) and the adjusted R Square even turned out negative suggesting the set of IVs does not predict the DV. Independently, none of the IVs significantly contribute to the prediction of *Market Value*. Therefore, the analysis does not provide any support for my hypotheses: There is no evidence that more authentic leaders, as indicated by a high *Authenticity*

score, positively influence an organization's market value, and a moderation effect of cultural *Masculinity* cannot be reported either. Moreover, the data did not satisfy the assumptions of multicollinearity, indicating a Variance Inflation Factor (VIF) of 14.101 for the interaction effect of *Authenticity* and *Masculinity*. The assumptions of normality of residuals and homoscedasticity were satisfied. SPSS identified an overall of three outliers affecting the accuracy of the analysis, removed from the 1082 cases initially included in the data set, and produced the case diagnostics table (Appendix 3).

For the second model, indicators based on the CEO background, namely *CEO Duality*, *CEO Gender*, *CEO Education*, *CEO Tenure*, and *CEO Age*, were added as IVs. This improved the results of the regression, producing an adjusted squared multiple correlation which was significantly different from zero for this model ($F=3.246$, $p=0.001$). However, the set of variables explained only 1.6% of the variation in the DV. That is because out of the included IVs, only *CEO Duality* ($sr^2=0.007$, $t=-2.689$, $p=0.007$), *CEO Tenure* ($sr^2=0.004$, $t=2.061$, $p=0.04$), and *CEO Age* ($sr^2=0.008$, $t=-2.97$, $p=0.003$) significantly contributed to the prediction of *Market Value*. Moreover, the multicollinearity issues regarding the interaction effect of *Authenticity* and *Masculinity* prevailed, growing to a VIF of 14.235. The assumptions of normality of residuals and homoscedasticity were satisfied.

Finally, the third model also included indicators of the organization as IVs, namely *Net Income*, *Revenue*, and *Employees*. Additionally, 48 dummy variables are included to account for contributions made by the *Year*, a firm's *Country*, or its *Industry*. This more comprehensive model yielded an adjusted squared multiple correlation which was significantly different from zero ($F=24.085$, $p<0.001$) and explained 54.5% of the variation in the DV. While *CEO Duality* and *CEO Tenure* did no longer significantly contribute to variations in *Market Value*, *CEO Gender* maintained its

significance ($sr^2=0.002$, $t=-2.115$, $p=0.035$) at the 0.05 level in this model. All newly added IVs were found to uniquely and significantly contribute to the prediction of *Market Value* at the 0.01 level; more specifically, *Net Income* ($sr^2=0.02$, $t=6.88$, $p<0.001$), *Revenue* ($sr^2=0.048$, $t=-10.62$, $p<0.001$), and *Employees* ($sr^2=0.028$, $t=8.08$, $p<0.001$). Additionally, the contributions of an organization's cultural *Masculinity* ($sr^2=0.012$, $t=-5.343$, $p<0.001$) and its *Interaction* ($sr^2=0.001$, $t=1.655$, $p=0.098$) with *Authenticity* were significant at the 0.01 and 0.1 levels respectively. However, the rise of these variables' VIFs to 11.897 and 16.090 as well as the previously reported collinearity (Table 1) indicate that both effects are likely distorted by some of the other variables. Except for these high VIFs, the data continued to satisfy the assumptions of multicollinearity, normality of residuals, and homoscedasticity.

A primary concern in the understanding of the *Authenticity* scores I have measured was their timing which I should elaborate in response to these negative analysis results. As CEOs write their letters to shareholders at the end of each year, the tone they use could be interpreted as being reflective of the leadership exhibited over the course of the given year. The analysis results displayed above assume this. On the other hand, the tone used could also influence inner-organizational success factors like employee motivation and performance. This would suggest a delay of the effects of tone by one measurement period (i.e., one year). However, by following this approach the significance of *Authenticity* in Models 1 ($p=0.483$) and 2 ($p=0.713$) decreases further, and the variable's VIF increases across models.

4. Discussion

4.1 Summary of Findings

This thesis aimed to shed light on implications of tone at the top and authentic leadership for organizations. I found that the concept of tone at the top has strong roots in the accounting field but is still understudied considering the unique glimpse it can offer into the minds of organizational leaders. More specifically, I found tone at the top research to be an interesting new opportunity for approaching leadership studies and quantitatively examining the values and behavioral patterns of leaders. Taking on one of the most popular modern leadership theories in authentic leadership, I aimed to explore how authenticity, as indicated by quantitative measures of tone at the top, influences an organization's market value. More specifically, I wanted to answer the sub-questions, whether authentic leadership led to an overvaluation of organizations and whether cultural factors were influencing the strength and direction of this effect.

Based on literature studying authentic leadership, tone at the top, and cultural moderation effects, I hypothesized that organizations with more authentic leaders would be overvalued as compared to those who lacked this type of leadership. Furthermore, I expected Hofstede's cultural dimension of *Masculinity* to moderate this relationship between authentic leadership and market value, such that the effect would be stronger in more tender cultures and weaker for tougher ones. That is because there appears to be an immediate match between values promoted by tender cultures and authentic leaders.

Under the assumptions that authenticity in a CEO's tone is directly representative of the level of authentic leadership he/she executes, an analysis was conducted to find support for the hypotheses in the available data. However, the null hypotheses could not be rejected as the authentic leadership scores had no significant influence on the respective market values. Therefore, potential moderating effects of

cultural *Masculinity* could not be explored sufficiently either. There is no support for the hypotheses developed in this thesis.

The inclusion of control variables then revealed that the overall influence of CEOs' attributes on their respective organization's market value was significant. With their role duality, tenure, and age three control variables based on the CEOs significantly explained some of the variance of Tobin's q values. The overall model became even more significant with the inclusion of other indicators of financial and contextual nature. A firm's net income, revenue, and number of employees showed significant effects on the market value, just like about two-thirds of the dummy variables included for differences in countries, industries, and measurement years.

These results provide support for the idea that the influence of CEOs based on upper echelons theory is valid (Hambrick & Mason, 1984), whereas the impact of their leadership is inflated by overly heroic depictions of the leader. In fact, market value is even more determined by other financial performance indicators like revenue and net income, organizational attributes like employee number, industry, and country, and the year (possibly indicating the overall macroeconomic situation at the time).

However, all conclusions about the influence of authentic leadership are still subject to this thesis' assumptions about authenticity in tone at the top and leadership. More work needs to be conducted to try and link tone to leadership and thus to potential implications of the latter in yet different and more comprehensive ways.

4.2 Relevance to Literature

These results make this thesis particularly relevant for future research. It has uncovered a variety of research gaps and questionable assumptions which ultimately led to the failure of the developed model. Firstly, the relationship of tone at the top and leadership demands further exploration. Tone

at the top may have proven a reliable indicator for financial accounting and fraud detection; however, it is still an underexplored concept regarding leadership and cultural matters. In this thesis specifically, the approach of linking an authentic tone to authentic leadership seemed sound but ultimately did not yield any positive analysis results. To assure that these results are not due to my research design, I recommend conducting a study which relates authentic tone to authentic leadership scores by using more common surveying approaches.

Of course, the lack of positive results could also be indicative of the limited influence leaders have in their respective organization. There needs to be an evaluation of how exactly leadership, and more specifically authentic leadership, plays a role in determining an organization's market value. Do the most beneficiary forms of leadership still not affect an organization's value or is there a particular issue with authentic leadership? After all, authentic leadership emphasizes humility and transparency – even regarding bad news – which might limit overvaluations and instead promote more realistic ones. Another potential implication of CEOs' limited influence is to expand the research focus from the CEO as a sole organizational leader to a broader variety of key actors in an organization's leadership and decision-making. Maybe the collective leadership of complete top management teams has a more significant relationship to financial indicators of success.

Furthermore, additional research needs to be conducted to develop a more comprehensive model of leadership's influence on an organization, including all relevant mediators and moderators. While followers have been assigned a key role (Černe et al., 2013; Wang et al., 2014), which I had to exclude from this thesis due to scope restrictions, there is a need to include cultural factors in that equation and move from distinctive models to more inclusive ones. On the one hand, culture affects both leaders' and followers' behaviors, thoughts, and perceptions and on the other, a cultural match can act as a mouthpiece for leaders looking to promote their values.

Especially regarding cultural dimensions influencing authentic leadership, there seems to be an inconsistency across the literature. Some prioritize Hofstede's key dimensions *Power Distance*, *Uncertainty Avoidance*, and *Individualism* (Furmańczyk, 2014), while it also seems reasonable to continue building on the seemingly good match with tender cultures. Finally, authentic leadership is still a rather young theoretical concept and requires more practical development and testing. Researchers must agree on a single clear and comprehensive definition to make future conclusions directly comparable and thus more relevant for one another.

4.3 Relevance to Practice

The practical implications of this thesis are limited due to the lack of support for my developed hypotheses. However, organizational leaders should not underestimate the impact of their tone across the organization. A letter to shareholders might appear as a secondary concern to some but continues to gain importance on a variety of levels. Not only is their tone a popular indicator among shareholders and potential investors but also does it provide employees with an idea of the CEO's values and the behaviors he/she embraces.

On the other hand, CEOs should not overestimate their influence on organizational success. There is no statistical evidence that their exertion of authentic leadership determines whether an organization is under- or overvalued. Therefore, CEOs need to put a stronger focus on moving the things they can influence into the right direction to indirectly ensure their business thrives in the market. As for leadership, they should focus on empowering their workforce and setting employees up to creating success from within the organization.

4.4 Limitations

This thesis has a variety of limitations which must be mentioned when considering its conclusions and implications. Firstly, any research model is limited by its potential for omitting a significantly correlated variable. The inclusion of additional significant contextual or control variables would affect the analysis results to a certain degree. However, a change so drastic that it would overturn entire conclusions is unlikely.

The approach to dealing with tone at the top in this thesis is limited by its purely quantitative nature. Other tone research has suggested that, when used in isolation, neither qualitative close reading nor quantitative software-based analysis provides ideal insight into the information CEO letters disclose (Amernic et al., 2010). Furthermore, it has been argued that even in combination, the approaches would only yield partial visibility of a CEO's cognitive world (Amernic et al., 2010). However, the scope of this thesis and the research design including such a large number and variety of organizations across several years made qualitative analyses almost impossible to incorporate.

Another limitation of tone at the top is the limited validity check of the dictionary used by LIWC to assess the authenticity score. It would require either expert judges to ensure that chosen words fit the construct, or close reading of the letters to check whether the expected meaning of dictionary words matched their use by the CEO. Research of tone at the top has suffered from poor content validity, especially when quantitative methods are employed exclusively. A review of tone research found that only 5% of studies considered at the time addressed content validity issues openly and provided detail regarding the used validation schemes (Nunnally & Bernstein, 1994).

Regarding authentic leadership, this thesis represents a first attempt to measure the concept directly through dimensions of tone at the top. While there was a promising dimensional match between authentic tone and authentic leadership, there is no empirical evidence providing support for the

validity of this indication yet. Additionally, some research suggests that self-ascribed authentic leaders do not have a significant influence on their organization whereas leaders who are perceived as authentic do (Černe et al., 2013). Therefore, the indication by tone at the top needs to be clarified. It is unclear, whether the composure of authentic writing suggests self-ascription or whether the analysis results are representative of follower perceptions.

Another limitation concerns the means by which this thesis analyzed the influence of authentic leadership on an organization's market value. It has been suggested by previous theories that the actions of followers (i.e., employees) mediate most influences a leader has on their environment (Avolio & Gardner, 2005; Černe et al., 2013). Furthermore, the reaction and performance of followers are not only moderated by cultural factors but also by their PsyCap (Wang et al., 2014). Due to scope restrictions, this thesis ignored such existing moderators and mediators.

Finally, this thesis ignores other potentially relevant cultural dimensions. Opposed to the match of the *Masculinity* dimension, stands research by Furmańczyk (2010), suggesting *Power Distance*, *Uncertainty Avoidance*, and *Individualism* had the most significant impact on authentic leadership. A common understanding of the cultural dimensions influencing authentic leadership does not yet exist. Moreover, Hofstede's national culture scores do not necessarily apply to multinational corporations like those examined in this thesis. After all, the national culture of an organization's headquarters might not apply significantly to the success in strategic growth markets and thus lack validity when linked to an organization's overall market value or success.

Despite these limitations, this thesis provides some initial ideas that may lead to a better understanding of the interrelations between tone at the top, authentic leadership, and culture. Additionally, it has revealed that the effect of the former on a multinational corporation's overall market value is insufficient when compared to other indicators.

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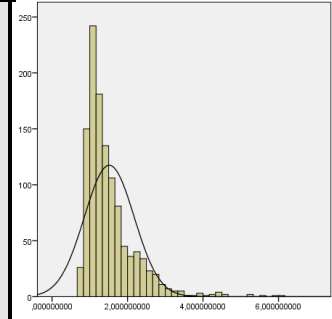
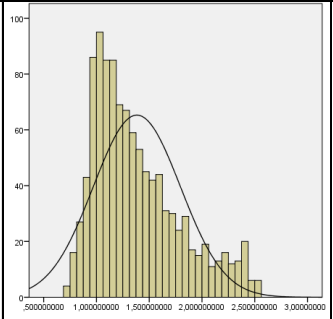
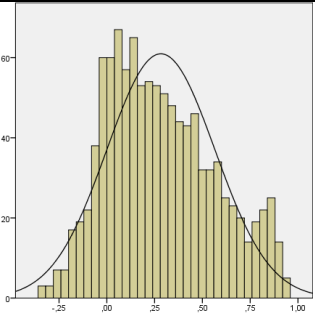
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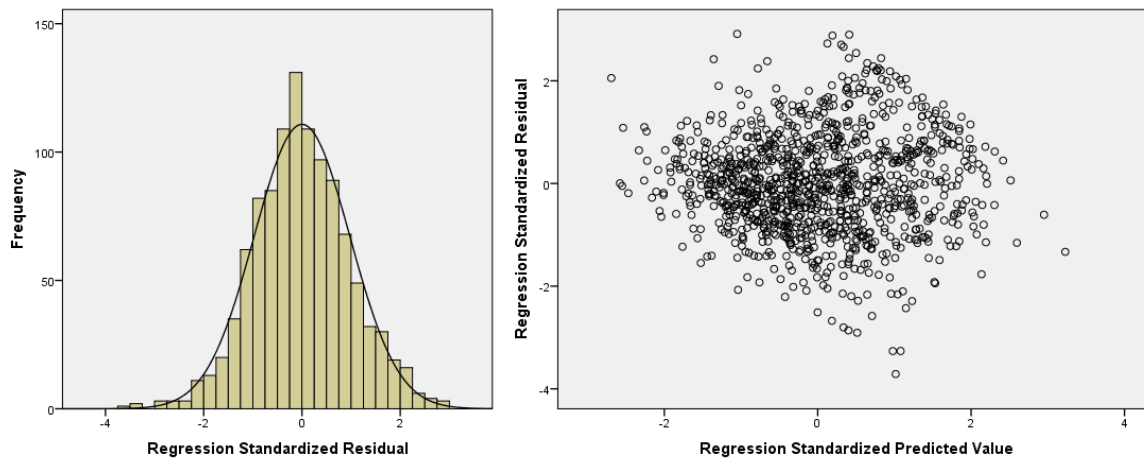
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Appendix

Appendix 1: Statistics and Histograms for the Distribution of Tobin's q Scores

	Tobin's q	Tobin's q without outliers	Log(Tobin's q) without outliers
N	1166	1082	1082
Skewness	2.33	0.891	0.373
SE of Skewness	0.072	0.074	0.074
Kurtosis	8.409	0.048	-0.621
SE of Kurtosis	0.143	0.149	0.149
SPSS Frequency Output			

Appendix 2: SPSS Output for the Histogram and Scatter Plot of the DV



Appendix 3: Case Diagnostics of the DV

Case #	Standard Residual	Market Value	Predicted Value	Residual
846	-3.263	-0.11	0.5133	-0.62365
847	-3.712	-0.21	0.4997	-0.70950
1112	-3.265	-0.13	0.4916	-0.62401

DV: Market Value as log(Tobin's q)

Official Statement of Originality

By signing this statement, I hereby acknowledge the submitted thesis, titled

“Implications of Tone at the Top and Leadership: The Effect of Authenticity on Market Value for Tough and Tender Cultures”

to be produced independently by me, without external help. Wherever I paraphrase or cite literally, a reference to the original source (journal, book, report, internet, etc.) is given. By signing this statement, I explicitly declare that I am aware of the fraud sanctions as stated in the Education and Examination Regulations (EERs) of the SBE.

Maastricht, 03.01.2018
