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Talking the Talk: An Empirical Investigation into the Economic Effects of Strategy Disclosure

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ACKNOWLEDGEMENTS	1
EXECUTIVE SUMMARY	2
INTRODUCTION AND RESEARCH QUESTION.....	3
CORPORATE DISCLOSURE AND FINANCIAL PERFORMANCE.....	7
INTRODUCTION TO CORPORATE DISCLOSURE	7
MANDATORY DISCLOSURE.....	9
<i>Financial Disclosure and Firm value</i>	<i>9</i>
<i>Financial Disclosure and the Equity Cost of Capital</i>	<i>10</i>
VOLUNTARY DISCLOSURE:	12
<i>Social Disclosure:.....</i>	<i>12</i>
<i>Strategy Disclosure:</i>	<i>14</i>
SUMMARY	16
HYPOTHESES DEVELOPMENT	17
<i>Hypothesis 1: Strategy Disclosure</i>	<i>17</i>
<i>Hypothesis 2: Strategic Direction/Goals</i>	<i>18</i>
<i>Hypothesis 3: Firm Resources.....</i>	<i>18</i>
<i>Hypothesis 4: Positioning</i>	<i>19</i>
<i>Hypothesis 5: Challenges</i>	<i>19</i>
RESEARCH DESIGN AND METHODOLOGY.....	20
DATA	21
SAMPLE.....	21
EVENT STUDY	22
<i>A Brief Introduction: Event Study</i>	<i>23</i>
<i>Data:.....</i>	<i>24</i>
<i>Expected Returns:.....</i>	<i>25</i>
<i>Abnormal Returns:</i>	<i>26</i>
<i>Grouping Observations on the Event Date.....</i>	<i>27</i>
STRATEGY DISCLOSURE	28
<i>A Brief Introduction: Content Analysis</i>	<i>28</i>
<i>Creating and Testing the Coding Scheme</i>	<i>30</i>
<i>Rationale for Scheme Dimensions.....</i>	<i>31</i>
<i>Reliability of Strategy Disclosure Scores</i>	<i>36</i>
RESULTS.....	37
<i>Empirical Results</i>	<i>37</i>
DISCUSSION.....	50
LIMITATIONS	54
IMPLICATIONS AND FURTHER RESEARCH.....	56
CONCLUSION	58
APPENDICES.....	59

Appendix 1: Rating Scheme for Strategy Disclosure 59

Appendix 2: Event Study Results for Top-and Bottom 25% of Strategy Disclosure Scores 63

Appendix 3: Abnormal Returns for Top-and Bottom 25% of Strategy Disclosure Scores 63

REFERENCES..... 64

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Executive Summary

What is the economic value of strategy? Although the extant literature in strategic management has explored many different theories of the firm, the research field has centered on an underlying consensus that strategy is an important driver of corporate performance, and thus holds significant economic value. By extension, if we assume efficient markets, the disclosure of such important information should be reflected in the firm market value. Building on these assumptions, our paper will attempt to identify the economic effects of strategy by examining the impact of strategy disclosure in annual reports on the firm market value.

By performing an event study structured around the release date of corporate annual reports for Norwegian listed firms, this study aims to isolate the financial effects from changes in strategy disclosure quality, represented as the presence of abnormal returns in the event period. To test this relationship, we used a self-constructed score to represent the quality of strategy disclosure by measuring the informational value across several important strategic dimensions presented in the corporate annual reports. Subsequently, we used the disclosure quality of prior years to establish the investor expectations for strategy disclosure, allowing us to investigate the impact of information “shocks” on security price returns.

Our findings show that the disclosure of strategically important information indeed holds economic value, finding significant abnormal returns, and thus increased firm market value, for positive changes in strategy disclosure quality. Further testing of single dimension effects, however, were less conclusive. This can indicate that, while investors value revelations on corporate strategy overall, disclosure on single dimensions are less valuable due to their potential lack of context. Despite this, our results clearly show that there are substantial economic gains from increasing reporting quality on corporate strategy, encouraging further study of this important, yet partially neglected, area of research.

Introduction and Research Question

While a vast number of perspectives have been furthered in the eclectic strategic management literature during the last decades, a common factor has been the importance of strategy as a basis for competitive advantage and, consequently, economic success. While the academic pendulum has swung between internally oriented theories such as the resource-based view (Barney, 1991; Wernerfelt, 1984) and the knowledge-based view (Grant, 1996; McEvily & Chakravarthy, 2002) on one side, and externally focused perspectives such as the industrial organization (Caves & Porter, 1977; Porter, 1981) and the institutional approach (Peng et al., 2009; Scott, 2001) on the other (Hoskisson et al., 1999), the field has seemingly centered around the consensus that strategy is essential for firm performance (Nag et al., 2007). Assuming this is true, any indications regarding the corporate strategy a firm follows could be considered of high informational value, as its future performance will be contingent on the strategic choices it makes. Thus, the disclosure of strategy would represent important information for company stakeholders, and, in the presence of efficient markets, new revelations would impact the financial performance of the firm (Fama, 1970).

Since the introduction of the efficient market hypothesis (EMH) by Fama (1970), research into the disclosure of corporate information has increased substantially. Building on the argument of Hayek (1945) that information "...never exists in concentrated or integrated form, but solely as the dispersed bits of incomplete and frequently contradictory knowledge which all the separate individuals possess," (Hayek, 1945, p. 519), Fama (1970) argued that any and all information available will be reflected in the price of a security. Building on this theory, academia purposefully began studying the effects of corporate disclosure and its effects, based on a presupposition that any communication of value-adding information would influence the economic performance of the firm. Thus, as the performance of the firm will be contingent on the strategy it chooses to follow, any revelations related to the corporate strategy would be considered of high informational value for an investor. This paper aims to further the research into strategy disclosure in corporate annual reports, and examine the relationship between the quality of disclosure on different strategic dimensions and financial performance.

To test this relationship, we performed an event study around the release date of the annual report, allowing us to isolate any potential abnormal returns induced from positive and negative market surprises with regards to the disclosure of strategy, thus gaining insights into the economic effects of strategy disclosure in annual reports. In order to examine this effect, we used content analysis of firms' annual reports, and constructed a scheme to rate and classify firms on the quality of their strategy disclosure. This provided us with a specific measurement for the year over year increase or decrease in strategy disclosure, which could be used as an estimate for market surprises. Building on the idea of positive (negative) effects from reduced (increased) information asymmetry, we could test for economic effects from the changes of such disclosure. It is important to note that we do not assess the actual choice of strategy for each individual firm, but rather argue that more detailed strategy disclosure in annual reports will, on average, lead to improved financial performance.

Today, corporate annual reports are considered an important informative tool for investors and other stakeholders, providing factual insights and reducing information asymmetries between management and other stakeholders. Further, recent legal initiatives have increased the demands facing firms regarding the information disclosed, while the accessibility of annual reports have extended substantially with the technological advances of the last decades. This has led to an important role for disclosure research in the academic literature, as insights into the effects of increased stakeholder communication could potentially have important implications. Despite this, previous academic foci have centered around financial and social disclosure on different firm characteristics, with the strategy equivalent representing only a fraction of this increasing literature

Despite the academically implied importance of strategy revelations in corporate communication, as well as the importance of the EMH, the underwhelming amount of research into the field so far shows a clear gap in the literature. While annual reports contain satisfactory content on the financial, and to a certain extent the social, situation of firms due to legal requirements, corporations do not face the same demands regarding strategic discourse. Instead, insufficient time and corporate resources are allocated to the communication of strategic initiatives in

annual reports, while there is an important lack of universality in the reporting practices (Dhaliwal et al., 2011). This disregard for the disclosure of strategy has paradoxically been present in the research literature as well, even though early disclosure literature indicated an important relationship (Bowman & Haire, 1975; Ullmann, 1985). Instead, emphasis laid with the economic effects of financial and social reporting, ignoring the potential impact from corporate disclosure on strategic dimensions (Abrahamson & Amir, 1996). Since such revelations represent potentially important information for stakeholders and investors, as well as significant economic effects, forming an understanding of the impact of strategy disclosure is necessary both to further the academic literature and to improve reporting practices. The authors of this paper will, humbly, aim to fill parts of this gap in the academic sphere through our analysis, attempting to shed light on an insufficiently researched field. This leads us to the research question guiding our study:

“To what extent does strategy disclosure impact firm market value?”

In order to test the economic effects of changes in the disclosure quality from one year to the next, we performed an event study – a study examining the abnormal returns for an individual security in a period surrounding a corporate event. Here we computed the expected return of each firm for a ± 10 -day period around the release date of the annual report for the years 2011-2015, allowing us to investigate whether an individual firm experienced abnormal returns in the event period. To estimate the disclosure quality for each firm-year, we used content analysis methodology. Specifically, we constructed a scheme to represent the quality of strategy disclosure in annual reports for listed firms on Oslo Stock Exchange for the period 2011-2015, rating each report on 14 different strategic disclosure dimensions argued to be value-adding information related to the corporate strategy. The individual dimension scores were then aggregated to form the total score *strategy disclosure* for all 490 firm-years in our sample. The ratings from our scheme were subsequently used to categorize the firms into groups of positive and negative information “shocks”, using the average strategy disclosure scores for prior years obtained for each firm as a proxy for investor expectations for the years 2014 and 2015. Further, we tested the relationship between increasing disclosure quality and abnormal returns for the single dimensions

argued to be most important for the investor, using the same methodology as for the overarching construct. By examining these changes in disclosure quality, we can enquire into the financial effects of strategy disclosure on firm market value.

We find strong support for a positive relationship between increased strategy disclosure quality and increase in firm market value, represented by the presence of cumulative average abnormal returns (CAAR) in the event period. We do not, however, find support for our hypothesis regarding the relationship between negative changes in the disclosure quality and negative impact on firm market value. This is perhaps not surprising, as negative disclosure quality does not necessarily equal reduced information in the market. While increased disclosure quality is a result of new information, its negative counterpart does not remove information in the market. Instead, while this information is not disclosed explicitly for a given year, it still exists in the market due to disclosure over preceding years. In explaining the strong positive results, we also tested all the single dimensions. Annual reports are without doubt quite similar from year to year, and the lack of variation along single dimensions was therefore an issue in trying to explain what dimensions were responsible for the abnormal returns we found on the disclosure score. We therefore found little empirical support for the influence of single dimensions. It is, however, important to emphasize that our scheme was conceptualized based on an idea of an overarching measure for strategy disclosure, and the main focus is thus not on the individual dimensions that may drive abnormal returns.

This study contributes to the literature on both corporate disclosure and the value of strategy, the importance of different strategic dimensions in corporate reporting as represented in our scheme, as well as the accounting practices related to disclosure on corporate strategy in annual reports. As the existing literature on voluntary disclosure has yet to reach unanimity regarding the economic effects of increased disclosure, our study contributes in several respects. First, in analyzing abnormal returns in the presence of information “shocks”, we show that the market value of the firm is affected by the quality of strategy disclosure provided in annual reports. This further confirms the economic value of corporate strategy, as well as providing additional understanding of the financial effects of reduced information asymmetry through higher disclosure quality. Second, our scheme

includes important strategic dimensions based on existing literature on corporate strategy. Although not exhaustive, this list proposes a set of elements within strategy communication to be further explored in research to achieve a better understanding of the disclosure of strategy in corporate annual reports. Finally, the results of our study provide contributions to both managerial and accounting practices. In showing the actual economic value of increased strategy disclosure, managers will potentially be incentivized to expand their effort on strategy reporting in corporate communication, while accounting practices may gradually implement a more dedicated effort in highlighting the role of strategy in annual reports. Ultimately, the findings presented in this paper can have implications on several arenas.

The remainder of the paper is structured as follows. We begin by reviewing the relevant literature on corporate disclosure, at both the mandatory and voluntary level, and its effects on different financial dimensions of the firm. Next, we use the findings from the literature review to construct our hypotheses. After this, we describe the extensive methodological approach that forms the basis of our paper, introducing first our event study that examines the economic impact of strategy disclosure, and afterwards our content analysis of corporate annual reports that lead to our independent variable. We then put forward the empirical results from the study and our associated discussion, before providing an overview of the limitations of our study and implications for both research and practice. Finally, we present our conclusion.

Corporate Disclosure and Financial Performance

Introduction to Corporate Disclosure

According to the efficient market hypothesis (EMH) (Fama, 1970), any stock will be trading at its fair value, thus reflecting all the available information dispersed in the market (Hayek, 1945). As a result, the academic literature has gradually increased its focus towards corporate disclosure – both mandatory and voluntary – and its effects on the company (Richardson & Welker, 2001). This builds on information asymmetry, and the argument that managerial knowledge regarding company matters surpass that of the information available to the investors (Healy

& Palepu, 2001), which has subsequently led to an increase in mandatory disclosure in recent years, such as e.g. the Sarbanes Oxley Act. Despite these positive developments, the increased regulatory demands mainly concern financial and accounting reporting, partially neglecting the qualitative parts of corporate reporting (Santema & Van de Rijt, 2001). Even as companies must conform to certain regulatory constraints and demands regarding content, some go beyond the legal imperative. This voluntary disclosure – defined as that in excess of the required – has thus become the subject of intensive research, building on the premise of its informative value (Meek et al., 1995). Research within different spheres of the disclosure literature have indicated a positive relationship between the extent of disclosure and economic performance, such as lower cost of capital due to less information risk (Botosan, 1997; Lambert et al., 2007). This, alongside a more accurate valuation of firm value through better information (Botosan, 2006), could provide managers with incentives to voluntarily disclose corporate matters, even outside the regulatory boundaries. Thus, recent years have seen a substantial increase in the research into corporate disclosure, with the main empirical body centering around the annual report (Yuthas et al., 2002).

Annual Reports are considered a prime tool for investor decision making (Benartzi & Thaler, 1993) and companies can use it strategically as a communication medium for different stakeholders (Stanton & Stanton, 2002). It allows a company to proactively paint an external picture of its own existence, with (Hines, 1988) arguing that in “...communicating reality, you *construct* reality,” (Hines, 1988, p. 257). While the ostensible content may conceivably hold little resemblance to the *de facto* state of a given firm, annual reports are regarded as a powerful source of information regarding company matters (Diamond & Verrecchia, 1991). Botosan (1997) further argues that the corporate annual report of each individual firm serves as a good proxy for its general level of disclosure across mediums, as the disclosure levels in annual reports have been found to be highly correlated with other forms of disclosure for the same firm (M. Lang & Lundholm, 1993). Considering this, annual reports have in recent decades formed the basis for disclosure research at both the mandatory and voluntary level in the academic sphere (Ahmed & Courtis, 1999; Yuthas et al., 2002).

Mandatory Disclosure

As the legal requirements on corporate reporting has increased in recent years, research on its effects on the financial performance has increased. Though financial regulation imposes a substantial and increasing amount of mandatory disclosure through a variety of regulated financial reports, firms appear to voluntarily provide the capital market with additional information. Lang and Lundholm (1996) show that firms with more informative disclosure policies face lower volatility in analyst forecast revision, less dispersion among individual analyst forecasts, and more accurate earnings forecasts. Combined, these factors reduce the information asymmetry between the firm and investors, which in recent decades has been shown to affect firm value. (e.g. Baiman & Verrecchia, 1996; Botosan, 1997; Diamond & Verrecchia, 1991; Graham et al., 2005; Plumlee et al., 2008; Richardson & Welker, 2001).

Financial Disclosure and Firm value

Information asymmetries are argued to reduce firm value, in that they introduce adverse selection into transactions between buyers and sellers of firm shares (Leuz & Verrecchia, 2000). Adverse selection is typically manifested in reduced share liquidity and higher bid-ask spreads, as observed by Copeland and Galai (1983). To overcome the effect of information asymmetries, firms must issue capital at a discount, and this discount represents a higher cost of capital to the firm (Leuz & Verrecchia, 2000). Disclosure reduces the possibility of information asymmetries arising between market participants, as well as the market and the firm itself, and, disclosure should therefore reduce the discount at which firm shares are sold and increase firm value (Hope, 2003; M. H. Lang & Lundholm, 1996; Prencipe, 2004).

Following the same line of reasoning, Einhorn (2005) shows this concept in a more elegant equilibrium model, proposing that rational and risk-neutral investors stipulate their value of a firm based on all available information. Hence, for any given corporation, higher disclosure will, *ceteris paribus*, lead to a higher valuation. According to Foster (2003, p. 1), former member of the Financial Accounting Standards Board (FASB), “...more information always equates to less uncertainty, and people pay more for certainty, ”.

To illustrate the aforementioned idea in a simple example, one can consider the case where two firms, firm A and B, have the same expected payoff, but differ in terms of disclosure. Firm A has a high disclosure, giving investors confidence about the firms' future payoff, while, in contrast, firm B does not disclose much information to the market. As a result, investors are, on average, more uncertain about their predictions about future earnings. The CAPM treats the expected payoff for both firms as if "true" and ignores the investors differential uncertainty with regards to their predictions (Botosan, 2006). Consequently, the CAPM does not account for the role of investors uncertainty in determining the optimal portfolio choice, or the equilibrium pricing (Botosan, 2006). In sharp contrast, Easley and O'hara (2004) show that in equilibrium, stocks with higher estimation risk, *ceteris paribus*, obtain a lower pricing.

Financial Disclosure and the Equity Cost of Capital

The relation between accounting information and the cost of capital is one of the most fundamental issues in the accounting literature (Lambert et al., 2007). Levitt (1998), former chairman of the SEC suggests that; "...*high quality accounting standards... reduces capital costs,*" (Levitt, 1998, p. 81). This, along with increasing regulatory demands of transparent reporting, has led to research on the relationship between financial disclosure and subsequent performance. Although the reasoning is intuitive, the theoretical work on the hypothesized link is somewhat limited. Theoretical research supporting a negative association between disclosure and equity cost of capital has historically followed two related ideas. The first stream of research proposes that greater disclosure enhances stock market liquidity, either through lower transaction costs or an increased demand for a firm's security, which implies a lower equity cost of capital (Botosan, 1997). The second stream of research suggests that greater disclosure reduces the information asymmetry, thereby reducing the estimation risk arising from investors estimates of the payoff distribution of the stock.

Amihud and Mendelson (1986) argue that cost of equity capital is higher for stocks with large bid/ask spreads, which is consistent with Demsetz (1968), Copeland and Galai (1983), and Glosten and Milgrom (1985). Amihud and

Mendelson (1986) are amongst the first advising managers to disclose private knowledge, in order to reduce bid/ask spreads and cost of equity capital (Botosan, 2006).

Central to the core of this literature is the relationship between private and public information, and that public disclosure reduces information asymmetry by displacing private information. Some papers address this explicitly (i.e. Easley & O'hara, 2004) and show that differences in the composition of information between public and private information affect the cost of capital, Despite this, Botosan's (2006) review of the literature notes that "...neither theory nor extant empirical evidence unambiguously supports this assumption," (Botosan, 2006, p. 34).

Further, several early studies on this focus on the relationship between estimation risk and the cost of equity capital, including Barry and Brown (1985), Coles and Loewenstein (1988), Handa and Linn (1993), Coles et al. (1995) and Clarkson (1996), who all provide some supporting evidence for the theory. However, much of the early literature into the area suffers under the lack of construct validity for the cost of equity capital measures, making the research inadequate to prove sound empirical evidence for the hypothesized link (Botosan, 2006). More recent work by Lambert et al. (2007) try to fill this gap by using more valid measures of equity cost of capital. Through developing an asset-pricing model in which both public and private information affect asset returns, they find support for the negative relation between disclosure and cost of equity capital. More specifically, the core issue is to show that firm disclosures reduce the non-diversifiable risks in economies with multiple securities, withstanding the forces of diversification. Through building an asset pricing model consistent with the CAPM (Fama & Miller, 1972), Lambert et al. (2007) show two effects of disclosure on the cost of capital; directly and indirectly. The direct effect stems from the disclosure effect on the firms' assessed covariance with other firms expected cash flows, which is non-diversifiable. In other words, higher quality disclosure does not affect the cash flows *per se*, but affect the market participants *ex-ante* expected cash flows. The second effect, namely the indirect effect, shows the impact on the cost of capital through its effect on real decisions that impact the future cashflows and covariances of cashflows.

As shown by the existing literature on financial disclosure, increased disclosure quality can have positive financial effects for the company. This is in line with the argument that reduced information asymmetry can increase the performance of the firm, meaning that it is plausible to assume that increased information of a voluntary nature may also have significant economic impact.

Voluntary Disclosure:

The notion that any reduction in information asymmetry between managers and external stakeholders creates firm value has further led to an increase in disclosure of a voluntary nature, building on the premise of its informational value. Contrary to the financial equivalents, these voluntary disclosures do not conform to strict regulations and is thus not represented comparably across actors, but rather selectively based on individual firm preferences (Dhaliwal et al., 2011; Ingram, 1978). Thus, a prevalent issue with any form of disclosure not bound by legislation is the lack of universal practice of its reporting, limiting the ability to consistently evaluate the quality across industries and firms (Abbott & Monsen, 1979; Gray et al., 1995). Despite this, attempts have been made at examining the effect of voluntary disclosure of different forms, with perhaps the main emphasis being on corporate social reporting (Neu et al., 1998; Richardson & Welker, 2001; Ullmann, 1985), while corporate strategy disclosure represents a less evolved academic stream (Abrahamson & Amir, 1996; Padia & Yasseen, 2011; Santema et al., 2005).

Social Disclosure:

Despite occupying a substantial role in accounting research during the last decades, academia has not reached consensus regarding the effects of corporate social reporting (CSR) and social disclosure (Gray et al., 1995; Ullmann, 1985), broadly defined as the revelation of social commitments and engagements of the firm. Further, the lack of a unifying and focused definition of social disclosure across studies has served as a barrier to achieve coherence in results (Ingram, 1978; Richardson & Welker, 2001).

Ullmann (1985) provides an extensive review of the relationship between social disclosure and economic performance, showing that the academic consensus builds on the premise of the EMH; corporate social disclosure, in containing value-relevant information, will be reflected in the share price and thus show the fair value of the company. It is argued that voluntary disclosure related to societal activities contains significant informational value for the investor and other stakeholders, and so should its inclusion should contribute to the economic performance of the firm (Dhaliwal et al., 2011; Graham et al., 2005). Following this line of reasoning, the effects of social disclosure on economic performance has been argued to be comparable to that of its financial counterpart, as all information related to social disclosure will serve to reduce the information asymmetry between the two parties. The findings regarding the causal relationship between social disclosure and economic performance, however, are widely dispersed and, as a result, highly debated (Patten, 1992; Richardson & Welker, 2001; Ullmann, 1985).

Among the early works, Belkaoui (1976) found support for an ethical investor hypothesis, arguing that the disclosure of socially grounded information positively impacted the financial performance of the firm. He investigated the effect of pollution disclosure in annual reports, indicating a temporary positive net effects arising from increased disclosure (Belkaoui, 1976). The findings, however, were later criticized for being misinterpreted. Frankle and Anderson (1978) argued instead that non-disclosing firms outperformed the market, before later confirming the initial positive relationship between social disclosure and firm performance, albeit only for certain periods (Anderson & Frankle, 1980). *Per contra*, both Ingram (1978) and Abbott and Monsen (1979), found there to be no significant relationship between the extent of disclosure and different market variables, while Ingram and Frazier (1983) proposed a weak negative correlation between social disclosure and accounting ratios, emphasizing that the findings, and the relationship in general, is contingent on a wide variety of variables.

Another branch in the literature has focused on the effects from social disclosure on a company's social performance, and the subsequent effect from the latter on financial performance, but even here results are dispersed (Griffin & Mahon, 1997). This relationship is complex, as the causal relationship between the social

disclosure of the firm and its economic performance is further complicated by the potential meditational effect of its social performance, making it hard to distinguish singular effects. Even if these disclosure effects could be demarcated from the impact of social performance, the natural presupposition that a positive correlation between social disclosure and social performance exists has yet to be consistently proven (Ullmann, 1985).

Although the research on the financial effects of social disclosure has not yet found consensus, several studies indicate that there exists a relationship between disclosure at the voluntary level and economic factors. These indications provide incentives to further examine the potential financial effects from voluntary revelations, and recommendations from Ullmann (1985) and Bowman and Haire (1975) to further understand the role of strategy in social disclosure testify to the potentially important role of voluntary disclosure in general.

Strategy Disclosure:

In recommending a future direction to converge toward consensus regarding the effects of social disclosure on the economic performance of firms, Ullmann (1985) argued that an important omitted variable to consider was that of strategy. This argument was built on the notion that any impact will be dependent on the stakeholder strategy employed, which was first introduced by Bowman and Haire (1975). In subsequent works, however, Bowman (1976, 1978, 1984) focused on the content of the narrative part of corporate annual reports, arguing that the scrutiny of these could provide insights into the effectiveness of a company's strategy. Through careful content analysis, Bowman deduced behavioral differences between well-performing firms and their underachieving equivalents, indicating the informative value of annual reports as an important tool for investors and stakeholders alike (Kohut & Segars, 1992). While not examining any causal relationship between the disclosure and performance in his work, Bowman employed a line-by-line comparison of report content for different firms, building on the idea of strategy disclosure as something of informational value.

Despite these early works, strategy disclosure, defined as “...*the revelation of information an organization decides to share with its stakeholders on the strategy it is pursuing and going to pursue in the future,*” (Santema et al., 2005, p. 354), has since remained a seldom researched area in the literature. As most academic focus is guided to disclosures regarding accounting and corporate social responsibility, little attention has been given to the strategic revelations found in corporate annual reports or other informational mediums (Abrahamson & Amir, 1996; Santema et al., 2005; Yuthas et al., 2002). However, Bartlett and Chandler (1997) and D. Barry and Elmes (1997) underlines its integral role for shareholders and investors, while increased disclosure regarding strategic initiatives is recommended by auditors (Ernst & Young, 2008; KPMG, 2014) and financial service firms (Standard & Poor’s, 2002) worldwide.

Higgins and Bannister (1992) argued that strategic credibility, partly achieved through revelations in annual reports, affected a company’s share price, encouraging further research into corporate communication on strategy, while Kohut and Segars (1992) argued that it could be an important tool to distinguish oneself from the competition, stating that through effective communication in annual reports “... *a company earns credibility by convincing others that it is pursuing a sound strategy and has an effective planning capability,*” (Kohut & Segars, 1992, pp. 7-8). Barron et al. (1999) found that higher Management Discussion & Analysis (MD&A) ratings in annual reports, taken from the SEC, were negatively correlated with the accuracy of earnings forecast by analysts, with regression estimates showing that a one standard deviation increase in MD&A quality lead to a 24 and 13 percent decrease in dispersion and error in earnings forecasts, respectively (Barron et al., 1999).

In more recent work, research into strategy disclosure in annual reports of Dutch firms (Santema & Van de Rijt, 2001) and, by extension, firms across Europe (Santema et al., 2005) found that firms in general disclose relatively little regarding strategy, as opposed to finance/accounting, while also showing that the amount of disclosure differ across countries (Santema et al., 2005). Further, Padia and Yasseen (2011), examining only the extent of strategy disclosure, showed that although South African listed companies generally disclosed more information

regarding corporate strategy than their European counterparts (Santema et al., 2005), only 6% of the investigated sample made maximum disclosure.

Although academic insights have suggested positive effects of increasing levels of strategy disclosure through a diminution in information asymmetry, research in the area remain limited. Additionally, most studies have either examined descriptive statistics regarding strategy disclosure or correlation with different firm characteristics, as no study has yet, to the best of these authors' knowledge, explored causal relationships between strategy disclosure and financial performance, presenting an important area for further research.

Summary

The academic literature has thus examined many different facets within corporate disclosure, with perhaps the single unifying element across the research on being the idea that disclosure is a partial solution to the information problem investors face, and that a subsequent reduction in information asymmetry between companies and investors will have a positive effect on financial performance. Although widely recognized at the conceptual level, the empirically established relationship between voluntary disclosure and financial performance can be considered ambiguous, at best. Ultimately, the lack of coherent results, especially with regards to information of a voluntary nature, has largely been credited to the conceptual variety in the aforementioned studies (Richardson et al., 1999; Ullmann, 1985). The inherent noncomparability of voluntary disclosure is also a pertinent issue with regards to coherence (Dhaliwal et al., 2011), as the "...absence of common structures and characteristics..." (Kohut & Segars, 1992, p. 8) makes it difficult to generalize findings.

Despite the aforementioned limitations regarding the study of corporate disclosure, the indications from previous research implies an existing causal relationship between the information disclosed and different dimensions of firm value. As such, it is important not to neglect this area of research simply due to methodological difficulties, but rather stay determined in the pursuit of coherence. Our study contributes to the research on voluntary disclosure and the role of decreased information asymmetries and its economic effects. The findings

presented in this paper will provide a deeper understanding of the role of disclosure and, more specifically, the impact of strategy disclosure on the market value of firms. This leads us to the hypotheses guiding our study.

Hypotheses Development

Hayek (1945) argued that self-interested traders are motivated to acquire and trade on their private information. In doing so, they create increasingly efficient market prices, which in the competitive limit reflect all available information, implicating that stock prices can only move in response to news. This conceptual work preceded Fama's (1970) empirical examination of the subject, which eventually led to the efficient market hypothesis (EMH).

Following the reasoning of the efficient market hypothesis, we argue that the manifestation of abnormal returns is likely to occur in instances where the market observes a significant change in the disclosure level. Our scheme treats the annual report of each individual firm i for time t independently, so subsequently a firm following the same exact level of disclosure year after year would score the same. Our scheme, on the other hand, captures strategy related information that is forward looking, and often similar from year to year. With the EMH in mind, testing levels of disclosure independently from year to year makes very little sense. Therefore, relative changes in disclosure level constitute new information in the market, and, considering the annual report's value as a good proxy for disclosure level (Botosan, 2006), relative changes in the annual report implies relative changes in disclosure level.

Hypothesis 1: Strategy Disclosure

Assuming equal weight of our dimensions, the total score, which indicates a summed score across 14 dimensions of disclosure well defined within strategic management literature, is a proxy for the general disclosure level of the firm. The *strategy disclosure* score will represent an overarching measure of the quality of disclosure for each firm for a given year, and thus, assuming EMH holds, we expect that positive information "shocks" in the market will have an impact on the firm market value, represented as the presence of positive CAAR. We expect the

opposite to happen for decreased disclosure quality, as this introduces uncertainty in the market through an increase in information asymmetry.

H_{1a} = Positive changes in quality of strategy disclosure yield positive CAAR

H_{1b} = Negative changes in quality of strategy disclosure yield negative CAAR

Hypothesis 2: Strategic Direction/Goals

Where does the company want to go, and how does it get there? Firm strategy is a matter of the owners of the firm. However, the board usually handle the practical sides of the strategic activity. For the investors, the annual report is therefore an important tool to control that the board and management is following up on the set strategy. Whilst the general assembly agree upon the overall direction, the board and management usually stake out the answer to how it should reach their goals. Strategy has important implications to the future economic performance of a firm, and it is therefore of great interest for the investors to get an insight into the firm's decisions. Accordingly, we hypothesize that positive changes in the disclosure quality along these dimensions will give positive CAAR, due to a reduction in information asymmetry. We expect the opposite to happen for decreased disclosure, as it would introduce uncertainty in the market.

H_{2a} = Positive changes in disclosure of firm strategic direction and goals yield positive CAAR

H_{2b} = Negative changes in disclosure of firm strategic direction and goals yield negative CAAR

Hypothesis 3: Firm Resources

According to Wernerfelt (1984) and Barney (1991), the basis for competitive advantage stems from the firm-specific resources that are not easily imitable by competitors. Thus, we hypothesize that investors are interested in the firm specific resources possessed by the firm, and the current and planned allocation of these. Since these resources are important for the sustained competitive advantage of the firm, positive changes in the disclosure level of a firm along this dimension

should give positive CAAR. We expect the opposite to happen for decreased disclosure, as it would introduce uncertainty in the market.

H_{3a} = Positive changes in disclosure of firm resources yield positive CAAR

H_{3b} = Negative changes in disclosure of firm resources yield negative CAAR

Hypothesis 4: Positioning

Porter (1980) argued that the strategic positioning of a firm was essential to competitive advantage and sustained success. It will be important for potential investors to understand how a company differs from other competing actors, as it gives indications to the future of the industry. Thus, we expect positive changes in the disclosure level of a firm along this dimension to give positive CAAR. We expect the opposite to happen for decreased disclosure, as it would introduce uncertainty in the market.

H_{4a} = Positive changes in disclosure of firm positioning yield positive CAAR

H_{4b} = Negative changes in disclosure of firm positioning yield negative CAAR

Hypothesis 5: Challenges

The issues that the company is faced with is important for the investor to understand. Even more so, it is important that the company has clear ideas on mitigating measures for the potential challenges. Challenges may act as an impediment to successful implementation of firm strategy (Hrebiniak, 2006), and it is accordingly of high value to the investor to get insight into the companies' perceived challenges and its proposed mitigating measures. Considering this, we expect positive changes in the disclosure level of a firm along this dimension to give positive CAAR. We expect the opposite to happen for decreased disclosure, as it would introduce uncertainty in the market.

H_{5a} = Positive changes in disclosure of firm challenges yield positive CAAR

H_{5b} = Negative changes in disclosure of firm challenges yield negative CAAR

Research Design and Methodology

This study will attempt to estimate the relationship between the strategy disclosure score from firms' annual reports and subsequent economic effects. To do this, a comprehensive methodology is needed.

First, we want to associate the year over year changes in disclosure for each firm with a financial impact, to show the economic effects of strategy disclosure. As the EMH argues that such information will be immediately reflected in the share price, event studies have become a common tool for investigating security price reactions to new market information (Binder, 1998; Eckbo, 2008). Using an event period structured around the release date of the individual annual reports, we can isolate the financial impact of new information by identifying the potential presence of abnormal returns in the event period. Although the event study methodology has not, to the best of our knowledge, been used previously in disclosure research, we argue that it is appropriate in this paper due to our examination of the economic effects of *changes* in strategy disclosure.

Second, to associate the abnormal returns with changes in disclosure, the annual reports must be read and the variable *strategy disclosure* constructed, as there is no standard measurement for this available. Due to the qualitative nature of voluntary communication in annual reports, content analysis has become a widely applied methodology to assess the actual quality of the disclosure (Beattie et al., 2004). This follows the existing literature in strategy disclosure (Bowman, 1976, 1978, 1984; Padia & Yasseen, 2011; Santema et al., 2005; Santema & Van de Rijt, 2001), as this methodological approach is considered one of the most powerful tools for analyzing texts and documents (Bryman & Bell, 2015).

Although the disclosure literature has employed both self-constructed scores and archival metrics to measure disclosure level, the research on strategy disclosure has exclusively used the former due to the lack of availability of the latter. Thus, our scheme consists of a qualitative rating on 14 dimensions of strategy found in the textual part of the annual report for 490 firm-year observations.

Data

Our study will use a sample consisting of public firms listed on the Oslo Stock Exchange (OSE) for the period 2011-2015. OSE is a stock exchange with a high density of firms within the energy sector, and, as of January 2017, firms within the energy industry makes up 35% of the combined market value. The average market size of the 187 listed firms is 11 581 MNOK, with a standard deviation of 44 483 MNOK, and a market value median of 1 896 MNOK.

Following the decline in oil prices in later years, the energy sector is currently going through a phase of downsizing, cost-cuts and repositioning. Although there has been a significant decrease in the market value of many of the energy related stocks, other parts of the economy have thrived. Especially the seafood industry, and other export focused industries have done well. In the case of seafood, very favorable market conditions, and a positive weakening of the Norwegian krone has contributed to record earnings throughout the industry.

Sample

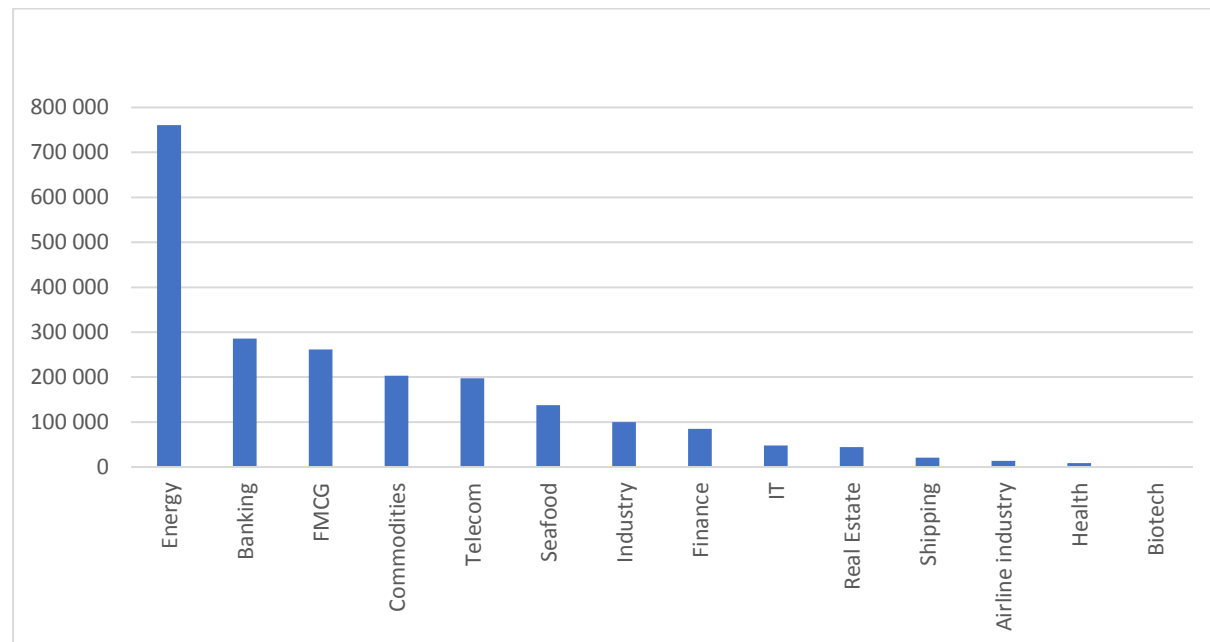
For our scheme, we used all listed firms except listed savings banks, conglomerates, and firms that have not been noted for the whole period of our analysis. Savings banks have been eliminated due to the fact that they issue equity certificates, that differ from stocks when it comes to influence over the bank's governing bodies¹. For that reason, we found them unfit for looking at disclosure in our context, since the certificate holders have only a limited voice and therefore less incentives to monitor the firm. Conglomerates were removed due to their rather different strategy disclosure report format, as they mainly focus on strategy at the business level as opposed to the corporate level. Since our scheme was developed for scoring corporate strategies, it was difficult to apply the same method to score conglomerates with vastly different strategies for different subsidiaries. Firms that have not been noted for the whole period was also removed, since many of them lacked a complete record of annual reports which was needed to set an expectation for the disclosure level in our analysis. For the same reason, we removed some firms that had been listed throughout the whole

¹ <http://www.sparebankforeningen.no/en/egenkapitalbevis/about-equity-certificates/>

period, but did not have all the reports available online. In these few instances, we sent emails to the respective investor relations office, requesting the annual report, but received no answer.

After this process, our number of firms was reduced to 98, giving $N = 490$ when considering 5 firm-years. In the case where a firm has been read multiple times by coders for reliability and stability tests, the included scoring has been drawn randomly between the different coders, so that it is only included once in our dataset.

Figure 1: Total Market Value for Different Sectors



Event Study

To examine the financial impact of new information in the market, we used event study as our methodology. Assuming efficient markets, new information should be reflected in the price of individual securities, and, by extension, changes in the quality of valuable disclosure should have an impact on firm market value. Using daily returns for each firm would allow us to investigate the presence of returns not explained by expected return models in the days around the annual report release, thus isolating the financial effect of changes in strategy disclosure.

A Brief Introduction: Event Study

The event study methodology has played an important part in corporate finance literature in recent decades, attempting to examine the isolated effect of corporate events on different dimensions of firm performance. Since its widespread introduction by Fama, Fisher, Jensen and Roll (FFJR) (1969), event studies have served as the main measurement tool for security price reactions to corporate events, news, announcements, or happenings (Binder, 1998; Brown & Warner, 1985; Eckbo, 2008). The methodology is based on the efficient market hypothesis and assumes that all available information will be reflected in the price of a security. Thus, any positive or negative reactions to corporate events will be reflected in the abnormal return (AR) – its return in excess of what is expected – of stock i in the period around the announcement date. The event study methodology will allow the researcher to examine the behavior of returns for firms experiencing a common type of event, and, further, the differing effects of different reactions in the market.

To examine these abnormal returns, one must first calculate the expected return for each individual firm. Several methods have been proposed to measure the rate of normal return for an individual security, with the perhaps most widespread being an equilibrium asset pricing model such as the Capital Asset Pricing Model (CAPM) (Lintner, 1965; Sharpe, 1964), a multifactor model such as the Fama-French Three-Factor Model (Fama & French, 1993), or the Market Model (Brown & Warner, 1985; Fama et al., 1969). The latter is perhaps considered the most prominent benchmark (Binder, 1998; MacKinlay, 1997), as it represents a less flawed measurement than the CAPM due to doubts regarding the validity of the restrictions of the latter, while the marginal gains from a multifactor model are generally quite limited with regards to the explanatory power of the model (MacKinlay, 1997). In the Market Model, the return of an individual security is not only dependent on the return of the market portfolio, but also on the idiosyncratic risk of that same security.

If the Market Model is chosen as the benchmark for expected returns, the next step is to decide the estimation window. This is the trading data that will be used to estimate the relationship between the market portfolio and each individual security. When daily returns are used, estimation periods are often recommended

to be between 100 and 250 days (Cox & Peterson, 1994; MacKinlay, 1997; Sorokina et al., 2013), but this is still debated. Further, one must decide the event period, in which the event is presumed to affect the daily returns of the individual securities. Even here the standard window is debated, and academia has not yet found consensus around a golden standard with regards to the trade-off between results and validity. While studies have recommended an event window ranging from ± 1 days to ± 10 days for daily return studies (MacKinlay, 1997), studies have used event windows as large as 181 trading days (McWilliams & Siegel, 1997). It is also important to consider the nature of the event, as the chosen event window should be contingent on the circumstances, such as the event itself and the subsequent relationship that is being measured.

After a model for the expected return has been chosen, and it has been calculated with the estimation period data for the individual firms, it can be used as a benchmark to measure the abnormal return of firm i for each day, calculated as the difference between the expected and actual return of firm i each day in the event period. The common practice is then to aggregate the individual abnormal returns across the firms, dividing the set into e.g. positive and negative reactions in the market, finding data on the average abnormal return (AAR) for the different groups. Further, to see the total effects, the sample average abnormal returns are summed across the event period to form the sample cumulative average abnormal return (CAAR) across securities. This latter construct will allow the researcher to investigate the differing aggregate effects on the abnormal returns from different reactions in the market, and thus the economic effects of the event studied.

Data:

We define the event date as the release date of the annual report, or, in the case where it was released after stock market closing, the next trading day. This way, we can examine the abnormal returns for the actual trading day relevant to the release, reducing bias across the data. Using the 490 annual reports in our full set for our content analysis, we removed all firms where the release date of the annual report was not available. Additionally, following McWilliams and Siegel (1997), we excluded firms that had released relevant statements or reports on the event day to reduce potential bias in returns. After the data set was cleared, we were left

with $N = 455$ rated firm-years. We proceeded to retrieve trading data for each security and the Oslo Stock Exchange from Thomson Reuters Eikon. For each individual firm, we gathered daily returns for an estimation period of $T = 150$ days (t-160 to t-10 days for the release date of the annual report) for the years 2011-2015 to estimate the expected returns. We further decided on a ± 10 -day event period, which is perhaps somewhat longer than usual for daily return studies. The reason for our choice is the qualitative nature of the strategy disclosure scores; any changes or “shocks” related to investor expectations will not be discernible immediately, but rather be understood over an extended period when the investor studies the released annual report. Moreover, it would seem plausible that leakages of information could occur in the days leading up to the actual release, providing a rationale for including a 10-day window pre-event as well (McWilliams & Siegel, 1997).

Expected Returns:

Following the seminal studies of FFJR (1969) and Brown and Warner (1985), we estimated the expected returns using the Market Model, regressing the actual returns of firm i on the returns of the market portfolio for each individual firm. In order to find the relationship between the returns of individual securities and the corresponding return of the market portfolio, we used ordinary least squares (OLS) to estimate the market model parameters by regressing the returns of the stock against the return of the market index for each day in the estimation window:

$$E(R_{i,t}) = \alpha + \beta \cdot E(R_{M,t})$$

where $E(R_{i,t})$ is the expected return of firm i at time t , α and β are the parameters of the Market Model estimated from regressing $R_{i,t}$ on $R_{M,t}$ over the estimation period T , and $E(R_{M,t})$ is the expected return of the market index at time t . We used an estimation period of $T = 150$ trading days leading up to the event for the individual security, including a 10 day suspension before the actual release date to circumvent any potential bias arising from overlapping the estimation period with the actual event period, as this would result in disturbances that are not mean zero (Binder, 1998; Brown & Warner, 1985). We assumed that returns more than 10

days prior to the event day did not interfere with the estimated parameters α and β , such that any returns in the event window should be unbiased. This provided us with the benchmark needed to compute the abnormal returns for the individual firms.

Abnormal Returns:

The abnormal returns for the individual securities was calculated as the actual return for firm i less its expected return from the Market Model the same day for each point in time t in the estimation period:

$$AR_{i,t} = R_{i,t} - E(R_{i,t})$$

where $R_{i,t}$ and $E(R_{i,t})$ is the actual and expected return of firm i at time t , respectively, and $AR_{i,t}$ is the abnormal return of the associated firm.

Average Abnormal Returns and Cumulative Average Abnormal Returns:

After the data had been grouped, abnormal returns for the different groups were aggregated to find the average abnormal returns (AAR) for positive and negative surprises:

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{i,t}$$

The estimates of the average abnormal returns were then used to estimate the cumulative average abnormal returns (CAAR) across the sample securities in the different groups:

$$CAAR_t = \sum_{t=1}^T AAR_t$$

These constructs would then allow us to investigate the influences on the daily returns from different reactions in the market. Specifically, it would show the differing cumulative effects on abnormal return for firms that surprised investors

in either a positive or negative manner, and thus provide indications to the potential economic effects of strategy disclosure.

Grouping Observations on the Event Date

In order to look for an effect between disclosure and abnormal returns, we needed to group our sample into performers and non-performers (MacKinlay, 1997). As supported by the efficient market hypothesis, disclosure *per se* will not lead to abnormal returns, but instead we need to look for changes that surprise the market by providing new information. To look for these positive and negative surprises or “shocks”, we tested the relative changes from strategy disclosure quality as formed by the investors’ expectations. For 2015 changes we used the average of 2011-2014 scores to form the investor expectations for a given firm, and, correspondingly, the 2011-2013 average to test for changes in 2014, giving $N = 182$. This would allow us to place the firms into groups of either positive or negative “shocks”, and, subsequently, test for the differing effects on abnormal returns for the groups from relative changes. In order to clearly distinguish between positive and negative surprises, we created three categories; the top 25% and bottom 25% in values of change from expectations, and the remaining 50% of the sample, representing positive, negative, and negligible surprises for *strategy disclosure*, respectively. The technique of grouping firms and looking at cross sectional abnormal returns is widely used in the literature (e.g; Fama et al., 1969; Leuz & Verrecchia, 2000). Since we wanted to examine changes in the actual quality of disclosure, we did not use a dichotomous rating scheme. Here, observations on the periphery of a group could be practically indistinguishable from an adjacent observation in the next group. To deal with this issue, we thus created a group structure with significant distance in changes of quality between the positive and negative surprise groups. After dividing the observations into the top- and bottom 25% groups, as well as the remaining 50%, we could examine the abnormal return for each firm in the period around its annual report release date. Subsequently, we could construct the AAR and CAAR for the positive and negative groups, allowing us to investigate the differing financial effects of the changes in strategy disclosure.

Further, our data would also allow us to examine the financial effects of individual strategy dimensions, to better understand any specific drivers of abnormal returns. These, however, were not grouped by the top and bottom 25%, as our N for single dimensions was substantially reduced due to low year over year changes for individual dimensions.

Strategy Disclosure

To construct our measure of strategy disclosure to use in the event study, we employed content analysis of firms' annual reports. As no ranking or index of strategy disclosure quality for Norwegian listed firms exists, content analysis represented an appropriate methodology to score individual strategic dimensions argued to be of informational value in annual reports, and, ultimately, establish our independent variable *strategy disclosure*.

A Brief Introduction: Content Analysis.

As defined by Neuendorf (2002, p. 1), content analysis is; "...*the systematic, objective, quantitative analysis of message characteristics,*". Further, Habermas (1987) states that "...*we need to note that communicative action rest at the very base of the lifeworld, and one very important way of coming to grips with that world is to study the content of what people say and write in the course of their everyday life,*" (Habermas, 1987, p. 80). On the other hand, where methods borrowed from the natural sciences have been applied, social researchers prevent themselves from addressing what matters most in everyday social life; human communication, commitments people make to each other and to the conception of society they aspire to, what they know, and why they act (Krippendorff, 2004, p. 11). Certainly, content analysis is not the only research method that seeks to capture what is mediated between people, texts, information, symbols so forth, but it has developed over the years into one of the strongest tools for interpreting communication.

To make valid inferences from text, it is important that the classification procedure is reliable in the sense of being consistent; different individuals should code the same text in the same way (Weber, 1990, p. 12). For our research, we were three coders, so in order to limit any bias that might arise from differences between us, routines to control reliability is important. Classification by multiple

human coders permits the quantitative assessment of achieved reliability (Weber, 1990), and implementation of these routines are essential to the quality of the research.

Reliability assessment

Krippendorff (2004, pp. 211-221) describes three highly pertinent issues related to the reliability of content analysis; namely stability, reproducibility, and accuracy. Stability, defined as “...*the extent to which the results of content classification are invariant over time,*” (Weber, 1990, p. 14), can be determined when the same content is coded more than once by the same coder, where inconsistencies in coding constitutes unreliability. Variance might stem from ambiguities in the text, cognitive changes within the coder, or simple errors. To deal with this issue, Krippendorff (2004) proposes *test-retest* conditions by adding duplicates into the dataset, which will then be coded by the analyst twice. This will allow the coders to assess the stability over time, and any inconsistencies – also called intraobserver disagreement – will reduce the reliability of the ratings. In order to deal with possible cognitive variation, of which fatigue is perhaps the most pertinent, one can read the reports at different fatigue levels, consistent with the recommendations of Krippendorff (2004).

Reproducibility can be defined as “...*the extent to which classification produces the same result when the same text is coded by more than one coder,*” (Weber, 1990, p. 17). Here, variance is most likely to arise from cognitive differences among the coders or ambiguous coding instructions or content. Thus, an integral part of achieving high congruence between the coders, also called the intercoder reliability, is to create an unambiguous coding scheme, where the rating instructions are clearly and exhaustively formulated. This can be ensured by applying *test-test* conditions during the initial phase of coding, where each coder individually rate a smaller common sample to identify potential disagreements (Krippendorff, 2004). Any differences in interpretation of the scheme or a single variable can then be discussed and defined unequivocally, increasing the reliability of the final scheme rating.

Finally, accuracy refers to the extent to which the classification of text corresponds to a standard norm. This is achieved by applying *test-standard*

conditions, where test coding is compared to what is recognized to be true, if available. Krippendorff (2004, p. 216) states that researchers seldom use accuracy in reliability assessment of research if there are difficulties in obtaining standards for textual interpretations, but rather use the conditions as a method for training coders, where standards are readily available.

These three types of reliability must be considered already before any sample testing begins, as the quality of the study will be dependent on a thorough protocol throughout the entire rating period.

Creating and Testing the Coding Scheme

In order to create a reliable and valid scheme, we followed the Weber Protocol (Weber, 1990), as suggested by Bryman and Bell (2015):

1. *Define the recording units*
2. *Define the categories*
3. *Test coding on sample of text*
4. *Assess accuracy or reliability*
5. *Revise the coding rules*
6. *Return to step 3: Cycle will continue until the coders achieve sufficient reliability.*
7. *Code all text*
8. *Assess achieved reliability or accuracy.*

The construction of our scheme began with a literature review and discussion on important strategic dimensions that should be included in corporate annual reports. Subsequently, a definition for each dimension, as well as the requirements for each scoring category, was created. After an initial scheme was designed, we began testing a sample of annual reports for 5 firms over the years 2011-2015 to identify any differences in interpretation between the two initial coders. Any discord was noted down and discussed, before a common understanding was agreed upon. As the third coder was introduced at a later point in time, new rounds of sample testing were completed with all three coders to ensure sufficient intercoder reliability, following the *test-test* conditions recommended by Krippendorff (2004). Here, the three coders wrote down the qualitative reasoning

behind the numerical scoring of each dimension in the sample set, allowing for a comprehensive discussion before new sample sets were rated. Further, to control for the stability over time, we added duplicates in our dataset, as it is natural to expect that fatigue increases with the amount of reports read in a day. As such, for *ex-post* analytical purposes, we added a self-constructed variable for time of reading:

$$\text{Measure of fatigue} = n_i/N$$

Here, n_i is the i^{th} annual report read that day, and N is the total number of annual reports read that day.

Rationale for Scheme Dimensions

Despite the numerous seminal works and theories inherent in strategic management research, no single, unified theory has ever been put forward. Instead, strategy has seen a wide array of definitions. This paper does not attempt to exhaust the vast amount of potential definitions, nor the different strategic dimensions of informational value, as that will be a job for better men. Rather, we employed a simplistic view of strategy as “where one wants to go, and how to get there”, while attempting to identify and measure the quality of disclosure on different informationally important dimensions of corporate strategy.

In a humble attempt at finding an encompassing metric for strategy disclosure, we have followed the work of Santema et al. (2005), dividing the latent measurement *ex-ante* into several measurable dimensions. Specifically, our self-constructed scheme consists of 14 different dimensions that are argued to represent the most integral elements of the corporate strategy as it should be presented in the annual report. The following dimensions will serve as the element of information on different important dimensions related to the strategy of the firm, and their disclosure will help the investor make an educated guess regarding the company’s future performance.

Strategic Direction: Where does the company want to go? The direction should be clearly articulated to show employees, stakeholders, and investors where management intends to steer the company, in broad terms, both in the short and long term (Grant, 2003). It will be important to understand what the plans and intentions of the firm are for the future, as its economic performance will be contingent the chosen way forward. Further, the communication of the intended strategic direction has been shown to positively affect the credibility of the firm, with subsequent improved relations with the financial community and stockholders, as well as improved employee morale (Higgins & Bannister, 1992).

Strategic Goals: What goals must be achieved for the firm go in the direction it wants? In order to follow the strategic direction mapped out, the firm must set certain strategic goals. By understanding these strategically important objectives, the investor can better understand the congruence with resource allocations and other important activities, as well as how the company intends to achieve their long-term goals. It will also provide the investor with clarity regarding the overall strategic direction of the firm (Grant, 2003; Santema et al., 2005).

Mission: What is the purpose of the company's existence? This looks for a clear statement regarding the role the company plays in society – its *raison d'être*. This will include what they do and why they do it, and can potentially help create a sense of organizational identity (Johnson et al., 2008; Thompson et al., 2008) as well as providing the investor with a clear idea of the future direction of the company.

Vision: What does the future look like? The vision statement represents the long-term view of the company and the industry in which it operates, and speaks to the longevity of corporate perspectives and ideas. It serves to point the organization in a common direction and will be a reference point for future strategic decisions (Thompson et al., 2008), as well as being effective for strategy implementation and change management (Larwood et al., 1995).

Values: What are the moral and social principles governing the company? These will provide indications on how business is conducted in the company,

while deeply entrenched values and behavioral norms can contribute to organizational success (Thompson et al., 2008).

Positioning: How does the company position themselves relative to important competitors? Porter (1980) argued that the strategic positioning of a firm was essential to competitive advantage and sustained success. It will be important for potential investors to understand how a company differs from other competing actors, as it gives indications to the future of the industry.

Business Environment: What is the state of the general business environment in which the firm operates? The external business environment in which the firm operates can have substantial effects on its operational performance, and it will be important for a potential investor to place the intended strategic activities in context to understand whether they will be conducive for the financial performance of the firm (Santema et al., 2005; Santema & Van de Rijt, 2001; Standard & Poor's, 2002).

Key Events: What were the most important events for the company in the previous year? They will serve as indicators of what activities the company *ex-post* has focused on, and they should be clearly linked to the corporate strategy currently guiding the company. These events can include i.e. mergers and acquisitions or international expansion for companies seeking growth, divestments for corporations seeking to refocus, or other major occurrences in the past year. The disclosure of such important happenings will provide the investor with indications on the operational and strategic effectiveness of the company in the past year (Kohut & Segars, 1992; Santema et al., 2005; Santema & Van de Rijt, 2001).

Challenges: What challenges is the firm faced with in the coming year? The issues the company is faced with is important for the investor to understand, as they can potentially act as impediments to the implementation of strategic moves initiated by the company (Hrebiniak, 2006; Santema et al., 2005). It will be important that the company has clear ideas on mitigating measures for the potential problems faced, so that the investor understands how major obstacles will be handled.

Objectives: What objectives have the firm laid out for the coming year? The operational objectives will give indications to what the company needs to work with on a day-to-day basis to achieve their strategic goals, and the investor will have an idea of how resources should be allocated to best achieve these goals. As the strategic direction and goals of the firm is set in a longer timeframe, specific short-term objectives must be constructed and articulated to deal with the actual implementation of the corporate strategy (Hrebiniak, 2006; Kaplan & Norton, 2001).

Key Performance Indicators: What are the most important metrics for measuring operational performance? They will allow the investor to keep track of the operational performance over time, while giving indications regarding the degree of success for important goals in recent years. These key metrics provide a view of the operational effectiveness that might lead to financial performance, and is thus of high importance for the investor (Venkatraman & Ramanujam, 1986).

Investments: What will be the focus of future investments? How the corporate resources are allocated is of utmost importance for the firm to achieve its strategic goals and, subsequently, follow the direction they have mapped out. The potential investor must have an overview of the most important investments the firm will make, as it will allow her to determine the logicity of the intended resource allocation in relation to the strategic initiatives of the firm, as well as the actual implementation of the overarching strategy (Noda & Bower, 1996).

Value Proposition: What is the value proposition of the firm? The articulated or implicitly stated value proposition gives the investor an indication of how the company markets itself, and what they argue to be the main value from their products or services. Understanding this will allow the investor that determine if the strategic activities of the firm are in line with the proposed value creation of the firm (Osterwalder et al., 2005).

Firm Resources: What are the firm-specific resources that constitute the company's competitive advantage? Wernerfelt (1984) and Barney (1991) argued that the basis for sustained competitive advantage laid in firm-specific resources

that is not easily imitable by competitors, and it will be important for the investor to understand what valuable resources the firm currently has at its disposal and their application. This will allow the firm, and the investor, to understand whether these will provide a conducive environment for the corporate strategy and the positioning of the firm.

Rather than utilizing a dichotomous rating scheme, where we would award 1 for the presence of a dimension and 0 otherwise, we wanted to reward the quality of the disclosure along each dimension. To do this, we looked at the informative value that could be extracted from the disclosure on each dimension, using this as a proxy for the quality of disclosure. Consequently, following Santema et al. (2005), all dimensions were rated on discrete scale ranging from 0 to 1, denoting no disclosure and maximum disclosure, respectively. Partial disclosure for most dimensions was rated as 0.33 or 0.66 based on their quality, in accordance with a pre-determined set of criteria (Appendix 1) for that individual dimension. For the dimensions *Vision*, *Positioning*, and *Key Performance Indicators*, however, partial disclosure was only given as 0.5, as the test coding period revealed difficulties in distinguishing between two values of partial disclosure quality for these dimensions. Aggregating the score on each individual dimension for a given firm-year provided us with our variable *strategy disclosure*, ranging from 0 for no disclosure to 14 in the presence of maximum disclosure on all dimensions. We proceeded to use 2014 and 2015 as the years for identifying information “shocks” in the market, measured as the change from expected score, with the average of prior years’ strategy disclosure scores forming the investor expectations.

Further, we tested the results for the most important individual dimensions, based on the existing research in both disclosure and the overarching strategic management literature. Specifically, we wanted to examine the individual effects from disclosing the strategic direction and goals of the firm, the firm-specific resources at its disposal, its positioning relative to competitors, and the challenges they expect to face in the coming year, as our literature review for constructing the scheme emphasized the importance of these for the corporate strategy. These were also tested by forming investor expectations from the average of scores for preceding years along each dimension, allowing us to investigate the relationship

between changes in disclosure and abnormal returns for individual strategic dimensions.

Ultimately, in disclosing these dimensions to a sufficient degree, the prevalent information asymmetry between a firm and its potential investors will be substantially reduced. Further, it will allow the investor to form an opinion regarding the congruence of corporate activities with its strategy. Assuming these dimensions, and their overarching construct, are value-adding for the investors, it is reasonable to expect that their disclosure will, on average, have positive economic effects for the company.

Reliability of Strategy Disclosure Scores

Before analyzing the relationship between disclosure score and abnormal returns for individual firms, we tested the data from our content analysis for reliability to validate our strategy disclosure scores. We regressed total score on our measure of fatigue, and ran normality tests of the residuals. Both the Shapiro-Wilk (adj χ^2 40.17, $p < 0.0001$) test and Jarque-Bera (χ^2 63.22, $p < 0.0001$) confirm that our data clearly deviate from normality. There might be some explanation in the fact that there is a clear trend in the data that the firms have improved throughout the years, and, at the same time, we tried to read 1 company each day for some time. This would lead to a higher score for higher fatigue levels, since we often started the day reading 2011, and ended it reading 2015. Even so, given the fact that scoring five annual reports per day would on average require approximately 4-5 hours, some fatigue could be expected. Retests have, however, been shown to be quite accurate, and we find fatigue and stability to be of less concern.

Next, since we have read several reports individually, we needed to check for intercoder reliability. Since the start, the two authors of this thesis have been working together on the scheme, and show very little variation in the grading. For parts of the research, we were assisted by a research assistant. Careful training according to *test-test* conditions before we started reading the annual reports reduced the variance between the coders significantly, and the deviations are not significant. We would also like to emphasize that the research could not physically or ethically be conducted by two coders only.

With regards to accuracy, there is no set standard for the quality of strategy disclosure available. However, we tested the ratings from the third coder on a smaller sample, using the already constructed ratings from the other two coders as the standard. This followed the recommended *test-standard* conditions from Krippendorff (2004), and no significant deviations between the new coder and the existing standard were found.

Results

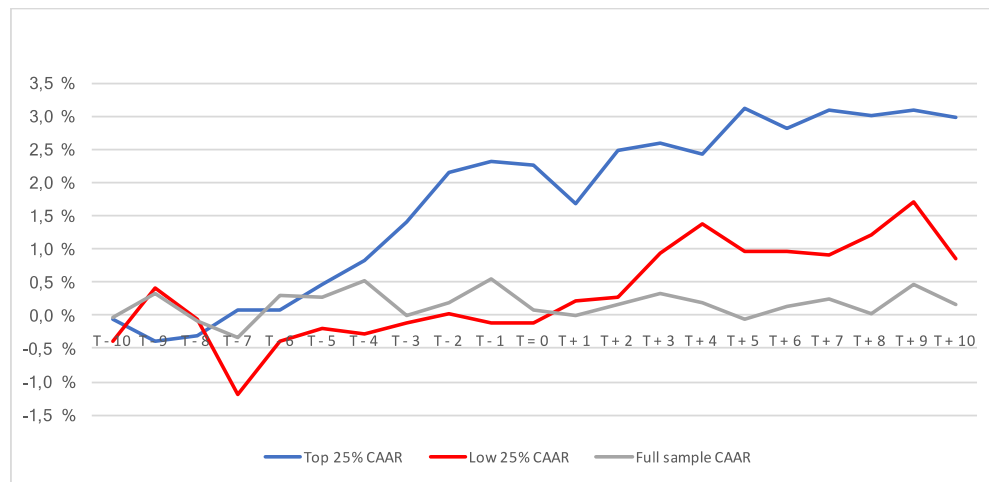
In this study, we are not concerned with the effects for individual companies, but rather seek to determine whether strategy disclosure quality in general is associated with abnormal returns. Further, we are not concerned with the actual choices the firm makes on the different strategic dimensions, but argue instead that changes in the quality of disclosure will lead to abnormal returns. Since we are looking at relative changes in disclosure, we have used the annual reports from 2011-2014 and 2011-2013 to establish a measure of historical disclosure level for year 2015 and 2014, respectively. Following the reasoning of the efficient market hypothesis, we do not expect that high disclosure, *per se*, will result in abnormal returns. Investors stipulate their value of the firm based on all available information, and abnormal returns are likely to arise when there are information “shocks” in the market. In other words, when a given firm changes its level of disclosure, the information set of the investors will change, and, by implication, their valuation of the firm (Botosan, 2006). To measure this information “shock”, we have used changes from the historical mean. In other words, Statoil, a company with a highly consistent level of disclosure – and therefore very low variation in the score – will be classified as a company with very low changes.

Empirical Results

Hypothesis 1 argued that positive (negative) changes in strategy disclosure would lead to positive (negative) abnormal returns in the event period. Assuming equal weights over our 14 dimensions of disclosure, we created two groups of companies, and looked at their AAR and CAAR. We grouped the firms with 25% highest and lowest relative changes into separate groups. Figure 2 shows the abnormal return for the two groups, as well as for the full sample, over the event

period. Table 1 lists the AAR and CAAR for each day in the event window, as well as the corresponding t-values for significance. This was tested by using changes in 2015 and 2014 relative to the average disclosure score of their prior years, with $N = 182$.

Figure 2: Abnormal Returns for Changes in Strategy Disclosure Score



Notably, the firms with 25% highest positive disclosure changes outperforms the lowest 25% and the full sample (Figure 2). Although no AAR for individual dates are statistically significant, the CAAR becomes statistically significant ($t = 2.45$, $p < .05$) over the event period for the top 25% group (Table 1). To illustrate the benefit to shareholders of such increased disclosure, one needs to look no further than the increase of market value. Looking at the firms with the 25% highest positive changes in disclosure, we find that the average market capitalization is 25 136 MNOK, with a standard deviation of 58 206 MNOK. The average increase in firm value across the sample, considering a 2,97% CAAR, is 747 MNOK within our event window of ± 10 days. Taking the median firm, with a market value of 1 786 MNOK, the increase in market value is 53 MNOK. These are abnormal returns, meaning that they are increases in firm market value unexplained by the Market Model used for expected returns, showing that there are substantial economic effects from quality strategy disclosure. This gives support for our hypothesis that increases in disclosure quality increases the valuation of the firm.

On the other side, there seems to be no negative effect in that the firms that reduce their disclosure quality see no negative abnormal returns compared to the full sample, as the CAAR over the event period is not significant. Although the group of firms with 25% highest negative changes seemingly outperform the full sample average when looking at Figure 2, the difference is not statistically significant different from zero. We do not find support for single-day abnormal returns, either, as the AAR for each day in the event window is below the commonly accepted values for statistical significance. Thus, we have no support for our hypothesis that decreasing disclosure quality would lead to negative abnormal returns.

Ultimately, although we only find support for positive abnormal returns from increasing strategy disclosure quality, our results clearly show that investors, on average, reward companies for high disclosure quality on important strategic dimensions in annual reports.

Table 1: Abnormal Returns for Changes in Strategy Disclosure Scores

Event date = T	Positive changes (+25%)				Negative changes (-25%)			
	AAR	t-value	CAAR	t-value	AAR	t-value	CAAR	t-value
T - 10	-0,055 %	-0,109	-0,06 %	-0,110	-0,40 %	-0,670	-0,40 %	-0,699
T - 9	-0,336 %	-0,723	-0,39 %	-0,628	0,80 %	1,360	0,40 %	0,621
T - 8	0,090 %	0,270	-0,30 %	-0,409	-0,45 %	-0,814	-0,05 %	-0,062
T - 7	0,390 %	0,976	0,09 %	0,107	-1,14 %	-2,356	-1,18 %	-1,442
T - 6	0,000 %	-0,000	0,09 %	0,096	0,79 %	1,029	-0,39 %	-0,374
T - 5	0,365 %	1,098	0,45 %	0,416	0,19 %	0,300	-0,20 %	-0,173
T - 4	0,377 %	0,745	0,83 %	0,668	-0,09 %	-0,165	-0,29 %	-0,220
T - 3	0,582 %	1,228	1,41 %	1,051	0,18 %	0,425	-0,11 %	-0,086
T - 2	0,740 %	1,183	2,15 %	1,331	0,12 %	0,224	0,01 %	0,008
T - 1	0,169 %	0,366	2,32 %	1,439	-0,12 %	-0,212	-0,11 %	-0,087
T	-0,059 %	-0,110	2,26 %	1,445	0,00 %	-0,002	-0,11 %	-0,082
T + 1	-0,585 %	-0,730	1,68 %	1,509	0,31 %	0,859	0,21 %	0,172
T + 2	0,789 %	1,888	2,47 %	2,113	0,05 %	0,070	0,26 %	0,177
T + 3	0,127 %	0,280	2,59 %	2,182	0,69 %	0,976	0,94 %	0,696
T + 4	-0,168 %	-0,396	2,43 %	2,260	0,42 %	0,868	1,37 %	1,017
T + 5	0,693 %	1,097	3,12 %	2,736	-0,41 %	-0,882	0,95 %	0,655
T + 6	-0,298 %	-0,731	2,82 %	2,340	0,02 %	0,056	0,97 %	0,652
T + 7	0,261 %	0,535	3,08 %	2,527	-0,07 %	-0,132	0,90 %	0,598
T + 8	-0,065 %	-0,173	3,02 %	2,520	0,30 %	0,655	1,21 %	0,718
T + 9	0,080 %	0,146	3,10 %	2,488	0,50 %	1,520	1,71 %	1,043
T + 10	-0,123 %	-0,339	2,97 %	2,446	-0,85 %	-1,358	0,86 %	0,518

While our first hypothesis grouped observations into the top- and bottom 25% values of changes in disclosure to ensure adequate difference between the positive and negative information “shocks”, our succeeding hypotheses suffered from a decreasing sample size due to low variation over the years included in our study. It is clear that firms often reuse annual reports from previous years, with only minor modifications, instead of allocating time and resources each year to develop a completely revised version. While this is both understandable and, to a certain extent, expectable, this occasionally results in identical year over year disclosure on the strategic dimensions included in our scheme for many firms, reducing the number of observations suitable for studying relative changes and information “shocks”. As a result, our N is substantially reduced in such cases, removing the opportunity to divide firms into groups of highest and lowest change values. For instance, on the dimension *positioning*, the change is zero in 75,3% of our observations, while *firm resources*, *challenges*, and *strategic direction/goals* lose 69,8%, 66,5%, and 41,2% of observations, respectively.

Instead, the following hypotheses were tested by simply grouping firms into positive and negative changes from prior years’ average score on that single dimension. Although this is methodologically different from our first hypothesis, it is necessary to form large enough sample sizes that adhere to commonly accepted requirements regarding statistical samples. Further, for Hypothesis 2, we *ex-ante* merged the dimensions *strategic direction* and *strategic goals*, since this follows our simplistic definition of strategy as “where one wants to go, and how to get there”. We expect these dimensions to hold limited value on their own, as the informational value of one will be contingent on the disclosure of the other. Although this is not strictly testing of one individual dimension, it follows the same methodology as the other hypotheses examining the relationship between single dimensions and abnormal returns.

Hypothesis 2 stated that positive (negative) changes in disclosure along the merged dimension *strategic direction/goals* would give positive (negative) abnormal returns. Figure 3 lists the abnormal returns over the event period, while Table 2 lists the AAR and CAAR for each day in the event window, in addition to their corresponding t-values. As our data shows that positive changes in disclosure

do not lead to any positive CAAR, we find no support for our hypothesis regarding the relationship. Additionally, we find no single days with statistically significant AAR over the period. The result is the same for the hypothesized relationship between negative changes and negative abnormal returns.

However, it is evident that negative changes in disclosure give significant positive CAAR ($t = 2,50, p < .05$), the opposite of our hypothesized relationship. A possible explanation for this relationship is that investors show positive reactions to a reduction in disclosure quality due to the potential value of the focal firm's information to its competitors. In other words, strategy disclosure is seemingly a latent discount, and a reduction in disclosure quality reduces this discount. Here, the number of observations was reduced relative to our first hypothesis due to zero change for some observations, with an $N = 107$.

Figure 3: Abnormal Returns for Changes in Strategic Direction/Goals Score

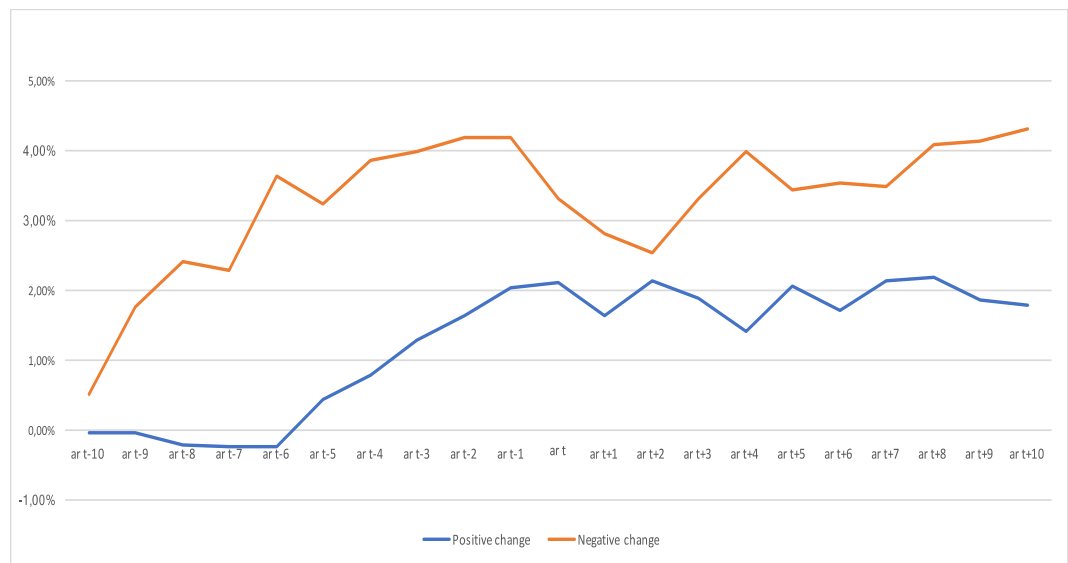


Table 2: Abnormal Returns for Changes in Strategic Direction/Goals Score

Event date = T	Positive change			Negative change		
	AAR	t-value	CAAR	t-value	CAAR	t-value
T - 10	-0,047 %	-0,087	-0,05 %	-0,087	0,50 %	0,567
T - 9	-0,001 %	-0,002	-0,05 %	-0,083	1,26 %	1,702
T - 8	-0,183 %	-0,483	-0,23 %	-0,373	0,65 %	1,329
T - 7	-0,016 %	-0,051	-0,25 %	-0,363	-0,13 %	-0,279
T - 6	-0,006 %	-0,011	-0,25 %	-0,323	1,36 %	1,117
T - 5	0,676 %	1,768	0,42 %	0,462	-0,40 %	-0,662
T - 4	0,357 %	0,819	0,78 %	0,766	0,60 %	1,239
T - 3	0,490 %	1,033	1,27 %	1,089	0,13 %	0,405
T - 2	0,351 %	0,574	1,62 %	1,137	0,22 %	0,391
T - 1	0,407 %	0,765	2,03 %	1,358	-0,01 %	-0,020
T	0,066 %	0,135	2,10 %	1,520	-0,88 %	-0,948
T + 1	-0,462 %	-0,714	1,63 %	1,411	-0,50 %	-0,721
T + 2	0,506 %	1,112	2,14 %	1,804	-0,27 %	-0,396
T + 3	-0,271 %	-0,781	1,87 %	1,742	0,78 %	1,077
T + 4	-0,461 %	-1,441	1,41 %	1,198	0,67 %	1,253
T + 5	0,646 %	1,047	2,05 %	1,647	-0,57 %	-1,411
T + 6	-0,343 %	-0,859	1,71 %	1,402	0,12 %	0,397
T + 7	0,411 %	1,012	2,12 %	1,734	-0,07 %	-0,122
T + 8	0,058 %	0,155	2,18 %	1,792	0,61 %	1,624
T + 9	-0,322 %	-0,937	1,86 %	1,597	0,06 %	0,100
T + 10	-0,079 %	-0,234	1,78 %	1,522	0,16 %	0,195

Hypothesis 3 stated that an increase (decrease) in disclosure quality on firm resources would lead to positive (negative) abnormal returns. While Figure 4 seemingly shows an existing relationship between disclosure quality and abnormal returns – albeit in the opposite direction of what was hypothesized – the findings are not significant. Here, Table 3 lists the AAR and CAAR for positive and negative changes in disclosure on firm-specific resources in the annual reports, as well as the corresponding t-values. The test was done for N = 55 firms, as many firm-observations had no variation on the single dimension over time.

It is evident that no abnormal returns arise from changes in the strategic dimension *firm resources* during the event period, as the CAAR is not statistically significant different from zero. Further, no specific days in the event window show statistically significant returns either, as the t-values of AAR for single days are all below the most relevant thresholds. Thus, we find no support for our hypothesis regarding the relationship between disclosure on firm resources and abnormal returns.

Figure 4: Abnormal Returns for Changes in Firm Resources Score

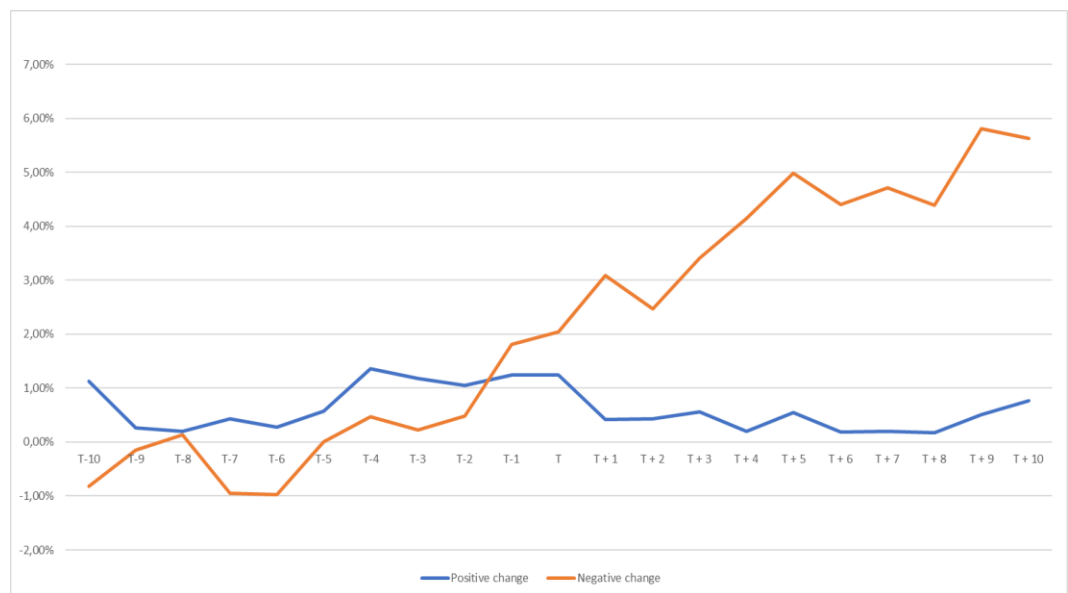


Table 3: Abnormal Returns for Changes in Firm Resources Score

Event date = T	Positive change			Negative change		
	AAR	t-value	CAAR	t-value	CAAR	t-value
T - 10	1,124 %	1,089	1,12 %	1,089	-0,82 %	-1,128
T - 9	-0,864 %	-1,356	0,26 %	0,243	0,68 %	-0,097
T - 8	-0,060 %	-0,179	0,20 %	0,154	0,28 %	0,098
T - 7	0,228 %	0,442	0,43 %	0,369	-1,08 %	-0,607
T - 6	-0,154 %	-0,249	0,27 %	0,173	-0,04 %	-0,481
T - 5	0,298 %	0,918	0,57 %	0,342	0,98 %	0,002
T - 4	0,789 %	1,243	1,36 %	0,761	0,46 %	0,187
T - 3	-0,186 %	-0,459	1,17 %	0,762	-0,25 %	0,085
T - 2	-0,128 %	-0,295	1,05 %	0,575	0,26 %	0,190
T - 1	0,195 %	0,464	1,24 %	0,683	1,33 %	0,726
T	0,006 %	0,015	1,25 %	0,633	0,23 %	0,775
T + 1	-0,826 %	-1,374	0,42 %	0,218	1,04 %	1,030
T + 2	0,003 %	0,011	0,43 %	0,209	-0,61 %	0,902
T + 3	0,129 %	0,382	0,55 %	0,265	0,94 %	1,175
T + 4	-0,353 %	-0,811	0,20 %	0,108	0,74 %	1,486
T + 5	0,349 %	1,432	0,55 %	0,281	0,83 %	1,625
T + 6	-0,369 %	-1,186	0,18 %	0,096	-0,58 %	1,443
T + 7	0,024 %	0,053	0,20 %	0,111	0,31 %	1,573
T + 8	-0,027 %	-0,072	0,18 %	0,096	-0,32 %	1,342
T + 9	0,332 %	1,082	0,51 %	0,289	1,41 %	1,316
T + 10	0,259 %	0,767	0,77 %	0,447	-0,18 %	1,302

Hypothesis 4 assumed that positive (negative) changes in disclosure on positioning would lead to positive (negative) abnormal returns. Here, Figure 5 again seemingly shows an existing relationship in the opposite direction of what was hypothesized, but this is not significant either. Table 4 shows the AAR and CAAR, as well as the corresponding t-values, for changes in disclosure quality on strategic positioning of firms. This single dimension showed very little variation over time, as we observed a constant score across all five years for many firm-observations. As a result, the test was done on a substantially smaller set than for the overarching measure, with our sample size being reduced to N = 45.

As Table 4 shows, it is again clear that no significant abnormal returns arise over the event period for firms that have changes in disclosure on the *positioning* of the firm, with the t-values for CAAR being well below the commonly accepted levels. As a result, we find no support for our hypothesis stating that changed disclosure quality on the relative positioning of the firm should lead to abnormal returns.

Figure 5: Abnormal Returns for Changes in Positioning Score

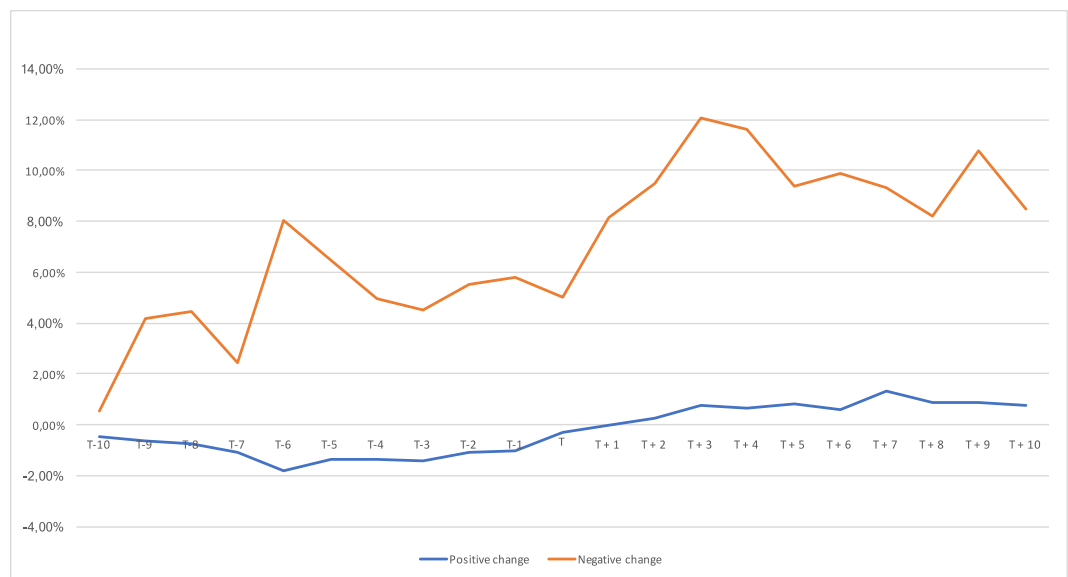


Table 4: Abnormal Returns for Changes in Positioning Score

Event date = T	Positive change				Negative change			
	AAR	t-value	CAAR	t-value	AAR	t-value	CAAR	t-value
T - 10	-0,448 %	-0,698	-0,45 %	-0,698	0,55 %	0,384	0,55 %	0,384
T - 9	-0,200 %	-0,462	-0,65 %	-0,500	3,66 %	1,433	4,20 %	1,605
T - 8	-0,117 %	-0,367	-0,77 %	-0,565	0,24 %	0,170	4,45 %	1,548
T - 7	-0,331 %	-0,828	-1,10 %	-0,778	-2,00 %	-2,077	2,44 %	0,824
T - 6	-0,717 %	-1,633	-1,81 %	-1,281	5,58 %	1,678	8,02 %	1,409
T - 5	0,444 %	0,843	-1,37 %	-0,866	-1,53 %	-1,123	6,49 %	1,243
T - 4	0,008 %	0,015	-1,36 %	-0,860	-1,51 %	-3,222	4,97 %	0,954
T - 3	-0,057 %	-0,150	-1,42 %	-0,824	-0,47 %	-0,649	4,50 %	0,889
T - 2	0,358 %	0,871	-1,06 %	-0,680	1,02 %	0,738	5,52 %	1,108
T - 1	0,035 %	0,073	-1,03 %	-0,664	0,30 %	0,309	5,82 %	1,270
T	0,737 %	1,168	-0,29 %	-0,149	-0,79 %	-0,251	5,03 %	1,570
T + 1	0,243 %	0,550	-0,05 %	-0,024	3,12 %	1,368	8,15 %	1,909
T + 2	0,334 %	0,967	0,29 %	0,164	1,33 %	0,633	9,48 %	1,734
T + 3	0,494 %	1,369	0,78 %	0,394	2,60 %	0,928	12,08 %	1,634
T + 4	-0,134 %	-0,384	0,65 %	0,319	-0,48 %	-0,446	11,60 %	1,469
T + 5	0,155 %	0,369	0,80 %	0,392	-2,22 %	-1,544	9,38 %	1,309
T + 6	-0,182 %	-0,628	0,62 %	0,314	0,48 %	0,892	9,86 %	1,373
T + 7	0,701 %	1,577	1,32 %	0,639	-0,56 %	-0,440	9,30 %	1,198
T + 8	-0,438 %	-1,262	0,88 %	0,429	-1,11 %	-1,456	8,20 %	1,052
T + 9	0,017 %	0,034	0,90 %	0,388	2,57 %	0,686	10,76 %	1,274
T + 10	-0,138 %	-0,388	0,76 %	0,342	-2,30 %	-1,112	8,46 %	0,999

Hypothesis 5 stated that increased (decreased) disclosure quality on the challenges the firm is faced with would lead to positive (negative) abnormal returns. Figure 5 shows the development of abnormal returns over the event period, while Table 3 lists the AAR and CAAR for positive and negative changes in disclosure on firm-specific resources in the annual reports, as well as the corresponding t-values. As many firms again had no variation over the time series, our observations were reduced to N = 61.

Once again, it is evident that no significant abnormal returns arise from positive changes in the dimension *challenges* over the event period, as the CAAR is not statistically significant different from zero. However, unlike the aforementioned hypotheses on single dimension effects, we find some sporadically spread days with significant abnormal returns. Further, we find a statistically significant relationship between negative changes in disclosure quality on future challenges and abnormal returns, although it is in the opposite direction of what was expected. Here we see a CAAR of 8.46% ($t = 2,07, p < .05$) over the event period for companies with negative changes, indicating that investors, on average, reward companies for reducing their disclosure quality on the future challenges they face. Ultimately, while we do not find support for our hypothesis, our findings illustrate an interesting result regarding strategy disclosure.

Figure 6: Abnormal Returns for Changes in Challenges Score

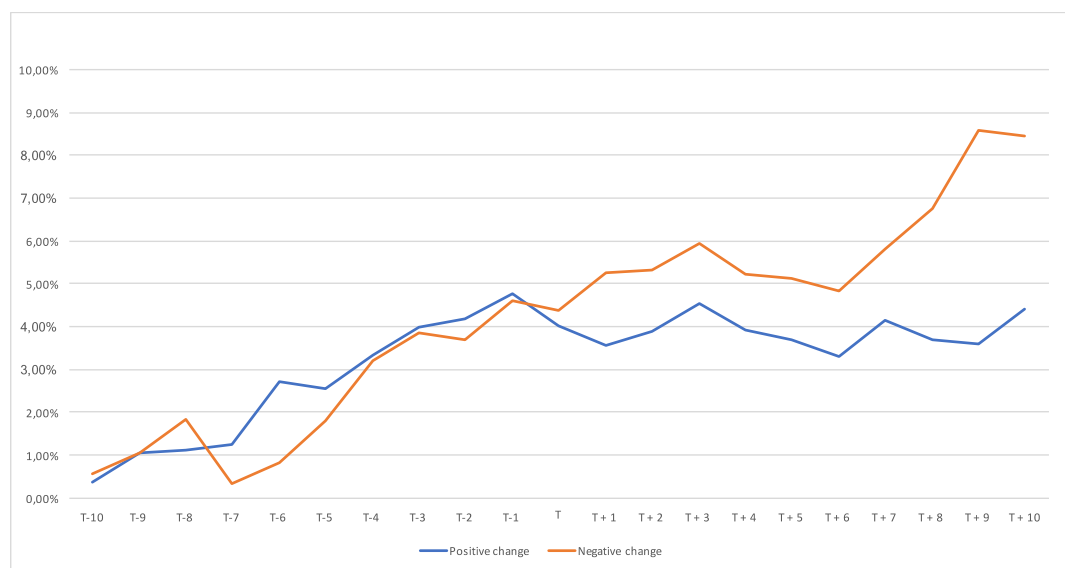


Table 5: Abnormal Returns for Changes in Challenges Disclosure

Event date = T	Positive change				Negative change			
	AAR	t-value	CAAR	t-value	AAR	t-value	CAAR	t-value
T - 10	0,361 %	0,552	0,36 %	0,552	0,56 %	0,486	0,56 %	0,486
T - 9	0,684 %	1,250	1,05 %	0,652	0,50 %	0,330	1,06 %	0,584
T - 8	0,085 %	0,264	1,13 %	0,593	0,78 %	1,100	1,83 %	1,153
T - 7	0,133 %	0,362	1,26 %	0,596	-1,50 %	-2,055	0,34 %	0,243
T - 6	1,464 %	1,600	2,73 %	0,917	0,50 %	0,430	0,84 %	0,428
T - 5	-0,173 %	-0,351	2,55 %	0,951	0,96 %	1,137	1,80 %	0,833
T - 4	0,768 %	1,322	3,32 %	1,224	1,39 %	1,405	3,19 %	1,586
T - 3	0,651 %	1,696	3,97 %	1,412	0,67 %	1,056	3,86 %	1,786
T - 2	0,201 %	0,303	4,17 %	1,323	-0,16 %	-0,196	3,69 %	1,607
T - 1	0,598 %	0,991	4,77 %	1,404	0,91 %	1,267	4,61 %	1,930
T	-0,756 %	-0,969	4,02 %	1,307	-0,24 %	-0,349	4,37 %	1,659
T + 1	-0,462 %	-0,655	3,55 %	1,375	0,89 %	0,947	5,26 %	1,786
T + 2	0,320 %	0,599	3,87 %	1,295	0,06 %	0,076	5,32 %	1,997
T + 3	0,672 %	1,113	4,55 %	1,686	0,63 %	1,211	5,95 %	2,279
T + 4	-0,619 %	-1,765	3,93 %	1,598	-0,72 %	-1,607	5,23 %	1,983
T + 5	-0,221 %	-0,670	3,71 %	1,490	-0,11 %	-0,179	5,13 %	1,819
T + 6	-0,408 %	-1,072	3,30 %	1,283	-0,28 %	-0,616	4,85 %	1,743
T + 7	0,850 %	2,017	4,15 %	1,631	0,95 %	1,381	5,80 %	2,263
T + 8	-0,445 %	-1,516	3,70 %	1,468	0,96 %	1,375	6,76 %	2,536
T + 9	-0,093 %	-0,163	3,61 %	1,354	1,82 %	0,850	8,58 %	1,999
T + 10	0,798 %	2,170	4,41 %	1,636	-0,12 %	-0,112	8,46 %	2,071

After performing the event study for all our hypotheses, we tested the remaining dimensions to examine the possibility of forming *ex-post* hypotheses regarding individual drivers of abnormal returns. As the overarching measure *strategy disclosure* consists of several underlying dimensions, it is natural to assume that changes in any of these may induce abnormal returns through reduced information asymmetry. Despite this, tests show no significant relationship between changes in single dimensions and abnormal returns for any of the remaining dimensions, and is thus not included in the paper.

Discussion

Throughout all our hypotheses, the underlying assumption was that positive changes in disclosure would create abnormal returns, and that negative changes in disclosure would result in negative abnormal returns. To test this, we used our self-constructed measures of disclosure, and found the changes from the historical disclosure level for both the overarching measure *strategy disclosure* and the single dimensions. While we found strong support for positive abnormal returns for increased strategy disclosure quality, relationships for the remaining hypotheses were more elusive.

The overall result for positive disclosure changes on CAAR are well within the commonly accepted statistical levels. The AAR are less convincing, but in line with expectations. In comparison, event studies looking at for example earning surprise announcements see more clearly intraday significance, and also use smaller event-windows (MacKinlay, 1997). The reason we choose a longer event window is because of the nature of the disclosure itself. In contrast to an earnings announcement, which is subject to a binary classification, the nature of communication is far from so. Therefore, in line with our expectations, the AAR are only sporadically significant. As is evident by the CAAR, however, our results show that there is an enormous potential to shareholder wealth through increase in market capitalization from increasing disclosure quality. This means that investors find information on strategy in annual reports to be value-adding, and it is a clear indication that such information is indeed used to make investment decisions. While this has previously been assumed, due to similar effects being found for

both financial and social disclosure, our results unequivocally show that investors value such information in corporate annual reports.

On the other hand, we find no support for our hypothesized negative abnormal returns for decreasing strategy disclosure quality. The perhaps most obvious interpretation of this is that it does not represent a *de facto* decrease in available information, as it is still sporadically present in the market. While the disclosure quality of the stated information may be reduced, the actual information from earlier is still available for investors. If we argue that new disclosure represents information “shocks” for investors, we implicitly assume that these same investors form their expectations based on the disclosure quality of prior years, meaning that they will indeed remember information that is now removed from the annual reports. This interpretation is quite plausible, and would explain why decreasing disclosure does not lead to negative abnormal returns. Even so, with our results in mind, it is difficult to understand why the focus on strategy disclosure is so limited. It might be due to the fact that no event studies have ever been conducted on strategic disclosure in annual reports, or it may be because managers simply do not recognize the potential economic gains from increased voluntary disclosure. There is without doubt an enormous room for improvement of strategy disclosure quality amongst the sampled firms, and we hope that our research can both shed some light on the real-world implications of strategy disclosure and increase the attention it receives in both academia and practice.

Another very interesting finding is the strong positive effect of reduced disclosure on CAAR along the dimensions of Strategic Goals/Direction. In simple economic terms, what happens is that investors seem to increase their valuation of a firm when it reduces its disclosure on strategy. Why would firms reduce their disclosure on any dimensions? In the cases where a strategy has clearly failed, and the firm is contemplating changing it, it would make little sense to keep talking about the strategy. On the other hand, a change of strategy does not necessarily mean that the firm is going to lower its disclosure quality. But how often do firms change strategies? In most cases, firms make only minor changes to their strategy, rather than turning their strategy all the way around. Keeping that in mind, vagueness in the disclosure of strategic direction and goals might be one consequence of a changing strategy. In many instances, using more ambiguous

goals and directions would be likely to get a lower disclosure score. In other words, investors might react positive to a reduction in strategy score, as it could signal a change in the corporate strategy.

Another possible explanation is the value of private and public information. Given that annual reports are public, disclosing too much about strategy might be potentially hurtful, as competitors could use the information. Therefore, when a firm reduces its disclosure, it retains information that is potentially valuable to the competitors. A practical example of this is Company A; Company A have on several occasions surprised the market with new product categories, but if Company A was to reveal their plans of moving into these markets in their annual report, competitors would have been given time to react. It is therefore not that surprising that the market might award firms for reducing their disclosure. In this case, it is natural to assume that decreased disclosure quality would lead to positive abnormal returns, as investors are likely to reward firms that hold their strategic position secret.

In addition to testing changes in the total score and our merged measure, we tested the remaining single dimensions to explain where the positive effects from disclosure originated from. Unfortunately, our scheme does not capture changes on single dimensions to the extent that it is equally appropriate to run tests on them. As shown in the results, the perhaps main takeaway from the tests on single dimensions was that hypothesis testing was difficult, due to the very low N. Although we originally had 182 annual reports to examine changes from the previous years, variation on single dimensions was not that frequent, making it difficult to group the most extreme observations on both end of the scale. In fact, for all the single dimension hypotheses, we instead grouped based simply on positive and negative changes, as grouping the top-and bottom 25% of the observations that had changes different from zero would return quantities that were not suitable for hypotheses testing. Ultimately, we found no CAAR along the single dimensions, due to a low group of observations containing changes and much higher standard deviations, making t-values lower.

The only exception was on the strategic dimension *challenges*, where we again found a statistically significant relationship in the opposite direction of what was

hypothesized. Here, negative changes in disclosure quality lead to positive abnormal returns. To interpret this, we again assume that the investor can remember prior years' disclosure quality. If this is true, a reduction in disclosure quality on future challenges could be understood as a reduction in the actual challenges the firm faces. While high disclosure quality would provide the investor with an overview of important obstacles for the given firm, a reduction from historically high levels of disclosure quality on this dimension could be interpreted as a decrease in strategic challenges for the firm. In this case, it is understandable that investors would value lower disclosure quality. If the investor assumes that the firm has less obstacles to overcome in the future to achieve its strategic goals, the value of the firm should, *ceteris paribus*, be higher.

A potential explanation for the otherwise elusive results on single dimension testing is their innate disregard for any potential synergies with other dimensions. Our scheme was created to measure a total level of disclosure, the *strategy disclosure* score. In trying to explain the findings by looking at single dimensions, we found non-existent and even contradictory results. A possible explanation is that the abnormal returns exist in the interplay between the dimensions, i.e. that there are synergies from disclosing on several dimensions. Although we have argued for 14 different dimensions of firm strategy, it is not given that the very generalized notion of one dimension is satisfactorily explained by measuring only that single dimension. What we do argue, however, is that this single dimension is satisfactory in terms of evaluating a complete set of dimensions due to synergistic effects, but not necessarily for drawing inference on this dimension alone.

Although we did not include it in the hypotheses or our initial testing, we also wanted to investigate *ex-post* the effects of relaxing the constraints regarding informational value, examining the effects of strategy disclosure quality in general as opposed to only looking at changes (Appendix 2). Assuming investors have no recollection of prior disclosure levels, we found that low strategy disclosure quality is associated with positive abnormal returns ($t = 2,19$, $p < .05$) (Appendix 3). Again, this is contradictory to what one expects to find, as better information is assumed to lead to increased financial performance. It is important, however, to note that this is methodologically flawed. First, it is likely to suffer from endogeneity, as it is plausible to assume that companies with strong financial

performance has more resources available for construction of the annual report. Second, the assumption that investors have no recollection of prior years' disclosure quality contradicts the notion that information exists in the market, as each firm-year score would be treated as entirely new information. Even so, the findings are interesting to help ensure a better understanding of the economic effects of corporate strategy disclosure, and should help incentivize further research in the area.

While we did not find support for all our hypotheses, the strong support for our finding that increased strategy disclosure quality leads to positive abnormal returns are highly encouraging. It is a clear indication that revelations on corporate strategy holds high informational value for investors, which in turn could, and should, have important implications for both the academic literature and annual reporting practices.

Limitations

Our conclusions in this paper are subject to several limitations, both with regards to the sample data and the rather strong set of assumptions inherent in the methodological approach for both event studies and content analysis. These limitations will, however, potentially provide a basis for further research to increase our understanding of corporate disclosure and its effects.

First, the data we have used does not nearly exhaust the communication of valuable information on corporate strategy, as it only considers the annual reports of the firms. Although disclosure in annual reports has been shown to be highly correlated with the general disclosure level of the firm (Botosan, 1997; M. Lang & Lundholm, 1993), our scores could potentially be biased due to its focus on a singular report. It is also prone to issues related to endogeneity both through simultaneity and omitted variables. The direction of causality in the relationship between voluntary disclosure and financial performance is potentially ambiguous, as it can be assumed that well-performing firms have a larger incentive to disclose corporate matters than their underachieving counterparts. It can also be presumed that the substantial cost and effort that goes into making a comprehensive annual report is easier to accommodate for firms that have performed well financially in

recent years. Further, it is natural to assume that our scheme might not include the entirety of relevant strategy disclosure potentially included in annual reports. Our scheme for disclosure ratings presented in this paper represents only the conjectures of the authors regarding informationally important strategic dimensions, and is thus prone to potential omitted variables. Additionally, our overarching measure of strategy disclosure is built on equal weights for all the included dimensions, which may not be realistic. *Per contra*, it would rather seem reasonable to assume that these dimensions indeed carry unequal weights as investors value them differently, representing a potential limitation for our independent variable. It is also important to note that while the *ex-ante* information found in annual reports may represent the intentions of the firm, any implementation of these intentions is susceptible to *ad hoc* revisions. As such, the extent to which investors actually use the qualitative strategy information to make investment decisions could be debated. Finally, our sample used for testing abnormal returns from changes in individual dimensions suffered from a low N , as the companies in our sample rarely had meaningful year over year changes on singular dimensions in their reports.

Second, although event studies are widely applied and often used when studying security price reactions, it faces certain empirical issues. The perhaps most obvious is its assumption of market efficiency, as any event study faces the joint hypothesis that abnormal returns are zero and that the chosen model of expected return is correct (Eckbo, 2008). This, however, has been argued to be more difficult to reconcile with very long event windows (McWilliams & Siegel, 1997), and will as such not necessarily be an important limitation for our study. For confounding effects, where bias introduced by significant events or news distort the data, the argument is the same regarding shorter periods. Additionally, as we decided on a ± 10 -day event window, the exclusion of all annual reports potentially affected by confounding events would have significantly reduced our sample size. As such, we decided to only eliminate data where other clearly relevant events occurred on the actual release date of the annual reports, or its associated trading day. Another restriction for event studies is the potential for cross-sectional correlation of abnormal returns. Despite being recognized as an important statistical issue (Binder, 1998; Kolar & Pynnönen, 2010), Brown and Warner (1985) show that inter-correlations are practically zero in instances where

the Market Model has been used as a benchmark model for expected returns and the sample securities are distributed randomly over different industries. Other methodological limitations that may disturb the abnormal returns of individual securities include event-induced- variance (Binder, 1998; Eckbo, 2008) and heteroskedasticity (Binder, 1998; Wiles & Danielova, 2009) and non-synchronous trading across firms (Brown & Warner, 1985; Strong, 1992). Additionally, our methodology could suffer from non-immediate or “lagging” effects on the abnormal returns. Although the efficient market hypothesis assumes that new information is immediately incorporated in the security price, this particular study faces the issue that investors potentially read, and react to, the report at a later time in the event period than the actual release date, leading to a potentially lagged effect. Moreover, investors might not react simultaneously, causing a non-synchronous reaction pattern across the market.

Third, content analysis is prone to several methodological limitations in terms of reliability (Krippendorff, 2004). Although significant time was spent to avoid problems related to accuracy and reproducibility through unambiguous rating instructions and several test rounds, the disclosure ratings could potentially be impacted by distinctive biases (Krippendorff, 2004). Even without considering these potential methodological issues related to reliability, every qualitative assessment will, to a certain extent, be the result of a subjective perception on the quality of disclosure from the coder, opening for potential issues related to the accuracy of the ratings in the scheme (Beattie et al., 2004; Healy & Palepu, 2001).

Implications and Further Research

The findings of our study show the presence of abnormal returns from increased strategy disclosure in corporate annual reports, and, although we did not find support for all our hypotheses, the results clearly show the informational value of strategy disclosure. This has potentially important implications for both academia and practice.

As the research literature on voluntary disclosure, and specifically strategy, remains limited, the observed relationship between increased strategy disclosure and abnormal returns furthers the understanding of disclosure effects on firm

market value. While this area of research has been focused around the effects of financial and social disclosure, previous literature has indicated a positive relationship between strategy disclosure and financial performance. The findings in this paper clearly show that this neglect has been misguided, as the value of strategy disclosure for investors can have substantial economic effects. This should incentivize an increase in the research conducted on the impact of strategic revelations on financial performance, as increasing our understanding of such a relationship is important to gain further insights on both disclosure effects and the economic value of strategy. Additionally, further research could provide an in-depth analysis on singular strategy disclosure dimensions – both those included here and others – as the lack of congruence between findings on the overarching measure and the individual dimensions suggests that other specific dimensions may drive abnormal returns in strategy disclosure.

Regarding the practice of disclosure, our findings are relevant for managers and firm officers seeking to better the financial performance of their firm. The observed beneficial effects from increasing strategy disclosure can potentially incentivize an increase in qualitative corporate reporting, while simultaneously providing managers with motivation to allocate more time and resources to the corporate annual report. Although constructing a more comprehensive report would be costlier, this increase in expenses should, on average, be offset by the financial gains from increasing the disclosure quality. Further, the results can have implications for the regulatory requirements on corporate reporting, as the qualitative parts are clearly shown to be relevant to investor decision making. Although the study does not deal with questions related to how and to what extent such voluntary disclosure should be regulated, the findings indicate that investors indeed use such information to make educated guesses regarding the future performance of firms, potentially opening up for a debate on possible legal requirements on corporate strategy reporting in the future.

The study also opens numerous venues for future research. As our findings from testing changes in single dimensions on security returns yielded limited significant findings, it is possible that research in this area will improve our understanding of the specific dimensions within strategy disclosure driving abnormal returns. Even further, studies could include other variables than the ones

presented here, as additional explanatory variables could give further insights to both the informational and economic value of corporate strategy reporting. Additionally, as our method focus simply on the immediate effects of corporate strategy disclosure, another direction could examine the long-term effects of an increase in disclosure by using a lead-lag approach to avoid the potential ambiguity in the contemporaneous relation between strategy disclosure and abnormal returns. This methodology was used by Dhaliwal et al. (2011) to investigate the relationship between social disclosure and equity cost of capital, and an identical approach could be used for strategy disclosure. Finally, as the findings in our study are based on a single country and stock exchange, an international study could potentially identify differing effects from strategy disclosure across borders, as it can be assumed that it is contingent on the legal and social environment.

Conclusion

The purpose of this study was to examine whether changes in corporate strategy disclosure quality in annual reports would lead to changes in firm market value. In doing so, it built on the established notion that reduced information asymmetry has positive financial effects and that new value-adding information will be incorporated in the price of the related security. While this relationship between disclosure and performance has previously been studied with regards to both financial and social revelations, its strategic equivalent has thus far largely evaded academic foci. This paper is our attempt at filling that proverbial gap in the literature. Our results show that investors, on average, find strategy disclosure to be useful information when making investment decisions, reflected as the presence of abnormal returns when strategy disclosure quality increases in annual reports. Further, we show that there are significant economic effects for firms increasing the disclosure towards corporate stakeholders, due to substantial increases in firm market value. This confirms the long-standing assertion that higher disclosure quality will lead to better financial performance for firms, and further reinforces the consensus regarding the economic value of strategy.

Appendices

Appendix 1: Rating Scheme for Strategy Disclosure

The following variables make up the dimensions of strategy disclosure argued to be of informational value for the investor. These are rated for each firm-year report, and the scheme is used as guidance after the test period.

1. Strategic Direction: Where does the company want to go?

Strategic Direction	
Score	Description
0	No mention
0,33	Generic strategy disclosure
0,66	Some specific directions
1	Answers where and why, with specific goals.

2. Strategic goals: What goals must be achieved for the firm go in the direction it wants?

Strategic Goals	
Score	Description
0	No mention
0,33	Generic strategy disclosure
0,66	Some specific directions
1	Articulated goals, with specific measures to achieve them

3. Mission: What is the purpose of the company's existence?

Mission	
Score	Description
0	No mention
0,33	Generic mission statement, not firm-specific
0,66	Mission that is relevant to the company
1	Specifically reflects the nature of existence for the company

4. Vision: What does the future look like?

Vision	
Score	Description
0	No mention
0,5	Generic vision statement, not firm-specific
1	A precise vision for the company

5. *Values: What are the moral and social principles guiding the company?*

Values	
Score	Description
0	No mention
0,33	Generic corporate values, not firm-specific
0,66	Corporate values linked to the specific company
1	Comprehensive review of values, including their rationales

6. *Positioning: How does the company position themselves relative to competitors?*

Positioning	
Score	Description
0	No mention
0,5	Implicitly states the positioning of the firm
1	Explains the positioning and the rationale behind the choice

7. *Business Environment: What is the state of the general business environment in which the firm operates?*

Business Environment	
Score	Description
0	No mention
0,33	Brief mention, but limited to general insights
0,66	Overview of general environment, providing some context
1	Comprehensive review, linking the environment to the company

8. *Key Events: What were the most important events for the company in the previous year?*

Key Events	
Score	Description
0	No mention
0,33	Brief mention of major events
0,66	Review of key events
1	Review of key events and their effect on the company

9. *Challenges: What challenges is the firm faced with in the coming year?*

Challenges

Score	Description
0	No mention
0,33	Mentions industry-specific challenges
0,66	Industry- and firm-specific challenges
1	Industry- and firm-specific challenges, with mitigating measures

10. *Objectives: What objectives have the firm laid out for the coming year?*

Objectives

Score	Description
0	No mention
0,33	Generic business objectives, not firm-specific
0,66	Mentions firm-specific business objectives
1	Comprehensive review of objectives, including their rationales

11. *Key Performance Indicators: What are the most important metrics for measuring operational performance?*

Key Performance Indicators

Score	Description
0	No mention
0,5	Some relevant operational and financial measures
1	Comprehensive operational and financial measures

12. *Investments: What will be the focus of future investments?*

Investments

Score	Description
0	No mention
0,33	Generic investment disclosure
0,66	Brief mention of investment areas
1	Comprehensive review of investments, aligned with firm strategy

13. *Value Proposition: What is the value proposition of the firm?*

Value Proposition

Score	Description
0	No mention
0,33	Implicitly stated in the report
0,66	Generic value proposition
1	Clearly defined value proposition, specific to the firm

14. Firm Resources: What are the firm-specific resources that constitute the company's competitive advantage?

Value Proposition

Score	Description
0	No mention
0,33	Generic firm resources
0,66	Brief mention of most important firm-specific resources
1	Overview of most important firm-specific resources

CONTROL VARIABLES

The following variables were included to control for differences between the reports.

1. Readability: The ease of finding selected information in the report.

Readability

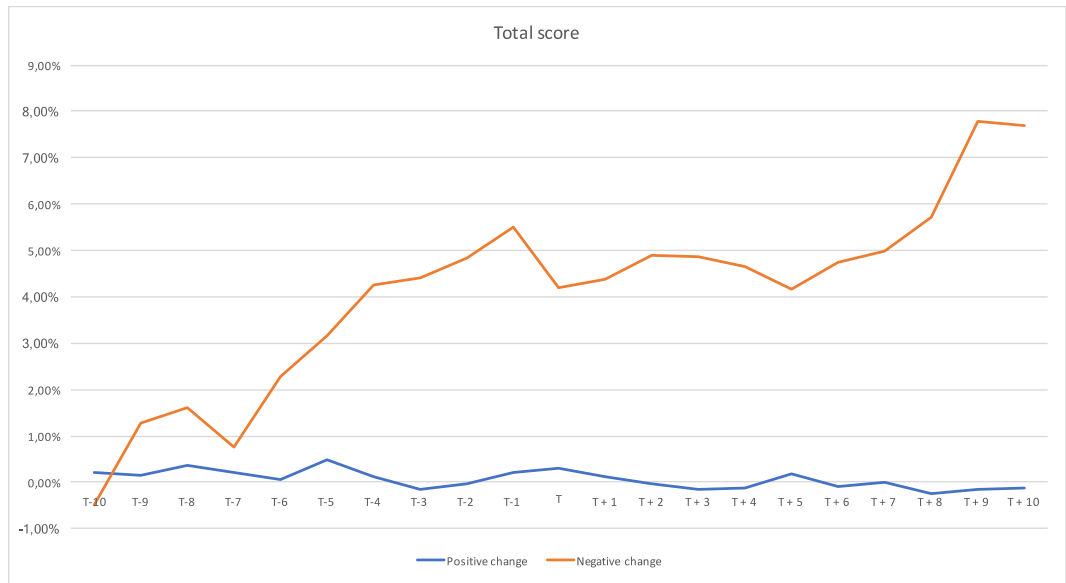
Score	Description
0	No structure
0,33	Includes table of contents, but information is not well structured
0,66	Decent structure, most information is easily found
1	Well structured, information is easily found

2. Dedicated Section: The annual report contains a dedicated section on strategy.

Dedicated Section

Score	Description
0	No dedicated section for corporate strategy
1	Dedicated section for corporate strategy

Appendix 2: Event Study Results for Top-and Bottom 25% of Strategy Disclosure Scores



Appendix 3: Abnormal Returns for Top-and Bottom 25% of Strategy Disclosure Scores

Abnormal Returns for Top-and Bottom 25% Strategy Disclosure Scores

Event date = T	Top 25%				Bottom 25%			
	AAR	t-value	CAAR	t-value	AAR	t-value	CAAR	t-value
T - 10	0,203 %	0,822	0,20 %	0,822	-0,50 %	-1,124	-0,50 %	-1,124
T - 9	-0,053 %	-0,189	0,15 %	0,260	1,76 %	2,217	1,27 %	0,846
T - 8	0,203 %	0,679	0,35 %	0,492	0,35 %	0,794	1,62 %	0,981
T - 7	-0,152 %	-0,481	0,20 %	0,224	-0,84 %	-1,293	0,77 %	0,400
T - 6	-0,152 %	-0,383	0,05 %	0,040	1,49 %	1,420	2,27 %	0,747
T - 5	0,453 %	1,107	0,50 %	0,331	0,90 %	1,300	3,17 %	1,104
T - 4	-0,381 %	-0,967	0,12 %	0,069	1,10 %	1,842	4,26 %	1,418
T - 3	-0,287 %	-0,931	-0,17 %	-0,093	0,14 %	0,408	4,40 %	1,430
T - 2	0,143 %	0,402	-0,02 %	-0,015	0,45 %	0,735	4,85 %	1,559
T - 1	0,250 %	0,825	0,23 %	0,139	0,64 %	1,063	5,49 %	1,741
T	0,066 %	0,163	0,29 %	0,175	-1,29 %	-1,483	4,20 %	1,379
T + 1	-0,164 %	-0,462	0,13 %	0,089	0,18 %	0,302	4,38 %	1,484
T + 2	-0,153 %	-0,657	-0,03 %	-0,017	0,53 %	1,012	4,91 %	1,653
T + 3	-0,138 %	-0,637	-0,16 %	-0,112	-0,06 %	-0,163	4,85 %	1,610
T + 4	0,035 %	0,141	-0,13 %	-0,080	-0,21 %	-0,425	4,64 %	1,614
T + 5	0,313 %	0,935	0,18 %	0,104	-0,49 %	-0,986	4,15 %	1,481
T + 6	-0,279 %	-1,163	-0,09 %	-0,055	0,60 %	1,380	4,75 %	1,701
T + 7	0,084 %	0,265	-0,01 %	-0,006	0,23 %	0,494	4,99 %	1,798
T + 8	-0,245 %	-1,288	-0,26 %	-0,141	0,73 %	1,738	5,72 %	2,055
T + 9	0,095 %	0,421	-0,16 %	-0,091	2,07 %	2,054	7,79 %	2,105
T + 10	0,032 %	0,143	-0,13 %	-0,078	-0,09 %	-0,227	7,70 %	2,189

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