SUSTAINABILITY DISCLOSURES:

Legitimizing behaviour or stakeholder pressure?

ERASMUS UNIVERSITY ROTTERDAM

M. van Hoorik

Erasmus University Rotterdam
Erasmus School of Economics
Department of Business Economics
Section Accounting, Auditing and Control

“Sustainability disclosures: legitimizing behaviour or stakeholder pressure”

Author: Ms. Mariska van Hoorik
Student nr: 279232
Supervisor: Drs. Chris D. Knoops
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ABSTRACT

This thesis investigates the relation between organizational characteristics and the quality of sustainability disclosures to gain further insight in management's motivations to publish sustainability reports. It tests the theoretical view on these motivations, based on stakeholder and institutional theory, on the sustainability reports of Dutch organizations. For this, an existing benchmark study executed by PWC by order of the Dutch Ministry of Economic Affairs is used which yearly determines the individual quality of the sustainability reports of Dutch organizations.

This thesis examines the relation with the quality of sustainability disclosures for six organizational characteristics. The results show that size, quotation on a stock exchange, industry and ownership dispersion are significantly related to the quality of sustainability disclosures. For the organizational characteristics financial performance and leverage, no results were found.

Keywords: sustainability disclosures, disclosure quality, organizational characteristics, stakeholder theory, legitimacy theory.

REFERENCE LIST

1 INTRODUCTION

1.1 *Background*

Society has become more and more aware of, and concerned about, environmental and social issues and especially the role and influence of organizations on these issues. This has resulted in the fact that most organizations have put sustainability on their political agenda. Sustainability is most commonly defined as a system of development which: *"meets the needs of the present without compromising the ability of future generations to meet their own needs."* (The Brundtland report, UNWCED, 1987). It is also called 'People, Planet & Profit' or 'Triple Bottom Line' because it includes environmental, social and economic issues.

Organizations have reflected the growing attention on sustainability in their reporting practices by starting to give more attention to environmental and social issues. This started as three different types of reports:

- *Social reports:* These reports provide information on the social aspects of the activities of organizations and started as a response to the 1970s demands on organizations to introduce 'social accounting' or produce a 'social balance sheet'. However, they have never been published frequently.
- *Environmental reports*: The first environmental reports were published at the end of the 1980s after the Brundtland report (1987) was released. The reports immediately became generally accepted and were published widely by organizations. Often, they also included health and safety issues.
- *Annual reports*: Since the mid 1990s there has been a trend for annual reports to include more information on ethical, social and environmental aspects of the activities of organizations. This kind of reporting is mostly used by organizations who do not publish a separate report (Daub, 2007).

When information on social, environmental and economic aspects is combined it is referred to as 'sustainability reporting' which is defined by the World Business Council for Sustainable Development (WBCSD) as: *"public reports by companies to provide internal and external stakeholders with a picture of the corporate position and activities on economic, environmental and social dimensions"* (WBCSD, 2002, p. 7).

Recent data on sustainability disclosures show a shift from environmental reporting to sustainability reporting. Of the Global Fortune 250 companies (G250) that had some kind of disclosures, 73% published an environmental, health and safety report in 2002; in 2005 this had only been 13%. On the other hand, in 2002 14% of the G250 published a sustainability report but in 2005 this number had risen to 68%. Combined environmental and social reports also increased from 10% in 2002 to 17% in 2005 and social reports dropped from 3% to 2% (KPMG, 2005).

KPMG (2008) also shows that nowadays the question is no longer 'Who is reporting?', but 'Who is not?' The share of separate corporate responsibility reports by the G250 has grown from 45% in 2002 and 52% in 2005 to an astonishing 79% in 2008. (KPMG, 2005; KPMG, 2008)

1.2 *Problem definition*

Even though many organizations have started to report on sustainability, it is still hard for stakeholder to assess the sustainability of these organizations. This is mainly caused by the lack of regulations on sustainability reporting. There are no regulations on disclosures that organizations are obliged to comply with. Therefore, organizations are free to decide if they want to report on sustainability and if so, to which extent and in which way. As a result, sustainability reports may lack the quality that is required by the users of the reports.

On the other hand, there have been many benchmark studies on the quality of sustainability reports that have showed high quality examples of sustainability reports. This shows that some organizations do not need obligatory regulations to disclose sustainability reports of a high quality. Note, that these organizations often make use of some sort of guidelines such as the ones published by the Global Reporting Initiative (GRI, 2006), but that these can be used or rejected to the extent that it pleases the organization.

The fact that organizations put much money and effort in disclosures that are not mandatory, makes us think about the drivers these organizations have. This subject can be handled from different approaches and with different theoretical views as will be shown in chapters 2 and 3. This thesis will approach the subject empirically and will investigate disclosure practices and organizational characteristics that are

thought to be related to the quality of sustainability disclosures. Therefore the following problem definition has been formulated:

"Which organizational characteristics relate to the quality of sustainability reporting?"

Whether or not organizations really are acting sustainable is a different question, one that will not be addressed in this thesis.

1.3 *Scope and relevance*

Some countries have been overrepresented in prior research; these are mainly the English-speaking countries such as Canada, the USA, the UK, New Zealand and Australia. The obvious reason to use these countries as a research sample instead of others is the language barrier. This research will examine the relation between organizational characteristics and the quality of sustainability reporting for Dutch organizations because a different country can provide new insights and since in this case, the language is not a barrier. Although the Netherlands have not been included in research on sustainability often, it is an issue with high priority for many organizations here. With 60 percent of the top 100 national companies reporting on sustainability in 2008, the Netherlands are worldwide on the fifth position concerning the percentage of organizations that report on sustainability (KPMG, 2008).

This research will also distinguish itself from prior research by including organizations that are not listed on a stock exchange in its sample. Many researchers have concluded that their results might be less reliable because they had only included the biggest organizations. By using a bigger sample, and including non-quoted organizations, this research will try to overcome this problem. Using a bigger sample will be achievable, because the quality of the Dutch sustainability reports will not be personally determined, but will be obtained from an authoritative benchmark study. So, despite an infinite amount of time or money, it will still be possible to obtain a large sample over multiple years.

Besides the above mentioned differences, this research will also show similarities with prior research such as the variables and methods used. The results can therefore be compared with other research, and can provide further insights in the relation between organizational characteristics and perhaps shed some light

on the differences between disclosing practices of Dutch organizations and organizations from other countries.

The insights resulting from this research can be used by different parties. Stakeholders may use it to gain further knowledge of the motivations of management to disclose sustainability reports. Organizations may use it to compare themselves to other organizations with the same organizational characteristics. Policy makers may use it in decisions that might stimulate or oblige organizations to report on sustainability.

1.4 *Outline*

The outline of this thesis is as follows. Chapter 2 will provide a theoretical framework for this thesis. It will provide insights in the theoretical reasons and motivations of organizations to publish sustainability reports. For that reason, it will explain legitimacy and stakeholder theory and will describe some studies that found empirical evidence to support these theories.

The literature review in the third chapter will describe the empirical research that has been performed on the relation between organizational characteristics and sustainability disclosures. This includes studies that have accepted and used the above mentioned theories and studies that have not. With the review of prior research, it will be possible to gain further insights in the organizational characteristics that have or have not been proven to relate to sustainability disclosures.

In chapter 4, it will be discussed how the quality of disclosures can best be defined. National and international organizations, have presented principles of quality. Some of them will be discussed to grasp the meaning of quality. Furthermore, it will be described how the quality of sustainability disclosures can be measured.

The research design of this thesis will be presented in chapter 5. This chapter will combine the information of the preceding chapters to argument the relation between certain organizational characteristics and the quality of sustainability disclosures. From this argumentation, several hypotheses will be formulated. The remainder of the chapter will describe which variables will be used in the research, why these have been chosen and how they can be measured. It will also describe the sample that will be used. Finally, the research method and statistical analyses that will be used will be described.

The results of the empirical research will be presented in chapter 6. It will provide the statistical output of the tests, and the interpretation of the results. This will be used to accept or reject the hypotheses.

The last chapter contains the conclusions of this thesis. It will provide a summary of the results, an overview of the limitations of the research and suggestions for further research.

2 THEORETICAL FRAMEWORK

This chapter explains why organizations choose to voluntarily disclose information on sustainability. Several theories can be, and are being used to explain management's decisions on sustainability disclosures. In this chapter legitimacy theory (with a reference to media agenda setting theory) and stakeholder theory will be described. Other theories on voluntary disclosures have also been used by researchers, such as agency theory (e.g. Jensen and Meckling, 1976), political costs theory (e.g. Cullen and Christopher, 2002) and signalling theory (e.g. Campbell *et al.*, 2001). However, these theories will not be used in this thesis since they are less accessible to empirical research (Campbell, 2004) and will therefore be left aside in this chapter.

The legitimacy and stakeholder theory have in common that they are both system oriented theories. According to Gray *et al.* (1996), *"these theories permit us to focus on the role of information and disclosure (accounting and CSR) in the relationship(s) between organizations, the State, individuals and groups"* (p. 45). They also have something else in common, namely political economy theory.

Political economy theory is a broad theory, which can be viewed as a framework of assumptions for legitimacy theory and stakeholder theory when applied to sustainability disclosures (Gray *et al.*, 1995). Gray *et al.* (1996, p. 47) define political economy as *"the social, political and economic framework within which human life takes place"*. Political economy theory recognizes the power conflicts in society and the potential struggles between groups within this society. Political economy theory also recognizes that society, politics and economics are inseparable and that economic issues can therefore not be investigated without looking at the political, social and institutional framework in which the economic activities take place (Deegan, 2002).

2.1 *Legitimacy theory*

Within legitimacy theory, organizations are believed to receive the authority to operate, to own and to use any resources or hire employees, from society (Matthews, 1993). They will only receive a 'license to operate' by meeting society's expectations. This is also described as the 'social contract' between organizations and society, where society should be seen as the public at large and not as just the investors

(Deegan and Unerman, 2006). If an organization fails to comply with the expectations from society and breaks the contract, this may lead to sanctions being imposed by society. These sanctions may include a limitation of resources being provided such as financial capital and labour, a reduction in demand or consumer boycotts on the organizations products, or actions from the government such as taxes, fines or legal restrictions on the organization (Deegan and Unerman, 2006).

The legitimacy of an organization is threatened when society's expectations of the performance of the organization are in conflict with the actual performance of the organization. This is referred to by Hurst (1970) as the 'legitimacy gap'. Dowling and Pfeffer (1975) and Lindblom (1994) prescribe several communication strategies for organizations that seek legitimacy. Lindblom (1994) gives four strategies that an organization can follow, either individually or in combination, when they face legitimacy threats. They can:

- seek to change the organization's performance and activities to conform to prevailing definitions of legitimacy (and inform the relevant publics about this);
- seek to change the perception of relevant publics about the organization's performance and activities (without changing the actual performance or activities);
- seek to manipulate perception by distracting attention away from the issue of concern onto symbols, actions, values or institutions that are seen as legitimate;
- seek to change external expectations of its current performance by, for example, explaining why those expectations are unreasonable.

The above strategies can be implemented by an organization through publicly disclosing information in annual or sustainability reports. This may also explain, especially considering the third strategy mentioned, the tendency of organizations to report more positive than negative information in their sustainability report.

Deegan and Unerman (2006) state that legitimacy theory:
"… asserts that organizations continually seek to ensure that they are perceived as operating within the bounds and norms of their respective societies, that is, they attempt to ensure that their activities are perceived by outside parties as being 'legitimate'. These bounds and norms are not considered to be fixed, but change over time, thereby requiring organizations to be responsive to the ethical (or moral) environment in which they operate." (p. 271).

This agrees with Lindblom's (1994) statement that an organization constantly needs to respond to changes in society to close the legitimacy gap. Therefore, if society's expectations change, the organization needs to communicate to society how it is changing as well, or explain why it is not changing (Deegan and Unerman, 2006).

In shaping society's expectations, the media is believed to have an important influence (Brown and Deegan, 1998). This can be explained by media agenda setting theory, as is described in the next section.

2.1.1 Media agenda setting theory

Media agenda setting theory explains the process whereby increased media attention on public issues can lead to increased community concern for those issues. The theory involves two concepts, 'media agenda' and 'public agenda'. The list of all the issues or events that receive news coverage is the media agenda. The public agenda is the list of issues that is on the minds of the public (McCombs *et al.*, 1995). The media are seen as shaping public priorities, not as mirroring them (Brown and Deegan, 1998). Thus, the media agenda 'sets' the public agenda. Zucker (1978) finds that this is especially true for issues relevantly unfamiliar to people. He categorizes issues as 'obtrusive' or 'unobtrusive' depending on the extent that people have had direct personal experience with the issue. He finds that the less experience people have, the more they rely on the media for information and interpretation of an issue. Zucker (1978) and several other researchers find that the environment is an unobtrusive issue which shows a strong media-setting effect.

Although managers are not assumed to be aware of media agenda setting theory, they are found to be aware of the effects of media on public attitudes (Deegan *et al.*, 2002). O'Donovan (1999) shows that managers are not only aware of the media attention, but they also feel the need to respond to the attention in their annual reports.

2.1.2 Empirical research on legitimacy theory

In this section, empirical research on legitimacy theory will be described. To interpret the following literature, the summary given by Campbell (2004) might be helpful. In his article he states that, based on previous literature, legitimacy theory may be supported if one of the following criteria can be met:

1. *"Voluntary disclosure of a given type (category) longitudinally responds to societal opinion in that area or to the influence of a key conferring stakeholder concerned with it (proxies may be used to 'measure' the strength of societal opinion on an issue);*
2. *Cross-sectional effects will be observable with those companies or sectors more likely to be affected by a disclosure category disclosing more information relevant to the area of concern than those less affected.*" (Campbell, 2004, p. 116)

Disclosure strategies

Gray *et al.* (1995) adopt legitimacy theory for their research hereby making use of the four strategies of Lindblom (1994). They examine social and environmental disclosures of organizations in the UK from 1979 to 1991 and find three kinds of disclosures that are consistent with the first three strategies of Lindblom (1994). The first kind consists of a minority of organizations who would actually change their performance if needed, and then report this in their social and environmental disclosures. The second category tried to change the perception of their environmental performance through disclosures and the third kinds of disclosures were designed to distract attention from central environmental issues. Gray *et al.* (1995) also state that they were persuaded of the existence of a legitimacy gap in the area of health and safety. Although there was no sign of improved health and safety records, organizations must have been under pressure by relevant stakeholders because there was an increase of disclosures on how the organizations managed these issues. *"As such, health and safety disclosure appears to be a strong illustration of Lindblom's second legitmation strategy; changing perceptions"* (Gray *et al.* 1995, p. 65).

The research of Van Staden and Hooks (2007) may also be seen in the light of the disclosure strategies of Lindblom (1994). Van Staden and Hooks (2007) try to relate environmental reporting with responsiveness for New Zealand organizations. They argue that environmental responsiveness is a proactive approach of legitimacy theory since it can prevent legitimacy concerns form arising. Responsiveness is in this case defined as an *"entity's sense of responsibility for its environmental impact and includes the development of strategies, policies, objectives and targets to address this responsibility"* (Van Staden and Hooks, 2007, p. 198). They find significant evidence that the quality of organizations' environmental disclosures reflect their environmental responsiveness. This is consistent with the first strategy of Lindblom (1994) and supports legitimacy theory.

The research of Deegan and Rankin (1996) also provides an example of the disclosure strategies of Lindblom (1994). They try to explain environmental disclosure policies of organizations around the time

of successful environmental prosecutions against them, using the legitimacy theory. They find that the prosecuted organizations disclosed significantly more information in the year of the prosecution and that they also disclosed more than non-prosecuted organizations. In addition, they found that the extra disclosures contained favourable information about the organization. This is consistent with the third reporting strategy of Lindblom (1994) which states that an organization facing legitimacy threats will distract attention away from the issue of concern, in this case an environmental prosecution.

Patten (1992) shows that organizations that are not actually involved in environmental issues themselves, can also feel that they are facing a legitimacy threat. He examines the Exxon Valdez oil spill in Alaska in 1989 and finds that other North American oil organizations significantly increase their environmental disclosures after 1989. This implies that the oil spill is seen as a legitimacy threat to the entire industry and is seen as evidence for legitimacy theory. Deegan *et al.* (2000) did a similar study and looked at the effect that five major social incidents, such as the Exxon Valdez oil spill and the Moura mine disaster, had on the disclosure of social information of organizations in industries related to these incidents. They find that for four out of the five incidents, more (positive) social information was provided in the annual reports. Deegan *et al.* (2000) conclude that these results support a view that organizations use their annual report as a strategic means of influencing society's perception of their operations, and as a means of legitimizing their ongoing existence. They also state that the different outcome of the fifth incident can be explained by the limited media attention it received.

Media attention

Deegan *et al.* (2000) were not the first to use media attention as an explanation for increased disclosures. Brown and Deegan (1998) examined the relationship between the print media coverage given to various industries' environmental effects, and the levels of environmental disclosures made by a sample of Australian organizations in those industries. They argue from media agenda setting theory that media can be an effective drive for society's concern about organizations' environmental performance. They find that for a majority of the industries, higher levels of media attention (both negative or in general) are significantly related to higher levels of disclosures. This confirms the legitimizing motive of organizations in these industries. This argumentation is also used in a longitudinal study by Deegan *et al.* (2002) who examine both social and environmental disclosures in the 1983 to 1997 annual reports of BHP, a large Australian organization. As in Brown and Deegan (1998) media attention for certain social and environmental issues was taken as a proxy for concerns with these issues from society. The media attention was found to be positively related to the volume of disclosures on these issues, which supports

legitimacy theory. With this research, Deegan *et al.* (2002) build on the research of Guthrie and Parker (1989), who also examined the social disclosures of BHP, in their study from 1885 to 1985. However, Guthrie and Parker (1989) found no support for legitimacy theory. Deegan *et al.* (2002) explain the different outcomes by the deficiencies in the way they constructed their measure for community concern.

Patten (2002b) reacts on the studies of Deegan *et al.* (2000) and Brown and Deegan (1998). He examines if media attention is the actual drive behind concerns and pressure from society. He investigated whether public policy pressure could increase environmental disclosures, even without substantial media attention. For this he used the Toxin Release Inventory (TRI) of 1988, which were not widely published in the US print media but did lead to substantially increased pressure for organizations with poor environmental performance. He found that the extent of disclosures of the 122 US organizations included in the sample was significantly higher after the release of the TRI data. This proved that media attention is not a necessary drive for public policy pressure. Moreover, it provides evidence that organizations use disclosures as a legitimizing tool to reduce public pressure.

Public pressure

Apart from the public pressure that is or is not caused by media attention, public pressure or societal concern was already mentioned by Hogner (1982). He was one of the first to link legitimacy theory to corporate social disclosures. He showed that the extent of social disclosures from a US steel organization from 1901 to 1981 varied yearly and thought that this might be the response to changing expectations from society. However, this was only a speculation.

Deegan and Gordon (1996) also link concerns from society to increased disclosures. They analyse the environmental disclosure practices of Australian corporate entities from 1980 to 1991 by performing three separate but related investigations. They find that there was a significant increase of environmental disclosures over time and that this could be linked to an apparent increase in the environmental concerns of society. They also find that the annual reports for the financial year 1991 were self-laudatory (i.e. they disclosed more good news than bad news). Furthermore, it appeared that the level of corporate environmental disclosures were positively associated with the concern of environmental lobby groups on the environmental performance of organizations within certain industries (i.e. the environmental sensitivity of the industry).

Campbell (2003) also examines the influence of environmental lobby groups. He conducts a longitudinal and cross-sectional analysis of environmental disclosures by UK organizations in different sectors from 1974 to 2000. He finds a strong correlation between the amount of disclosures and the membership of two UK-based environmental lobbying organizations. He also finds a positive association between the structural vulnerability of the sectors to environmental liability and/or criticism and environmental disclosures.

Other legitimizing motivations

Other motivations to disclose information can arise from the environmental performance of the organization or the industry it is operating in. Cho and Patten (2007) investigate the link between environmental performance, environmentally sensitive industries and the extent of monetary and non-monetary environmental disclosures to provide evidence for legitimacy theory. They find that in general poor environmental performers disclose more. They also find that the worst performers of environmental sensitive industries disclose more monetary information than the worst performers of non-environmental sensitive industries. This suggests that organizations that perform low or operate in sensitive industries are using environmental disclosures as a legitimizing tool.

Adams *et al.* (1998) also find that industry influences reporting patterns. They analyze the social, employee and ethical information in 150 annual reports from organizations in six European countries. Besides industry, the size and country of origin on an organization are also found to be of influence on disclosure patterns. Furthermore, they find that the biggest organizations were significantly more likely to disclose social, employee and ethical information. They state that their study shows that *"legitimacy theory is important in explaining motivations for corporate social disclosures even across different environments and, in particular, in continental European countries as well as in Anglo-American countries. However, when it comes to identifying the reasons for differences across countries, the situation is much more complex, and legitimacy theory alone appears to be inadequate in explaining them"* (Adams *et al.*, 1998, p. 16).

2.2 *Stakeholder theory*

In this section the second theory of this chapter, stakeholder theory, will be described. In order to properly explain stakeholder theory it is important to define stakeholders first. Gray *et al.* (1996) define that a

stakeholder is *"any human agency that can be influenced by, or can itself influence, the activities of the organisation in question"* (p. 45).

This definition implies that there are a lot of people and groups that can be classified as stakeholders. Some of these stakeholders are closer related to the organization than others. Therefore, according to Clarkson (1995), a split can be made between primary and secondary stakeholders. Clarkson (1995) defines a primary stakeholder as *"one without whose continuing participation the corporation cannot survive as a going concern"* (p. 106). He says that management should primarily be considered with the benefits for these stakeholders in order to succeed with their business in the long-term. Secondary stakeholders are defined by him as *"those who influence or affect, or are influenced or affected by, the corporation, but they are not engaged in transactions with the corporation and are not essential for its survival"* (p. 107). This group is the remainder of the stakeholders not covered by the definition of the primary stakeholders. In most research either primary stakeholders are used or the primary and secondary stakeholders in its entirety.

Stakeholder theory can be divided in two branches, an ethical (normative) branch and a managerial (positive) branch. These two branches will now be described.

2.2.1 The ethical branch of stakeholder theory

The ethical branch of stakeholder theory is prescriptive (normative) of nature. That is, it prescribes how an organization should act with regard to stakeholders. The ethical branch considers all stakeholders of an organization, either primary or secondary. The argument made in the ethical branch is that all stakeholders have certain rights and that these should not be violated. These rights can for example be human rights, such as safe working conditions or minimum wage but it can also be applied to the right to information (Deegan and Unerman, 2006).

Gray *et al.* (1996) explain this by referring to the term 'accountability' which according to them *"involves two responsibilities or duties: the responsibility to undertake certain actions (or forbear from taking actions) and the responsibility to provide an account of those actions"* (p. 38). In the light of stakeholder theory this means that the organization owes accountability to all its stakeholders. Accountability, together with responsibility, is the basis of the accountability model of Gray *et al.* (1996). Under this model, reporting is considered to be responsibility driven instead of demand driven because stakeholders have an inherent right to information no matter what they do or how much power they have. So, the organization

must always account for and report on its actions even if stakeholders are completely passive with their information demand or if they do not even use the information (O'Dwyer, 2005; Gray *et al.*, 1991).

Gray *et al.* (1996) place a note with the ethical branch of stakeholder theory. They argue that since it has a normative approach, it only describes how organizations should act, therefore *"it has little descriptive or explanatory power in a CSR context"* (Gray *et al., 1996,* p. 45-46).

2.2.2 The managerial branch of stakeholder theory

The managerial branch of stakeholder theory is descriptive of nature. It considers different stakeholder groups with different levels of influence on an organization and describes how an organization should manage the interaction with these groups to survive or be successful. The stakeholder groups are identified by the organization itself instead of by society. The managerial branch can therefore be seen as company-centred in comparison to the ethical branch that has a society-centred view of the world.

The managerial branch says that because some stakeholders are more powerful than others, the organization will not respond to all stakeholders equally but only to stakeholders with high influence (Deegan and Unerman, 2006). Nasi *et al.* (1997) suggest something similar, namely that that the most powerful stakeholders will be attended to first by an organization. Ullmann (1985) says that stakeholder power is dependent on their control over the resources (such as labour or finance) required by the organization. Thus, the issues or information needs of stakeholders who control resources that are very critical to an organization's continuity are most likely to be addressed. Deegan and Unerman (2006) add that the power of stakeholders can, besides of command of limited resources, also be determined by *"access to influential media, ability to legislate against the company, or ability to influence the consumption of the organization's goods and services"* (p. 289). This is similar to the definition of Clarkson (1995) of primary stakeholders.

An organization should be able to satisfy the demands of the powerful stakeholders in order to be successful, even if these demands are conflicting. However, stakeholder demands are not static but can change over time as does their power (Friedman and Miles, 2002). This means that, consistent with legitimacy theory, organizations constantly need to change their operating and disclosure strategies (Unerman and Bennett, 2004). This can be seen as a limitation on the long term corporate strategy of an organization. The role of management in this context is, according to Freeman (1984), to assess how important it is to meet stakeholder demands in order to reach the strategic goals of the organization.

Information and the disclosure of information is an essential part of meeting stakeholder demands. As was stated above, when the power of stakeholders increases their demands increase and the incentive for organizations to meet these demands also increases. These stakeholder demands may include information demands. Nevertheless, the disclosure of information provides a good means to an organization to inform stakeholders about the efforts to meet their demands (Deegan and Unerman, 2006). Gray *et al.* (1996, p. 46) state that "*information (whether financial accounting or CSR) is a major element that can be employed by the organization to manage (or manipulate) the stakeholder in order to gain their support and approval, or to distract their opposition and disapproval.*" This is consistent with the strategies of Lindblom (1994) described under legitimacy theory. Roberts (1992) states that CSR activities and disclosures are, and have been, useful in managing stakeholder relationships.

2.2.3 Empirical research on stakeholder theory

The managerial branch of stakeholder theory is described as 'empirical accountability' by Gray *et al.* (1996). This is because theories in the managerial branch can be, and are often, tested in an empirical way (Deegan and Unerman, 2006). The empirical research described in this section can therefore be seen in the light of the managerial branch.

Environmental performance

Sinclair-Desgagné and Gozlan (2003) investigate the amount and quality of the information that would be voluntarily delivered to some stakeholders by a potential polluter. They develop a framework that allows organizations to choose the quality of their disclosures disclose. They find that organizations may disclose information of a better quality when the stakeholders are more worried about the organization. They also find that these stakeholders may approve a proposed industrial activity sooner the more precise a report is. They conclude that "*the quality of voluntary disclosed environmental information is largely demand-driven*" (Sinclair-Desgagné and Gozlan, 2003, p. 380). Brammer and Pavelin (2008) build on this conclusion and test which organizational characteristics are of influence on the quality of corporate environmental disclosures. They hypothesize that large organizations with visible environmental issues, great environmental impact or many shareholders (dispersed ownership) will be subject to higher demands from stakeholders and will have voluntary environmental disclosure of a higher quality. They only find some significant evidence on their hypotheses and hence on stakeholder theory.

Li *et al.* (1997) investigate the corporate social disclosure of environmental liabilities. They include stakeholders in their research as those that can impose proprietary (political) costs on the organization. Among other things they find that if stakeholder tolerance declines, as measured by the risk of attack (e.g. investigations, litigations, boycotts, etc.), the expected proprietary costs of disclosing increases for the organization and they become less likely to disclose. *"Ironically, this suggests that environmental stakeholders would actually discourage disclosure if they were expected to be over-zealous in striking corporations suspected of being polluters"* (Li *et al.*, 1997, p. 461). This conclusion is not in line with the studies of Sinclair-Desgagné and Gozlan (2003) and Brammer and Pavelin (2008) who stated that disclosures are demand driven and that environmental issues will lead to higher disclosures.

Stakeholder power

The studies mentioned in the last section do not differentiate between different kinds of stakeholders, Henriques and Sadorsky (1999) do. They take the pressure of different stakeholders into account and investigate their influence on the environmentally responsiveness of an organization. They measure stakeholder pressure by asking organization how important they find certain sources of pressure and define responsive organizations as organizations that have an official strategic plan for environmental issues. Henriques and Sadorsky (1999) find that customer pressure, shareholder pressure, government regulatory pressure, and neighbourhood and community group pressure have a positive influence and that other lobby group pressure sources and an organizations sales-to-asset ratio have a negative influence.

Neu *et al.* (1998) propose that the level and type of environmental disclosures is primarily influenced by an organization's relevant publics, and that the communication strategies adopted by the organization are influenced by the quantity and power of these different publics. In their research, only financial stakeholders are found to be relevant of which shareholders have more power than creditors. They find that certain groups are more effective in demanding social disclosures than others. Therefore, in situations of conflicting interests organizations communicate to the most important stakeholders and ignore the less important ones.

Ruf *et al.* (2001) also see shareholders as the most powerful stakeholder group. They investigate the relationship between corporate social performance and financial performance from a stakeholder perspective. They find that the financial performance is positively influenced when management meets the demands of multiple stakeholders. On top of that, the improved financial performance satisfies the shareholders.

Roberts (1992) empirically tests the stakeholder theory approach to CSR decisions developed by Ullmann (1985), who defined stakeholder power as a function of the stakeholders' degree of control over resources required by the corporation. Roberts (1992) differentiates between the power of stockholders, governmental and regulatory influences and creditor influences and finds that the last two are significantly positive related to levels of corporate social disclosure. He also finds a significant relationship for measures of strategic posture and economic performance. Roberts (1992) makes no statement on the relative importance of those stakeholder groups. It is however striking that his research finds no significant evidence of the influence of shareholders, while Neu *et al.* (1998) and Ruf *et al.* (2001) consider these as the most important stakeholders.

Management's attitude

In addition to the power certain stakeholders have, management's attitudes towards these stakeholders might also be related to CSR disclosures. Cormier *et al.* (2005) did a study on the determinants of environmental disclosures in European and North American multinationals. They found that there is a relationship between managers' attitudes towards various stakeholders and how those managers respond to these stakeholders via the decision to disclose, and the actual disclosures made. Besides stakeholder theory, Cormier *et al.* (2005) also refer to legitimacy theory in their article.

Harvey and Schaefer (2001) elaborate on management attitudes and investigate the relationship between six utility-companies and their 'green' stakeholders in the light of stakeholder theory. They find that none of the organizations had a general approach that could be applied to all stakeholders but that this depended on the importance managers gave to certain stakeholder. They also found that green stakeholders with institutional power were the most important to management, customers and the general public were also important but more on a long term base and they found that economic stakeholders were not considered to be very interested in the environmental performance of the organizations.

2.3 *Limitations*

Although the systems oriented theories have been used widely by researchers over the last period, there is not one theory that is generally accepted in explaining voluntary sustainability disclosures. The first reason for this might be that research on sustainability disclosures is relatively new and still developing

rapidly. Some researchers have studied environmental disclosures, some social disclosures and some have looked at sustainability disclosures. This makes it difficult to draw consistent conclusions on the research in general.

Another reason is that there are studies with similar outcomes that explain these outcomes with different theories. An example is the study of Brammer and Pavelin (2008) who use stakeholder theory to explain which factors have influence on the quality of environmental disclosures. On the other hand, other studies such as Cormier *et al.* (2005) and Cho and Patten (2007) investigate the influence of some of the same factors but use legitimacy theory to explain these influences.

According to Adams (2002), earlier studies failed to consistently support either one of these theories which shows that the theories can only provide partial explanation. She also states that the scope of the study and the variables have a large impact on whether certain theories have been rejected or supported. Consistent with Adams, more studies have suggested that sustainability disclosures should be viewed through a multi-theoretical lens (Cormier *et al.*, 2005; Aerts *et al.*, 2004; Cormier and Magnan, 2003).

Legitimacy and stakeholder theory can complement each other and might therefore be used together in explaining sustainability disclosures. For example, legitimacy theory fails to provide an explanation of the term ‘society’ whereby it is unclear who are included in society and therefore on which groups the theory can be applied. Stakeholder theory does give an interpretation of society and explicitly labels different groups within society and can therefore be a supplement to legitimacy theory.

2.4 *Chapter summary*

In this chapter a theoretical framework has been provided. Three theories have been explained and empirical research that used or supported these theories has been described.

Legitimacy theory relies on the concept of a social contract which means that an organization has to operate within the bounds and norms of society. The expectations of society constantly change, which can partially be explained by media agenda setting theory. Therefore, the organization has to keep changing as well. When organizations face legitimacy threats they can use disclosures as a strategy to restore

legitimacy. The strategies of Lindblom (1994) are examples of how management can use sustainability disclosures to legitimize their organization.

Stakeholder theory can be divided in the ethical branch and managerial branch. The ethical branch is responsibility driven and says that organizations should provide information to all stakeholders because they have an inherent right to information. The managerial branch distinguishes between stakeholders with and without power over the organization. It states that organizations will only provide information to powerful stakeholders because only they can influence the organizations survival and should therefore be pleased.

Although there has been much empirical research on sustainability disclosures, there is not one theory that has been generally accepted by researchers. A solution to this might be to look through a multi-theoretical lens when investigating voluntary sustainability disclosures.

3 LITERATURE REVIEW

In the last chapter, a theoretical framework for this thesis has been provided and legitimacy and stakeholder theory have been described. In addition, empirical research that supports these theories has been discussed. In this chapter, prior empirical research that is relevant for this thesis will be discussed in more detail. Relevant research is research on the relation between organizational characteristics and sustainability disclosures. It has been divided in four sections, each of which represents a category of organizational characteristics that may or may not be related to sustainability disclosures. These are visibility, financial performance, industry, and stakeholder power. Organizational characteristics that will not be used in the empirical research of this thesis have been left out or are minimally discussed.

To promote the readability of this chapter, not every detail of the research is mentioned in the text. Information about e.g. samples, methods or adopted theories, is organized in the literature overview at the end of the chapter.

3.1 *Visibility*

Visibility is an organizational characteristic that has been used in empirical research very often. In general, it is argued that when organizations are more visible, they get more attention from stakeholders and society. Organizations must therefore be more careful that they meet stakeholder expectations or, as described in legitimacy theory, honour the social contract. This is said to relate to the amount or quality of sustainability disclosures provided by organizations. Visibility is often expressed as the size of an organization and can be measured with variables such as turnover, total assets or number of employees. Media attention, industry and ownership status have also been used as proxies for visibility.

3.1.1 Size as a proxy for visibility

An example of the relationship between size and disclosures is the research of Hackston and Milne (1996). They find that company size is highly positively correlated with the amount of social and environmental disclosures. Brammer and Pavelin (2008) also find significant evidence of the relation between size and environmental disclosures. They find that larger organizations are more likely to disclose some kind of environmental information and that the quality of these disclosures is higher.

Although much empirical research that includes size as a proxy may seem similar, these studies all focus on different aspects of the relationship between size and disclosures. Cowen *et al.* (1987) differentiate their research from others by splitting up the dependent variable. They investigate the effect of corporate size on seven different categories of CSR disclosures; environment, energy, fair business, human resources, community involvement, products and 'other'. They find that size is an important explanatory variable for disclosures in general and for all the individual categories except for human resources and products.

The next three studies help to further understand the relation between size and disclosures by using different kinds of measures for size. Branco and Rodrigues (2008) measure political visibility by total assets, number of employees, profits and number of branches, and find a significant relationship with environmental disclosures for all variables. Gray *et al.* (2001) also use several different measures for size; turnover, capital employment and number of employees. They also find a significant relation but state that it is not very stable through different variables and time periods chosen. Contrary to the other researches, Karim *et al.* (2006) find no evidence for a relation between size and disclosures. They suggest that the outcome of their research might be related to the fact that their sample only contains relatively large organizations. It might also have to do with the fact that they use total net sales as the measurement for size, which is not a common measure, or the fact that they have only examined environmental disclosures in financial statement footnotes.

Other studies on the determinants of social and environmental disclosures use size as a control variable, because the positive relation has been proven many times and needs to be controlled for to investigate the influence of other variables (Cormier and Magnan, 1999; Cormier and Magnan, 2003; Patten, 2002a). These studies all find a highly significant positive relationship between the control variable size and disclosures.

3.1.2 Other proxies

Although it is less common, other variables have also been used as a proxy for visibility, often in combination with size. An example is the research of Cormier and Gordon (2001), who involve ownership status, measured as public or private, in their in-depth research on three organizations. They find that size and ownership status are related and that organizations are more visible when they are larger or publicly owned. They also find that visibility relates to the amount of social and environmental disclosures.

Other studies have included environmental sensitivity in their research, like Deegan and Gordon (1996). They conclude that the correlation between size and environmental disclosures only applies to organizations in environmentally sensitive industries. This is because the correlation is much larger for organizations in the most sensitive industries and is even negative for the organizations in the least sensitive industries. Adams *et al.* (1998) find similar results, although they use a different method. Adams *et al.* (1998) find a significant positive relation between size and the extent of social, environmental and employee disclosures. They also find a significant inter-relationship between size and industry membership. Industry is found to have almost no effect on the level of disclosure of small organizations but a significant relation with the disclosure level of large ones. Industry membership is defined as belonging to an environmentally sensitive industry, measured by the amount of attention received from lobby groups. Many other studies have used industry in their research; these will be discussed in section 4.3.

The research of Brown and Deegan (1998) is an example of studies that use media attention as a proxy for visibility. The media decide which organization will receive their attention and is therefore able to shape societal concerns. This study measures media attention by the number of articles on environmental subjects in the Australian print media. Brown and Deegan (1998) find significant evidence that media attention and negative media attention are both related to disclosures.

3.2 *Financial performance*

Financial performance is another organizational characteristic that has been used in empirical research on sustainability disclosures regularly. Financial performance is often described as the profitability of an organization, measured by return on equity (ROE), return on assets (ROA) or profit. Profit has already been mentioned as a size related measure for visibility in the last section, but it can also be used as a proxy for financial performance. Other variables that can be used as a measure of financial performance are leverage, systematic risk and stock market return.

The arguments used by researchers to explain the relation between financial performance and sustainability disclosures vary. Some say that good financial performance will lead to more disclosures because sustainability is a secondary business goal. Therefore, management is only willing to incur the related administrative costs in times of good financial performance (Roberts, 1992; Brammer and Pavelin,

2008). Others say that it has to do with the proprietary costs of sustainability disclosures. The trade-off between improving an organization's credibility by disclosing proprietary information and the related costs will only be positive for organizations that have a good financial performance and can therefore incur those costs (Cormier and Magnan, 1999; 2003). The results of empirical research are also not very consistent.

3.2.1 Research without significant results

Many studies have tried, but failed to find any evidence of a relation between financial performance and disclosures. For example Cowen *et al.* (1987) who investigated the relation between profitability and disclosures in their research. Profitability is measured by the average ROE of the last three years and relates to none of the seven categories of CSR disclosures as described in section 3.1.1.

Karim *et al.* (2006) also fail to find evidence. They investigate the relation between profitability and the extent of environmental disclosures in financial statement footnotes. They use the mean ROA of the current and the last two years as a proxy for profitability.

Hackston and Milne (1996) use both ROA and ROE as a measure for profitability. They also distinguish between the profitability of the current year and the average profitability of the last five years so that they have four measures of profitability in total. Despite their effort to use four different measures, they find no relation with social and environmental disclosures for any of them.

3.2.2 Research with significant results

Other studies did find evidence to support their hypotheses, like Roberts (1992) who investigates the relation between financial performance and social responsibility disclosures with two different proxies. The first is the average annual change in ROE over the past three years. The second is a proxy less common for financial performance, namely the systematic risk of the organization. Systematic risk is expected to have a negative relation with disclosures. Roberts (1992) finds significant evidence in the expected direction for both proxies.

Gray *et al.* (2001) also find evidence of a relation, but with a different variable. They investigate the relation between profit and social and environmental disclosures during several years. Profit is measured

as total profit before interest and tax. Significant evidence for the relation is found but, as discussed in section 3.1.1, these results are considered not to be very stable.

Neu *et al.* (1998) also investigate the relation between profit and environmental disclosures. The variable profit is given the score 'one' if an organization's income after tax is positive and the score 'zero' if it is negative. Neu *et al.* (1998) argue that unprofitable organizations will disclose more environmental information as a legitimacy tool. In contrast to other studies, they therefore expect a negative relation between profit and disclosures. Their arguments are supported by significant results.

3.2.3 Research with mixed results

The results of the following three studies indicate that a different sample from a different country might have influence on the outcome of the research. Cormier and Magnan (1999) investigate the relation between the financial condition of the organization and the extent of environmental disclosures for Canadian organizations. They use three variables as a proxy for financial condition; accounting-based performance (ROA), stock market performance and leverage. They find a significantly positive relation between ROA and environmental disclosures and a significantly negative relation between leverage and environmental disclosures. No relation is found for stock market performance.

Cormier and Magnan (2003) do a similar study on French organizations. They use the same three variables and again find a significant negative relation between leverage and disclosures. However, they do not find evidence for ROA this time. They do find a significant positive relation between market return and disclosures.

In another research, Cormier *et al.* (2005) also investigated the relation between financial condition and the extent of environmental disclosures. This time the sample consisted of German organizations. Unfortunate for this comparison, the accounting-based performance ROA was not included in this research. For the other two variables, leverage and market return, no significant relation was found.

3.3 *Industry*

Many studies have also taken industry effects into account, whether it was as their prime research object or as a control variable. All of the studies discussed in this section have found some kind of evidence that

industry is related to sustainability disclosures. However, the measurement of industry effects and research methods vary significantly which makes it hard to draw conclusions based on prior research.

In some studies, certain industries are labelled as more environmentally sensitive than others. An important argument for this is that some industries are, or are seen as, being more polluting than others. Although less commonly used, an industry can also be labelled socially sensitive. This can be the case when corporate image is very important for the business (Cowen *et al.*, 1987). Following legitimacy theory, most studies argue that organizations in sensitive industries will disclose more to become or stay legitimate. A disadvantage of labelling industries as sensitive is that it is being done on a rather ad hoc basis (Roberts, 1992; Hackston and Milne, 1996).

Other studies do not include industry sensitivity in their research, but focus on different disclosure behaviour between industries. With these differences they try to relate disclosures with industry membership. A disadvantage of this kind of research is that it seems hard to find significant evidence.

3.3.1 Environmental and social sensitivity

Roberts (1992) investigates the relation between industry profile and the amount of corporate social disclosures. She divides her sample in high and low profile industries. Industries with consumer visibility, a high level of political risk, and intense competition are marked as high profile. Her results show a significant positive relation between high-profile industries and disclosures. Hackston and Milne (1996) use a similar classification as Roberts (1992) describes, but adds a few other industries as being high-profile. They also find that organizations in a high-profile industry disclose significantly more.

Cho and Patten (2007) investigate the relation between environmental sensitivity and the amount of environmental disclosures in financial reports and find significant evidence of a positive relation. They classify organizations as environmentally sensitive or non-environmentally sensitive depending on the industry they operate in. The oil, paper, chemical, petroleum and metal industry are considered sensitive. Campbell (2003) also makes a distinction between more environmentally sensitive industries and less environmentally sensitive industries. Brewers and retailers are said to be less sensitive. Aggregates, chemicals and petrochemicals are said to be more sensitive. A strong relation is found between industry membership and the extent of environmental disclosures. Karim *et al.* (2006) only consider organizations in three industries of which the petroleum and chemical industry are considered to be more

environmentally sensitive than the electronics industry. They find that organizations in the sensitive industries disclose relatively more environmental information in financial statement footnotes.

Deegan and Gordon (1996) use a different measure for the environmental sensitivity of an industry. They see sensitivity as the amount of attention received from lobby groups. To create a sensitivity ranking, Deegan and Gordon (1996) asked lobby groups to score 50 industries on a 0-5 scale depending on how much attention they gave the industry. They find a significant positive relation between the environmental sensitivity of an industry and the level of environmental disclosures.

Adams *et al.* (1998) do not only take the environmental sensitivity of an industry into account but also the social sensitivity. They categorize organizations into four industrial groups. They state that organizations that operate in mass-production for the consumer goods market (manufacturing and autos) are socially sensitive and organizations that operate in raw materials and natural resource exploitation (oil, chemicals, metals and power) are environmentally sensitive. Production for a customized market (engineering and construction, including construction materials) and operations in direct proximity to final customers (service, food and retail) are not considered to be sensitive. They find that industry membership relates to environmental and some employee disclosures, but not to ethical disclosures.

3.3.2 Sector differences

Walden (2004) investigates the relation between environmental performance and the quantity and quality of environmental information. Hereby, he takes industry effects into account. The four industry categories he uses are: chemical, consumer products, forest products and oil. He finds no significant results for the association of environmental performance on disclosures but does state that the results "*suggest definite industry effects, but variability of disclosures made between industries and companies*" (Walden, 2004, p. 155). Cormier and Magnan (2003) also find evidence of industry effects. They divide organizations in seven industry sectors and look for the relation with environmental disclosures over a period of time. They find significant inter-industry differences and state that their results suggest that industry membership has influence on environmental disclosures.

Brammer and Pavelin (2008) investigate the environmental disclosures patterns of eleven industry sectors. They find a negative relation between the finance sector and environmental information, which means that this sector discloses relatively less. The utility sector, and to some degree the chemicals and retail sectors, are positively related to the amount of environmental disclosures. Cowen *et al.* (1987) did a similar study.

They investigated the relation between industry sector and social and environmental disclosures. Organizations were divided in nine sectors and disclosures into seven different categories. They found that the chemical industry disclosed the most. Furthermore, they stated that the disclosure categories 'energy', 'environment' and 'community involvement' appear to be influenced by industry category.

3.4 *Stakeholders*

The managerial branch of stakeholder theory states that organizations will respond differently to the demands of different stakeholders. This is caused by the power and influence of different stakeholders on an organization and its resources. In this section, empirical research on the influence of stakeholders will be discussed, in particular two financial stakeholders: shareholders and creditors. Financial stakeholders are not the only stakeholders that can be influential to an organization, but some of the other stakeholders have implicitly already been considered in the other sections. For example in section 3.3, environmental stakeholders like lobby groups or in section 3.1, society as a whole.

3.4.1 Shareholders

Shareholders are often considered to be the most important and powerful stakeholders of an organization (Neu *et al.,* 1998; Ruf *et al.,* 2001). However, the dispersion of shareholders can vary significantly across organization. Some organizations might have one or a few major shareholders while others can have many small shareholders. Different shareholders will also differ in their involvement, power and information needs. Some studies tried to relate shareholder dispersion to the disclosure behaviour of organizations. They argue that the more dispersed shareholders are, the more diverse their demands and the higher the information asymmetry. This will lead to higher stakeholder pressure and hence to more disclosures (Roberts, 1992; Brammer and Pavelin, 2008). Other studies look at the relation from the opposite angle in which case the argument is inversed; more concentrated ownership will lead to fewer disclosures. Most of these studies measure dispersed or concentrated ownership as the total percentage of major shareholders. The boundary between major and minor shareholders is usually set at 5% ownership.

Cormier *et al.* (2005) find a significant negative relation between concentrated ownership and the amount of environmental disclosures. Brammer and Pavelin (2008) find some evidence to suggest that dispersed ownership, as measured by the total proportion of shareholders owning less that 3% of the shares, will lead to some disclosures. However, they do not find evidence that it relates to increased quality of

disclosures. Robert (1992) and Karim *et al.* (2006) fail to find any evidence that associates dispersed ownership with disclosures.

Cormier and Magnan (1999) use a different kind of variable in their research. An organization will disclose less when it is closely held, i.e. when it is controlled by an individual or family. A similar relation is expected when an organization is a subsidiary that is majority-controlled by another organization. They find significant evidence for the first relation but not for the second. Cormier and Magnan (2003) argue that when an organization is widely held it will disclose more environmental information. An organization is considered to be widely held if no investor controls more than 20% of an organization's votes. They also find significant evidence.

3.4.2 Creditors

Although shareholders are often considered to be the most important stakeholders of an organization, creditors can be seen as the second best. Creditors can have significant influence on the financial resources of an organization; therefore it is likely that management will take the demands or the influence of creditors into account in any disclosure decisions. The variable most commonly used is leverage. However, studies are inconsistent when it comes to explaining the relation of leverage with disclosures.

Some studies argue that a positive relation between leverage and disclosures exists, because the creditors' power to demand disclosures increases when leverage increases (Roberts, 1992). Others argue that the relation is negative. Karim *et al.* (2006) argue that environmental disclosures often include information that has a negative influence on an organization's credit profile; therefore organizations that are already highly leveraged will choose not to disclose such information. Another argument for a negative relation between leverage and disclosures has been discussed in section 3.2, there it was stated that leverage can be seen as a proxy for the financial performance of an organization. The better the financial performance, and hence the lower the leverage ratio, the more an organization will disclose.

Significant evidence of a positive relation between leverage and disclosures is provided by Roberts (1992). Neu *et al.* (1998) also suggested a positive relation but could not find any supportive evidence. Cormier and Magnan (1999, 2003) found significant evidence of a negative relation between leverage and disclosures. However, Karim *et al.* (2006), Brammer and Pavelin (2008) and Cormier *et al.* (2005) failed to produce similar results.

3.5 *Chapter summary*

In this chapter, empirical research on four organizational characteristics has been discussed. The first that was discussed is visibility, for which size is the most commonly used proxy. A significant positive relation between size and sustainability disclosures has been proven many times. Other proxies, such as media attention, have also been used successfully to provide evidence of the relation between visibility and disclosures.

Research on the relation between financial performance and sustainability disclosures has produced mixed results. All studies, except for one, predict a positive relation but about half of them fail to find significant evidence. On first sight, this does not seem to relate to the kind of measure used for financial performance; ROA, ROE, profit or leverage. Therefore, it remains unclear if and how financial performance and disclosures are related.

The industry an organization finds itself in is another organizational characteristic that seems to be related to sustainability disclosures. Organizations that operate in environmentally sensitive industries are found to disclose more information by all studies that were discussed in this section. This might also be true for socially sensitive industries, but this was only taken into account by Adams *et al.* (1998). Other studies find that different sectors have different disclosure patterns, but they are not able to draw any general conclusions.

Stakeholder power is the last organizational characteristic that has been discussed in this chapter. Two groups of stakeholders were discussed; shareholders and creditors. According to different studies, more dispersion or less concentration of shareholders would lead to more disclosures. However, only some could find significant evidence for their arguments. Researchers have not yet agreed on the relation between creditors and disclosures. Leverage can be used to reflect creditor concerns or power in which case this higher leverage would relate to more disclosures. On the other hand, researchers argue that in times of high leverage, organizations are not willing to provide sustainability information since it would do more harm than good. The results are ambiguous and leave room for further research.

Author(s)/Year	Study	Sample	Theory	Independent variables	Research method	Results
Adams *et al.* (1998)	CSR disclosures	150 companies, year 1992, 6 European countries	Legitimacy theory	Size, industry and country.	Univariate and multivariate tests	Size is of influence on all disclosures. Industry membership related to environmental and employee disclosures
Brammer and Pavelin (2008)	Environmental disclosures	447 companies, year 2000, UK	Stakeholder theory	Industry, environmental performance, size, media exposure, company ownership, firm resources and board composition	Logit regression	Size and industry are positively related, no relationships are found for the other variables
Branco and Rodrigues (2008)	Social and environmental disclosures	12 banks, year 2004-2005, Portugal	Legitimacy theory	Visibility, measured by size related proxies such as net assets or profits	Spearman's Rho correlations	All size related proxies are positively related to disclosures, many of them significantly
Brown and Deegan (1998)	Environmental disclosures	27 companies, 5 years between 1981 and 1994, Australia	Legitimacy theory	Level of print media coverage, level of negative print media coverage	Spearman's rank correlations	Significant influences are found for both variables
Campbell (2003)	Extent of environmental disclosures	100 companies, 1974-2000, UK	Legitimacy theory	Environmental sensitivity	t-test and longitudinal analysis	Strong evidence that environmentally sensitive companies disclose more over a period of time
Cho and Patten (2007)	Environmental disclosures in financial reports	100 companies, year 2001, US	Legitimacy theory	Environmental sensitive industries, environmental performance	T-test of means	Significant evidence is found that that both variables are positively related to disclosures
Cormier and Gordon (2001)	Social and environmental disclosures	3 companies, years1985-1996, Canada	Legitimacy theory	Ownership status, size, information costs.	Univariate tests, regression analysis	Publicly owned companies disclosed more than privately owned company, this is related to size. Information costs only relate to environmental disclosures.
Cormier and Magnan (1999)	Environmental disclosures	33 firms, years 1986-1993, Canada	Conceptual costs/benefits framework	Information cost, financial condition	Regression, tobit, logit and sensitivity analyses	Significant results for all measures of information costs and two measures of financial condition are found.
Cormier and Magnan (2003)	Environmental disclosures	50 companies, years 1992-1997, France	Conceptual costs/benefits framework	Information costs, proprietary costs, environmental media visibility and industry	Pearson's cross correlations, OLS regressions	Information and proprietary cost are significant related, industry and media visibility also seem to have influence
Cormier *et al.* (2005)	Environmental disclosure quality	55 companies, years 1992-1998, Germany	Multiple theories	Information costs, financial condition, public pressure	Multivariate regressions, pooled and year- specific	They find clear evidence of a positive relation for public pressure, some evidence for information costs and no evidence for financial condition

Author(s)/Year	Study	Sample	Theory	Independent variables	Research method	Results
Cowen *et al.* (1987)	Extent of CSR disclosures, divided in 7 categories	133 companies, year 1978, USA		Size, industry, profitability and presence of a social responsibility committee	Multiple regression	Size correlates with most types of disclosures, industry with some and CSR committee only with one disclosure category
Deegan and Gordon (1996)	Environmental disclosures	25 companies, years 1980, 1985, 1988 & 1991, Australia	Legitimacy theory	Environmental lobby groups, environmental sensitivity and size.	Pearson's and Spearman's rank correlations	Environmental disclosures increase over time as does the presence of lobby groups. Disclosures are also correlated with sensitivity and size
Gray *et al.* (2001)	Volume of environmental disclosures	100 companies, 1888-1995, UK		Turnover, capital employed, number of employees and profit	OLS regression	Significant evidence of a positive relation is found
Hackston and Milne (1996)	Social and environmental disclosures	47 companies, year 1992, New Zealand		Size, industry, profitability, country of ownership and country of reporting	Pearson's and Spearman's rank correlations, OLS multiple regression	Size is correlated especially in high profile industries, profitability is not
Karim *et al.* (2006)	Level of environmental disclosures in financial statement footnotes	51 companies, year 1994, USA	Multiple theories	Institutional block holder stock ownership, amount of foreign concentration, earnings volatility, profitability, leverage, future need for debt financing, firm size, and industry membership	Pearson and Spearman rank correlation	Foreign concentration and earnings volatility are negatively associated with amount of disclosures. Companies in polluting industries disclose relatively more.
Neu *et al.* (1998)	Environmental disclosures	33 firms, year 1982-1991, Canada	Stakeholder theory	Profit, leverage, fines, media, size	Multiple regression analysis	Significant evidence for all determinants, except leverage.
Patten (2002a)	Environmental disclosures	131 companies, year 1990, USA	Multiple socio-political theories	Environmental performance, size and industry	OLS multiple regressions	Significant negative relation is found, also when controlled for size and industry
Roberts (1992)	CSR disclosures	80 companies, years 1984-86, USA	Stakeholder theory	Stakeholder power, strategic posture towards CSR and economic performance	Logistic regression	Significant evidence is found for all three variables
Walden (2004)	Environmental disclosures	53 companies, year 1989, USA		Environmental performance	Spearman's rank correlations	Environmental performance is not significantly related to environmental disclosures

4 THE QUALITY OF DISCLOSURES

In the last two chapters, much empirical research has been discussed. In all of these studies the research objects were some kind of social and/or environmental disclosures. But although their research objects were the same, researchers did not all use the same measurement for their independent variable. Some only looked if an organization disclosed or not, some looked at the amount and others at the quality of disclosures. Also, different methods have been used to determine the amount or quality of these disclosures.

In this thesis, the quality of sustainability disclosures is taken into account. Therefore, this chapter defines what quality is. Furthermore, it describes the available methods to measure the quality of disclosures.

4.1 *Defining quality*

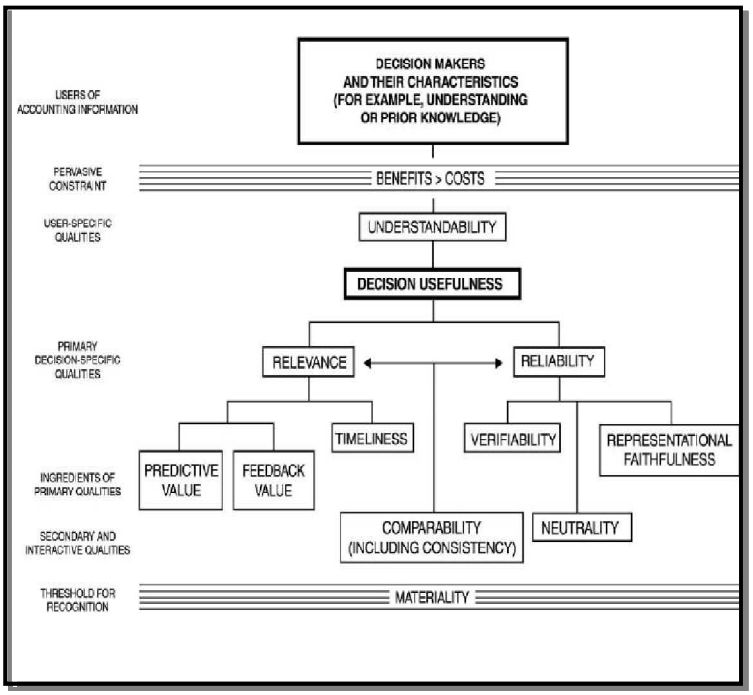
In attempting to give a judgement about disclosures, the term 'quality' is often used. But quality is a very broad and subjective term, which cannot be measured easily. It has been defined in many ways and in many different areas (e.g. quality of life, quality of products, and quality of services). Quality can be seen as the usefulness of something or as a measure for the utility it gives. In its different definitions, 'fulfil requirements' or 'meet expectations' are commonly used phrases. When considering sustainability reports, it can be state that a report must meet certain criteria in order to obtain a higher quality. However, opinions are as always divided on what these criteria or principles should be. In this section, the principles of quality provided by some nationally and internationally influential organizations will be discussed.

4.1.1 The FASB framework

The Financial Accounting Standards Board (FASB, 1980) was one of the first standard setting bodies that provided a framework for the quality of accounting information. The framework is focused on the quality of financial reports, not on sustainability reports. The concept describes qualitative characteristics of information that make information useful for decision makers. They see the characteristics of information in a hierarchy with decision makers and decision usefulness at the top. Decision usefulness is in this framework only focused on particular users, namely the investors and creditors who use financial reports for their investment and lending decisions. Other users and their information needs are left aside in this

framework. This is a different approach of the information needs of users than was described in the different theories in chapter 2. Legitimacy theory stated that an organization should comply with the needs and demands of society as a whole, not just investors. The ethical branch of stakeholder theory stated that all stakeholders have the same right to information even if they do not use it. The managerial branch stated that management will only provide information useful for stakeholders that are considered influential by management, this could be different groups of stakeholders that the financial stakeholders. A complete overview of the hierarchy of accounting qualities of the FASB is given in figure 1.

Figure 1: FASB hierarchy of accounting qualities



4.1.2 The IASB framework

The International Accounting Standards Committee also provided a framework for the preparation and presentation of financial statements (IASB, 1989). This framework was adopted by the International Accounting Standards Board in 2001. The qualitative characteristics that determine the usefulness of information of financial statements are according to the framework: understandability, relevance, reliability and comparability. The framework does not mention a hierarchy in these principles but says a balancing, or trade-off will often be necessary (IASB, 1989).

4.1.3 Conceptual framework of the FASB and IASB

The FASB and IASB are also working on a joint project to create a new conceptual framework which combines both frameworks. In the exposure draft, issued May 2008, the objective and qualitative characteristics of financial reporting are described. The exposure draft states that qualitative characteristics are those that make financial information useful and can be divided in fundamental characteristics and enhancing characteristics. Fundamental characteristics are relevance and faithful representation and enhancing characteristics are comparability, verifiability, timeliness and understandability. The exposure draft also mentions two constraints, namely materiality and cost. Since this is still an exposure draft, it is unknown if the qualitative characteristics in the final framework will be similar.

4.1.4 The GRI guidelines

The Global Reporting Initiative (GRI) has developed international guidelines for sustainability reports, the G3 guidelines. GRI uses a multi-stakeholder consensus-seeking approach which, according to the GRI, makes sure the guidelines can be used anywhere in the world and provides a good respond to stakeholders' needs.[1] The guidelines define six principles to ensure the quality of sustainability reports. These are balance, comparability, accuracy, timeliness, clarity and reliability (GRI, 2006). Besides these quality principles, the GRI (2006) also defines four principles for defining report content, namely materiality, stakeholder inclusiveness, sustainability context and completeness. Although the latter principles are not indicated as ensuring the quality, they are closely connected with it and can be seen as part of the quality principles (Kamp-Roelands and De Waard, 2008). The definitions of all ten principles are provided in table 1.

Two principles are relatively new compared to the quality characteristics for financial reporting; stakeholder inclusiveness and sustainability context. Stakeholder inclusiveness prescribes that organizations should include the expectations and interests of stakeholders in their reporting process. The guidelines state that for the content, scope and boundary a wide range of stakeholders should be considered even if these stakeholders do not use the report. This view is similar as that of the ethical branch of stakeholder theory. However, the guidelines also state that with other decisions, such as the amount of detail or the process to assure clarity of the report, management can attach greater importance to stakeholders that are expected to use the report. The other principle, sustainability context, states that

[1] www.globalreporting.org/ReportingFramework/ReportingFrameworkOverview/DevelopmentProcess

the information in the sustainability report should not only reflect the performance of the organization but also put the performance into context of sector, local, regional or global performance. An organization should also look at its performance in the context of its strategy and goals.

Table 1: GRI Principles

Principle	Definition
Balance	"The report should reflect positive and negative aspects of the organization's performance to enable a reasoned assessment of overall performance." (GRI, 2006, p. 13)
Comparability	"Issues and information should be selected, compiled, and reported consistently. Reported information should be presented in a manner that enables stakeholders to analyze changes in the organization's performance over time, and could support analysis relative to other organizations." (GRI, 2006, p.14)
Accuracy	"The reported information should be sufficiently accurate and detailed for stakeholders to assess the reporting organization's performance." (GRI, 2006, p.15)
Timeliness	"Reporting occurs on a regular schedule and information is available in time for stakeholders to make informed decisions." (GRI, 2006, p. 16)
Clarity	"Information should be made available in a manner that is understandable and accessible to stakeholders using the report." (GRI, 2006, p. 16)
Reliability	"Information and processes used in the preparation of a report should be gathered, recorded, compiled, analyzed, and disclosed in a way that could be subject to examination and that establishes the quality and materiality of the information." (GRI, 2006, p. 17)
Materiality	"The information in a report should cover topics and Indicators that reflect the organization's significant economic, environmental, and social impacts or that would substantively influence the assessments and decisions of stakeholders." (GRI, 2006, p. 8)
Stakeholder inclusiveness	"The reporting organization should identify its stakeholders and explain in the report how it has responded to their reasonable expectations and interests." (GRI, 2006, p. 10)
Sustainability context	"The report should present the organization's performance in the wider context of sustainability." (GRI, 2006, p. 11)
Completeness	"Coverage of the material topics and Indicators and definitions of the report boundary should be sufficient to reflect significant economic, environmental, and social impacts and enable stakeholders to assess the reporting organization's performance in the reporting period." (GRI, 2006, p. 12)

4.1.5 The guide to sustainability reporting

The guide to sustainability reporting by the Dutch Council for Annual Reporting (RJ, 2003) is a Dutch framework that is specifically aimed at sustainability reporting and focuses on medium and large organizations that report under Dutch GAAP. In the development of the framework, the guidelines by the GRI were taken into account although at first sight, this might not seem that way. The 10 quality principles mentioned by the GRI are not replicated, instead the framework uses the four characteristics of quality of the IASB framework; understandability, relevance, reliability and comparability. However, Kamp-Roelands and De Waard (2008) show in their article that the essence of both frameworks is practically the same and that all 10 principles of the GRI can be found within the context of the guide to sustainability reporting including stakeholder inclusiveness and sustainability context. The first is part of relevance, article 4.5 of the guide states that "*To be able to provide relevant information, it is necessary to gain an insight in the legitimate information needs of users for whom the sustainability report is intended. The dialogue with stakeholders fulfils an important role in this respect*" (RJ, 2003, p. 46). The second, sustainability context, falls under the characteristic reliability. The guide states that one of the requirements for information to be reliable is that "the information is presented in the right context" (RJ, 2003, p. 47). This is further worked out in article 5.9 of the chapter that advises on the contents of sustainability reporting.

Like the GRI guidelines, the guide to sustainability reporting can also not be seen as a final version. Due to the rapid progress in sustainability and sustainability reporting, it can be expected that the guideline to sustainability reporting and the GRI guidelines will be updated regularly. For now, the 2003 version of the guide to sustainability reporting is the first version. The GRI has published its third version already in 2006.

In this section, the quality principles and characteristics of important national and international organizations have been discussed. It is noticeable, that the quality characteristics in the sustainability frameworks are quite similar to the characteristics described in the financial frameworks.

4.2 *Measuring quality*

There are several ways to measure the quality of sustainability disclosures. Examples of these methods can be found in prior empirical research. In order to compare empirical research it is good to understand the

different methods. In their article, Beattie *et al.* (2004) give an overview of the different approaches to qualify non-financial data, which they call the narratives in annual reports. They find that these approaches can be categorized in three different groups, namely subjective ratings, disclosure index studies and textual analysis. Each of these approaches will now be discussed briefly.

4.2.1 Subjective ratings

Subjective ratings are ratings given by analysts which are used to form a ranking. This is a subjective approach. An advantage of this approach is that an analyst can look at the disclosure as a whole because he is not bound by some kind of measure instrument. A disadvantage is that the ratings are influenced by the personal perceptions and bias of the analysts. Since the Association for Investment Management and Research discontinued its rankings in 1997, there have been no more major rankings that have used this method (Beattie *et al.*, 2004).

4.2.2 Disclosure indices

Disclosure indices are semi-objective and use the amount of disclosure as a proxy for disclosure quality. The determination of an index can be summarized as the ratio of actual disclosures divided by the maximum possible level of disclosures. The possible level of disclosure is determined per research. Disclosure index studies are a partial form of content analysis but the items to be studied are specified in advance with disclosure indices. The indices can have different approaches of determining the disclosure level. The items can be measures binary or ordinal, the index can be weighed or unweighed and items can be grouped into hierarchical categories (Beattie *et al.*, 2004).

In earlier research simple binary coding schemes were most commonly used. But this has evolved in more complex indices. For example, the SustainAbility benchmark survey uses an ordinal scale to score sustainability reports. The 29 criteria can score from 0-4 points each depending on the extent of information and detail that is provided on the criteria (SustainAbility, 2006). The Dutch benchmark study by PWC uses a different scale per criteria. Some items are binary and some have a three or four point scale. For some criteria, extra points can be scored if the report expands or explains the criteria in a certain way, irrespective of the already obtained points (PWC, 2007).

4.2.3 Textual analyses

Textual analyses can be divided in three sub-categories. The first is thematic content analysis, which does not look at the amount of text or at the way it is presented but looks at the message within the text. It classifies text units into categories and it is important that this procedure is done reliable to improve the objectivity. The second are readability studies, which examine the degree of difficulty of the text and look at the length of the sentences and the difficulty of the words. The third is linguistic analysis, which can be seen as an alternative of the readability studies, but is far more sophisticated. It looks at many different aspects of the text from a writers and readers point of view and then scores these criteria according to the principle discussed at discloser index studies. For the last two categories it is questionable if they provide a good measurement for the quality of disclosures (Beattie *et al.*, 2004).

In their paper Beattie *et al.* (2004) argue that the current approaches have two fundamental limitations. The first is that they are one-dimensional, this means only one aspect of the text like absence/presence or topic length is discussed instead of the combination of different aspects. The second limitation is that they are partial; either sections of the disclosure are examined or there is a focus on pre-selected index items. They provide an alternative, but this is much too time consuming thereby making the current approaches more realistic approaches.

4.3 *Chapter summary*

In this chapter the quality of disclosures has been discussed. This has been done by examining different frameworks and guidelines to see how these have defined quality. It is found that quality is defined very similar for financial disclosures as for sustainability disclosures. The most important difference is the emphasis that the latter places on the information need of stakeholders/society and stakeholder dialogue.

The second part of this chapter explained how the quality of disclosures can be measured. This can be done through different methods. Three methods were explained; subjective ratings, disclosures indices and textual analyses.

5 RESEARCH DESIGN

In this chapter the research design of this thesis will be explained. Six hypotheses will be formulated, based on the information from the previous chapters. The variables included in the empirical research will be discussed in section 5.2, where it will also be explained how these variables can be measured. This includes the independent variables as well as the dependent variable quality. Section 5.3 describes the research sample followed by an explanation of the research method in section 5.4.

5.1 *Hypotheses development*

5.1.1 Visibility

It is expected that organizational visibility is related to the quality of sustainability disclosures. This can be explained through multiple theories. Legitimacy theory states that more visibility will put greater pressure on an organization to comply with the social contract. Stakeholder theory implies that when an organization is larger and more visible it will have more stakeholders and therefore more and different information demands. Both theories imply that when an organization is more visible, it will provide better sustainability disclosures.

As described in chapter 3, visibility can be explained by different proxies. In this thesis, the most commonly used proxy for visibility, size, will be used. This will make it easier to compare the results to other studies. Moreover, it is a proxy which can be measured with reliable variables.

Chapter 3 also showed that size has already been related to sustainability disclosures by multiple studies. Cowen *et al.* (1987) split up the dependent variable in different categories but only looked at the amount of disclosures. Brammer and Pavelin (2008) determined the quality of disclosures but only looked at environmental disclosures. The research design of this thesis combines these studies which makes it interesting to include size as an independent variable. This leads to the following hypothesis:

H1: Larger organizations will provide sustainability disclosures of a higher quality.

One of the limitations often mentioned in the empirical research described in chapter 3, is that their samples consist of only the biggest organizations quoted on the stock exchange. This thesis will try to overcome this limitation by including organizations that are not quoted on the stock exchange. On the other hand, this introduces a new dimension to the relation of visibility and sustainability disclosures.

Quoted organizations are believed to be more visible for several reasons. First of all, they are more visible to governmental institutions because they are subject to much more rules such as 'code-Tabaksblat'. Second, quoted organizations are the object of many small short-term investments; therefore they are visible to a large group of current and potential investors. Finally, information on quoted organizations is more widely available, and in general they receive more media attention. This leads to the following hypothesis:

H2: Organizations that are quoted on a stock exchange will provide sustainability disclosures of a higher quality.

5.1.2 Financial performance

Financial performance is also expected to be related to the quality of sustainability disclosures. This is based on several arguments of which the first is that of proprietary costs. It states that only when an organization is financially healthy it can withstand the proprietary costs of sustainability disclosures (Cormier *et al.*, 2005). The second comes from stakeholder theory and states that organizations, and their major financial stakeholders, are primarily concerned that the organization is financially sound. Only if the organization performs well enough there is space for extra costs for sustainability reporting (Roberts, 1992). From legitimacy theory it can be argued that a good financial performance could jeopardize the legitimacy of an organization, when society thinks the financial performance exists at the expense of sustainability. These arguments all support the existence of a positive relation between financial performance and the quality of sustainability disclosures.

In chapter 3 it was shown that the evidence for this relation could not always be found and that these mixed results may have been caused by differences in samples. Therefore, it is interesting to see if the relationship exists for the sample of this thesis. Therefore, the following hypothesis has been formulated:

H3: Organizations that have a better financial performance will provide sustainability disclosures of a higher quality.

5.1.3 Industry

Industry is the third organizational characteristic that is expected to relate to the quality of sustainability disclosures. Certain organizations are viewed by the public as having bad environmental performance or social circumstances (Cowen *et al.*, 1987). Legitimacy theory states that if this concerns one or more organizations in an industry, the legitimacy of the whole industry is at stake. Therefore, organizations that operate in so-called sensitive industries are expected to disclose sustainable information of a higher quality.

In chapter 3 most studies that were discussed found a positive significant relation between industry membership and sustainability disclosures. It will be interesting to see if this relation also exists for this thesis's sample, which also includes smaller organizations, and if it applies to all disclosure categories. It is therefore hypothesised that:

H4: Organizations that operate in sensitive industries will provide sustainability disclosures of a higher quality.

5.1.4 Dispersed ownership

It is expected that the dispersion of shareholders is related to the quality of sustainability disclosures. When shareholders are more dispersed, there is more information asymmetry and therefore more information demand (Roberts, 1992; Brammer and Pavelin, 2008). Legitimacy theory states that an organization's legitimacy can be at stake when society's expectations are in conflict with the actual performance of the organization. This can be applied more specifically to shareholders. An opposite argument is that when shareholders are less dispersed they have relative more power over the organization. However, it could also be that these stakeholders demand a lower quality of the sustainability report since they can have other ways to access information.

Chapter 3 provided some support for a positive relation between dispersed ownership and the amount of disclosures. Nevertheless, since the arguments for the relation are ambiguous and there is not a lot of

evidence, the direction of the relation will not be predicted in advance. The following hypotheses will only be tested on that part of the sample that is quoted on the stock exchange:

H5a: Organizations that have more dispersed ownership will provide sustainability disclosures of a higher quality.
H5b: Organizations that have more dispersed ownership will provide sustainability disclosures of a lower quality.

5.1.5 Leverage

Leverage is the final organizational characteristic that is expected to be related to the quality of disclosures. Leverage has been discussed in two different sections in chapter 3. Leverage has been used as a measure for financial performance. In section 5.1.2, several arguments for a positive relation between financial performance and the quality of disclosures were provided. Since a low leverage implicates a good financial performance, the expected relationship would be negative (Cormier and Magnan, 1999). Another argument for a negative relation has to do with proprietary costs. It can be argued that organizations are not willing to incur these costs when their leverage is high and loan contracts are at stake (Karim *et al.*, 2006).

Leverage has also been used to reflect the power of creditors. When the amount of debts of an organization increases, creditors gain more control over an organization's resources which increases their stakeholder power. With this power they could demand a higher quality of disclosures (Roberts, 1992).

The arguments to explain the relation are contradicting and only minor evidence has been found for both relations. It is therefore interesting to see if any evidence of a relation can be found. This leads to the following hypotheses:

H6a: Organizations that have a higher leverage will provide sustainability disclosures of a higher quality.
H6b: Organizations that have a higher leverage will provide sustainability disclosures of a lower quality.

5.2 *Measuring method*

This section explains which variables are necessary to test the hypotheses of this thesis. The dependent variable and independent variables are described, as well as the way these variables will be measured and how these data will be obtained.

5.2.1 Dependent variable

The dependent variable in this research is the quality of sustainability disclosures. For this, the transparency benchmark executed by PricewaterhouseCoopers by order of the Dutch Ministry of Economic Affairs will be used. This benchmark study has been executed yearly since 2004. Its purpose is to determine and compare the transparency of the sustainability reporting by large organizations in the Netherlands. Another goal is to stimulate discussion and action in the area of sustainable business and sustainability reporting.

The benchmark study scores the sustainability disclosures of a group of selected organizations. Organizations are chosen by the researchers based on their sales volume. This means that an organization is not able to choose if it wants to be excluded from the benchmark, which supports its objectivity. As from 2008, organizations that do not meet this sales volume criteria are able to voluntary apply for the benchmark study but these organizations do not replace other organizations. Unique about the benchmark study is that it also includes Dutch organizations that are not quoted on the stock exchange, this is about half of the research group. For further details on the research group, section 5.3 should be consulted.

The disclosures included in the scoring process are those incorporated in the annual financial report complemented with any separate sustainability disclosures. Information on corporate websites is only taken into account when it is explicitly referred to in the disclosures. All information taken into account has to be publicly available.

<u>The review model</u>

The sustainability reports are scored by means of a review model. As described in chapter 4, there are three ways to determine the quality of disclosures: subjective ratings, disclosure indices and textual analyses. The review model is a disclosure index, which means that the researchers determine the score according to a list of scoring items that have been specified in advance. In 2007, a new review model was introduced which replaced the one that had been used from 2004 till 2006. The differences with the old

review model will be discussed later. The current review model is subdivided in 10 categories, each with a maximum score of 10 points. Thus, the total maximum score that an organization can receive for its disclosures is 100 points. In turn, each subcategory consists of 3 to 6 criteria through which the disclosures can be scored.

The benchmark study has developed a disclosure index which is far from standard. Each criterion is tailor-made to improve the ability of the model to capture the transparency of the disclosures. The criteria can have two, three of four point scales and sometimes include the possibility of extra points irrespective of the obtained points for those criteria. Because the same review model is used for very diverse organizations, another kind of criteria was introduced to make sure that the scores are comparable with each other, these criteria include so-called buckets. A bucket is a group of subjects; an organization will receive a score if it reports on a minimum amount of these subjects.[2] This way, organizations can choose to omit information on certain irrelevant subjects and still get a full score.

The total review model has been included in Appendix A, but is only available in Dutch. Therefore, the descriptions of the 10 categories have been translated from the benchmark and are stated below.

- *Profile.* Does the reporting provide insight in subjects like work force, major products and services, the core processes of the organization and its influence on people, environment and society, the ownership relations and the position in the chain?
- *Vision and strategy.* Does the reporting provide insight in the vision of the organization on sustainability, the expectations for the future concerning sustainability, the use of internal and external guidelines and the expression of social engagement?
- *Board of directors and management systems.* Does the reporting provide insight in the names of directors and their duties, the organizational structures, the tasks and responsibilities for sustainability and the directing and managing of sustainability?
- *Supply chain management.* Does the reporting provide insight in the way the organization pursues its policy with respect to chain management and responsibility, the activities that are being developed to attain chain management and responsibility, and how the process of directing and managing the chain looks like?
- *Stakeholders.* Does the reporting provide insight in the stakeholders of the organization, how the dialogue with these stakeholders is entered into, how the dialogue is embedded, how the dialogue is executed and what the influence of the dialogue has been?

[2] For an example, see question 24 of the review model in appendix A.

- *Economical aspects of operations.* Does the reporting provide insight in the policy of the organization concerning financial economical aspects, the improvements that have been realized and any possible objectives that have been set?
- *Environmental aspects of operations.* Does the reporting provide insight in the policy of the organization concerning environmental aspects, the improvements that have been realized and any possible objectives that have been set?
- *Social aspects of operations.* Does the reporting provide insight in the policy of the organization concerning social aspects, the improvements that have been realized and any possible objectives that have been set?
- *Verification.* Has the reporting been audited by an independent expert or an expert on the subject matter or has a reasonable case been made why the organization chose not to audit the report?
- *Execution of the disclosures.* Does the reporting provide insight in dilemmas concerning sustainability, does it contain a summary of the most important results, are contact details provided and does the report refer to other external reports?

Differences with the old review model

One of the differences between the old and the new review model is that the new version places more emphasis on the subject supply chain management. This subject has become more important for organizations, thus the review model needed to reflect this. The subject verification was also expanded to reflect the increased and more diverse possibilities to verify sustainability reports. In general, the categorization of the model changes significantly. The old model consisted of 7 categories, each with a different maximum score while the new model consists of 10 categories with a maximum score of 10 points each. However, the total maximum score stayed the same, namely 100 points.

Another change was caused by the need to better reflect the differences in quality between organizations. Within the old model, some criteria were not very distinguishing. Therefore, most organizations that published some basic report received a full score on those items. Within the new model, the criteria maintain a higher standard which makes it harder to obtain a full score which results in more distinction between the scores of different organizations. Furthermore, the criteria which include the so-called buckets, as described before, made their introduction in the new review model. With this kind of criteria, it is possible to measure the quality of more organization-specific information.

The criteria in the old review model had been based on the Dutch guide to sustainability reporting. With the revision of the review model, the criteria were also aligned with the GRI guidelines. Because there is

much overlap between both guidelines, the GRI guidelines could be used to supplement the Dutch guide to sustainability reporting.

All these changes led to an improved and up-to-date review model. However, they also had a significant influence on the results of the benchmark study. The changes caused the scores between 2006 and 2007 to drop with an average of more than 10 points from 40.8 to 29.4. As mentioned before, the subcategories were also changed drastically which had an impact on the sub scores. Moreover, it is not possible to make an accurate conversion from the old score to the new one. PWC (2007) therefore states in their benchmark research that the results of 2006 and 2007 can hardly be compared. The new review model should therefore be seen as a fresh start, and good comparisons will only be possible as from 2007.

Quality of the benchmark study

This thesis uses the benchmark study from PWC as a means to obtain data on the quality of Dutch sustainability disclosures, and not a self generated scoring model or another benchmark study. Therefore, it is necessary to realize what the quality of the benchmark study is and what the consequences are of using this study.

First of all, it is important to make sure that the benchmark study is indeed capturing the quality of the sustainability disclosures. The fact that the benchmark study states that it measures the "transparency" of the disclosures, might be confusing as well. However, in chapter 4 it was described that: "when considering sustainability reports, it can be stated that a report must meet certain criteria in order to obtain a higher quality." Thus, to see if the benchmark study actually measures the quality, it needs to be checked if the criteria used by the benchmark study are similar to those described in chapter 4.

The benchmark study states that it has been aligned with the GRI guidelines. This can be confirmed when looking at the different categories and criteria. For example, within 'execution of the disclosures' points can be scored when the organization states its important sustainability dilemmas in its report. This matches the GRI principle 'balance'. The category 'stakeholders' matches the principle of 'stakeholder inclusiveness'. The other principles as provided in chapter 4 table 1 can also be recognized when examining the review model. This ensures that the benchmark study is actually measuring the quality of sustainability reporting.

Second, this benchmark study is considered as a reliable and qualitative study for several reasons. The study has been executed yearly since 2004; this brings experience which, amongst other things, helped to improve the review model. The fact that the study is executed by order of the Dutch Ministry of Economic Affairs instead of a commercial institution adds to the reliability of the study as does the fact that organizations cannot choose to be excluded from the study. Basing the review model on the GRI guidelines, the global leader on guidelines for sustainability reporting, and the guide to sustainability reporting, by the acknowledged Dutch Council for Annual Reporting also adds to the quality of the study.

Using the benchmark results

As explained before, the review model was drastically changed after 2006. Therefore, this study will only use the results of the benchmark studies from 2007 and 2008. This will prevent the possibility of any misleading results and unfounded conclusions. Of the 2007 and 2008 benchmark studies, the total score will be used in the statistical analyses as will the scores for the individual categories. The separation in categories will hopefully provide further insights in the outcomes of the research.

To prevent any misunderstandings, it must be made clear to which year the benchmark study applies. The disclosures of financial year t are published by organizations in year t+1. The benchmark study of 2007, for example, scores the disclosures published in the year 2007 which involve information on year 2006. In this research, the financial year t can be seen as a base year when collecting data. Therefore, the benchmark scores are obtained from year t+1. Since this research can only use the benchmark studies from 2007 and 2008, t can be either 2006 or 2007.

5.2.2 Independent variables

This section will describe the independent variables, which data will be used and how this data will be obtained. Most data is taken from the balance sheet; in those cases the data at the end of financial year will be used. For example the total assets of company X for financial year 2006, will be taken from the balance sheet of 31/12/2006.

Visibility

Size will be measured by the net total assets (ASSET) and number of employees (EMPL). These data can be obtained from financial databases. For both measures, the natural logarithm will be used because the data would otherwise be subject to a large positive skewness because of a few major organizations (Gray

et al., 2001). For the organizations that are quoted on a stock exchange, the data will be obtained from the database Compustat. For the organizations that are not quoted on a stock exchange, the database Reach will be used. Data will be obtained from the end of year t. Whether an organization is quoted or not can be found in the benchmark study by PWC.

Financial performance

Financial performance will be measured by ROA. ROE has been used more often than ROA, but this sample includes organizations that are not quoted on the stock exchange. The use of ROE would therefore result in incomparable data. ROA is measured as earnings before interest and taxes (EBIT) of year t divided by total assets at t-1. The data for this percentage can be obtained from the same financial databases, so Compustat for quoted and Reach for non-quoted. It is possible that time lags exist for financial performance, since it can take a while before higher profits will result in better disclosures. Therefore, the average return on assets (AVROA) of the three years prior to year t will also be included in this research.

Industry

For the industry variable, it is necessary to determine which industries are environmentally or socially sensitive. Only Adams *et al.* (1998) have labelled industries as socially sensitive. They stated that organizations that operate in the mass-production for the consumer goods market (manufacturing and autos) are socially sensitive. This definition will also be used for this thesis. Multiple studies have defined environmentally sensitive industries (Patten, 2002a; Campbell, 2003b; Hackston and Milne, 1996). For this thesis, the different studies were compared and combined. This resulted in a number of industries that can be labelled as 'sensitive'; this can be either socially or environmentally sensitive. An overview of the sensitive industries is provided in table 2; industries that are not mentioned are labelled as non-sensitive.

The Dutch Chamber of Commerce has classified business activities with a BIK-code. This code can be up to 6 numbers, depending on how specific the activities are classified[3]. The BIK-codes of the sensitive industries are mentioned in table 2. Every Dutch organization is obligated to register what kind of activities it explores with the Chamber of Commerce following the BIK-codes. These codes can also be obtained through the Reach database. When an organization explores multiple activities and one or more of them can be labelled as sensitive, the organization will be labelled as sensitive.

[3] www.kvk.nl/Branches/010_Zoeken_van_brancheinformatie/debranchewijzer/debranchewijzer.asp

Table 2: Sensitive industries

Section	BIK-code
Forestry. Manufacture of wood, paper and pulp	02, 20, 21
Extraction of peat, crude petroleum and natural gas	10, 11
Manufacture of food products and beverages	15
Manufacture of tobacco products	16
Manufacture of wearing products, fur, and leather shoes	18, 193
Manufacture of coke	23
Manufacture of chemicals and chemical products, except pharmaceuticals	24 (ex. 244)
Manufacture of basic metals	27
Manufacture of motor vehicles and motorcycles	34, 354
Manufacture of furniture and other manufacturing	36
Production and distribution of electricity, natural gas and hot water	40
Land, water and air transport	60, 61, 62

Dispersed ownership

Thomson One Banker will be used to obtain data for dispersed ownership. They provide the percentage of closely held shares for most quoted organizations. Thomson One Banker defines closely held shares as "shares held by insiders". It includes:

- Shares held by officers, directors and their immediate families
- Shares held in trust
- Shares of the company held by any other corporation (except shares held in a fiduciary capacity by banks or other financial institutions)
- Shares held by pension/benefit plans
- Shares held by individuals who hold 5% or more of the outstanding shares

It excludes:

- Shares under option exercisable within sixty days
- Shares held in a fiduciary capacity
- Shares held by insurance companies

- Preferred stock or debentures that are convertible into common shares[4]

The percentage of closely held shares is calculated by Thomson One Banker as: (number of closely held shares / common shares outstanding) * 100. However, this thesis requires information on dispersed ownership, which actually is the opposite of closely held shares. Therefore, dispersed ownership is calculated as: 100 minus the percentage of closely held shares in year t. As mentioned before, this variable is only applicable to quoted organizations.

Leverage

An organization's leverage will be calculated as its long term debt divided by its total assets since that ratio will be available for the whole sample. The data can be obtained from Reach and Compustat. The arguments for a negative relation between leverage and sustainability disclosures suggest that a time lag might also exist for this variable. This is why, similar to the financial performance variable, the leverage of year t (LEV) and the average leverage of the three years prior to this year (AVLEV) will be used.

All the independent variables that apply to organizational characteristics and that are necessary for the empirical research have been described. An overview of these variables is provided in table 3.

5.3 *Sample*

The sample for this research consists of the organizations that were incorporated in the 2007 and 2008 benchmark study of PWC. Some organizations have been excluded from the sample. These are: organizations that did not receive a score in either one of the two years because they did not publish any sustainability disclosures, financial institutions because independent variables such as leverage of ROA are incomparable to the other organizations and organizations with many missing data.

This resulted in a sample of 123 organizations and since data will be collected for two years, the total dataset consists of 246 data entries. The distribution in the sample between organizations that operate in sensitive industries and organizations that do not, as well as the share of quoted organizations in the

[4] Taken from the definition in the excel add-inn of Thomson One Banker

sample is shown in table 4. A complete overview of the organizations that were included in the sample can be found in appendix B which provides the dataset of this research.

Table 3: Independent variables

Variable	Measure	Direction	Year	Description
Quality			t + 1	Score benchmark study
Visibility				
	ASSET	+	t	Natural logarithm of total assets.
	EMPL	+	t	Natural logarithm of number of employees
	QUOTED	+	2007	Takes value 1 if organization is quoted, takes value 0 otherwise.
Financial performance				
	ROA	+	t	EBIT (t) / Total assets (t-1)
	AVROA	+	$\frac{(t-1)+(t-2)+(t-3)}{3}$	Three-year average EBIT (t)/ Total assets (t-1)
Industry				
	IND	+	2007	Takes value 1 if organization operates in sensitive industry, takes value 0 otherwise.
Dispersed ownership				
	OWN	+/-	t	Percentage of closely held shares.
Leverage				
	LEV	+/-	t	Long-term debt / Total assets
	AVLEV	+/-	$\frac{(t-1)+(t-2)+(t-3)}{3}$	Three-year average (long-term debt / Total assets)

Table 4: Sample

	Sensitive	Not Sensitive	**Total**
Quoted	14	69	**83**
Not quoted	19	21	**40**
Total	**33**	**80**	***123***

5.4 *Research method*

In order to test all hypotheses, different statistical tests will need to be executed. Most variables and hypotheses are included in the same tests, these will be described first. The fifth hypothesis (dispersed ownership) uses a different dataset and will be explained at the end of this section. The outcomes of the different test will be linked to the hypothesis in the "interpretation" section of chapter 6.

IND and QUOTED are dichotomous variables. To test the single relation between them and the quality scores independent sample t-tests will be performed. This test compares the means of two independent groups; in the case of IND the groups are 'sensitive' and 'not sensitive'. When the independent t-test shows a significant difference between the means, it can be concluded that the grouping variable is related to the dependent variable.

The variables ASSET, EMPL, ROA, AVROA, LEV and AVLEV are ratio variables. To test the existence, the magnitude and the direction of the relation between these variables and the quality scores, it is necessary to perform a bivariate correlation test (Ho, 2006). The Pearson product moment correlation will be executed, since all variables are ratio scaled variables. This test is also particularly useful for determining multicollinearity. Multicollinearity means that two independent variable are highly correlated with each other, which implies both variables contain almost the same information (Ho, 2006). For this purpose, the variables IND and QUOTED will also be included in the correlation.

Finally, a multiple regression analyses will be executed. This analysis will test the relation between all the above mentioned variables and the dependent variable together. It shows the influence of the other variables on the relation between one independent variable and the dependent variable. It also shows the predictive value of the regression model as a whole. Within multiple regression analyses, different methods can be used to enter the variables into the equation. The two most common methods are the 'enter' and the 'stepwise' method. The enter method enters all the variables into the equation at once. Thus, all the variables are included in the equation whether they are significant or not. The stepwise method enters the variables into the equation one at the time. The variables will be entered into the equation based on their significance until all significant variables have been included in the model. For this research, the stepwise method will be used since it excludes insignificant variables. Therefore, the

equation model better reflects the influence of the significant variables and the explanatory power of the model as a whole. The entry value will be set at $p < 0.1$. In the regression analysis, multicollinearity will also be tested through the outputs 'tolerance' and 'VIF'.

The only variable that was not mentioned before, namely OWN, needs a somewhat different approach. The variable OWN can only be measured for quoted organizations. The missing values for non-quoted organizations would influence the outcomes of the tests described before if it would have been included. It is also impossible to include both QUOTED and OWN in one regression; since only quoted organizations have data for OWN, the variable QUOTED will seem to be a constant variable. Therefore, to test this variable, a different dataset will be used. It will include all the other variables (except QUOTED), but only for those organizations that are quoted and have available data on ownership dispersion. With this dataset a bivariate correlation, a single regression for the variable OWN and a multiple regression will be executed.

Additionally it should be noted that since there are 11 quality scores (1 total score and 10 sub scores), all the tests will have to be performed 11 times for each different quality score.

5.5 *Chapter summary*

This chapter described the research design of this thesis, which investigates the relation between organizational characteristics and the quality of sustainability disclosures. For this, 6 hypotheses have been formulated which hypothesize that size, quotation, financial performance, industry, dispersed ownership and leverage are related to the quality of disclosures. To test these hypotheses, the relation between 9 independent variables and 11 dependent variables will be tested through different statistical techniques such as correlations and multiple regressions.

6 RESULTS

This chapter will describe the results of the statistical analyses. In the first section, the statistical output is described. In section 6.2, the results are used to accept or reject the hypotheses and to discuss the outcomes with respect to the theoretical framework.

6.1 *Statistical output*

The program used to obtain the statistical output is SPSS Statistics 17.0; a copy of the dataset used has been included in appendix B. All the tests have been executed as described in section 5.4. First, the output of the analyses for the 'regular' variables will be discussed, then the analyses of dispersed ownership. The descriptive statistics, as obtained from the regular dataset, are provided in table 5.

Table 5: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Quality total reporting	246	0	88	31.98	19.899
Profile	246	0	10	4.95	2.152
Vision and strategy	246	0	10	5.16	2.780
Board of directors and management systems	246	0	10	4.02	2.298
Supply chain management	246	0	10	1.60	2.423
Stakeholders	246	0	10	1.82	2.405
Economical aspects of operations	246	0	10	4.37	1.314
Environmental aspects of operations	246	0	10	2.96	3.338
Social aspects of operations	246	0	10	3.41	2.887
Verification	246	0	8	.87	2.272
Execution of the disclosures	246	0	10	2.83	2.068
Asset	246	16.66	26.32	20.7069	1.60821
Empl	246	3.95	12.87	8.1686	1.80828
Roa	246	-57.68	97.04	9.6611	12.87146
Avroa	246	-73.38	210.13	8.7345	20.11213
Lev	246	.00	1.23	.1686	.14999
Avlev	246	.00	1.14	.1671	.15412
Quoted	246	0	1	.67	.469
Ind	246	0	1	.27	.444
Valid N (listwise)	246				

6.1.1 Independent sample t-tests

To test the relation of the variables industry and stock market quotation with the different measures of quality, independent sample t-tests were performed. The independent sample t-test with total quality as the dependent variable and QUOTED as the independent variable is shown as an example in tables 6 and 7. The total results are provided in appendix C-I.

The independent sample t-test analyzes the difference between the means of two independent samples. When the significance is small ($p < 0.1$), the hypothesis of equal means is rejected. The 'Levene's Test for Equality of Variances' tests whether the two population variances are equal. When the significance of the Levene's test is small ($p < 0.1$), the hypothesis of equal variances is rejected and the 'Equal variances not assumed' statistics should be used (Ho, 2006). In this example, that is not the case and equal variances can be assumed. The test indicates that there is a significant difference (($p < 0.05$) between the means of the two groups; quoted organizations make disclosures of a significantly higher quality than non-quoted organizations.

Higher means for quoted organizations were also found for the quality of: 'profile' ($p < 0.01$), 'vision and strategy' ($p < 0.01$), 'board of directors and management systems' ($p < 0.01$), 'economical aspects of operations' ($p < 0.01$) and verification (equal variances not assumed, $p < 0.1$). For the other quality scores, there is no significant difference in means.

Independent sample t-tests were also performed for the independent variable IND. Of the 123 organizations in total, 33 were labelled sensitive; the rest was labelled as non-sensitive. For all quality scores, Levene's test shows that equal variances cannot be assumed. The results indicate significantly higher means for all quality scores except 'vision and strategy' and 'economical aspects of operations' with $p < 0.05$ for 'profile' and $p < 0.01$ for the remaining variables. So, organizations who operate in sensitive industries disclosed information of a significantly higher quality for the majority of the quality scores.

Table 6: Group statistics Quoted

	Quoted	N	Mean	Std. Deviation	Std. Error Mean
Quality total reporting	Not quoted	80	27,84	18,608	2,080
	Quoted	166	33,97	20,245	1,571

Table 7: Independent samples test Quoted

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Quality total reporting	Equal variances assumed	1,137	,287	-2,284	244	,023	-6,132	2,685	-11,422	-,843
	Equal variances not assumed			-2,352	168,578	,020	-6,132	2,607	-11,279	-,986

6.1.2 Bivariate correlation

To examine the relations of ASSET, EMPL, ROA, AVROA, LEV and AVLEV with the different quality scores and to test for multicollinearity, a Pearson product moment correlation was executed. The SPSS output table is included in Appendix C-II. First the relations with the quality scores per independent variable will be described.

ASSET has a significantly positive relation ($p < 0.01$) with all 11 quality scores. The Pearson correlation (r) which implies the magnitude of the relation varies from 0.39 (economical aspects of operations) to 0.64 (quality total reporting). EMPL also has a significantly positive relation to all 11 quality scores ($p < 0.01$) with slightly smaller correlations, namely between 0.35 (economical aspects of operations) and 0.58 (vision and strategy). In other words, both total assets and number of employees are significantly related to the quality of sustainability disclosures.

Unfortunately, for the variable ROA no significant relations were found with any of the quality scores. On the other hand AVROA seems to be positively related ($p < 0.1$) with quality scores 'vision and strategy' and 'supply chain management' although the magnitude is relatively low with r = 0.11 for both. The minor evidence that AVROA is related to the quality of sustainability disclosures will be investigated further with the multiple regression analyses.

For the variable LEV, some significant results were found. It is positively related to total quality ($p < 0.1$) and to the quality scores for 'profile' ($p < 0.01$), 'vision and strategy' ($p < 0.01$), 'board of directors and management systems' ($p < 0.05$) and 'environmental aspects of operations' ($p < 0.05$). Pearson correlation varies between 0.14 and 0.22, which indicates the magnitude of the relation is not very high. The variable AVLEV is also significantly related to some quality scores. Namely 'quality total reporting' ($p < 0.05$), 'profile' ($p < 0.05$), 'vision and strategy' ($p < 0.01$), 'board of directors and management systems' ($p < 0.1$), 'stakeholders' ($p < 0.1$), 'environmental aspects of operations' ($p < 0.01$) and 'social aspects of operations' ($p < 0.1$). R varies between 0.11 (social aspects of operations) and 0.26 (vision and strategy). Both measures of leverage are significantly related to total quality and to some of the other quality scores. However, the magnitude of the relation is not very high so it will be interesting to see if the relationship will still be significant in the multiple regression analyses.

Now the relations of the variables with the quality scores have been described, multicollinearity between the independent variables will be discussed. Multicollinearity exists if independent variables are highly positively or negatively correlated with each other. There is no rule for this, but usually the tolerance value is set at $|r| \geq 0.9$. In this correlation test, none of the variables have a correlation above this tolerance value. The highest correlations are found between ROA and AVROA (R=0.77, $p < 0.01$), between LEV and AVLEV (R=0.73, $p < 0.01$) and between ASSET and EMPL (R=0.68, $p < 0.01$). The first two are logical since they are the same variable, only measured in a different time period. The last correlation is also explained reasonably since they are both variables to measure the size of an organization. Given that these correlations fall below the tolerance value, they have not been excluded from the multiple regression analysis as will be discussed in section 6.1.4. However, to be absolutely sure no multicollinearity exists, it will be checked again in the multiple regression analyses.

6.1.3 Multiple regressions

This section describes the outcomes of the multiple regression analyses. The previous tests have identified significant relations between the independent and dependent variables. With the multiple regressions, the

combined influence of all the independent variables on a dependent variable can be analyzed, but also the partial influences of the independent variables.

In Appendix C-III, the SPSS output of the multiple regressions is provided. For these regressions, the 'stepwise' method was used, which means that variables are in- or excluded one at the time, in order of their significance. When looking at the regression of 'quality total reporting' as an example, the 'Coefficients' table shows that QUOTED, IND, ASSET and EMPL have been included in the equation because of their significant influence. The table 'Excluded variables' shows the variables that have been excluded from the equation because they had no significant influence.

From the 'model summary', the predictive power or strength of the total model, which is expressed by R Square, can be read. In this case, the R Square is 0.479 which means that the included variables explain 47.9% of the dependent variable. Finally, the ANOVA test results indicate that there is a significant ($p < 0.01$) linear relationship between the dependent and independent variables.

The existence of multicollinearity can be determined through table 'Coefficients'. Generally it is said that multicollinearity exists if 'tolerance' < 0.1 or 'VIF' > 10. This is not the case in the regression of 'quality total reporting'.

These steps have been executed for all regressions. All regressions showed a linear relation according to the ANOVA test, and none of the regressions showed any sign of multicollinearity. The equation models can then be formulated with the output from the table 'Coefficients' of which the unstandardized betas of the significant variables are inserted in the equation together with the constant beta. The variables that show no significant relation have been excluded from the model equations, because this leads to a more realistic model (Ho, 2006). The equation models for the quality scores are shown in table 8. This table also shows the predictive power of the models.

Table 8: Model equations

Quality Score	Equation	R Square
Quality total reporting	= -98.481 + (5.051 * ASSET) + (11.578 * IND) + (2.352 * EMPL) + (5.264 * QUOTED)	0.479
Profile	= -6.658 + (0.450 * ASSET) + (0.993 * QUOTED) + (0.744 * IND) + (0.174 * EMPL)	0.313
Vision and Strategy	= -13.357 + (0.693 * ASSET) + (0.395 * EMPL) + (0.809 * QUOTED) + (1.797 * LEV) + (0.011 * AVROA)	0.465
Board of directors and management systems	= -8.117 + (0.476 * ASSET) + (0.753 * QUOTED) + (0.913 * IND) + (0.186 * EMPL)	0.294
Supply chain management	= -9.180 + (0.379 * ASSET) + (0.318 * EMPL) + (0.915 * IND) + (0.011 * AVROA)	0.268
Stakeholders	-10.676 + (0.478 * ASSET) + (1.527 * IND) + (0.267 * EMPL)	0.362
Economical aspects of operations	= -2.151 + (0.301 * ASSET) + (0.406 * QUOTED)	0.171
Environmental aspects of operations	= -15.656 + (0.717 * ASSET) + (2.373 * IND) + (0.409 * EMPL) - (0.022 * ROA)	0.436
Social aspects of operations	= -14.202 + (0.729 * ASSET) + (1.288 * IND) + (0.267 * EMPL)	0.370
Verification	= -11.547 + (0.510 * ASSET) + (0.930 * IND) + (0.196 * EMPL)	0.302
Execution of the disclosures	= -9.080 + (0.528 * ASSET) + (1.802 * IND) + (0.722 * QUOTED)	0.403

6.1.4 Dispersed ownership

This section separately addresses the outcomes of the test of the variable OWN. As was described in chapter 5, the relation between this variable and the quality scores needs to be tested separately since the variable can only be measured for quoted organizations. The Thomson Research database could not provide data for all organizations on dispersed ownership, for other organizations only data for the year 2007 was available. Therefore, the sample consisted of 140 data entries in total as can be seen in table 9. The database that was used has been included in Appendix B. Since the tests were the same as those of the other variables, these will not be explained extensively.

Table 9: Descriptive statistics Dispersed Ownership

	N	Minimum	Maximum	Mean	Std. Deviation
Dispersed ownership	140	1,70	100,00	65,1027	24,78401
Valid N (listwise)	140				

Table 10: Results for Dispersed Ownership

Quality	**Correlation**	**Regression**
Quality total reporting	0.337***	0.129**
Profile	0.289***	0.162**
Vision and Strategy	0.355***	0.144**
Board of directors and management systems	0.255***	0.121
Supply chain management	0.218***	0.138*
Stakeholders	0.297***	0.126*
Economical aspects of operations	0.154*	0.034
Environmental aspects of operations	0.261***	0.045
Social aspects of operations	0.244***	0.047
Verification	0.308***	0.139*
Execution of the disclosures	0.349***	0.165***

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

First, a Pearson product moment correlation was executed. The output, as included in appendix C-IV, shows that no multicollinearity exists. The correlation of OWN with the different quality scores was taken from the correlation matrix and is shown in table 10. It shows that OWN has a significant positive correlation with all the quality scores. This implies that organizations with more dispersed ownership disclose sustainability information of a higher quality.

Second, the multiple regressions were executed. Table 10 shows the standardized beta and its significance. The standardized beta provides the relative magnitude of the relationship, so that it can be compared with that of other variables. This output shows that, due to the influence of the other variables, only half of the quality scores is significantly influenced by OWN. For comparison, the equation model for 'quality total reporting' is computed with the unstandardized betas as can be found in Appendix C-IV.

Quality total reporting = -63.589 + (3.159 x ASSET) + (23.097 x IND) + (2.576 x EMPL) + (0.096 x OWN).

The explanatory power of this model (R Square) is 55%. This is higher than the power of the general model for 'quality total reporting' as given in section 6.1.3. However, since this model is based on a different dataset, it cannot be said that this is the result of the variable OWN.

6.2 *Interpretation*

In this section, the hypotheses will be accepted or rejected based on the output of the statistical analyses. These results will also be discussed in the light of the theoretical framework. Since there are so many dependent variables, it is easy to lose the overview of the results. Therefore table 11 summarizes for which variables a significant relation with the quality scores was found. This is based on the output of the t-tests, correlations and regressions as described in section 6.1. Blank cells indicate no significant relation was found.

Table 11: Summarized results statistical analyses

	Visibility						Financial performance				Industry		Dispersed Ownership		Leverage			
	Size				Quoted													
	Asset		Empl		Quoted		Roa		Avroa		Ind		Own		Lev		Avlev	
	C	R	C	R	T	R	C	R	C	R	T	R	C	R	C	R	C	R
Quality total reporting	***	***	***	***	**	**					***	***	***	**	*		**	
Profile	***	***	***	*	***	***					**	**	***	**	***		**	
Vision and Strategy	***	***	***	***	***	***			*	*			***	**	***	*	***	
Board of directors and management systems	***	***	***	*	***	***					***	***	***		**		*	
Supply chain management	***	***	***	***					*	*	***	***	***	*				
Stakeholders	***	***	***	***							***	***	***	*			*	
Economical aspects of operations	***	***	***		***	**							*					
Environmental aspects of operations	***	***	***	***				*			***	***	***		**		***	
Social aspects of operations	***	***	***	**							***	***	***				*	
Verification	***	***	***	**	*						***	***	***	*				
Execution of the disclosures	***	***	***			***					***	***	***	***				

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. C=correlation, R=regression, T=t-test.

6.2.1 Visibility

The first aspect of the visibility of an organization is its size. In chapter 5 it was hypothesized as follows: "Larger organization will provide sustainability disclosures of a higher quality". The size of an organization was measured with two variables, namely total assets and number of employees. The first variable, total assets, is proven to be most significantly related to the quality of disclosures. This relationship is found to be highly significant for all tests and all quality scores. Furthermore, the magnitude of the relation is also quite big. The relationship found is positive, so the more assets an organization has, the higher the quality of its disclosures.

For the other variable, number of employees, the correlation showed a significant relation with all the quality scores. Regression analyses brought some nuance to these results. It showed that when the influence of the other variables was included, some relations became less- or insignificant. However, since the total quality score and most sub scores are determined by the variable EMPL, it can be said that in general the more employees an organization has, the higher the quality of its disclosures.

Since it was found that both variables significantly relate to the quality of sustainability disclosures, hypothesis 1 will be accepted. This confirms the results of prior researchers who have also found much significant evidence for the relation between size and sustainability disclosures. Of these researchers, Cowen *et al.* (1987) were one of the few who also looked at the disclosure score of different categories. They found no evidence for the categories 'human resources' and 'products', the first might have similarities with the categories 'social aspects of operations' for which this research does find evidence. Since the research of Cowen *et al.* (1987) is more than twenty years old, this might indicate that large organizations attach more value to social disclosures now than they used to do. Unfortunately the research of Cowen *et al.* (1987) does not mention categories that seem to relate to economical aspects or execution of disclosures, so these outcomes cannot be compared.

Besides size, another aspect of visibility has been hypothesized to relate to quality. H2 was formulated as follows: "Organizations that are quoted on a stock exchange will provide sustainability disclosures of a higher quality". For this, the research sample was split up in quoted and non-quoted organizations and a t-test was performed. Furthermore, the variable was included in the multiple regression analyses. For the total quality, significant evidence of a relation was found with both tests. Therefore, hypothesis 2 will be accepted.

The categorical quality scores give some more insight in this relation. As shown in table 11, a significant relation is found for some of the categories. It seems that the relationship only exist for the categories with more general information, and less information on sustainability. A possible explanation for this is the fact that quoted organizations are obligated to bring out an extensive financial report. The information from these reports will have a certain overlap with the information for the general categories, which makes it relatively easy for quoted organizations to score higher on these categories. There are no identified related studies that have also used quotation as a variable, so unfortunately these results cannot be compared to other research.

Visibility, with the proxies size and quotation, has been proven to relate to the quality of sustainability disclosures. This supports the argument of a social contract from legitimacy theory and an increased stakeholder demand from stakeholder theory.

6.2.2 Financial performance

Although former research has provided mixed results for the relation between financial performance and sustainability disclosures, this thesis hoped to find some extra support for this relation. Financial performance has been measured with the variable return on assets of which the ROA of the base year and the prior three years were taken into account in case of a time lag. Unfortunately, the results show little sign of a significant relationship.

For ROA, the only significant relation was found for the correlation with environmental aspects of operations. Against the expectation, this relationship is negative. This implies that profitable organizations provide environmental disclosures of a lower quality. A possible explanation for this is as follows. Organizations might let their financial performance improve at the expense of their environmental performance. In this case, they might not want to elaborate too much on their environmental performance because the proprietary costs are too high or because it could harm their legitimacy. Unfortunately, it is not possible to test this explanation within this research. Besides, the magnitude of the relation is not very big, so on average it would only make a difference of about 0.2 (beta times mean) points on the score.

The variable AVROA has been found to be related to ‘vision and strategy’ and ‘supply chain management’, but not with the total quality score either. No logical explanation comes to mind about why these specific categories are related to ‘lagged financial performance’ and the rest is not. In earlier

research, no categorization has been applied except by Cowen *et al.* (1987), but they found no significant results for any of the categories.

When looking at the results for ROA and AVROA in total in respect to the hypothesis. H3, "Organizations that have a better financial performance will provide sustainability disclosures of a higher quality", will have to be rejected.

If this outcome is compared with earlier research, the research of Cormier and Magnan (1999) is the most comparable research that found evidence for a relation between financial performance and sustainability disclosures, since they tested the relation between ROA and the extent of environmental disclosures. It is interesting to see that for this research, the only significant relationship found was that for 'environmental aspects of operations' and ROA which matches the results of Cormier and Magnan (1999). Other researchers that found evidence used different measures of profitability such as ROE (Roberts, 1992), the dichotomous variable 'profitable' or 'loss-making' (Neu *et al.*, 1998*)* or profit (Gray *et al.*, 2001) although the latter can also be seen as a proxy for size or visibility. Nevertheless, most studies failed to find significant results for a relation between either ROA or ROE and sustainability disclosures. When examining the samples used in different research, no logical relation seems to exist between the outcomes and aspects such as country, period, sample size, measurement of the independent variable or statistical measures. Therefore, it remains unclear whether financial performance relates to sustainability disclosures or not. Perhaps that a more extensive research, which includes different measurements for financial performance, different countries and periods can shed some light on these differences.

6.2.3 Industry

Industry membership has been proven to relate to the quality or amount of disclosures by previous researches. For this thesis, the fourth hypothesis was therefore formulated as follows: "Organizations that operate in sensitive industries will provide sustainability disclosures of a higher quality". The group was divided in either sensitive or insensitive industry membership and t-tests and multiple regressions were performed. Both tests showed a significant relation between industry membership and the total quality of disclosures. This significant relationship was also found for most subcategories. For 'vision and strategy' and 'economical aspects of operation' no evidence of a relationship was found. This implies that organizations that operate in sensitive industries do not feel the need to elaborate extra on their financial information or their long term goals. Apparently they are more willing to disclose information about

environmental and social performance. This could be because the information in these categories is more closely related to their legitimacy.

Since the statistical analyses showed significant results for total quality and many of the sub quality scores, hypothesis 4 will be accepted. This confirms the outcomes of earlier research as described in chapter 3. However, most of these studies only labelled environmentally sensitive organizations and looked at the quality of environmental disclosures. The best comparison is therefore the research of Adams *et al.* (1998), who labelled environmentally and socially sensitive organizations and also looked at different disclosure categories. They find a relation for environmental and employee disclosures, but not for ethical disclosures. Unfortunately, the category 'social aspects of operations' of this research includes both ethical and employee disclosures so a precise comparison cannot be made. Nevertheless, both studies have shown that socially sensitive organizations also disclose sustainability information of a higher quality. A disadvantage of labelling organizations as sensitive, as already mentioned in chapter 3.3, is that it is done on ad hoc basis. Also for this research, the classification does not correspond to that of other studies which makes comparisons less valuable. The main reason for this ad hoc approach in this research is the fact that different industry codes are used in the Netherlands. In general, the outcomes provide further evidence that organizations use sustainability disclosures as a legitimizing tool.

6.2.4 Dispersed ownership

The known argumentation about the relation between dispersed ownership and the quality of disclosures is ambiguous. Dispersion of shareholders implies diverse information demands and higher information asymmetry which could lead to higher shareholder pressure for disclosures. However, an often heard contra-argument is that these shareholders would lack the power to make these demands, since individually they are very small and together they are mostly unorganized. Therefore, hypothesis 5 was split up into two sub hypotheses to leave the direction of the relation undecided beforehand.

The results however, as summarized in table 11, clearly show evidence of a positive relation between dispersion and the total quality of disclosures. Moreover, the correlation shows a significant relationship between dispersed ownership and all categories. In the regression analyses, more than half of the quality categories are significantly related to ownership dispersion. This implies that even though small shareholders have relatively little power individually, organizations do feel the pressure of them as a group and answer to their information needs. It also implies that large and closely connected shareholders demand less information from the organization in its sustainability report, since they already have access

to this information via other ways. These outcomes are consistent with the theoretical approach of the managerial branch of stakeholder theory as described in chapter 2.2.2.

Hypothesis 5a, “Organizations that have more dispersed ownership will provide sustainability disclosures of a higher quality”, can therefore be accepted. Followed by a rejection of hypothesis 5b, “Organizations that have more dispersed ownership will provide sustainability disclosures of a lower quality”. The outcomes of this thesis are consistent with the outcomes of Cormier *et al.* (2005) and Brammer and Pavelin (2008), although these studies only found evidence for a relation with the amount of disclosures, not the quality. Another difference with these studies is the definition of dispersed ownership. These studies use a boundary of respectively 5 and 3 percent to distinguish between closely held shares and dispersed shares. As was explained in section, 5.2.2, this study also uses a boundary of 5 percent, but includes some other shares as closely held shares such as shares owned by family or shares in pension plans.

6.2.5 Leverage

The arguments about the influence of another big stakeholder group, the creditors, were also very diverse. Creditor power, as measured by leverage, was said to be positively related to the quality of disclosures because a higher leverage meant more creditor power to demand disclosures. Others argued that leverage, as an inverse indication of the financial performance, is negatively related to disclosures because organizations will only disclose in times of good financial health. This is because organizations then have the financial means and freedom, since there is less interference from creditors, for ‘secondary business goals’ such as sustainability. Another argument for a negative relation between leverage and disclosure quality does not relate to creditor power but to proprietary costs. When leverage is high and loan contracts are at stake, organizations will be less willing to incur these costs.

Because of the divergence in arguments, the sixth hypothesis was also split up into two hypotheses. H6a states that ‘Organizations that have a higher leverage will provide sustainability disclosures of a higher quality’, H6b states the opposite: ‘Organizations that have a higher leverage will provide sustainability disclosures of a lower quality’.

The results of the statistical tests show a positive relation between leverage and the disclosure scores. The correlation matrix showed a significant relation between the total quality score and four sub quality scores

and leverage. Average leverage was also showed to be significantly related to total quality and to six other quality scores. The quality scores that relate to leverage mainly include general information, but also environmental information is related to both measures of leverage. However, these relations are of a small magnitude compared to the relations of some other variables. Therefore, it is not surprising that these relations did not last when the other variables were included in the multiple regression analyses. The only significant relationship found there, was that between 'vision and strategy' and leverage.

If these results are reflected on the hypotheses, H6b has to be rejected since the correlation and regression show no sign of any negative relation. For H6a, rejecting or accepting is somewhat more complicated. The correlation matrix shows significant positive relations while the multiple regressions do not. Nevertheless, since the reality is that a relationship never stands alone because of the influence of other variables or unknown effects, the results of the multiple regressions have to count more heavily. Therefore, hypothesis H6a will be rejected. This implies that organizations are not sensitive to the power of creditors, when it comes to sustainability disclosures.

Neu *et al.* (1998) also failed to find significant evidence for a relation in their multiple regression analysis. Unfortunately they do not provide the results of any single correlations. Roberts (1992) did find a significant relation in her logistic regression between leverage and sustainability disclosures. However, in her research the quality was not measured with a score but in three categories: excellent, good or poor. This might have an effect on the different results.

6.3 *Chapter summary*

This chapter described the results of the statistical test, which include several t-tests, correlations and multiple regression analyses. The outcomes were used to accept or reject the hypothesized relations between the independent and dependent variables, as summarized below.

Accepted hypotheses:

H1: Larger organizations will provide sustainability disclosures of a higher quality.

H2: Organizations that are quoted on a stock exchange will provide sustainability disclosures of a higher quality.

H4: Organizations that operate in sensitive industries will provide sustainability disclosures of a higher quality

H5a: Organizations that have more dispersed ownership will provide sustainability disclosures of a higher quality.

Rejected hypotheses:

H3: Organizations that have a better financial performance will provide sustainability disclosures of a higher quality.

H5b: Organizations that have more dispersed ownership will provide sustainability disclosures of a lower quality.

H6a: Organizations that have a higher leverage will provide sustainability disclosures of a higher quality.

H6b: Organizations that have a higher leverage will provide sustainability disclosures of a lower quality.

7 CONCLUSION

This chapter will summarize the research and results, and will answer the research question of this thesis. In section two, some research limitations will be mentioned and in the third section suggestions will be made for future research.

7.1 *Research conclusions*

In the first chapter, it was explained that more and more organizations have started to report information on sustainability but that, since there are no mandatory reporting standards, the quality of these disclosures can vary significantly. Further insights in the reporting practices of organizations and their motivations to disclose can help the users of the sustainability reports in their assessment of the reporting organizations. Therefore, the following research question was formulated:

"Which organizational characteristics relate to the quality of sustainability reporting?"

To answer this question, a theoretical framework had to be set up, prior research literature was examined and it was explored what quality of sustainability disclosures is and how it can be measured.

This information was then combined and used in the design of the research of this thesis. Hypotheses were formulated about relations between organizational characteristics and the quality of disclosures. Each of these characteristics was represented by one or more independent variables in the statistical research. For the dependent variable, the quality of the sustainability disclosures, the benchmark studies of PWC was used. The benchmark study determines the quality of sustainability disclosures annually with a disclosures index model; the score that was determined with this model was used in this thesis as well as the scores for the 10 subcategories within the total score. The research sample consisted of Dutch organizations that published sustainability disclosures in 2007 and 2008 and that were included in the in 2007 and 2008 benchmark study.

After all data had been collected, several statistical tests were performed and analyzed. The results showed several significant relations between the independent variables and the quality of the sustainability

disclosures. Significant evidence was found for the relation between quality and the organizational characteristics size and quotation on a stock exchange, both are proxies for an organization's visibility. It was also shown that organizations that operate in socially or environmentally sensitive industries disclose sustainability information of a significantly higher quality. And last of all, a significant positive relation between ownership dispersion and the quality of disclosures was found. No relation was found for financial performance or leverage.

In comparison to earlier research, the results for size and industry are the least surprising; most studies have found some kind of relation between those characteristics and disclosures. However, this study has shown that not only environmentally sensitive, but also socially sensitive organizations disclose better sustainability reports. Quotation is an organizational characteristic that has never been used before, so the results cannot be compared, but since it can also be viewed as a proxy for visibility it agrees with earlier research in that visible organizations disclose sustainability reports of a higher quality. Prior studies failed to provide conclusive results on the relation between financial performance and disclosures. Although from a theoretical point of view, based on multiple theories, the relation has reason for existence, this research failed to find significant evidence of this relation. This adds to the already large number of studies that also failed to provide significant results. The same goes for leverage, although prior research was even more inconclusive in this case since both positive as well as negative relations have been argued and shown. The results of this thesis could not add anything to these results. Research on dispersed ownership had shown a positive relation between dispersion and disclosures. But, from a theoretical view a negative relation could also be argued. Therefore, both relations were tested. The results show a positive relation which agrees with the results of prior research.

The results of this thesis can be used by organizations to compare their quality. Benchmarking was already possible with studies like the one used in this thesis but with the model equations provided in chapter 6 this comparison is taken to a higher level. When an organization's organizational characteristics are inserted into the equations, the outcomes show the quality score that an organization 'should' have, based on the whole sample. With this information, it can determine if it under performs or over performs and specifically in which categories that is.

Stakeholders can use this thesis to further understand the motivations of organizations to disclose sustainability information. On the one hand, they should be aware of the legitimizing behaviour of organizations. Therefore, disclosures should be read with the necessary carefulness and criticism. On the

other hand, stakeholder theory and the results on dispersed ownership show that organizations respect the information demands of at least the shareholders even if they are not powerful individually. Therefore, if other stakeholders fail to demand certain information, they might consider buying shares to demand the same information as a shareholder.

Organizations like the GRI, the Dutch Council for Annual Reporting or governments can use the results of this thesis to gain further insights in the disclosure behaviour of organizations. If organizations disclose certain information voluntarily because of legitimizing behaviour or stakeholder pressure, it might not be necessary to make sustainability disclosures mandatory. However, if governments find that certain aspects of sustainability reports lack quality, they might consider mandatory rules and guidelines. If they want to stimulate sustainability disclosures of a higher quality, the results of this study show them that small, non-quoted organizations in non-sensitive industries disclose information with the lowest quality so this might be a good place to start.

7.2 *Limitations*

Like in all empirical research, the research of this thesis has some limitations. Since this thesis uses a benchmark study to obtain information about the quality of sustainability disclosures, and the review model of this study was recently changed, it was only possible to use data of the last two years. If the sample would have included more years, the results would have been more reliable.

The sample included organizations that were not quoted on a stock exchange. Although this had advantages, such as a bigger sample and the possibility of investigating the effect of quotation, it also had a disadvantage, namely that the research on the relation of dispersed ownership had to be performed separately on a smaller sample.

Another limitations of this research lies in the independent variables that were used. First of all, the organizational characteristics were often represented by one or more proxies. Although the use of these proxies has been thoroughly thought through, one can never be absolutely sure that the proxy is a good measure for the organizational characteristic. Leverage is a good example of this, since the variable could be argued as a proxy for creditor power or for financial performance depending on the direction the relation has. Unfortunately, no relation was found in this case and therefore, no conclusions can be drawn.

Second, this thesis investigated six organizational characteristics, represented by nine variables. The equation model that was made, based on the multiple regression analyses, explained less that 50 percent of the quality of disclosures. The model that included dispersed ownership, but that was based on a different sample, explained 55 percent. This implies that there are other variables that influence the quality of sustainability disclosures. This might be other variables that better reflect some of the organizational characteristics, other characteristics that were not taken into account because they seemed irrelevant or could not be measured reliably, or other factors besides organizational characteristics.

7.3 *Future research*

At last, this thesis will make some suggestions for future research. As mentioned in the last section, the variables that were included in this research could only explain half of the quality of the sustainability disclosures. Therefore, it would be interesting to add some more variables into the equation such as media attention.

This research showed that the presence of shareholders is related to the quality of disclosures, as well as their dispersion. It will be interesting to investigate the relation with other stakeholders more. For creditors, perhaps a different variable can be used that better reflects the power of creditors. It might also be interesting to include the presence, information demand and power of other stakeholders such as lobby groups, NGO's or employees.

This research failed to find a relation between financial performance and the quality of disclosures. In general, many studies have failed to do so. However, there were some studies that did find a relation and the theoretical arguments are also quite reasonable. Perhaps in this case, since empirical research fails to provide consistent results, it is better to perform some more in depth research to better understand the motivations of organizations. This might lead to more insights in organizational motivations to disclose information of a higher quality, which can be applied again to empirical research later on.

As mentioned in the introduction, this thesis only examined the quality of sustainability reports, not the actual sustainable performance of organizations. Although it might be hard to find a good way to measure the performance, it would be very interesting to see if it relates to the quality of disclosures. This could

provide even more insights in the motivations of management, because it might reveal legitimizing behaviour in case of bad performance.

Finally, as already mentioned in the previous section, the fact that only two years of the benchmark study could be used in this research gives room for further research. Because of this, it will be interesting to repeat this research again in a few years. Then the sample would be much bigger for pooled analyses, but it will also make it possible to look at the results per year to see if there are any trends in the relations over time. This would also make it possible to investigate the influence of the benchmark study itself. For example it will be interesting to examine if organizations adapt their disclosures to the benchmark studies that score them or if organizations imitate each other over time.

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Appendix A: Review Model (in Dutch)

Profiel

1. De belangrijkste producten en/of diensten van de onderneming worden beschreven.

    0 = geen of gedeeltelijke beschrijving

    1 = beschrijving van de producten/diensten die de onderneming levert. In het geval van consumenten en industriële producten wordt inzicht gegeven in de merken die de onderneming voert.

2. De landen waarin de onderneming actief is, worden toegelicht

    0 = geen beschrijving

    1 = er wordt een toelichting gegeven op de ondernemingsactiviteiten in het buitenland of het is duidelijk dat de onderneming geen buitenlandse activiteiten heeft. In het geval van buitenlandse activiteiten wordt een overzicht gegeven van vestigingen in het buitenland (tenminste op landenniveau)

3. Het aantal medewerkers van de onderneming, alsmede de omzet en de resultaten worden gespecificeerd naar regio en/of naar producten/diensten.

    0 = geen vermelding

    1 = gespecificeerde cijfermatige informatie met betrekking tot zowel medewerkers als bedrijfseconomische gegevens (mogelijk blijkt uit de verslaggeving dat de onderneming uitsluitend in Nederland actief is of geen gedifferentieerde producten/diensten heeft)

4. Er wordt een toelichting gegeven op concernrelaties en eigendomsverhoudingen (waaronder vermelding van de belangrijkste aandeelhouders)

    0 = geen beschrijving

    1 = er wordt een toelichting gegeven op aandeelhouders, aandelenbezit en zeggenschapverhoudingen (mogelijk blijkt uit de verslaggeving dat dit niet van toepassing is op de onderneming)

5. Er wordt een expliciete beschrijving gegeven van de kernprocessen en –activiteiten van de onderneming, waarbij een toelichting wordt gegeven op de impact van de bedrijfsvoering op mens, milieu en samenleving.

    0 = geen of gedeeltelijke beschrijving van de kernprocessen en -activiteiten

+ 1 expliciete beschrijving van kernprocessen en -activiteiten, inclusief de belangrijkste productiefactoren (waaronder een toelichting op grondstoffen)

+ 2 er wordt uitleg gegeven over de impact van de bedrijfsvoering op mens, milieu en samenleving waarbij de financieel-economische, milieu- en sociale aspecten worden benoemd die in het bijzonder relevant zijn voor de onderneming.

6. Er wordt een expliciete beschrijving gegeven van de keten waarin de onderneming opereert, waarbij een toelichting wordt gegeven op de impact van de keten op mens, milieu en samenleving.

0 = geen of gedeeltelijke beschrijving van de keten

+ 1 expliciete beschrijving van de keten, inclusief de herkomst van grondstoffen (naar landen/regio's) en toeleveranciers, alsmede de belangrijkste afnemers en/of afzetmarkten

+ 2 er wordt uitleg gegeven over de impact van de keten op mens, milieu en samenleving (aan de hand van een beschrijving van specifieke risico's). Hierbij worden de financieel-economische, milieu- en sociale aspecten benoemd die in het bijzonder relevant zijn voor de keten waarin de onderneming actief is.

Visie en strategie

7. De visie en de strategie van de onderneming in relatie tot maatschappelijk verantwoord ondernemen of duurzaam ondernemen wordt uitgelegd

0 = geen toelichting

1 = algemene beschrijving van de visie en strategie

2 = beschrijving van de visie en strategie in de vorm van een directieverklaring (mogelijk in de vorm van een voorwoord of een apart hoofdstuk dan wel paragraaf).

+ 1 het verslag nodigt de lezer uit tot het geven van een reactie en biedt daarvoor een concrete mogelijkheid

8. In de verslaggeving wordt een toelichting gegeven op de toekomstverwachtingen van het bestuur ten aanzien van maatschappelijk verantwoord ondernemen of duurzaam ondernemen

0 = geen beschrijving

1 = toekomstverwachtingen worden toegelicht

9. De verslaggeving geeft een toelichting op interne richtlijnen met betrekking tot gewenst gedrag (waaronder bijvoorbeeld kernwaarden, bedrijfsprincipes, gedragscodes en klokkenluiderregelingen)

0 = geen toelichting

+ 1 toelichting op het bestaan en de inhoud van tenminste één intern manifest of code

+ 1 openbaarmaking van tenminste één manifest of code. Mogelijk verwijst de verslaggeving naar publicatie elders.

10. De verslaggeving geeft een toelichting op externe richtlijnen waaraan de onderneming zich al dan niet gehouden acht (zoals bijvoorbeeld sectorspecifieke richtlijnen, de OESO-richtlijnen voor multinationale ondernemingen, de Universele Verklaring van de Rechten van de Mens, Global Compact van de Verenigde Naties)

0 = geen toelichting

1 = toelichting op het standpunt van de onderneming ten aanzien van tenminste één extern manifest of code

11. De verslaggeving geeft inzicht in de activiteiten van de onderneming met betrekking tot sociaal-maatschappelijke betrokkenheid. Het gaat hierbij bijvoorbeeld om sponsoring vanuit MVO perspectief, pro bono dienstverlening of projecten die gestart zijn vanuit het oogpunt een bijdrage te leveren aan de samenleving.

0 = geen expliciete toelichting op maatschappelijke betrokkenheid

1 = algemene beschrijving

2 = specifieke beschrijving, waarbij een kwantitatieve onderbouwing wordt gegeven

+ 1 er wordt duidelijk gemaakt dat de activiteiten in het kader van sociaal-maatschappelijke betrokkenheid in het verlengde liggen van de kernactiviteiten en als zodanig passen bij de aard van de onderneming

Ondernemingsbestuur en Managementsystemen

12. Er wordt een toelichting gegeven op het bestuur van de onderneming en de achtergronden en bestuurstaken van bestuurders

0 = geen vermelding

1 = de namen van de leden van de Raad van Bestuur (en van de Raad van Commissarissen indien van toepassing) worden vermeld zonder verdere toelichting

2 = de namen van de leden van de Raad van Bestuur (en van de Raad van Commissarissen indien van toepassing) worden vermeld met een toelichting op tenminste drie van onderstaande punten:

- taken en verantwoordelijkheden van bestuurders
- bestuurstermijnen
- achtergrond van de bestuurders
- overige bestuursfuncties van bestuurders

13. Er wordt inzicht gegeven in de organisatiestructuur van de onderneming

0 = geen toelichting

+1 beschrijving van de organisatiestructuur op tenminste het niveau van de belangrijkste decentrale organisatie-eenheden (divisies, business units of landen)

+1 schematische weergave van de organisatiestructuur (organogram)

14. Er wordt een beschrijving gegeven van de taken en verantwoordelijkheden binnen de onderneming ten aanzien van maatschappelijk verantwoord ondernemen en/of duurzaam ondernemen

0 = geen toelichting

1 = er wordt een toelichting gegeven op de governance structuur met betrekking tot maatschappelijk verantwoord ondernemen en/of duurzaam ondernemen

+ 1 uit de toelichting blijkt de verantwoordelijkheid en de betrokkenheid van het hoogste bestuurslichaam

+ 1 uit de toelichting blijkt de verantwoordelijkheid en de betrokkenheid van toezichthouders (bijvoorbeeld de Raad van Commissarissen of een speciaal daartoe ingestelde commissie) bij de strategie en de resultaten van de onderneming op het gebied van maatschappelijk verantwoord ondernemen en/of duurzaam ondernemen

15. Er wordt een beschrijving gegeven van het proces van sturing en beheersing met betrekking tot maatschappelijk verantwoord ondernemen en/of duurzaam ondernemen. Het gaat hierbij bijvoorbeeld om:

• proces van strategiebepaling
• risicomanagement
• compliance met wet- en regelgeving
• audits van managementsystemen (inclusief eventuele certificatie)
• beoordelings- en beloningsystemen
• feedback en evaluatiesystemen (inclusief beleidsevaluaties)

0 = geen toelichting

2 = er wordt een toelichting gegeven op tenminste drie van bovengenoemde punten

+ 1 de toelichting geeft inzicht in de wijze waarop maatschappelijke resultaten invloed hebben op de beloning van bestuurders

Ketenverantwoordelijkheid

16. De verslaggeving geeft inzicht in het beleid dat de onderneming voert ten aanzien van ketenbeheer en –verantwoordelijkheid

0 = geen toelichting

1 = het gevoerde beleid wordt toegelicht

17. De onderneming geeft een toelichting op de activiteiten die zij ontplooit om te komen tot verantwoord ketenbeheer

0 = geen toelichting

1 = algemene beschrijving

2 = specifieke beschrijving in relatie tot concrete milieu- en sociale risico's die zich voordoen in de productieketen

+ 2 uit de beschrijving blijkt de betrokkenheid van stakeholdergroepen in de wijze waarop de onderneming omgaat met onderwerpen op het gebied van verantwoord ketenbeheer

18. Er wordt een beschrijving gegeven van het proces van sturing en beheersing met betrekking tot verantwoord ketenbeheer. Het gaat hier bijvoorbeeld om:

• verankering van maatschappelijke overwegingen in het inkoopproces
• risicomanagement in de keten
• het bewaken van naleving van interne en externe regelgeving
• proces van evaluatie en eventuele bijsturing

0 = geen toelichting

1 = er wordt een toelichting gegeven op tenminste twee van bovengenoemde punten

+ 2 de toelichting geeft inzicht in de wijze waarop verantwoordelijkheden in de organisatie zijn belegd ten aanzien van verantwoord ketenbeheer

+ 2 er wordt een toelichting gegeven op vormen van externe controle op verantwoord ketenbeheer waar de onderneming bij betrokken is

Stakeholders

19. De onderneming benoemt haar belangrijkste stakeholders

0 = geen vermelding

1 = stakeholders worden expliciet benoemd

20. De onderneming geeft aan wat de invloed is geweest van stakeholderdialoog op de verslaggeving

0 = geen vermelding

1 = algemene beschrijving

2 = specifieke beschrijving waarbij wordt aangegeven welke onderwerpen voor welke stakeholders van belang zijn en hoe vaststelling hiervan de inhoud van de verslaggeving heeft beïnvloed

21. De onderneming geeft een toelichting op de wijze waarop een dialoog wordt gevoerd met stakeholders op terreinen die gelet op het profiel van de onderneming relevant zijn in het kader van maatschappelijk verantwoord ondernemen of duurzaam ondernemen.

0 = geen toelichting

1 = algemene beschrijving \

2 = er wordt een gedetailleerde beschrijving gegeven waarbij wordt ingegaan op de onderwerpen van de dialoog, de vorm waarin de dialoog gevoerd werd, de uitkomsten van de dialoog en de vervolgstappen

+ 1 tenminste twee stakeholdergroepen met wie de onderneming een dialoog voert, worden bij naam genoemd

+ 2 uit de verslaggeving blijkt dat de onderneming een stakeholderdialoog heeft gevoerd over onderwerpen binnen tenminste drie van de volgende categorieën:

- milieu
- arbeidsvoorwaarden
- veiligheid en gezondheid
- productverantwoordelijkheid
- mensenrechten

22. Uit de verslaggeving blijkt hoe stakeholderdialoog is verankerd in de onderneming

0 = geen toelichting

1 = beschrijving van tenminste twee structurele maatregelen die gericht zijn op de identificatie en selectie van stakeholders, het entameren en voeren van stakeholderdialoog, en het vastleggen en analyseren van de uitkomsten ervan

+ 1 toelichting op de wijze waarop de uitkomsten van stakeholderdialoog worden geanalyseerd en meegewogen in beleidvorming (aan de hand van tenminste één concreet voorbeeld)

Economische aspecten van de bedrijfsvoering

23. Er wordt uitleg gegeven over het beleid dat de onderneming voert met betrekking tot financieel-economische aspecten van de bedrijfsvoering

0 = geen toelichting

1 = het gevoerde financieel-economische beleid wordt toegelicht

24. De verslaggeving geeft inzicht in de resultaten van de onderneming met betrekking tot de economische aspecten van de bedrijfsvoering.

0 = geen toelichting

+ 1 er wordt een toelichting gegeven aan de hand van traditioneel financiële indicatoren zoals bijvoorbeeld omzet, beloningen, winst en belastingen

+ 2 er wordt een toelichting gegeven aan de hand van tenminste drie niet-financiële indicatoren zoals bijvoorbeeld:

- de effecten van investeringen en desinvesteringen
- innovatie (waaronder partnerships)
- huisvestingsbeleid (inclusief de impact op werkgelegenheid)
- de preventie van omkoping en corruptie
- eerlijke concurrentie en prijsvorming
- onderzoek en ontwikkeling
- socio-economische aspecten van producten en diensten

25. De verslaggeving bevat doelstellingen met betrekking tot de economische aspecten van de bedrijfsvoering.

0 = geen expliciete vermelding van doelstellingen

1 = algemene beschrijving van tenminste één financiële en één niet-financiële doelstelling

2 = specifieke beschrijving van tenminste één financiële en één niet-financiële doelstelling, waarbij een kwantitatieve prestatiedoelstelling wordt gegeven, alsmede een concreet tijdspad

26. In de verslaggeving wordt expliciet ingegaan op de verbeteringen die de onderneming heeft doorgevoerd met betrekking tot het financieel-economische beleid.

0 = geen toelichting

1 = er wordt een toelichting gegeven op tenminste één concrete vordering met betrekking tot het financieel-economische beleid

27. In de verslaggeving wordt expliciet ingegaan op de resultaatverbetering dan wel -verslechtering in relatie tot financieel-economische aspecten die de onderneming heeft laten zien in de afgelopen verslaggevingsperiode.

0 = geen toelichting

+ 1 er wordt in algemene termen een toelichting gegeven op de verbetering dan wel verslechtering van de financieel-economische resultaten ten opzichte van de voorgaande periode

+ 1 er wordt een toelichting gegeven op de resultaatverbetering dan wel –verslechtering ten opzichte van eerder geformuleerde doelstellingen aan de hand van tenminste twee traditioneel financiële indicatoren

+ 1 er wordt een toelichting gegeven op de resultaatverbetering dan wel –verslechtering ten opzichte van eerder geformuleerde doelstellingen aan de hand van tenminste twee niet-financiële indicatoren

Milieuaspecten van de bedrijfvoerings

28. Er wordt uitleg gegeven over het milieubeleid dat de onderneming voert

0 = geen toelichting

1 = het gevoerde milieubeleid wordt toegelicht

29. De verslaggeving geeft inzicht in de resultaten van de onderneming met betrekking tot de milieuaspecten van de bedrijfsvoering. Het gaat hierbij bijvoorbeeld om:

• het gebruik van niet-vernieuwbare hulpbronnen (waaronder energieverbruik)
• het (her)gebruik van materialen en grond-stoffen (waaronder gevaarlijke stoffen)
• effecten naar lucht, water en bodem (waar-onder emissies van broeikasgassen)
• afval (waaronder chemisch afval)

0 = geen beschrijving

1 = de onderneming geeft kwantitatieve informatie over tenminste twee indicatoren met betrekking tot tenminste één van bovenstaande categorieën

2 = de onderneming geeft kwantitatieve informatie over tenminste vier indicatoren met betrekking tot tenminste twee van bovenstaande categorieën

3 = de onderneming geeft kwantitatieve informatie over tenminste zes indicatoren met betrekking tot tenminste drie van bovenstaande categorieën

30. De verslaggeving bevat doelstellingen met betrekking tot de milieuaspecten van de bedrijfsvoering.

0 = geen expliciete vermelding van doelstellingen

1 = algemene beschrijving van tenminste twee doelstellingen

2 = specifieke beschrijving van tenminste twee doelstellingen, waarbij een kwantitatieve prestatiedoelstelling wordt gegeven, alsmede een concreet tijdspad

31. In de verslaggeving wordt expliciet ingegaan op de verbeteringen die de onderneming heeft doorgevoerd met betrekking tot het milieu-beleid.

0 = geen toelichting

1 = er wordt een toelichting gegeven op één concrete vordering met betrekking tot het milieubeleid

2 = er wordt een toelichting gegeven op meer dan één concrete vordering met betrekking tot het milieubeleid

32. In de verslaggeving wordt expliciet ingegaan op de resultaatverbetering dan wel -verslechtering in relatie tot het milieu die de onderneming heeft laten zien in de afgelopen verslaggevingsperiode.

0 = geen toelichting

+ 1 er wordt in algemene termen een toelichting gegeven op de verbetering dan wel verslechtering van de milieuresultaten ten opzichte van de voorgaande periode

+ 1 er wordt een toelichting gegeven op de resultaatverbetering dan wel –verslechtering aan de hand van eerder geformuleerde doelstellingen op tenminste twee relevante terreinen

Sociale aspecten van de bedrijfsvoering

33. Er wordt uitleg gegeven over het sociale beleid dat de onderneming voert

0 = geen toelichting

1 = het gevoerde sociale beleid wordt toegelicht

34. De verslaggeving geeft inzicht in de resultaten van de onderneming met betrekking tot de sociale aspecten van de bedrijfsvoering. Het gaat hierbij bijvoorbeeld om:

• ethiek en integriteit
• arbeidsvoorwaarden (waaronder personeelsverloop, opleiding en training en ontplooiingsmogelijkheden)
• veiligheid en gezondheid (waaronder ziekteverzuim en letsel- en beroepsziektes)
• diversiteit (waaronder man-vrouw-verdeling, vrouwen in managementposities, percentage allochtone medewerkers en percentage medewerkers met een lichamelijke en/of geestelijke beperking)
• productverantwoordelijkheid (waaronder dierwelzijn, voedselveiligheid en genetische modificatie)
• mensenrechten (waaronder discriminatie, kinderarbeid, dwangarbeid, vrijheid van organisatie en collectieve onderhandeling, beveiliging, rechten van inheemse volken)

0 = geen beschrijving

1 = de onderneming geeft kwantitatieve informatie over tenminste twee indicatoren met betrekking tot tenminste twee van bovenstaande categorieën

2 = de onderneming geeft kwantitatieve informatie over tenminste vier indicatoren met betrekking tot tenminste drie van bovenstaande categorieën

3 = de onderneming geeft kwantitatieve informatie over tenminste zes indicatoren met betrekking tot tenminste vier van bovenstaande categorieën

35. De verslaggeving bevat doelstellingen met betrekking tot de sociale aspecten van de bedrijfsvoering.

0 = geen expliciete vermelding van doelstellingen

1 = algemene beschrijving van tenminste twee doelstellingen

2 = specifieke beschrijving van tenminste twee doelstellingen, waarbij een kwantitatieve prestatiedoelstelling wordt gegeven, alsmede een concreet tijdspad

36. In de verslaggeving wordt expliciet ingegaan op de verbeteringen die de onderneming heeft doorgevoerd met betrekking tot sociale beleidsterreinen.

0 = geen toelichting

1 = er wordt een toelichting gegeven op één concrete vordering met betrekking tot nieuw of aangescherpt beleid op sociaal gebied

2 = er wordt een toelichting gegeven op meer dan één concrete vordering met betrekking tot nieuw of aangescherpt beleid op sociaal gebied

37. In de verslaggeving wordt expliciet ingegaan op de resultaatverbetering dan wel -verslechtering in relatie tot sociale aspecten, die de onderneming heeft laten zien in de afgelopen verslaggevingsperiode.

0 = geen toelichting

+ 1 er wordt in algemene termen een toelichting gegeven op de verbetering dan wel verslechtering van de sociale resultaten ten opzichte van de voorgaande periode

+ 1 er wordt een toelichting gegeven op de resultaatverbetering dan wel –verslechtering aan de hand van eerder geformuleerde doelstellingen op tenminste twee relevante terreinen

Verificatie

38. De onderneming geeft een toelichting op het al dan niet laten verifiëren van de maatschappelijke verslaggeving door een onafhankelijke, deskundige partij. Het gaat hierbij bijvoorbeeld om informatie over:

• de redenen voor het al dan niet laten verifiëren van de maatschappelijke verslaggeving
• de keuze voor een onafhankelijke, deskundige partij
• de reikwijdte van eventuele verificatie en de diepgang van uitgevoerde verificatiewerkzaamheden

0 = geen beschrijving

1 = de onderneming geeft een toelichting op tenminste één van bovengenoemde punten

39. De verslaggeving bevat een verklaring van materiedeskundigen (zoals maatschappelijke organisaties, sectorspecialisten, milieu auditors, sociale auditors, accountants, etc.) over de kwaliteit van de maatschappelijke verslaggeving en/of over de behaalde resultaten van de onderneming op het gebied van mens, milieu en samenleving

0 = er is geen verklaring opgenomen

2 = er is een verklaring opgenomen

40. De verslaggeving bevat een verklaring van een onafhankelijke, deskundige partij die de inhoud van de maatschappelijke verslaggeving heeft geverifieerd en die tot een publiek oordeel komt over de betrouwbaarheid van de gepresenteerde informatie

0 = er is geen verklaring opgenomen

2 = er is een verklaring opgenomen met een conclusie over de betrouwbaarheid van de informatie

+ 1 de verklaring van de onafhankelijke, deskundige partij geeft inzicht in de volgende punten:

- de gehanteerde standaard(en) voor verificatie
- de reikwijdte van de verificatie
- de aard van de uitgevoerde werkzaamheden
- de bevindingen van de verificatie (op hoofdlijnen)

41. De aard en de reikwijdte van de uitgevoerde verificatiewerkzaamheden leiden tot een conclusie van de onafhankelijke, deskundige partij dat met redelijke mate van zekerheid kan worden vastgesteld dat de informatie in het maatschappelijke verslag betrouwbaar is.

0 = De verklaring geeft een beperkte mate van zekerheid

2 = De verklaring geeft een beperkte mate van zekerheid over een deel van de gepresenteerde informatie en een redelijke mate van zekerheid over een ander deel van de informatie in het maatschappelijke verslag

4 = De verklaring geeft een redelijke mate van zekerheid

Uitwerking

42. De verslaggeving geeft inzicht in een aantal dilemma's waar de onderneming mee geconfronteerd wordt

0 = geen dilemma's

2 = in de verslaggeving worden tenminste twee relevante dilemma's uitgewerkt en ook expliciet als dilemma's benoemd

+ 1 uit de beschrijving blijkt dat de onderneming stakeholders heeft betrokken om te bepalen hoe de onderneming met deze dilemma's om zou moeten gaan

+ 1 De uitgewerkte dilemma's houden direct verband met de kernprocessen en –activiteiten van de onderneming

43. Er wordt een toelichting gegeven op de reikwijdte van de maatschappelijke verslaggeving.

0 = geen toelichting

1 = de onderneming maakt duidelijk over welke delen van de organisatie wel en over welke niet wordt gerapporteerd, alsmede over welke periode wordt gerapporteerd

44. De onderneming is transparant over het aan de maatschappelijke verslaggeving ten grondslag liggende verslaggevingsbeleid en het verslaggevingsproces. Het gaat hierbij bijvoorbeeld om informatie over:

• gehanteerde rapportage standaarden
• de keuze van prestatie-indicatoren
• de gehanteerde definities van indicatoren
• de wijze van dataverzameling
• de wijze van consolideren van informatie (inclusief eventuele extrapolatie van gegevens)
• methodes van meten, schatten en berekenen
• inherente beperkingen in de betrouwbaarheid van de gepresenteerde informatie
• aan de gegevens ten grondslag liggende veronderstellingen

0 = geen beschrijving

2 = de onderneming geeft een toelichting op tenminste vier van bovengenoemde punten

45. De relatie tussen verschillende vormen van externe verslaggeving wordt verduidelijkt met onderlinge verwijzingen waar van toepassing

0 = geen onderlinge verwijzingen

1 = verwijzingen tussen verschillende verslagen

46. De verslaggeving vermeld contactinformatie

0 = geen vermelding

1 = contactinformatie wordt gegeven

47. De verslaggeving bevat een kernachtige samenvatting van de belangrijkste resultaten op economisch, milieu en sociaal gebied in de verslaggevingsperiode.

0 = geen samenvatting

1 = er wordt een samenvatting gegeven

Appendix B: Dataset.

For the general analyses, all data has been used except that from the last column, marked with'#'.

For the analysis of ownership dispersion, only data from the rows marked with '*' has been used.

	Companyname	Quoted	Ind	ScoreTotal	Score1	Score2	Score3	Score4	Score5	Score6	Score7	Score8	Score9	Score10	Asset	Empl	Roa	Avroa	Lev	Avlev	Own #
*	Aalberts 2006	1	0	20	4	5	2	0	0	4	2	1	0	2	20,97	9,13	16,43	12,77	0,26	0,25	72,48
*	Aalberts 2007	1	0	20	4	5	2	0	0	4	2	1	0	2	21,08	9,28	14,39	14,76	0,24	0,25	86,55
*	Ahold 2006	1	0	25	4	7	4	1	1	4	2	0	0	2	23,64	12,01	6,46	1,66	0,29	0,35	79,87
*	Ahold 2007	1	0	60	8	8	6	6	6	8	8	5	0	5	23,36	11,68	6,15	2,85	0,26	0,32	96,07
*	Akzo Nobel 2006	1	1	71	6	8	7	4	5	4	10	9	8	10	23,27	11,03	11,77	9,91	0,20	0,21	95
*	Akzo Nobel 2007	1	1	72	7	8	8	4	6	6	10	9	8	6	23,68	10,67	5,84	10,32	0,10	0,20	95
*	Amsterdam Commodities 2006	1	0	14	2	4	2	0	0	4	0	0	0	2	17,86	4,04	14,32	17,25	0,02	0,00	58,02
*	Amsterdam Commodities 2007	1	0	14	2	4	2	0	0	4	0	0	0	2	18,01	4,06	19,76	15,99	0,01	0,01	69,05
*	Arcadis 2006	1	0	35	7	7	5	2	1	5	1	5	0	2	20,42	9,18	10,84	10,91	0,16	0,10	79,26
*	Arcadis 2007	1	0	37	8	6	4	2	1	6	2	6	0	2	20,64	9,33	12,90	11,14	0,18	0,12	79,19
*	ASMI 2006	1	0	17	4	3	2	0	1	4	1	0	0	2	20,56	9,22	15,06	5,73	0,20	0,25	77,13
*	ASMI 2007	1	0	16	4	3	2	0	0	4	1	0	0	2	20,58	9,34	19,19	10,33	0,16	0,23	55,76
*	ASML 2006	1	0	35	4	8	4	2	2	3	5	5	0	2	22,12	8,63	24,18	8,08	0,08	0,21	62,84
*	ASML 2007	1	0	43	6	10	5	3	2	4	5	5	0	3	22,16	8,79	21,41	17,70	0,14	0,14	21,07
*	Ballast Nedam 2006	1	0	42	7	6	9	1	2	9	2	4	0	2	20,49	8,22	4,84	3,22	0,05	0,06	3,2
*	Ballast Nedam 2007	1	0	45	7	6	9	3	2	10	2	4	0	2	20,62	8,25	5,16	4,83	0,11	0,06	88,59
*	BAM Groep 2006	1	0	37	6	8	4	2	2	5	3	5	0	2	22,58	10,25	5,13	5,12	0,23	0,13	92,9
*	BAM Groep 2007	1	0	45	6	8	6	3	4	4	4	7	0	3	22,67	10,24	5,32	5,57	0,26	0,18	85
*	Batenburg 2006	1	0	20	4	5	4	0	1	4	0	0	0	2	18,08	6,89	9,31	10,82	0,77	0,45	29,34
*	Batenburg 2007	1	0	22	4	5	4	0	1	4	1	1	0	2	18,14	6,94	9,64	9,69	0,67	0,66	67,96
*	BE Semiconductor 2006	1	0	17	4	3	2	0	0	4	1	1	0	2	19,56	7,14	3,99	4,90-	0,18	0,10	72,68
*	BE Semiconductor 2007	1	0	17	4	3	3	0	0	4	1	0	0	2	19,47	7,07	1,81-	0,90-	0,19	0,15	81,99

*	Beter Bed 2006	1	0	21	4	4	3	2	1	3	0	2	0	2	18,23	7,48	47,74	21,92	0,01	0,14	63,94
*	Beter Bed 2007	1	0	20	4	4	3	3	0	3	0	1	0	2	18,37	7,58	45,02	35,66	0,00	0,07	52,48
*	Boskalis Westminster 2006	1	0	28	3	7	3	1	1	5	2	4	0	2	21,18	8,93	11,30	6,06	0,03	0,01	69
*	Boskalis Westminster 2007	1	0	28	3	6	3	0	1	7	2	4	0	2	21,51	9,03	15,50	7,49	0,03	0,02	64
*	Brunel 2006	1	0	18	5	3	3	0	1	3	0	1	0	2	19,00	8,72	23,47	11,03	0,00	0,00	31,84
*	Corio 2006	1	0	21	5	5	3	0	1	4	0	1	0	2	22,46	5,73	15,35	10,39	0,34	0,33	62,84
*	Corio 2007	1	0	38	5	8	6	0	2	5	5	5	0	2	22,63	5,86	7,08	13,41	0,38	0,33	63,55
*	Corporate Express 2006	1	0	36	9	8	3	4	1	4	2	3	0	2	22,15	9,83	5,52	4,42	0,26	0,24	74,92
*	Corporate Express 2007	1	0	39	9	6	3	6	1	4	2	6	0	2	22,06	9,79	4,81	5,20	0,22	0,25	65
*	Crown van Gelder 2006	1	1	71	8	8	10	6	3	8	10	10	1	7	18,86	5,66	1,56	8,79	0,04	0,01	69,9
*	Crown van Gelder 2007	1	1	82	10	9	9	6	10	8	10	10	1	9	18,78	5,65	1,73	6,20	0,03	0,03	98,82
*	Crucell 2006	1	0	17	3	3	3	0	1	4	0	1	0	2	20,30	6,98	57,68-	19,26-	0,04	0,07	75,89
*	Crucell 2007	1	0	21	4	5	3	0	1	4	1	1	0	2	20,25	7,03	7,89-	31,69-	0,04	0,05	88,49
*	CSM 2006	1	1	42	4	7	4	0	4	5	7	6	0	5	21,52	9,00	5,58	8,61	0,29	0,23	89,5
*	De Telegraaf 2006	1	0	21	4	1	4	0	2	4	1	3	0	2	20,76	8,25	2,82-	4,06	0,24	0,01	100
*	Draka 2006	1	0	26	4	4	4	2	1	6	1	2	0	2	21,28	9,12	3,52	1,44	0,15	0,22	26,2
*	Draka 2007	1	0	27	4	5	4	2	1	5	2	2	0	2	21,28	9,16	8,35	1,60	0,30	0,16	52,03
*	DSM 2006	1	1	67	7	9	4	3	6	4	10	7	7	10	23,03	9,97	8,29	4,17	0,09	0,14	75
*	Econosto 2006	1	0	16	4	1	4	0	0	4	0	1	0	2	18,51	6,49	7,67	6,21	0,14	0,25	67,55
*	Econosto 2007	1	0	16	4	1	4	0	0	4	0	1	0	2	18,62	6,52	17,72	7,93	0,01	0,20	70,88
*	Eriks 2006	1	0	25	4	7	4	1	1	4	1	1	0	2	20,21	7,80	17,42	13,50	0,04	0,11	43,47
*	Eriks 2007	1	0	26	4	7	4	1	0	5	1	2	0	2	20,27	8,41	11,92	15,48	0,17	0,10	69,54
*	Exact 2006	1	0	24	6	4	4	0	1	4	1	2	0	2	19,45	7,88	16,63	19,35	0,01	0,01	42,7
*	Exact 2007	1	0	25	6	5	4	0	0	4	1	3	0	2	19,43	7,87	17,74	18,14	0,00	0,01	54,73
*	Fugro 2006	1	0	24	5	5	3	0	1	4	1	3	0	2	21,06	9,13	18,58	10,66	0,24	0,36	76,49
*	Fugro 2007	1	0	25	5	6	3	0	1	4	1	3	0	2	21,25	9,29	23,11	14,18	0,26	0,31	84,11
*	Gamma Holding 2006	1	0	26	4	5	3	1	1	4	4	2	0	2	20,33	8,82	7,78	6,38	0,30	0,32	44,08
*	Gamma Holding 2007	1	0	22	4	4	2	0	0	4	4	2	0	2	20,27	8,83	8,83	5,58	0,26	0,32	62,1
*	Grolsch 2006	1	1	33	7	2	5	1	1	4	7	4	0	2	19,96	6,77	5,68	11,11	0,16	0,20	48,1
*	Grolsch 2007	1	1	31	7	2	4	1	1	4	8	2	0	2	19,97	6,77	6,12	6,89	0,24	0,21	39,97

*	Grontmij 2006	1	0	27	4	6	6	0	1	4	1	3	0	2	20,10	8,41	5,65	3,69	0,15	0,04	72,7
*	Grontmij 2007	1	0	27	4	7	6	0	0	4	1	3	0	2	20,09	8,80	6,09	5,54	0,12	0,07	89,9
*	Hagemeyer 2006	1	0	31	5	5	5	2	4	4	1	0	3	2	21,69	9,77	6,56	1,93-	0,16	0,19	94,58
*	Hagemeyer 2007	1	0	22	4	5	4	2	0	4	1	1	0	1	21,73	9,79	7,54	1,98	0,17	0,22	99,9
*	Heijmans 2006	1	0	34	7	6	5	0	3	4	3	4	0	2	21,48	9,12	6,15	6,52	0,15	0,13	78,5
*	Heijmans 2007	1	0	39	4	9	5	2	1	6	4	5	0	3	21,51	9,22	4,14	6,35	0,19	0,13	87,92
*	Heineken 2006	1	1	61	6	8	3	6	4	5	10	8	5	6	23,29	10,96	15,11	13,05	0,16	0,23	44,51
*	Heineken 2007	1	1	65	6	9	4	6	3	8	10	8	5	6	23,29	10,90	11,54	12,85	0,12	0,20	49,91
*	Hunter Douglas 2006	1	0	16	4	4	2	0	0	4	0	0	0	2	21,54	9,90	12,92	11,53	0,14	0,22	28,02
*	Hunter Douglas 2007	1	0	16	4	4	2	0	0	4	0	0	0	2	21,58	9,95	10,50	12,56	0,15	0,18	28,53
*	Imtech 2006	1	0	32	5	7	3	2	1	4	3	5	0	2	21,18	9,70	8,30	7,91	0,02	0,01	67,7
*	Imtech 2007	1	0	34	5	7	5	3	0	4	2	6	0	2	21,36	9,81	9,34	8,05	0,07	0,02	64,54
*	Jetix 2006	1	0	17	4	3	3	0	0	4	0	1	0	2	19,57	5,90	6,05	1,45	0,00	0,00	26
*	Kendrion 2006	1	0	23	4	5	4	0	1	5	1	1	0	2	19,49	7,98	9,82	0,21-	0,26	0,04	36,89
*	Kendrion 2007	1	0	24	5	5	4	0	1	4	1	2	0	2	19,53	7,88	7,48	5,56	0,29	0,12	36,89
*	KPN 2006	1	0	54	5	8	6	2	4	4	7	7	7	4	23,78	10,18	9,79	10,95	0,40	0,35	71,9
*	KPN 2007	1	0	55	5	8	8	2	3	4	8	7	6	4	23,93	10,29	11,76	10,10	0,38	0,35	84,82
*	LogicaCMG 2006	1	0	31	7	7	3	1	2	4	4	1	0	2	19,82	8,68	16,69	18,19	1,23	0,80	97,83
*	LogicaCMG 2007	1	0	36	6	7	5	0	1	4	6	5	0	2	20,02	8,70	11,57	18,35	0,55	0,79	86,07
*	MacIntosh 2006	1	0	43	10	7	8	7	2	4	2	1	0	2	19,96	9,17	24,05	11,52	0,23	0,03	42,78
*	MacIntosh 2007	1	0	44	9	7	7	7	2	4	4	2	0	2	19,81	9,14	14,40	16,74	0,23	0,11	70,1
*	Nedap 2006	1	0	15	4	1	2	0	0	4	0	2	0	2	18,44	6,43	18,37	17,41	0,17	0,13	29,57
*	Nedap 2007	1	0	14	4	1	2	0	0	4	0	1	0	2	18,44	6,44	19,45	16,94	0,18	0,15	29,57
*	Neways Electronics 2006	1	0	19	4	2	3	1	1	4	1	1	0	2	18,48	7,65	18,98	4,52	0,05	0,20	28,7
*	Neways Electronics 2007	1	0	20	4	2	3	1	1	3	2	2	0	2	18,60	7,72	19,86	13,70	0,02	0,13	28,4
*	Nutreco 2006	1	1	80	10	9	7	8	6	7	8	9	7	9	21,31	8,83	6,33	3,23	0,15	0,22	62,31
*	Nutreco 2007	1	1	76	10	9	7	8	6	7	8	8	7	6	21,41	8,98	8,28	6,64	0,22	0,19	86,64
*	Océ 2006	1	0	63	7	9	9	2	2	6	10	5	8	5	21,68	10,08	3,63	4,62	0,39	0,14	83,56
*	Océ 2007	1	0	73	7	9	9	4	4	7	10	7	8	8	21,64	10,08	4,65	4,37	0,40	0,22	91,15
*	OPG Groep 2006	1	0	30	6	7	4	0	2	5	1	3	0	2	20,77	8,59	13,44	11,43	0,13	0,09	62,81
*	OPG Groep 2007	1	0	25	6	5	4	0	0	4	1	3	0	2	20,88	8,67	12,80	11,90	0,14	0,12	89,99

*	Ordina 2006	1	0	32	7	8	3	0	2	5	1	4	0	2	19,94	8,44	12,94	10,64	0,13	0,01	85
*	Ordina 2007	1	0	29	5	8	4	0	1	5	1	3	0	2	20,09	8,59	10,01	13,84	0,09	0,05	99,23
*	Pharming Group 2006	1	0	16	4	3	3	0	0	4	0	0	0	2	18,19	4,11	52,14-	73,38-	0,25	0,01	74,4
*	Pharming Group 2007	1	0	14	4	3	2	0	0	3	0	0	0	2	18,55	4,32	31,13-	68,96-	0,49	0,09	75,89
*	Randstad 2006	1	0	36	6	8	3	0	3	5	3	6	0	2	21,67	12,70	18,41	11,75	0,18	0,14	45
*	Randstad 2007	1	0	37	6	8	3	0	3	5	4	6	0	2	21,92	12,87	20,93	15,62	0,28	0,18	50
*	Reed Elsevier 2006	1	0	74	8	9	7	10	5	6	9	9	6	5	23,27	10,51	9,50	8,90	0,37	0,31	94,05
*	Reed Elsevier 2007	1	0	80	9	9	8	10	6	6	10	10	6	6	23,31	10,36	10,74	9,65	0,29	0,35	94,32
*	Reesink 2006	1	0	11	2	1	2	0	1	3	0	0	0	2	18,72	5,88	6,20	5,12	0,12	0,05	50,46
*	Reesink 2007	1	0	12	3	1	2	0	1	3	0	0	0	2	18,79	5,89	6,06	5,47	0,09	0,09	65,36
*	Roto Smeets de Boer 2006	1	0	45	6	6	6	2	6	4	6	6	1	2	19,60	7,82	4,40	5,52	0,14	0,16	25,4
*	Roto Smeets de Boer 2007	1	0	50	6	6	6	4	6	4	8	7	1	2	19,53	7,76	1,93	6,12	0,12	0,15	21,3
*	Samas 2006	1	1	19	4	4	3	0	0	4	1	1	0	2	19,40	7,80	11,17-	9,90-	0,29	0,14	37
*	Samas 2007	1	1	21	4	4	4	0	1	4	1	1	0	2	19,16	7,78	11,29-	10,52-	0,26	0,19	49,5
*	SBM Offshore 2006	1	1	32	5	8	4	2	0	5	2	3	0	3	21,53	7,76	9,69	6,03	0,26	0,36	94,98
*	SBM Offshore 2007	1	1	54	5	9	4	2	2	5	7	6	8	6	21,63	7,91	9,87	8,39	0,25	0,32	94,97
*	Schuitema 2006	1	0	19	4	4	2	1	0	4	2	0	0	2	20,64	8,66	9,93	13,28	0,25	0,19	1,7
*	Shell 2006	1	1	78	10	10	9	2	8	7	10	9	3	10	26,18	11,59	20,33	18,88	0,19	0,21	87,58
*	Shell 2007	1	1	78	10	10	10	2	9	6	10	8	3	10	26,32	11,55	21,50	20,93	0,18	0,19	91,33
*	Simac 2006	1	0	20	4	3	3	0	2	3	1	2	0	2	17,96	6,64	7,19	6,26	0,09	0,15	49,52
*	Sligro 2006	1	0	24	4	2	3	0	2	6	0	5	0	2	20,39	8,21	16,90	18,59	0,29	0,20	40,58
*	Sligro 2007	1	0	40	4	5	4	4	5	6	3	7	0	2	20,57	8,53	13,32	17,58	0,21	0,26	62,51
*	Smit 2006	1	0	20	4	5	3	0	1	3	1	1	0	2	20,18	7,88	14,83	7,66	0,16	0,13	47,01
*	Smit 2007	1	0	27	4	5	7	0	1	4	1	3	0	2	20,45	7,93	16,29	10,76	0,22	0,15	63,23
*	Stern 2006	1	0	18	5	2	3	1	0	4	0	1	0	2	19,83	7,60	3,89	5,37	0,24	0,20	21
*	Stern 2007	1	0	20	4	4	3	0	1	4	1	1	0	2	20,05	7,78	5,72	4,38	0,21	0,23	40,89
*	Stork 2006	1	0	23	4	3	3	1	2	7	0	1	0	2	21,05	9,45	6,36	9,33	0,06	0,08	60,01
*	Stork 2007	1	0	23	4	3	3	0	1	7	1	2	0	2	21,16	9,45	4,03	8,91	0,05	0,05	20,61
*	Tele Atlas 2006	1	0	16	4	3	3	0	0	4	0	0	0	2	20,16	7,31	3,08-	11,92-	0,04	0,08	72,66
*	Tele Atlas 2007	1	0	16	4	3	3	0	0	4	0	0	0	2	20,24	7,44	4,42	3,54-	0,04	0,04	99,96

*	Ten Cate 2006	1	0	31	5	7	2	2	2	5	4	2	0	2	20,01	8,17	10,07	9,23	0,13	0,23	58,81
*	Ten Cate 2007	1	0	29	5	6	2	2	0	4	3	4	1	2	20,40	8,30	14,19	9,95	0,31	0,19	87,98
*	TKH Group 2006	1	0	20	4	4	2	0	1	5	1	1	0	2	19,98	7,99	13,52	10,30	0,05	0,08	98,88
*	TKH Group 2007	1	0	26	4	7	3	1	1	4	1	3	0	2	20,31	8,18	13,30	12,33	0,13	0,07	89,91
*	TNT 2006	1	0	81	10	10	10	4	10	4	7	8	8	10	22,57	11,84	15,20	12,66	0,24	0,19	99,99
*	TNT 2007	1	0	80	9	10	10	7	10	4	8	8	8	6	22,68	11,99	18,90	14,63	0,23	0,20	99,98
*	TomTom 2006	1	0	24	4	5	3	3	1	4	0	2	0	2	20,62	6,44	73,39	210,13	0,00	0,01	43,04
*	TomTom 2007	1	0	31	4	8	3	5	1	4	1	3	0	2	21,40	6,98	47,38	165,05	0,00	0,01	47,16
*	Unit 4 Agresso 2006	1	0	24	7	5	3	0	1	4	1	1	0	2	19,75	7,77	9,42	13,34	0,09	0,05	79,64
*	USG People 2006	1	0	23	4	6	4	0	1	4	0	2	0	2	21,37	11,69	8,47	6,45	0,20	0,24	66,42
*	USG People 2007	1	0	26	5	7	3	0	1	4	1	3	0	2	21,40	11,70	12,79	7,18	0,25	0,21	65,13
*	Van Der Moolen 2006	1	0	15	3	3	3	0	0	4	0	0	0	2	21,23	6,00	0,92	0,47	0,05	0,23	87,97
*	Van Der Moolen 2007	1	0	15	3	3	3	0	0	4	0	0	0	2	20,77	5,82	0,07	1,83	0,01	0,19	89,98
*	VastNed Groep 2006	1	0	19	5	5	3	0	0	3	0	1	0	2	21,80	4,48	6,09	6,02	0,29	0,30	66,22
*	VastNed Groep 2007	1	0	23	5	5	3	0	1	4	2	1	0	2	21,94	4,58	5,69	5,95	0,29	0,29	77,77
*	Vedior 2006	1	0	25	5	7	3	0	1	5	1	1	0	2	21,89	9,57	10,33	1,71	0,22	0,22	99,85
*	Vedior 2007	1	0	24	6	7	2	0	1	4	1	1	0	2	21,97	9,68	12,42	6,41	0,20	0,22	99,9
*	Versatel 2006	1	0	22	4	6	3	0	1	4	1	1	0	2	20,21	6,74	12,00-	3,86-	0,54	0,21	7,22
*	Versatel 2007	1	0	22	4	6	3	0	1	4	1	1	0	2	20,31	6,53	9,77-	6,14-	0,33	0,37	45,11
*	Vopak 2006	1	0	27	4	6	5	0	0	4	2	4	0	2	21,32	8,21	10,23	7,50	0,25	0,35	44,49
*	Vopak 2007	1	0	27	4	5	5	0	0	4	2	5	0	2	21,48	8,23	13,94	8,41	0,29	0,30	44,54
*	Wavin 2006	1	0	26	4	8	2	0	0	5	1	4	0	2	21,10	8,86	9,37	13,11	0,41	1,05	52,4
*	Wegener 2006	1	0	51	7	8	9	0	3	4	9	9	0	2	20,46	8,37	5,62	2,47	0,21	0,26	29
*	Wegener 2007	1	0	29	4	7	4	0	0	4	2	6	0	2	20,47	8,30	7,85	5,35	0,24	0,21	18,87
*	Wessanen 2006	1	1	73	10	7	9	4	6	6	10	10	1	10	20,67	8,72	4,30	0,53-	0,14	0,08	99,97
*	Wolters Kluwer 2006	1	0	43	8	8	5	3	2	4	5	5	0	3	22,46	9,89	8,16	5,70	0,28	0,42	88,4
*	Wolters Kluwer 2007	1	0	54	7	9	5	4	5	6	7	8	0	3	22,39	9,89	9,36	7,80	0,24	0,35	81,56
	Accell 2006	1	0	23	4	5	3	3	0	4	1	1	0	2	19,31	7,42	16,71	15,89	0,16	0,17	
	Accell 2007	1	0	22	3	6	3	2	0	4	1	1	0	2	19,44	7,45	14,41	16,54	0,18	0,16	
	Agrifirm 2006	0	1	15	3	2	3	0	1	4	0	0	0	2	19,41	6,79	2,25	1,39	0,19	0,21	
	Agrifirm 2007	0	1	18	3	3	3	1	0	4	1	1	0	2	19,61	6,85	1,44	1,19	0,13	0,21	

Alanheri 2006	1	1	14	3	3	2	0	0	4	0	0	0	2	16,95	4,62	1,92	0,75	0,01	0,00
Alanheri 2007	1	1	0	0	0	0	0	0	0	0	0	0	0	16,66	4,70	3,08-	0,09-	0,01	0,00
Argos 2006	0	1	11	2	2	1	0	0	4	0	0	0	2	18,88	5,51	5,44	6,90	0,27	0,16
Argos 2007	0	1	12	3	2	1	0	0	4	0	0	0	2	19,25	5,60	9,38	6,68	0,23	0,17
AVEBE 2006	0	1	19	4	2	3	0	0	4	2	2	0	2	19,83	7,64	1,85	2,63-	0,04	0,08
AVEBE 2007	0	1	16	3	2	3	0	0	2	2	2	0	2	19,79	7,26	6,69	2,84-	0,02	0,06
Bavaria 2006	0	1	13	3	0	1	0	1	4	0	2	0	2	19,80	6,86	2,94	4,65	0,18	0,12
Bavaria 2007	0	1	14	3	0	2	0	0	4	0	3	0	2	19,85	6,87	3,56	3,87	0,17	0,15
Brunel 2007	1	0	17	5	3	3	0	0	3	0	1	0	2	19,10	8,89	28,71	17,86	0,00	0,00
Cebeco 2006	0	1	11	3	0	2	0	0	4	0	0	0	2	19,32	7,65	13,74	4,14	0,10	0,07
Cebeco 2007	0	1	0	0	0	0	0	0	0	0	0	0	0	19,19	7,67	7,60	8,47	0,02	0,09
Cehave 2006	0	1	25	4	5	5	0	2	4	2	2	0	1	19,30	7,20	8,58	2,41	0,07	0,15
Cehave 2007	0	1	27	4	4	3	4	1	4	2	3	0	2	19,54	7,39	11,45	4,16	0,05	0,10
Connexxion 2006	0	1	45	7	7	6	2	2	4	9	5	0	3	20,31	9,26	4,53	5,50	0,21	0,18
Connexxion 2007	0	1	46	6	7	6	2	4	4	9	5	0	3	20,49	9,36	2,82	5,17	0,29	0,17
CoopCodis 2006	0	0	18	4	3	3	0	0	4	0	2	0	2	19,04	7,28	6,29	6,27	0,11	0,09
CoopCodis 2007	0	0	25	4	5	3	0	4	4	1	2	0	2	19,18	7,39	9,23	5,86	0,08	0,11
Cosun 2006	0	1	30	3	2	4	1	3	4	8	2	0	3	21,05	8,35	8,80	2,36	0,01	0,03
Cosun 2007	0	1	19	3	1	3	1	1	4	2	2	0	2	21,28	6,94	7,22	4,42	0,01	0,01
CSM 2007	1	1	53	5	8	6	4	6	5	7	6	0	6	21,44	9,04	2,69	6,27	0,24	0,24
Damen 2006	0	0	8	1	0	0	0	0	4	0	1	0	2	20,03	8,96	9,38	2,90	0,08	0,07
Damen 2007	0	0	7	0	0	0	0	0	4	0	1	0	2	20,22	8,76	24,70	7,55	0,07	0,08
De Telegraaf 2007	1	0	21	4	2	4	0	0	4	2	3	0	2	20,93	8,21	2,66-	2,03	0,06	0,09
Delta 2006	0	1	33	4	4	4	0	4	5	1	5	0	6	21,27	7,41	2,34	3,12	0,03	0,01
Delta 2007	0	1	23	3	4	3	0	1	4	3	3	0	2	21,71	7,94	4,57	3,16	0,16	0,02
DHV 2006	0	0	45	5	8	5	0	3	5	7	7	0	5	18,91	8,24	9,00	3,82	0,11	0,13
DHV 2007	0	0	73	6	9	9	6	4	7	10	10	7	5	19,07	8,29	7,43	6,22	0,10	0,12
DSM 2007	1	1	73	6	9	9	6	4	7	10	10	7	5	23,01	10,02	6,88	6,81	0,16	0,11
Dura Vermeer 2006	0	0	28	5	7	3	0	2	4	0	6	0	1	19,89	8,10	5,99	3,65	0,07	0,06
Dura Vermeer 2007	0	0	30	3	6	3	2	2	4	3	6	0	1	19,91	8,09	3,86	6,08	0,02	0,07

Dutch Flower Group 2006	0	0	18	2	5	1	0	1	4	1	2	0	2	18,30	7,00	31,27	25,23	0,01	0,06
Dutch Flower Group 2007	0	0	22	2	5	2	1	1	3	2	4	0	2	18,60	7,04	24,61	28,04	0,00	0,03
EBN 2006	0	1	28	5	4	4	1	2	4	1	5	0	2	22,16	3,95	97,04	76,15	0,19	0,10
EBN 2007	0	1	30	4	6	4	1	3	4	1	5	0	2	22,30	4,11	75,13	84,30	0,24	0,13
Eneco 2006	0	1	47	4	8	6	2	6	5	3	7	0	6	22,60	8,47	10,02	10,33	0,07	0,24
Eneco 2007	0	1	36	4	5	4	2	0	4	7	7	0	3	22,56	8,54	7,23	10,61	0,19	0,17
Essent 2006	0	1	77	10	9	8	8	8	6	7	7	8	6	23,14	9,18	7,73	8,38	0,04	0,21
Essent 2007	0	1	83	9	6	9	10	10	4	7	10	8	10	23,35	9,21	8,33	8,45	0,04	0,14
Euretco 2006	0	0	17	4	2	2	2	0	4	0	1	0	2	18,52	5,59	3,07	9,78	0,06	0,02
Euretco 2007	0	0	7	3	0	0	0	0	2	0	0	0	2	18,59	5,61	6,42	7,81	0,05	0,04
Friesland Foods 2006	0	1	58	10	8	6	8	3	4	10	6	0	3	21,70	9,64	9,96	7,19	0,21	0,23
Friesland Foods 2007	0	1	25	4	6	4	1	0	4	1	3	0	2	21,82	9,59	11,28	8,47	0,18	0,22
Gasunie 2006	0	1	46	7	5	5	0	2	5	10	9	0	3	22,64	7,26	8,59	7,42	0,15	0,06
Gasunie 2007	0	1	55	6	6	7	2	2	5	10	9	5	3	22,66	7,28	9,23	9,45	0,14	0,07
HAL 2006	1	0	11	3	1	1	0	0	4	0	0	0	2	22,06	9,85	14,77	5,49	0,11	0,23
HAL 2007	1	0	11	3	1	1	0	0	4	0	0	0	2	22,21	9,92	21,41	9,77	0,10	0,19
Hoogwegt 2006	0	1	7	2	0	0	0	0	3	0	0	0	2	19,38	5,68	0,28-	5,80	0,00	0,00
Hoogwegt 2007	0	1	0	0	0	0	0	0	0	0	0	0	0	19,77	5,62	18,32	3,56	0,00	0,00
Intres 2006	0	0	16	5	0	2	0	1	4	0	2	0	2	18,25	5,94	3,49	2,81	0,08	0,07
Intres 2007	0	0	17	5	2	3	0	0	4	0	2	0	1	18,10	5,88	2,21	2,78	0,00	0,08
Janssen de Jong 2006	0	0	22	6	3	2	1	1	4	2	1	0	2	19,25	7,32	10,22	9,95	0,26	0,19
Janssen de Jong 2007	0	0	19	5	3	2	0	1	4	1	1	0	2	19,36	7,40	11,19	9,63	0,20	0,20
Jetix 2007	1	0	17	4	3	3	0	0	4	0	1	0	2	19,38	5,90	7,75	2,98	0,00	0,00
KLM-Air France 2006	1	1	67	7	10	8	3	9	6	9	8	0	7	23,08	10,33	5,95	3,77	0,34	0,46
KLM-Air France 2007	1	1	74	7	9	9	3	9	4	10	10	7	6	23,17	10,34	7,13	5,27	0,28	0,40
Koops Furness 2006	0	0	16	4	0	3	0	1	4	1	1	0	2	18,89	6,87	4,26	3,00	0,30	0,20
Koops Furness 2007	0	0	17	4	0	3	0	0	4	2	2	0	2	19,15	7,05	6,57	3,71	0,28	0,27
Markeur Holding 2006	0	0	18	2	4	3	0	1	2	1	4	0	1	19,14	7,01	4,83	5,01	0,68	0,65
Markeur Holding 2007	0	0	21	3	4	3	0	0	4	2	4	0	1	19,29	7,03	10,59	4,17	0,67	0,66
MCB 2006	0	0	20	3	4	2	0	0	4	3	2	0	2	19,76	7,02	14,50	10,39	0,10	0,07
MCB 2007	0	0	19	2	4	2	1	0	4	2	2	0	2	19,95	7,04	12,28	13,02	0,09	0,08

NS 2006	0	1	39	7	8	3	1	5	4	4	5	0	2	22,69	10,10	4,90	2,84	0,12	0,12
NS 2007	0	1	42	5	7	3	1	4	4	7	5	0	6	22,74	10,15	4,99	4,08	0,10	0,12
Nuon 2006	0	1	68	6	9	6	5	6	5	7	7	7	10	23,11	9,18	7,59	6,85	0,12	0,16
Nuon 2007	0	1	78	8	10	10	4	8	6	9	9	8	6	23,17	9,20	10,24	7,52	0,11	0,15
Philips Electronics 2006	1	0	68	8	9	8	8	1	4	7	9	8	6	24,33	11,71	2,80	4,39	0,08	0,12
Philips Electronics 2007	1	0	74	9	8	7	10	3	5	10	8	8	6	24,25	11,69	4,06	4,82	0,04	0,10
Schiphol 2006	0	0	56	7	9	7	1	2	7	7	8	0	8	22,15	7,74	8,59	9,05	0,20	0,09
Schiphol 2007	0	0	61	7	9	9	3	3	7	10	9	0	4	22,18	7,81	10,08	8,24	0,19	0,16
Schuitema 2007	1	0	24	4	6	2	2	0	4	2	2	0	2	20,64	8,72	6,52	11,63	0,20	0,20
SHV 2006	0	1	17	4	3	2	0	0	4	1	1	0	2	22,53	10,40	7,81	8,78	0,10	0,13
SHV 2007	0	1	22	5	5	2	0	0	4	1	3	0	2	22,68	10,54	10,90	8,74	0,09	0,11
Simac 2007	1	0	21	4	3	2	0	0	4	1	5	0	2	18,13	6,72	4,94	6,61	0,08	0,13
Sperwer 2006	0	0	19	5	2	3	0	0	4	0	3	0	2	19,86	7,06	6,76	6,88	0,17	0,24
Sperwer 2007	0	0	27	5	5	3	3	0	4	3	2	0	2	19,81	7,17	5,41	7,09	0,00	0,20
Superunie 2006	0	0	9	3	0	1	0	0	3	0	0	0	2	18,59	4,01	0,16	0,11	0,05	0,04
Superunie 2007	0	0	0	0	0	0	0	0	0	0	0	0	0	18,42	4,06	1,13-	0,22	0,06	0,04
Swets & Zeitlinger 2006	0	0	13	3	0	3	0	0	3	0	2	0	2	20,38	6,69	3,51	1,80	0,02	0,01
Swets & Zeitlinger 2007	0	0	15	4	0	2	0	0	4	0	3	0	2	20,24	6,69	3,52	2,63	0,06	0,02
TBI 2006	0	0	23	4	6	4	0	1	4	1	1	0	2	20,46	9,12	6,59	6,28	0,01	0,04
TBI 2007	0	0	28	3	7	4	0	1	4	4	3	0	2	20,54	9,09	7,34	6,02	0,05	0,02
The Greenery 2006	0	0	55	7	9	8	5	8	4	6	6	0	2	20,10	7,43	4,55	3,76	0,09	0,22
The Greenery 2007	0	0	50	6	8	6	7	2	4	7	7	0	3	20,03	7,44	3,03	3,71	0,05	0,13
Unilever 2006	1	1	88	10	10	8	10	10	8	10	7	6	9	24,34	12,15	13,73	12,32	0,29	0,28
Unilever 2007	1	1	83	10	10	8	10	10	7	10	7	6	5	24,34	12,07	14,15	12,80	0,27	0,29
Unit 4 Agresso 2007	1	0	27	7	5	3	0	1	5	1	3	0	2	19,73	7,81	7,49	11,94	0,07	0,06
Univar 2006	1	0	27	4	6	6	1	1	4	1	2	0	2	21,49	8,82	8,70	6,72	0,22	0,19
Univar 2007	1	0	0	0	0	0	0	0	0	0	0	0	0	21,77	8,89	7,14	8,13	0,56	0,20
Van der Sluijs 2006	0	0	13	3	0	1	0	0	4	1	2	0	2	19,47	5,97	3,65	3,72	0,00	0,02
Van der Sluijs 2007	0	0	14	3	0	2	0	0	4	1	2	0	2	19,58	5,61	7,23	3,94	0,00	0,01
Van Leeuwen Buizen 2006	0	0	18	3	4	3	0	0	4	1	1	0	2	19,56	6,88	20,40	10,96	0,01	0,02

Van Leeuwen Buizen 2007	0	0	18	3	4	3	0	0	4	1	1	0	2	19,65	6,96	20,82	16,64	0,01	0,02
Van Oord 2006	0	0	31	5	5	3	2	2	6	2	5	0	1	21,01	7,86	11,74	4,95	0,04	0,05
Van Oord 2007	0	0	25	4	5	3	0	1	5	1	5	0	1	21,11	8,00	15,43	7,12	0,03	0,04
Vion 2006	0	1	28	6	6	5	0	0	4	2	2	0	3	21,60	9,93	6,99	8,89	0,29	0,23
Vion 2007	0	1	37	7	6	5	6	2	4	3	2	0	2	21,69	9,98	8,53	6,32	0,30	0,26
Volker Wessels 2006	0	0	36	4	8	4	5	1	4	3	6	0	1	21,65	9,71	6,10	4,94	0,00	0,00
Volker Wessels 2007	0	0	33	4	6	4	5	1	4	3	4	0	2	21,86	9,74	7,15	5,28	0,00	0,00
Wavin 2007	1	0	23	3	6	3	0	0	5	2	2	0	2	21,12	8,90	10,23	12,67	0,35	1,14
Wereldhave 2006	1	0	33	10	6	4	2	2	4	1	2	0	2	21,70	4,60	7,45	7,71	0,25	0,18
Wereldhave 2007	1	0	32	10	6	3	2	2	4	1	2	0	2	21,75	4,62	5,88	7,96	0,26	0,26
Wessanen 2007	1	1	76	10	9	9	6	8	6	10	8	1	9	20,63	8,66	5,96	2,87	0,21	0,12

Appendix C: SPSS output

C-I: Independent sample t-tests

Group Statistics

	Quoted	N	Mean	Std. Deviation	Std. Error Mean
Quality total reporting	Not quoted	80	27,84	18,608	2,080
	Quoted	166	33,97	20,245	1,571
Profile	Not quoted	80	4,19	2,044	,229
	Quoted	166	5,31	2,112	,164
Vision and strategy	Not quoted	80	4,06	2,999	,335
	Quoted	166	5,69	2,510	,195
Board of directors and management systems	Not quoted	80	3,44	2,272	,254
	Quoted	166	4,30	2,265	,176
Supply chain management	Not quoted	80	1,34	2,250	,252
	Quoted	166	1,73	2,499	,194
Stakeholders	Not quoted	80	1,56	2,192	,245
	Quoted	166	1,94	2,498	,194
Economical aspects of operations	Not quoted	80	4,00	1,180	,132
	Quoted	166	4,54	1,342	,104
Environmental aspects of operations	Not quoted	80	2,76	3,171	,355
	Quoted	166	3,05	3,421	,265
Social aspects of operations	Not quoted	80	3,40	2,731	,305
	Quoted	166	3,42	2,967	,230
Verification	Not quoted	80	,54	1,922	,215
	Quoted	166	1,02	2,412	,187
Execution of the disclosures	Not quoted	80	2,55	1,855	,207
	Quoted	166	2,96	2,156	,167

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Quality total reporting	Equal variances assumed	1,137	,287	-2,284	244	,023	-6,132	2,685	-11,422	-,843
	Equal variances not assumed			-2,352	168,578	,020	-6,132	2,607	-11,279	-,986
Profile	Equal variances assumed	,875	,350	-3,957	244	,000	-1,126	,284	-1,686	-,565
	Equal variances not assumed			-4,003	160,768	,000	-1,126	,281	-1,681	-,570
Vision and strategy	Equal variances assumed	4,478	,035	-4,473	244	,000	-1,630	,364	-2,348	-,912
	Equal variances not assumed			-4,204	134,006	,000	-1,630	,388	-2,397	-,863
Board of directors and management systems	Equal variances assumed	,186	,666	-2,779	244	,006	-,858	,309	-1,465	-,250
	Equal variances not assumed			-2,777	155,721	,006	-,858	,309	-1,468	-,248
Supply chain management	Equal variances assumed	1,332	,250	-1,188	244	,236	-,391	,330	-1,041	,258
	Equal variances not assumed			-1,232	171,821	,220	-,391	,318	-1,018	,236
Stakeholders	Equal variances assumed	,872	,351	-1,153	244	,250	-,377	,327	-1,022	,267
	Equal variances not assumed			-1,207	175,815	,229	-,377	,313	-,994	,239
Economical aspects of operations	Equal variances assumed	10,408	,001	-3,084	244	,002	-,542	,176	-,888	-,196
	Equal variances not assumed			-3,225	175,541	,002	-,542	,168	-,874	-,210
Environmental aspects of operations	Equal variances assumed	1,553	,214	-,641	244	,522	-,292	,455	-1,188	,604
	Equal variances not assumed			-,659	167,248	,511	-,292	,443	-1,166	,583

Social aspects of operations	Equal variances assumed	1,385	,240	-,055	244	,956	-,022	,394	-,797	,754
	Equal variances not assumed			-,057	168,354	,955	-,022	,382	-,777	,733
Verification	Equal variances assumed	8,018	,005	-1,578	244	,116	-,487	,308	-1,094	,121
	Equal variances not assumed			-1,707	191,569	,089	-,487	,285	-1,049	,076
Execution of the disclosures	Equal variances assumed	2,824	,094	-1,452	244	,148	-,408	,281	-,961	,145
	Equal variances not assumed			-1,531	179,000	,128	-,408	,266	-,934	,118

Group Statistics

	Ind	N	Mean	Std. Deviation	Std. Error Mean
Quality total reporting	Not sensitive	180	27,96	15,336	1,143
	Sensitive	66	42,94	26,038	3,205
Profile	Not sensitive	180	4,72	1,853	,138
	Sensitive	66	5,58	2,729	,336
Vision and strategy	Not sensitive	180	4,99	2,574	,192
	Sensitive	66	5,64	3,252	,400
Board of directors and management systems	Not sensitive	180	3,71	2,018	,150
	Sensitive	66	4,85	2,780	,342
Supply chain management	Not sensitive	180	1,24	2,100	,157
	Sensitive	66	2,58	2,946	,363
Stakeholders	Not sensitive	180	1,27	1,710	,127
	Sensitive	66	3,30	3,267	,402
Economical aspects of operations	Not sensitive	180	4,28	1,163	,087
	Sensitive	66	4,61	1,644	,202
Environmental aspects of operations	Not sensitive	180	2,12	2,564	,191
	Sensitive	66	5,26	4,070	,501
Social aspects of operations	Not sensitive	180	2,87	2,481	,185
	Sensitive	66	4,89	3,379	,416
Verification	Not sensitive	180	,48	1,770	,132
	Sensitive	66	1,92	3,045	,375
Execution of the disclosures	Not sensitive	180	2,28	1,219	,091
	Sensitive	66	4,32	2,988	,368

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Quality total reporting	Equal variances assumed	56,370	,000	-5,541	244	,000	-14,984	2,704	-20,310	-9,657
	Equal variances not assumed			-4,403	82,105	,000	-14,984	3,403	-21,753	-8,215
Profile	Equal variances assumed	21,320	,000	-2,813	244	,005	-,859	,305	-1,461	-,258
	Equal variances not assumed			-2,365	87,917	,020	-,859	,363	-1,581	-,137
Vision and strategy	Equal variances assumed	11,960	,001	-1,624	244	,106	-,647	,399	-1,433	,138
	Equal variances not assumed			-1,459	96,452	,148	-,647	,444	-1,528	,234
Board of directors and management systems	Equal variances assumed	16,909	,000	-3,518	244	,001	-1,137	,323	-1,774	-,501
	Equal variances not assumed			-3,042	91,299	,003	-1,137	,374	-1,880	-,395
Supply chain management	Equal variances assumed	17,623	,000	-3,928	244	,000	-1,331	,339	-1,999	-,664
	Equal variances not assumed			-3,371	90,334	,001	-1,331	,395	-2,116	-,547
Stakeholders	Equal variances assumed	67,220	,000	-6,318	244	,000	-2,031	,321	-2,664	-1,398
	Equal variances not assumed			-4,813	78,431	,000	-2,031	,422	-2,871	-1,191
Economical aspects of operations	Equal variances assumed	10,901	,001	-1,743	244	,083	-,328	,188	-,699	,043
	Equal variances not assumed			-1,491	89,932	,139	-,328	,220	-,766	,109
Environmental aspects of operations	Equal variances assumed	71,327	,000	-7,183	244	,000	-3,141	,437	-4,002	-2,280
	Equal variances not assumed			-5,858	84,641	,000	-3,141	,536	-4,207	-2,075
Social aspects of operations	Equal variances assumed	19,816	,000	-5,110	244	,000	-2,022	,396	-2,801	-1,242

	Equal variances not assumed			-4,441	91,935	,000	-2,022	,455	-2,926	-1,118
Verification	Equal variances assumed	62,552	,000	-4,603	244	,000	-1,446	,314	-2,065	-,828
	Equal variances not assumed			-3,640	81,654	,000	-1,446	,397	-2,237	-,656
Execution of the disclosures	Equal variances assumed	141,395	,000	-7,613	244	,000	-2,040	,268	-2,568	-1,512
	Equal variances not assumed			-5,386	73,081	,000	-2,040	,379	-2,795	-1,285

C-II: Bivariate correlation

Correlations

		Asset	Empl	Roa	Avroa	Lev	Avlev	Quoted	Ind	Quality total reporting	Profile	Vision and strategy	Board of directors and management systems	Supply chain management	Stakeholders	Economical aspects of operations	Environmental aspects of operations	Social aspects of operations	Verification	Execution of the disclosures
Asset	Pearson Correlation	1																		
	Sig. (2-tailed)																			
Empl	Pearson Correlation	,684	1																	
	Sig. (2-tailed)	,000																		
Roa	Pearson Correlation	,112	,053	1																
	Sig. (2-tailed)	,080	,405																	
Avroa	Pearson Correlation	,104	-,007	,766	1															
	Sig. (2-tailed)	,104	,916	,000																
Lev	Pearson Correlation	,152	,155	-,081	-,090	1														
	Sig. (2-tailed)	,017	,015	,203	,161															
Avlev	Pearson Correlation	,224	,224	-,001	-,023	,729	1													
	Sig. (2-tailed)	,000	,000	,981	,724	,000														
Quoted	Pearson Correlation	,132	,236	-,020	,022	,242	,215	1												
	Sig. (2-tailed)	,039	,000	,759	,728	,000	,001													
Ind	Pearson Correlation	,254	,059	-,015	-,016	-,065	-,043	-,324	1											

	Sig. (2-tailed)	,000	,355	,811	,806	,307	,504	,000												
Quality total reporting	Pearson Correlation	,636	,538	,021	,042	,121	,150	,145	,334	1										
	Sig. (2-tailed)	,000	,000	,748	,509	,058	,018	,023	,000											
Profile	Pearson Correlation	,504	,436	,016	,016	,168	,137	,246	,177	,813	1									
	Sig. (2-tailed)	,000	,000	,800	,800	,008	,032	,000	,005	,000										
Vision and strategy	Pearson Correlation	,618	,578	,093	,114	,224	,257	,275	,103	,815	,680	1								
	Sig. (2-tailed)	,000	,000	,147	,074	,000	,000	,000	,106	,000	,000									
Board of directors and management systems	Pearson Correlation	,499	,421	-,017	,003	,127	,109	,175	,220	,880	,746	,721	1							
	Sig. (2-tailed)	,000	,000	,796	,969	,046	,089	,006	,001	,000	,000	,000								
Supply chain management	Pearson Correlation	,466	,418	,059	,115	,006	,053	,076	,244	,798	,675	,589	,635	1						
	Sig. (2-tailed)	,000	,000	,356	,073	,922	,407	,236	,000	,000	,000	,000	,000							
Stakeholders	Pearson Correlation	,529	,436	,030	,031	,085	,116	,074	,375	,861	,675	,635	,738	,653	1					
	Sig. (2-tailed)	,000	,000	,644	,627	,185	,069	,250	,000	,000	,000	,000	,000	,000						
Economical aspects of operations	Pearson Correlation	,388	,354	-,022	,014	,034	,070	,194	,111	,629	,553	,536	,590	,428	,467	1				
	Sig. (2-tailed)	,000	,000	,734	,831	,598	,275	,002	,083	,000	,000	,000	,000	,000	,000					
Environmental aspects of operations	Pearson Correlation	,568	,472	-,040	-,019	,144	,167	,041	,418	,904	,660	,686	,764	,673	,746	,495	1			
	Sig. (2-tailed)	,000	,000	,528	,761	,024	,009	,522	,000	,000	,000	,000	,000	,000	,000	,000				
Social aspects of operations	Pearson Correlation	,571	,457	,057	,069	,051	,105	,004	,311	,891	,646	,720	,765	,646	,732	,540	,844	1		
	Sig. (2-tailed)	,000	,000	,374	,279	,426	,099	,956	,000	,000	,000	,000	,000	,000	,000	,000	,000			
Verification	Pearson Correlation	,514	,414	-,012	-,006	,073	,097	,101	,283	,750	,482	,488	,596	,631	,621	,328	,661	,610	1	

	Sig. (2-tailed)	,000	,000	,855	,922	,255	,128	,116	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000		
Execution of the disclosures	Pearson Correlation	,530	,398	-,016	-,004	,037	,069	,093	,438	,839	,619	,574	,683	,593	,775	,510	,753	,703	,712	1
	Sig. (2-tailed)	,000	,000	,797	,951	,560	,278	,148	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	,000	

C-III: Multiple regressions

Model Summary[e]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,636[a]	,405	,403	15,381	
2	,661[b]	,437	,432	14,993	
3	,683[c]	,466	,460	14,627	
4	,692[d]	,479	,470	14,481	1,916

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Ind

c. Predictors: (Constant), Asset, Ind, Empl

d. Predictors: (Constant), Asset, Ind, Empl, Quoted

e. Dependent Variable: Quality total reportings

ANOVA[e]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	39287,792	1	39287,792	166,076	,000[a]
	Residual	57722,061	244	236,566		
	Total	97009,854	245			
2	Regression	42385,753	2	21192,877	94,278	,000[b]
	Residual	54624,100	243	224,791		
	Total	97009,854	245			
3	Regression	45234,418	3	15078,139	70,476	,000[c]
	Residual	51775,436	242	213,948		
	Total	97009,854	245			
4	Regression	46470,246	4	11617,562	55,399	,000[d]
	Residual	50539,607	241	209,708		
	Total	97009,854	245			

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Ind

c. Predictors: (Constant), Asset, Ind, Empl

d. Predictors: (Constant), Asset, Ind, Empl, Quoted

e. Dependent Variable: Quality total reportings

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-131,073	12,690		-10,329	,000		
	Asset	7,874	,611	,636	12,887	,000	1,000	1,000
2	(Constant)	-121,286	12,648		-9,589	,000		
	Asset	7,294	,616	,590	11,846	,000	,936	1,069
	Ind	8,280	2,230	,185	3,712	,000	,936	1,069
3	(Constant)	-99,386	13,721		-7,243	,000		
	Asset	5,186	,834	,419	6,221	,000	,486	2,058
	Ind	9,586	2,205	,214	4,347	,000	,911	1,098
	Empl	2,621	,718	,238	3,649	,000	,518	1,932
4	(Constant)	-98,481	13,590		-7,247	,000		
	Asset	5,051	,827	,408	6,106	,000	,484	2,067
	Ind	11,578	2,332	,258	4,964	,000	,798	1,253
	Empl	2,352	,720	,214	3,268	,001	,505	1,979
	Quoted	5,264	2,168	,124	2,428	,016	,826	1,210

a. Dependent Variable: Quality total reportings

Excluded Variables[e]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Empl	,192[a]	2,879	,004	,182	,532	1,881	,532
	Roa	-,051[a]	-1,032	,303	-,066	,987	1,013	,987
	Avroa	-,024[a]	-,484	,629	-,031	,989	1,011	,989
	Lev	,025[a]	,502	,616	,032	,977	1,024	,977
	Avlev	,008[a]	,154	,877	,010	,950	1,053	,950
	Quoted	,062[a]	1,244	,215	,080	,983	1,018	,983
	Ind	,185[a]	3,712	,000	,232	,936	1,069	,936
2	Empl	,238[b]	3,649	,000	,228	,518	1,932	,486
	Roa	-,043[b]	-,890	,374	-,057	,985	1,015	,922
	Avroa	-,016[b]	-,335	,738	-,022	,987	1,013	,924
	Lev	,045[b]	,924	,356	,059	,965	1,036	,907
	Avlev	,028[b]	,554	,580	,036	,939	1,065	,880
	Quoted	,150[b]	2,908	,004	,184	,846	1,182	,806
3	Roa	-,036[c]	-,767	,444	-,049	,984	1,016	,480
	Avroa	,004[c]	,080	,936	,005	,974	1,027	,473
	Lev	,036[c]	,749	,454	,048	,963	1,039	,482
	Avlev	,013[c]	,261	,794	,017	,932	1,072	,479
	Quoted	,124[c]	2,428	,016	,154	,826	1,210	,484
4	Roa	-,031[d]	-,653	,515	-,042	,981	1,019	,477
	Avroa	,003[d]	,057	,954	,004	,974	1,027	,471
	Lev	,014[d]	,285	,776	,018	,925	1,081	,481
	Avlev	-,006[d]	-,113	,910	-,007	,910	1,099	,478

a. Predictors in the Model: (Constant), Asset

b. Predictors in the Model: (Constant), Asset, Ind

c. Predictors in the Model: (Constant), Asset, Ind, Empl

d. Predictors in the Model: (Constant), Asset, Ind, Empl, Quoted

e. Dependent Variable: Quality total reportings

Model Summary[e]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,504[a]	,254	,251	1,863	
2	,535[b]	,286	,280	1,825	
3	,550[c]	,303	,294	1,808	
4	,560[d]	,313	,302	1,798	1,675

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Quoted

c. Predictors: (Constant), Asset, Quoted, Ind

d. Predictors: (Constant), Asset, Quoted, Ind, Empl

e. Dependent Variable: Profile

ANOVA[e]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	287,685	1	287,685	82,911	,000[a]
	Residual	846,628	244	3,470		
	Total	1134,313	245			
2	Regression	324,775	2	162,388	48,744	,000[b]
	Residual	809,538	243	3,331		
	Total	1134,313	245			
3	Regression	343,286	3	114,429	35,007	,000[c]
	Residual	791,027	242	3,269		
	Total	1134,313	245			
4	Regression	355,483	4	88,871	27,500	,000[d]
	Residual	778,830	241	3,232		
	Total	1134,313	245			

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Quoted

c. Predictors: (Constant), Asset, Quoted, Ind

d. Predictors: (Constant), Asset, Quoted, Ind, Empl

e. Dependent Variable: Profile

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-9,005	1,537		-5,859	,000		
	Asset	,674	,074	,504	9,106	,000	1,000	1,000
2	(Constant)	-8,904	1,506		-5,911	,000		
	Asset	,642	,073	,480	8,772	,000	,983	1,018
	Quoted	,836	,251	,182	3,337	,001	,983	1,018
3	(Constant)	-8,060	1,534		-5,255	,000		
	Asset	,584	,076	,437	7,650	,000	,885	1,131
	Quoted	1,073	,267	,234	4,013	,000	,846	1,182
	Ind	,690	,290	,142	2,380	,018	,806	1,241
4	(Constant)	-6,658	1,687		-3,946	,000		
	Asset	,450	,103	,336	4,382	,000	,484	2,067
	Quoted	,993	,269	,217	3,689	,000	,826	1,210
	Ind	,744	,290	,153	2,569	,011	,798	1,253
	Empl	,174	,089	,146	1,943	,053	,505	1,979

a. Dependent Variable: Profile

Excluded Variables[e]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Empl	,172[a]	2,289	,023	,145	,532	1,881	,532
	Roa	-,041[a]	-,730	,466	-,047	,987	1,013	,987
	Avroa	-,036[a]	-,655	,513	-,042	,989	1,011	,989
	Lev	,093[a]	1,676	,095	,107	,977	1,024	,977
	Avlev	,025[a]	,442	,659	,028	,950	1,053	,950
	Quoted	,182[a]	3,337	,001	,209	,983	1,018	,983
	Ind	,053[a]	,925	,356	,059	,936	1,069	,936
2	Empl	,127[b]	1,685	,093	,108	,510	1,961	,510
	Roa	-,034[b]	-,628	,530	-,040	,986	1,014	,970
	Avroa	-,038[b]	-,697	,486	-,045	,989	1,011	,972
	Lev	,055[b]	,972	,332	,062	,927	1,079	,927
	Avlev	-,011[b]	-,193	,847	-,012	,915	1,093	,915
	Ind	,142[b]	2,380	,018	,151	,806	1,241	,806
3	Empl	,146[c]	1,943	,053	,124	,505	1,979	,484
	Roa	-,026[c]	-,485	,628	-,031	,982	1,018	,803
	Avroa	-,033[c]	-,601	,549	-,039	,987	1,013	,804
	Lev	,058[c]	1,045	,297	,067	,926	1,080	,805
	Avlev	-,006[c]	-,106	,916	-,007	,913	1,095	,805
4	Roa	-,023[d]	-,426	,670	-,027	,981	1,019	,477
	Avroa	-,021[d]	-,381	,703	-,025	,974	1,027	,471
	Lev	,056[d]	1,004	,316	,065	,925	1,081	,481
	Avlev	-,013[d]	-,224	,823	-,014	,910	1,099	,478

a. Predictors in the Model: (Constant), Asset

b. Predictors in the Model: (Constant), Asset, Quoted

c. Predictors in the Model: (Constant), Asset, Quoted, Ind

d. Predictors in the Model: (Constant), Asset, Quoted, Ind, Empl

e. Dependent Variable: Profile

Model Summary[f]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,618[a]	,382	,379	2,191	
2	,653[b]	,427	,422	2,113	
3	,672[c]	,451	,444	2,072	
4	,677[d]	,458	,449	2,063	
5	,682[e]	,465	,453	2,055	1,812

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Empl

c. Predictors: (Constant), Asset, Empl, Quoted

d. Predictors: (Constant), Asset, Empl, Quoted, Lev

e. Predictors: (Constant), Asset, Empl, Quoted, Lev, Avroa

f. Dependent Variable: Vision and strategy

ANOVA[f]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	722,556	1	722,556	150,566	,000[a]
	Residual	1170,940	244	4,799		
	Total	1893,496	245			
2	Regression	808,470	2	404,235	90,532	,000[b]
	Residual	1085,026	243	4,465		
	Total	1893,496	245			
3	Regression	854,495	3	284,832	66,342	,000[c]
	Residual	1039,001	242	4,293		
	Total	1893,496	245			
4	Regression	868,045	4	217,011	51,002	,000[d]
	Residual	1025,451	241	4,255		
	Total	1893,496	245			
5	Regression	879,709	5	175,942	41,652	,000[e]
	Residual	1013,786	240	4,224		
	Total	1893,496	245			

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Empl

c. Predictors: (Constant), Asset, Empl, Quoted

d. Predictors: (Constant), Asset, Empl, Quoted, Lev

e. Predictors: (Constant), Asset, Empl, Quoted, Lev, Avroa

f. Dependent Variable: Vision and strategy

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-16,949	1,807		-9,378	,000		
	Asset	1,068	,087	,618	12,271	,000	1,000	1,000
2	(Constant)	-13,461	1,916		-7,025	,000		
	Asset	,722	,115	,418	6,273	,000	,532	1,881
	Empl	,449	,102	,292	4,386	,000	,532	1,881
3	(Constant)	-13,870	1,883		-7,365	,000		
	Asset	,738	,113	,427	6,528	,000	,531	1,884
	Empl	,382	,103	,248	3,722	,000	,510	1,961
	Quoted	,951	,290	,161	3,274	,001	,943	1,061
4	(Constant)	-13,719	1,877		-7,311	,000		
	Asset	,723	,113	,418	6,407	,000	,528	1,895
	Empl	,377	,102	,245	3,690	,000	,510	1,962
	Quoted	,836	,296	,141	2,821	,005	,898	1,113
	Lev	1,629	,913	,088	1,785	,076	,926	1,080
5	(Constant)	-13,357	1,882		-7,095	,000		
	Asset	,693	,114	,401	6,086	,000	,515	1,944
	Empl	,395	,102	,257	3,863	,000	,504	1,986
	Quoted	,809	,296	,137	2,737	,007	,895	1,117
	Lev	1,797	,915	,097	1,963	,051	,915	1,093
	Avroa	,011	,007	,080	1,662	,098	,965	1,036

a. Dependent Variable: Vision and strategy

Excluded Variables[f]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Empl	,292[a]	4,386	,000	,271	,532	1,881	,532
	Roa	,024[a]	,471	,638	,030	,987	1,013	,987
	Avroa	,051[a]	,998	,319	,064	,989	1,011	,989
	Lev	,133[a]	2,641	,009	,167	,977	1,024	,977
	Avlev	,125[a]	2,447	,015	,155	,950	1,053	,950
	Quoted	,197[a]	4,003	,000	,249	,983	1,018	,983
	Ind	-,057[a]	-1,096	,274	-,070	,936	1,069	,936
2	Roa	,031[b]	,629	,530	,040	,986	1,014	,526
	Avroa	,074[b]	1,518	,130	,097	,978	1,023	,520
	Lev	,118[b]	2,423	,016	,154	,972	1,029	,529
	Avlev	,104[b]	2,099	,037	,134	,940	1,064	,526
	Quoted	,161[b]	3,274	,001	,206	,943	1,061	,510
	Ind	-,022[b]	-,428	,669	-,028	,911	1,098	,486
3	Roa	,035[c]	,738	,461	,047	,986	1,015	,510
	Avroa	,070[c]	1,446	,149	,093	,977	1,024	,504
	Lev	,088[c]	1,785	,076	,114	,926	1,080	,510
	Avlev	,078[c]	1,576	,116	,101	,911	1,098	,508
	Ind	,041[c]	,762	,447	,049	,798	1,253	,484
4	Roa	,044[d]	,913	,362	,059	,977	1,024	,509
	Avroa	,080[d]	1,662	,098	,107	,965	1,036	,504
	Avlev	,031[d]	,444	,658	,029	,453	2,207	,453
	Ind	,043[d]	,809	,419	,052	,798	1,253	,481
5	Roa	-,040[e]	-,545	,586	-,035	,407	2,458	,402
	Avlev	,026[e]	,364	,716	,024	,452	2,213	,452
	Ind	,048[e]	,910	,364	,059	,795	1,258	,467

a. Predictors in the Model: (Constant), Asset

b. Predictors in the Model: (Constant), Asset, Empl

c. Predictors in the Model: (Constant), Asset, Empl, Quoted

d. Predictors in the Model: (Constant), Asset, Empl, Quoted, Lev

e. Predictors in the Model: (Constant), Asset, Empl, Quoted, Lev, Avroa

f. Dependent Variable: Vision and strategy

Model Summary[e]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,499[a]	,249	,245	1,996	
2	,511[b]	,261	,255	1,984	
3	,532[c]	,283	,274	1,958	
4	,542[d]	,294	,282	1,948	2,124

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Quoted

c. Predictors: (Constant), Asset, Quoted, Ind

d. Predictors: (Constant), Asset, Quoted, Ind, Empl

e. Dependent Variable: Board of directors and management systems

ANOVA[e]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	321,559	1	321,559	80,689	,000[a]
	Residual	972,376	244	3,985		
	Total	1293,935	245			
2	Regression	337,354	2	168,677	42,849	,000[b]
	Residual	956,581	243	3,937		
	Total	1293,935	245			
3	Regression	365,792	3	121,931	31,792	,000[c]
	Residual	928,143	242	3,835		
	Total	1293,935	245			
4	Regression	379,858	4	94,964	25,038	,000[d]
	Residual	914,077	241	3,793		
	Total	1293,935	245			

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Quoted

c. Predictors: (Constant), Asset, Quoted, Ind

d. Predictors: (Constant), Asset, Quoted, Ind, Empl

e. Dependent Variable: Board of directors and management systems

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-10,735	1,647		-6,517	,000		
	Asset	,712	,079	,499	8,983	,000	1,000	1,000
2	(Constant)	-10,668	1,637		-6,516	,000		
	Asset	,691	,080	,484	8,695	,000	,983	1,018
	Quoted	,546	,272	,111	2,003	,046	,983	1,018
3	(Constant)	-9,622	1,661		-5,792	,000		
	Asset	,620	,083	,434	7,497	,000	,885	1,131
	Quoted	,840	,290	,172	2,898	,004	,846	1,182
	Ind	,855	,314	,165	2,723	,007	,806	1,241
4	(Constant)	-8,117	1,828		-4,441	,000		
	Asset	,476	,111	,333	4,280	,000	,484	2,067
	Quoted	,753	,292	,154	2,583	,010	,826	1,210
	Ind	,913	,314	,176	2,910	,004	,798	1,253
	Empl	,186	,097	,147	1,926	,055	,505	1,979

a. Dependent Variable: Board of directors and management systems

Excluded Variables[e]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Empl	,151[a]	1,993	,047	,127	,532	1,881	,532
	Roa	-,073[a]	-1,313	,190	-,084	,987	1,013	,987
	Avroa	-,050[a]	-,892	,373	-,057	,989	1,011	,989
	Lev	,053[a]	,941	,348	,060	,977	1,024	,977
	Avlev	-,003[a]	-,058	,954	-,004	,950	1,053	,950
	Quoted	,111[a]	2,003	,046	,127	,983	1,018	,983
	Ind	,100[a]	1,744	,082	,111	,936	1,069	,936
2	Empl	,125[b]	1,629	,105	,104	,510	1,961	,510
	Roa	-,069[b]	-1,252	,212	-,080	,986	1,014	,970
	Avroa	-,051[b]	-,915	,361	-,059	,989	1,011	,972
	Lev	,029[b]	,505	,614	,032	,927	1,079	,927
	Avlev	-,026[b]	-,451	,652	-,029	,915	1,093	,915
	Ind	,165[b]	2,723	,007	,172	,806	1,241	,806
3	Empl	,147[c]	1,926	,055	,123	,505	1,979	,484
	Roa	-,060[c]	-1,097	,274	-,071	,982	1,018	,803
	Avroa	-,044[c]	-,809	,419	-,052	,987	1,013	,804
	Lev	,033[c]	,584	,560	,038	,926	1,080	,805
	Avlev	-,020[c]	-,355	,723	-,023	,913	1,095	,805
4	Roa	-,057[d]	-1,042	,298	-,067	,981	1,019	,477
	Avroa	-,033[d]	-,593	,553	-,038	,974	1,027	,471
	Lev	,030[d]	,541	,589	,035	,925	1,081	,481
	Avlev	-,027[d]	-,474	,636	-,031	,910	1,099	,478

a. Predictors in the Model: (Constant), Asset

b. Predictors in the Model: (Constant), Asset, Quoted

c. Predictors in the Model: (Constant), Asset, Quoted, Ind

d. Predictors in the Model: (Constant), Asset, Quoted, Ind, Empl

e. Dependent Variable: Board of directors and management systems

Model Summary[e]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,466[a]	,217	,214	2,149	
2	,485[b]	,236	,229	2,128	
3	,509[c]	,259	,250	2,099	
4	,517[d]	,268	,256	2,091	2,043

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Empl

c. Predictors: (Constant), Asset, Empl, Ind

d. Predictors: (Constant), Asset, Empl, Ind, Avroa

e. Dependent Variable: Supply chain management

ANOVA[e]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	312,106	1	312,106	67,581	,000[a]
	Residual	1126,853	244	4,618		
	Total	1438,959	245			
2	Regression	338,946	2	169,473	37,438	,000[b]
	Residual	1100,013	243	4,527		
	Total	1438,959	245			
3	Regression	373,159	3	124,386	28,243	,000[c]
	Residual	1065,800	242	4,404		
	Total	1438,959	245			
4	Regression	385,221	4	96,305	22,026	,000[d]
	Residual	1053,738	241	4,372		
	Total	1438,959	245			

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Empl

c. Predictors: (Constant), Asset, Empl, Ind

d. Predictors: (Constant), Asset, Empl, Ind, Avroa

e. Dependent Variable: Supply chain management

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-12,931	1,773		-7,293	,000		
	Asset	,702	,085	,466	8,221	,000	1,000	1,000
2	(Constant)	-10,981	1,929		-5,691	,000		
	Asset	,509	,116	,338	4,388	,000	,532	1,881
	Empl	,251	,103	,187	2,435	,016	,532	1,881
3	(Constant)	-9,577	1,969		-4,865	,000		
	Asset	,411	,120	,273	3,437	,001	,486	2,058
	Empl	,298	,103	,222	2,888	,004	,518	1,932
	Ind	,882	,316	,162	2,787	,006	,911	1,098
4	(Constant)	-9,180	1,976		-4,646	,000		
	Asset	,379	,121	,251	3,138	,002	,473	2,112
	Empl	,318	,103	,237	3,072	,002	,511	1,958
	Ind	,915	,316	,168	2,895	,004	,907	1,102
	Avroa	,011	,007	,093	1,661	,098	,974	1,027

a. Dependent Variable: Supply chain management

Excluded Variables[e]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Empl	,187[a]	2,435	,016	,154	,532	1,881	,532
	Roa	,007[a]	,123	,902	,008	,987	1,013	,987
	Avroa	,067[a]	1,177	,240	,075	,989	1,011	,989
	Lev	-,066[a]	-1,151	,251	-,074	,977	1,024	,977
	Avlev	-,054[a]	-,929	,354	-,059	,950	1,053	,950
	Quoted	,015[a]	,257	,797	,016	,983	1,018	,983
	Ind	,134[a]	2,315	,021	,147	,936	1,069	,936
2	Roa	,011[b]	,203	,840	,013	,986	1,014	,526
	Avroa	,083[b]	1,461	,145	,094	,978	1,023	,520
	Lev	-,076[b]	-1,340	,181	-,086	,972	1,029	,529
	Avlev	-,069[b]	-1,188	,236	-,076	,940	1,064	,526
	Quoted	-,014[b]	-,234	,815	-,015	,943	1,061	,510
	Ind	,162[b]	2,787	,006	,176	,911	1,098	,486
3	Roa	,020[c]	,349	,727	,022	,984	1,016	,480
	Avroa	,093[c]	1,661	,098	,106	,974	1,027	,473
	Lev	-,061[c]	-1,087	,278	-,070	,963	1,039	,482
	Avlev	-,055[c]	-,953	,341	-,061	,932	1,072	,479
	Quoted	,048[c]	,792	,429	,051	,826	1,210	,484
4	Roa	-,122[d]	-1,425	,155	-,092	,410	2,441	,406
	Lev	-,052[d]	-,918	,360	-,059	,951	1,051	,468
	Avlev	-,051[d]	-,886	,376	-,057	,931	1,074	,466
	Quoted	,047[d]	,779	,437	,050	,826	1,211	,471

a. Predictors in the Model: (Constant), Asset

b. Predictors in the Model: (Constant), Asset, Empl

c. Predictors in the Model: (Constant), Asset, Empl, Ind

d. Predictors in the Model: (Constant), Asset, Empl, Ind, Avroa

e. Dependent Variable: Supply chain management

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,529[a]	,280	,277	2,045	
2	,584[b]	,341	,336	1,959	
3	,602[c]	,362	,354	1,932	1,769

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Ind

c. Predictors: (Constant), Asset, Ind, Empl

d. Dependent Variable: Stakeholders

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	395,997	1	395,997	94,657	,000[a]
	Residual	1020,771	244	4,183		
	Total	1416,768	245			
2	Regression	483,803	2	241,901	63,006	,000[b]
	Residual	932,965	243	3,839		
	Total	1416,768	245			
3	Regression	513,299	3	171,100	45,830	,000[c]
	Residual	903,469	242	3,733		
	Total	1416,768	245			

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Ind

c. Predictors: (Constant), Asset, Ind, Empl

d. Dependent Variable: Stakeholders

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-14,552	1,688		-8,623	,000		
	Asset	,791	,081	,529	9,729	,000	1,000	1,000
2	(Constant)	-12,905	1,653		-7,807	,000		
	Asset	,693	,080	,463	8,610	,000	,936	1,069
	Ind	1,394	,291	,257	4,782	,000	,936	1,069
3	(Constant)	-10,676	1,813		-5,890	,000		
	Asset	,478	,110	,320	4,344	,000	,486	2,058
	Ind	1,527	,291	,282	5,242	,000	,911	1,098
	Empl	,267	,095	,201	2,811	,005	,518	1,932

a. Dependent Variable: Stakeholders

Excluded Variables[d]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Empl	,140[a]	1,886	,060	,120	,532	1,881	,532
	Roa	-,030[a]	-,546	,585	-,035	,987	1,013	,987
	Avroa	-,024[a]	-,439	,661	-,028	,989	1,011	,989
	Lev	,005[a]	,086	,932	,005	,977	1,024	,977
	Avlev	-,002[a]	-,043	,966	-,003	,950	1,053	,950
	Quoted	,004[a]	,074	,941	,005	,983	1,018	,983
	Ind	,257[a]	4,782	,000	,293	,936	1,069	,936
2	Empl	,201[b]	2,811	,005	,178	,518	1,932	,486
	Roa	-,019[b]	-,353	,724	-,023	,985	1,015	,922
	Avroa	-,013[b]	-,250	,803	-,016	,987	1,013	,924
	Lev	,032[b]	,612	,541	,039	,965	1,036	,907
	Avlev	,025[b]	,463	,644	,030	,939	1,065	,880
	Quoted	,113[b]	2,016	,045	,129	,846	1,182	,806
3	Roa	-,013[c]	-,246	,806	-,016	,984	1,016	,480
	Avroa	,004[c]	,073	,942	,005	,974	1,027	,473
	Lev	,025[c]	,469	,640	,030	,963	1,039	,482
	Avlev	,012[c]	,234	,815	,015	,932	1,072	,479
	Quoted	,091[c]	1,624	,106	,104	,826	1,210	,484

a. Predictors in the Model: (Constant), Asset

b. Predictors in the Model: (Constant), Asset, Ind

c. Predictors in the Model: (Constant), Asset, Ind, Empl

d. Dependent Variable: Stakeholders

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,388[a]	,151	,147	1,214	
2	,414[b]	,171	,164	1,201	2,190

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Quoted

c. Dependent Variable: Economical aspects of operations

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	63,715	1	63,715	43,262	,000[a]
	Residual	359,358	244	1,473		
	Total	423,073	245			
2	Regression	72,464	2	36,232	25,112	,000[b]
	Residual	350,609	243	1,443		
	Total	423,073	245			

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Quoted

c. Dependent Variable: Economical aspects of operations

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-2,200	1,001		-2,197	,029		
	Asset	,317	,048	,388	6,577	,000	1,000	1,000
2	(Constant)	-2,151	,991		-2,170	,031		
	Asset	,301	,048	,369	6,263	,000	,983	1,018
	Quoted	,406	,165	,145	2,462	,014	,983	1,018

a. Dependent Variable: Economical aspects of operations

Excluded Variables[c]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Empl	,165[a]	2,058	,041	,131	,532	1,881	,532
	Roa	-,066[a]	-1,112	,267	-,071	,987	1,013	,987
	Avroa	-,027[a]	-,453	,651	-,029	,989	1,011	,989
	Lev	-,026[a]	-,429	,668	-,028	,977	1,024	,977
	Avlev	-,018[a]	-,298	,766	-,019	,950	1,053	,950
	Quoted	,145[a]	2,462	,014	,156	,983	1,018	,983
	Ind	,013[a]	,218	,828	,014	,936	1,069	,936
2	Empl	,131[b]	1,608	,109	,103	,510	1,961	,510
	Roa	-,061[b]	-1,038	,300	-,067	,986	1,014	,970
	Avroa	-,028[b]	-,479	,632	-,031	,989	1,011	,972
	Lev	-,062[b]	-1,020	,309	-,065	,927	1,079	,927
	Avlev	-,048[b]	-,789	,431	-,051	,915	1,093	,915
	Ind	,080[b]	1,228	,221	,079	,806	1,241	,806

a. Predictors in the Model: (Constant), Asset

b. Predictors in the Model: (Constant), Asset, Quoted

c. Dependent Variable: Economical aspects of operations

Model Summary[e]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,568[a]	,322	,319	2,754	
2	,634[b]	,402	,397	2,591	
3	,655[c]	,429	,422	2,538	
4	,660[d]	,436	,427	2,527	2,078

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Ind

c. Predictors: (Constant), Asset, Ind, Empl

d. Predictors: (Constant), Asset, Ind, Empl, Roa

e. Dependent Variable: Environmental aspects of operations

ANOVA[e]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	879,626	1	879,626	116,018	,000[a]
	Residual	1849,968	244	7,582		
	Total	2729,593	245			
2	Regression	1098,256	2	549,128	81,797	,000[b]
	Residual	1631,337	243	6,713		
	Total	2729,593	245			
3	Regression	1170,575	3	390,192	60,568	,000[c]
	Residual	1559,019	242	6,442		
	Total	2729,593	245			
4	Regression	1190,481	4	297,620	46,602	,000[d]
	Residual	1539,113	241	6,386		
	Total	2729,593	245			

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Ind

c. Predictors: (Constant), Asset, Ind, Empl

d. Predictors: (Constant), Asset, Ind, Empl, Roa

e. Dependent Variable: Environmental aspects of operations

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-21,438	2,272		-9,436	,000		
	Asset	1,178	,109	,568	10,771	,000	1,000	1,000
2	(Constant)	-18,838	2,186		-8,618	,000		
	Asset	1,024	,106	,493	9,624	,000	,936	1,069
	Ind	2,200	,385	,293	5,707	,000	,936	1,069
3	(Constant)	-15,348	2,381		-6,446	,000		
	Asset	,688	,145	,332	4,758	,000	,486	2,058
	Ind	2,408	,383	,320	6,292	,000	,911	1,098
	Empl	,418	,125	,226	3,350	,001	,518	1,932
4	(Constant)	-15,656	2,377		-6,586	,000		
	Asset	,717	,145	,346	4,949	,000	,480	2,085
	Ind	2,373	,382	,316	6,220	,000	,909	1,101
	Empl	,409	,124	,221	3,292	,001	,517	1,935
	Roa	-,022	,013	-,086	-1,766	,079	,984	1,016

a. Dependent Variable: Environmental aspects of operations

Excluded Variables[e]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Empl	,157[a]	2,193	,029	,139	,532	1,881	,532
	Roa	-,105[a]	-1,997	,047	-,127	,987	1,013	,987
	Avroa	-,079[a]	-1,500	,135	-,096	,989	1,011	,989
	Lev	,059[a]	1,115	,266	,071	,977	1,024	,977
	Avlev	,042[a]	,781	,436	,050	,950	1,053	,950
	Quoted	-,034[a]	-,645	,519	-,041	,983	1,018	,983
	Ind	,293[a]	5,707	,000	,344	,936	1,069	,936
2	Empl	,226[b]	3,350	,001	,211	,518	1,932	,486
	Roa	-,093[b]	-1,861	,064	-,119	,985	1,015	,922
	Avroa	-,067[b]	-1,344	,180	-,086	,987	1,013	,924
	Lev	,092[b]	1,824	,069	,116	,965	1,036	,907
	Avlev	,074[b]	1,446	,150	,093	,939	1,065	,880
	Quoted	,084[b]	1,556	,121	,100	,846	1,182	,806
3	Roa	-,086[c]	-1,766	,079	-,113	,984	1,016	,480
	Avroa	-,049[c]	-,987	,325	-,063	,974	1,027	,473
	Lev	,083[c]	1,679	,094	,108	,963	1,039	,482
	Avlev	,060[c]	1,195	,233	,077	,932	1,072	,479
	Quoted	,058[c]	1,082	,280	,070	,826	1,210	,484
4	Avroa	,042[d]	,553	,581	,036	,406	2,465	,406
	Lev	,075[d]	1,509	,133	,097	,952	1,050	,475
	Avlev	,058[d]	1,149	,252	,074	,932	1,073	,472
	Quoted	,053[d]	,998	,319	,064	,824	1,213	,477

a. Predictors in the Model: (Constant), Asset

b. Predictors in the Model: (Constant), Asset, Ind

c. Predictors in the Model: (Constant), Asset, Ind, Empl

d. Predictors in the Model: (Constant), Asset, Ind, Empl, Roa

e. Dependent Variable: Environmental aspects of operations

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,571[a]	,326	,323	2,376	
2	,596[b]	,355	,350	2,328	
3	,608[c]	,370	,362	2,306	1,952

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Ind

c. Predictors: (Constant), Asset, Ind, Empl

d. Dependent Variable: Social aspects of operations

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	664,805	1	664,805	117,810	,000[a]
	Residual	1376,903	244	5,643		
	Total	2041,707	245			
2	Regression	725,050	2	362,525	66,907	,000[b]
	Residual	1316,658	243	5,418		
	Total	2041,707	245			
3	Regression	754,542	3	251,514	47,287	,000[c]
	Residual	1287,165	242	5,319		
	Total	2041,707	245			

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Ind

c. Predictors: (Constant), Asset, Ind, Empl

d. Dependent Variable: Social aspects of operations

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-17,795	1,960		-9,079	,000		
	Asset	1,024	,094	,571	10,854	,000	1,000	1,000
2	(Constant)	-16,430	1,964		-8,367	,000		
	Asset	,943	,096	,526	9,868	,000	,936	1,069
	Ind	1,155	,346	,178	3,334	,001	,936	1,069
3	(Constant)	-14,202	2,163		-6,564	,000		
	Asset	,729	,131	,406	5,546	,000	,486	2,058
	Ind	1,288	,348	,198	3,703	,000	,911	1,098
	Empl	,267	,113	,167	2,355	,019	,518	1,932

a. Dependent Variable: Social aspects of operations

Excluded Variables[d]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Empl	,124[a]	1,733	,084	,110	,532	1,881	,532
	Roa	-,007[a]	-,132	,895	-,008	,987	1,013	,987
	Avroa	,010[a]	,192	,848	,012	,989	1,011	,989
	Lev	-,036[a]	-,685	,494	-,044	,977	1,024	,977
	Avlev	-,024[a]	-,437	,662	-,028	,950	1,053	,950
	Quoted	-,073[a]	-1,377	,170	-,088	,983	1,018	,983
	Ind	,178[a]	3,334	,001	,209	,936	1,069	,936
2	Empl	,167[b]	2,355	,019	,150	,518	1,932	,486
	Roa	,001[b]	,017	,986	,001	,985	1,015	,922
	Avroa	,018[b]	,342	,733	,022	,987	1,013	,924
	Lev	-,018[b]	-,339	,735	-,022	,965	1,036	,907
	Avlev	-,005[b]	-,095	,925	-,006	,939	1,065	,880
	Quoted	-,010[b]	-,172	,863	-,011	,846	1,182	,806
3	Roa	,006[c]	,111	,911	,007	,984	1,016	,480
	Avroa	,032[c]	,622	,534	,040	,974	1,027	,473
	Lev	-,025[c]	-,471	,638	-,030	,963	1,039	,482
	Avlev	-,016[c]	-,295	,768	-,019	,932	1,072	,479
	Quoted	-,030[c]	-,542	,588	-,035	,826	1,210	,484

a. Predictors in the Model: (Constant), Asset

b. Predictors in the Model: (Constant), Asset, Ind

c. Predictors in the Model: (Constant), Asset, Ind, Empl

d. Dependent Variable: Social aspects of operations

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,514[a]	,264	,261	1,953	
2	,538[b]	,289	,283	1,924	
3	,549[c]	,302	,293	1,910	2,030

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Ind

c. Predictors: (Constant), Asset, Ind, Empl

d. Dependent Variable: Verification

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	334,094	1	334,094	87,609	,000[a]
	Residual	930,480	244	3,813		
	Total	1264,573	245			
2	Regression	365,427	2	182,714	49,380	,000[b]
	Residual	899,146	243	3,700		
	Total	1264,573	245			
3	Regression	381,371	3	127,124	34,832	,000[c]
	Residual	883,202	242	3,650		
	Total	1264,573	245			

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Ind

c. Predictors: (Constant), Asset, Ind, Empl

d. Dependent Variable: Verification

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-14,170	1,611		-8,795	,000		
	Asset	,726	,078	,514	9,360	,000	1,000	1,000
2	(Constant)	-13,185	1,623		-8,125	,000		
	Asset	,668	,079	,473	8,453	,000	,936	1,069
	Ind	,833	,286	,163	2,910	,004	,936	1,069
3	(Constant)	-11,547	1,792		-6,443	,000		
	Asset	,510	,109	,361	4,685	,000	,486	2,058
	Ind	,930	,288	,182	3,230	,001	,911	1,098
	Empl	,196	,094	,156	2,090	,038	,518	1,932

a. Dependent Variable: Verification

Excluded Variables[d]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Empl	,117[a]	1,557	,121	,099	,532	1,881	,532
	Roa	-,070[a]	-1,270	,205	-,081	,987	1,013	,987
	Avroa	-,060[a]	-1,092	,276	-,070	,989	1,011	,989
	Lev	-,005[a]	-,096	,924	-,006	,977	1,024	,977
	Avlev	-,019[a]	-,336	,737	-,022	,950	1,053	,950
	Quoted	,033[a]	,602	,548	,039	,983	1,018	,983
	Ind	,163[a]	2,910	,004	,184	,936	1,069	,936
2	Empl	,156[b]	2,090	,038	,133	,518	1,932	,486
	Roa	-,063[b]	-1,157	,248	-,074	,985	1,015	,922
	Avroa	-,053[b]	-,982	,327	-,063	,987	1,013	,924
	Lev	,012[b]	,220	,826	,014	,965	1,036	,907
	Avlev	-,002[b]	-,034	,973	-,002	,939	1,065	,880
	Quoted	,108[b]	1,837	,067	,117	,846	1,182	,806
3	Roa	-,059[c]	-1,082	,280	-,070	,984	1,016	,480
	Avroa	-,041[c]	-,751	,454	-,048	,974	1,027	,473
	Lev	,006[c]	,108	,914	,007	,963	1,039	,482
	Avlev	-,012[c]	-,211	,833	-,014	,932	1,072	,479
	Quoted	,091[c]	1,542	,124	,099	,826	1,210	,484

a. Predictors in the Model: (Constant), Asset

b. Predictors in the Model: (Constant), Asset, Ind

c. Predictors in the Model: (Constant), Asset, Ind, Empl

d. Dependent Variable: Verification

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,530[a]	,281	,278	1,756	
2	,616[b]	,380	,375	1,635	
3	,634[c]	,403	,395	1,608	1,995

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Ind

c. Predictors: (Constant), Asset, Ind, Quoted

d. Dependent Variable: Execution of the disclosures

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	294,768	1	294,768	95,552	,000[a]
	Residual	752,716	244	3,085		
	Total	1047,484	245			
2	Regression	397,906	2	198,953	74,426	,000[b]
	Residual	649,577	243	2,673		
	Total	1047,484	245			
3	Regression	421,691	3	140,564	54,357	,000[c]
	Residual	625,793	242	2,586		
	Total	1047,484	245			

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Ind

c. Predictors: (Constant), Asset, Ind, Quoted

d. Dependent Variable: Execution of the disclosures

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-11,298	1,449		-7,796	,000		
	Asset	,682	,070	,530	9,775	,000	1,000	1,000
2	(Constant)	-9,512	1,379		-6,896	,000		
	Asset	,576	,067	,448	8,581	,000	,936	1,069
	Ind	1,511	,243	,324	6,212	,000	,936	1,069
3	(Constant)	-9,080	1,364		-6,657	,000		
	Asset	,528	,068	,411	7,774	,000	,885	1,131
	Ind	1,802	,258	,387	6,991	,000	,806	1,241
	Quoted	,722	,238	,164	3,033	,003	,846	1,182

a. Dependent Variable: Execution of the disclosures

Excluded Variables[d]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	Empl	,066[a]	,887	,376	,057	,532	1,881	,532
	Roa	-,077[a]	-1,409	,160	-,090	,987	1,013	,987
	Avroa	-,060[a]	-1,094	,275	-,070	,989	1,011	,989
	Lev	-,044[a]	-,803	,423	-,051	,977	1,024	,977
	Avlev	-,052[a]	-,937	,350	-,060	,950	1,053	,950
	Quoted	,023[a]	,421	,674	,027	,983	1,018	,983
	Ind	,324[a]	6,212	,000	,370	,936	1,069	,936
2	Empl	,140[b]	2,000	,047	,128	,518	1,932	,486
	Roa	-,063[b]	-1,230	,220	-,079	,985	1,015	,922
	Avroa	-,046[b]	-,904	,367	-,058	,987	1,013	,924
	Lev	-,010[b]	-,189	,850	-,012	,965	1,036	,907
	Avlev	-,018[b]	-,351	,726	-,023	,939	1,065	,880
	Quoted	,164[b]	3,033	,003	,191	,846	1,182	,806
3	Empl	,110[c]	1,578	,116	,101	,505	1,979	,484
	Roa	-,054[c]	-1,082	,280	-,070	,982	1,018	,803
	Avroa	-,045[c]	-,894	,372	-,057	,987	1,013	,804
	Lev	-,042[c]	-,822	,412	-,053	,926	1,080	,805
	Avlev	-,045[c]	-,871	,385	-,056	,913	1,095	,805

a. Predictors in the Model: (Constant), Asset

b. Predictors in the Model: (Constant), Asset, Ind

c. Predictors in the Model: (Constant), Asset, Ind, Quoted

d. Dependent Variable: Execution of the disclosures

C-IV: Correlation and regression dispersed ownership

Correlations

		Dispersed ownership
Quality total reportings	Pearson Correlation	,337
	Sig. (2-tailed)	,000
Profile	Pearson Correlation	,289
	Sig. (2-tailed)	,001
Vision and strategy	Pearson Correlation	,355
	Sig. (2-tailed)	,000
Board of directors and management systems	Pearson Correlation	,255
	Sig. (2-tailed)	,002
Supply chain management	Pearson Correlation	,218
	Sig. (2-tailed)	,010
Stakeholders	Pearson Correlation	,297
	Sig. (2-tailed)	,000
Economical aspects of operations	Pearson Correlation	,154
	Sig. (2-tailed)	,069
Environmental aspects of operations	Pearson Correlation	,261
	Sig. (2-tailed)	,002
Social aspects of operations	Pearson Correlation	,244
	Sig. (2-tailed)	,004
Verification	Pearson Correlation	,308
	Sig. (2-tailed)	,000
Execution of the disclosures	Pearson Correlation	,349
	Sig. (2-tailed)	,000
Ind	Pearson Correlation	,146
	Sig. (2-tailed)	,085
Asset	Pearson Correlation	,348
	Sig. (2-tailed)	,000
Empl	Pearson Correlation	,215
	Sig. (2-tailed)	,011
Roa	Pearson Correlation	-,101
	Sig. (2-tailed)	,235
Avroa	Pearson Correlation	-,123
	Sig. (2-tailed)	,146
Lev	Pearson Correlation	,093
	Sig. (2-tailed)	,272
Avlev	Pearson Correlation	,094
	Sig. (2-tailed)	,271

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,586[a]	,343	,338	15,099
2	,711[b]	,505	,498	13,151
3	,732[c]	,536	,525	12,787
4	,742[d]	,550	,537	12,632

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Ind

c. Predictors: (Constant), Asset, Ind, Empl

d. Predictors: (Constant), Asset, Ind, Empl, Dispersed ownership

ANOVA[e]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16411,788	1	16411,788	71,989	,000[a]
	Residual	31460,783	138	227,977		
	Total	47872,571	139			
2	Regression	24180,034	2	12090,017	69,909	,000[b]
	Residual	23692,537	137	172,938		
	Total	47872,571	139			
3	Regression	25637,082	3	8545,694	52,268	,000[c]
	Residual	22235,490	136	163,496		
	Total	47872,571	139			
4	Regression	26332,162	4	6583,040	41,258	,000[d]
	Residual	21540,410	135	159,559		
	Total	47872,571	139			

a. Predictors: (Constant), Asset

b. Predictors: (Constant), Asset, Ind

c. Predictors: (Constant), Asset, Ind, Empl

d. Predictors: (Constant), Asset, Ind, Empl, Dispersed ownership

e. Dependent Variable: Quality total reportings

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-111,884	17,157		-6,521	,000
	Asset	6,982	,823	,586	8,485	,000
2	(Constant)	-89,664	15,307		-5,858	,000
	Asset	5,767	,739	,484	7,800	,000
	Ind	22,435	3,347	,416	6,702	,000
3	(Constant)	-68,397	16,500		-4,145	,000
	Asset	3,711	,996	,311	3,727	,000
	Ind	23,526	3,275	,436	7,183	,000
	Empl	2,526	,846	,243	2,985	,003
4	(Constant)	-63,589	16,462		-3,863	,000
	Asset	3,159	1,018	,265	3,102	,002
	Ind	23,097	3,242	,428	7,124	,000
	Empl	2,576	,836	,248	3,081	,002
	Dispersed ownership	,096	,046	,129	2,087	,039

a. Dependent Variable: Quality total reportings

Excluded Variables[e]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics: Tolerance
1	Ind	,416[a]	6,702	,000	,497	,940
	Empl	,178[a]	1,878	,063	,158	,523
	Roa	,004[a]	,055	,956	,005	,991
	Avroa	-,005[a]	-,075	,941	-,006	,991
	Lev	,022[a]	,315	,753	,027	,988
	Avlev	-,047[a]	-,663	,508	-,057	,945
	Dispersed ownership	,152[a]	2,084	,039	,175	,879
2	Empl	,243[b]	2,985	,003	,248	,517
	Roa	,049[b]	,798	,426	,068	,980
	Avroa	,019[b]	,312	,756	,027	,988
	Lev	,054[b]	,891	,375	,076	,982
	Avlev	-,022[b]	-,355	,723	-,030	,942
	Dispersed ownership	,123[b]	1,939	,055	,164	,875
3	Roa	,016[c]	,257	,798	,022	,944
	Avroa	,024[c]	,406	,686	,035	,987
	Lev	,048[c]	,805	,422	,069	,980
	Avlev	-,024[c]	-,402	,688	-,035	,942
	Dispersed ownership	,129[c]	2,087	,039	,177	,874
4	Roa	,033[d]	,543	,588	,047	,927
	Avroa	,045[d]	,764	,446	,066	,960
	Lev	,040[d]	,679	,498	,059	,976
	Avlev	-,027[d]	-,445	,657	-,038	,941

a. Predictors in the Model: (Constant), Asset

b. Predictors in the Model: (Constant), Asset, Ind

c. Predictors in the Model: (Constant), Asset, Ind, Empl

d. Predictors in the Model: (Constant), Asset, Ind, Empl, Dispersed ownership

e. Dependent Variable: Quality total reportings