CARBON FOOTPRINTS DISCLOSURE PRACTICES OF AEROSPACE AND AIRLINES COMPANIES: SYMBOLISM OR ACTION?

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I, Hasna Azizah Fithriani, hereby state and declare that this undergraduate thesis is true and accurate to be my own work, unless for the words or phrases that I refer by mention the name of the original author.

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March 30th, 2015

MOTTO AND DEDICATION

إِيَّاكَ نَعْبُدُ وَإِيَّاكَ نَسْتَعِينُ ﴿٥﴾

It is You we worship and You we ask for help. – QS. Al-Fatiha: 5

فَإِنَّ مَعَ الْعُسْرِ يُسْرًا ﴿٥﴾ إِنَّ مَعَ الْعُسْرِ يُسْرًا ﴿٦﴾

For indeed, with hardship [will be] ease. Indeed, with hardship [will be] ease.
– QS. Ash-Sharh: 5-6

Allah hears every unspoken word, sees every unseen wound, mends every unbearable pain.
(Anonymous)

There is no growth in comfort zone and there is no comfort in growth zone. I must leave my comfort zone to grow.
(Muhammad Assad – Notes From Qatar 2)

I dedicate this thesis for :

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All of my beloved friends

The dear ones around me

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ABSTRACT

Carbon footprints disclosure practices of aerospace and airlines companies increase over the time. However, the increase is motivated by many possible motives, not only to inform to stakeholders about firm's actions, but also to gain certain images. Thus, the aims of the study are three points. First, to analyze whether carbon footprints disclosure practices of aerospace and airlines companies increase over the time. Second, to analyze whether the companies also increase their disclosure using several highlighting device to draw direct attention of the readers. Third, to analyze the tendency of carbon footprints disclosure practices of aerospace and airlines companies listed in Forbes 2000 in 2011 and 2013.

To achieve the objectives, the right method used should be content analysis. Content analysis is applied to analyze four type of disclosures; annual reports, sustainability reports, annual reports of annual reporters only, and annual reports of sustainability reporters. There are three set of categories used. The first category is symbolic statement; normative statement, aspirational target, and awards or recognition. Second category is behavioural statement; internal activities, external activities, and assisting others. The third category is any sentence exclude previous categories disclosed in the reports; descriptive statements and other. The sample then selected based on purposive sampling method. The amount of final sample is forty seven companies. The study uses Wilcoxon signed-ranks test as its statistical test.

The results showed that generally firms do not increase their carbon footprints disclosure. However, in annual reports of annual reporters only, firms increased their disclosure practices. Companies also did not take a step to signeled their disclosure clearly to stakeholders and generally more like relied on symbolic management approach instead of behavioural management approach, even though there is a small tendency that firms can also rely on behavioural management approach. Further, the study appears to be the first, to the best of author's knowledges, to provide direct international evidence on favoured impression and legitimacy by analyzing symbolic versus behavioural management.

Keyword : carbon footprints disclosure, carbon footprints, environmental disclosure, symbolic management, behavioural management.

ABSTRAK

Praktik pengungkapan jejak karbon perusahaan kedirgantaraan dan maskapai penerbangan meningkat dari waktu ke waktu. Namun, peningkatan tersebut mungkin dipengaruhi oleh banyak motif, tidak hanya mengungkapkan informasi untuk memberi tahu para pemangku kepentingan mengenai aktivitas perusahaan, tetapi juga untuk memperoleh pencitraan tertentu. Oleh karena itu, tujuan dari dilakukannya penelitian ini ada tiga poin. Pertama, untuk menganalisis apakah praktik pengungkapan jejak karbon oleh perusahaan kedirgantaraan dan maskapai penerbangan mengalami peningkatan selama periode yang dianalisis. Kedua, untuk menganalisis apakah perusahaan juga meningkatkan penggunaan beberapa media yang dapat menarik perhatian para pengguna laporan langsung ke bagian tertentu. Ketiga, untuk menganalisis kecenderungan praktik pengungkapan jejak karbon oleh perusahaan kedirgantaraan dan maskapai penerbangan yang terdaftar pada Forbes 2000 tahun 2011 dan 2013.

Untuk mencapai tujuan-tujuan tersebut, metode yang tepat digunakan adalah analisis kandungan. Analisis kandungan diterapkan untuk menganalisis empat tipe pengungkapan; laporan tahunan, laporan keberkelanjutan, laporan tahunan dari pelapor yang hanya mempublikasikan laporan tahunan saja, dan laporan tahunan dari pelapor yang juga mempublikasikan laporan keberkelanjutan. Ada tiga set kategori yang digunakan. Kategori pertama adalah pernyataan simbolik; pernyataan normatif, target aspirasional, dan penghargaan atau pengakuan. Kategori kedua adalah pernyataan perilaku; aktivitas internal, aktivitas eksternal, dan pernyataan membantu yang lain. Kategori ketiga adalah kalimat-kalimat yang tidak termasuk dalam dua kategori sebelumnya; pernyataan deskriptif dan pernyataan lainnya. Sampel kemudian dipilih melalui metode purposive sampling. *Jumlah sampel akhir yaitu empat puluh tujuh perusahaan. Penelitian ini menggunakan uji* Wilcoxon signed-ranks *sebagai alat uji statistik.*

Hasil menunjukkan bahwa secara umum perusahaan tidak meningkatkan pengungkapan jejak karbon mereka. Namun, dalam laporan tahunan dari pelapor yang hanya mempublikasikan laporan tahunan saja, perusahaan meningkatkan praktik pengungkapan mereka. Perusahaan juga tidak mengambil langkah untuk memberikan sinyal-sinyal tertentu secara jelas dalam laporannya untuk menarik perhatian pembaca langsung ke bagian tertentu dan secara umum lebih mengandalkan penggunaan pendekatan manajemen simbolik daripada pendekatan manajemen perilaku, meskipun ada sedikit kecenderungan bahwa perusahaan juga mengandalkan pendekatan manajemen perilaku. Lebih lanjut, penelitian ini menjadi penelitian pertama, menurut sepengetahuan penulis, yang memberikan bukti internasional langsung mengenai kesan yang diharapkan dan legitimasi dengan menganalisis manajemen simbolik versus manajemen perilaku.

Kata kunci : pengungkapan jejak karbon, jejak karbon, pengungkapan lingkungan, manajemen simbolik, manajemen perilaku.

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CHAPTER I

INTRODUCTION

This chapter contains explanations of underlying matters of doing the research. This chapter contains four section, namely background, problem formulation, research objective and contribution of the study, and writing system. Background explains matters about why research was conducted. Anything drives research about disclosures practices associated with carbon footprints term and legitimation strategies explained in this section. Problem formulation is obtained from background. Thus, this section denotes several questions regarding to problem explained in the background. The next section is research objective and contribution of the study. Research objective is the main purpose of why such a research is conducted. This section leads intended the focus of research. Meanwhile, contribution of the study explains about what benefits gained from solving the problems. The last section is writing system which explains writing format in detail, start from the beginning, the content, and the end.

1.1 Background

Carbon footprints terminology nowadays becomes a buzzword. Wiedmann and Minx (2007) argued that the term has become extraordinarily popular over the last few years and it is used accross the media, particularly in the United Kingdom. The term also become popular in the public debates which discuss about responsibility towards environment other similar topics, such as reduction action that shoukd be taken against the threats of climate change, global warming, and greenhouse gas emission (Wiedmann and Minx, 2007). In addition, the term also becomes popular in the scientific research. Wiedmann and Minx (2007) explained that they find out a literature search of the term "carbon footprints" in the Scopus and Science Direct databases from 1960 to 2007. The term yielded not less than forty two hits; three hits in 2005, eight hits in 2006, and at most in 2007 with thirty one hits.

Gary Martin's article in the Phrase Finder website (Phrase Finder, 2009) also gave proper proofs of increasing usage of the term carbon footprints. He mentioned that not so long ago, a "footprints" only mean as the print made by a foot. Then suddenly, he received a spam email in April 2007 which encouraged him to do a diet at Easter by offsetting his chocolate footprints. Thus, he stated that it is an indication of how rapidly the recent interest in the environment is influencing language.

Still, as Martin (Phrase Finder, 2009) explained, the term was firstly introduced in the beginning years of the new millenium, in front of UK people (Phrase Finder, 2009). Martin (Phrase Finder, 2009) attached an example from the Welsh newspaper, The Western Mail, in July 2005, which said about Minister Rhodri Morgan's activity. The newspaper reported that Minister Rhodri Morgan was pleased to see that his "carbon footprints" size was below average, as a result from keeping his healthy life.

As *Sun Times* (2008) and O'Reilly (2009), cited in Hrasky (2011), the term also becomes a first buzzword that appeared in a dictionary, *The Chamber*

Dictionary, in 2008. O'Reilly (2009) asserted that it is happened only in 2008 that the "carbon footprint" terminology included in *The Chambers Dictionary*.

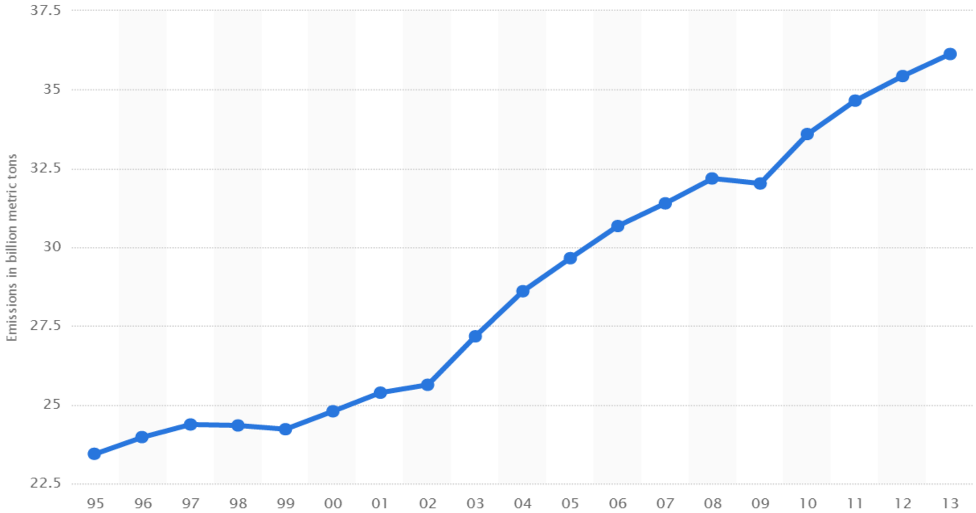
Eventhough the term of "carbon footprints" is familiar nowadays, still, there are several mixed insights between the term of "carbon footprints" and other similar terms, such as "carbon emission", "greenhouse gas emissions", "carbon intensity", and "carbon accounting". The mixed insights happened in many usage, particularly related to disclosures produced by firms. For instance, during the data tabulation, the author found several firms did not use specific term "carbon footprints" at all. However, those firms used the other similar terms such as "greenhouse gas emission", "climate change", or "global warming" instead.

Those similar terms are often used in the same context, particularly in the environmental section of sustainability report. In fact, they have their own meaning respectively. According to The Carbon Account website, carbon footprints is "the total carbon which we as individuals are responsible for". To be more specific, carbon footprints measures the total greenhouse gas emissions caused directly and indirectly in the daily life (Carbon Trust, 2012). Not only by individual life, but also affected by all parties, such as organisations, events, or products (Carbon Trust, 2012). The carbon emissions are gases released from the combustion of carbon containing compounds (Carbonica, 2012). For instance, the reslut of fuel, gas, and leaves combustions. Meanwhile, as The United States Environmental Protection Agency (2014) website explained, the greenhouse gas emissions are the four most contributed gases; carbon dioxide, methane, nitrous oxide, and fluorinated gases; that trap heat in the atmosphere. According to

Carbon Brief (2014) website, the carbon intensity is a measure of how countries or corporates are using their polluting energy resources, such as coal, oil and gas, efficiently and effectively. Therefore, to know how to measure amounts of carbon dioxide and its equivalents emitted by each parties, the carbon accounting is needed.

Those issues (carbon footprints, carbon emission, greenhouse gas emissions, carbon intensity, and carbon accounting) have recently became a concern to the political and consumer because of some factors. As Hrasky (2011) explained in her research, those factors are including ratification of Kyoto Protocol by many governments, growth in emission trading through Emission Trading Schemes (EMSs), carbon tax and carbon offset schemes, voluntary initiatives such as the carbon Disclosure Project (CDP), and the awarding of the Noble Peace Prize to Al Gore in 2007 for his effort to focus attention on the problem of global warming.

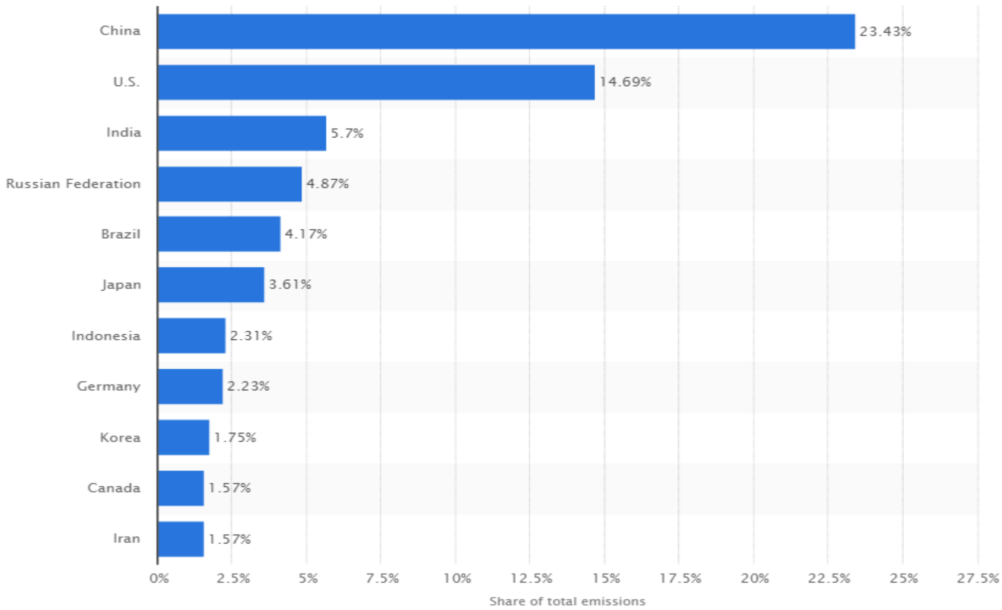
Figure 1.1 Graphic of Global CO_2 Emissions from 1995 to 2013 (in billion metric tons)



Source: statista.com, 2015

Several institutions and sites on the internet have given many information of countries emissions contributions each year. First, global CO_2 emissions have been rising since 1995 to 2013 in billion metric tons. As showed by Statista, The Statistic Portal website (Figure 1.1), global CO_2 emissions continue to rise significantly from 2002 to 2008 and from 2009 to 2013. The amount have exceeded more than 35 billion metric tons emissions in 2012. Meaning, the amount of carbon footprints also increasing, as they show the amount of the total greenhouse gas emissions caused directly and indirectly by a person, organisation, event or product (Carbon Trust, 2012). Second, recently in 2014, the largest producers of CO_2 emissions worldwide based on their share of global CO_2

Figure 1.2 Graphic of the Largest CO_2 Emissions Producers Worldwide 2014 (based on their share of global CO_2 emissions)

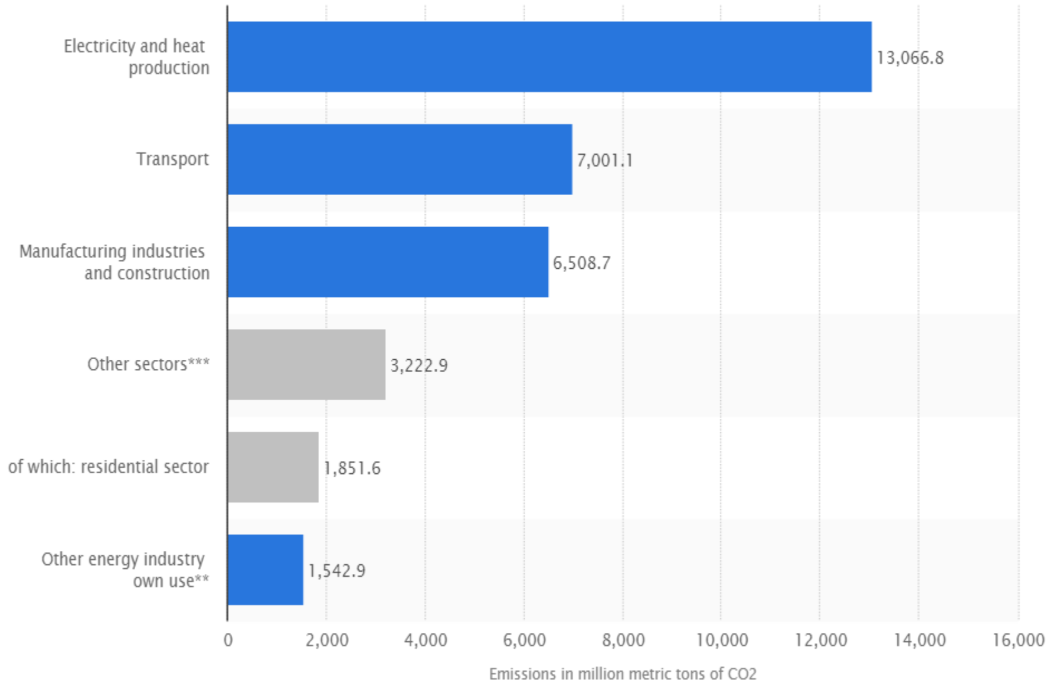


Source: statista.com, 2015

emissions (Figure 1.2) are, again, occupied by China, United States, and India with each percentages 23,43%, 14,69%, and 5,7%. Then followed by Russian Federation (4,87%), Brazil (4,17%), Japan (3,61%), Indonesia (2,31%), Germany

(2,23%), Korea (1,75%), Canada (1,57%), and Iran (1,57%). And the last, major contributions of world CO_2 emissions in 2011 (Figure 1.3) come from electricity and heat production sector, which contributes 13,066.8 million metric tons. Then followed by transport (7,001.1), manufacturing industries and construction (6,508.7), other sectors (3,222.9), and other energy industry own use (1,542.9).

Figure 1.3 Graphic of World CO_2 Emissions in 2011 by Industrial Sector (in million metric tons of carbon dioxide)



Source: statista.com, 2015

Although it is not happened as always, corporates are using several natural resources from the environment to support their operations, such as electricity, fuel, gases, and many more. However, firms might just do whatever it takes to gain more resources than they expected. Thus, corporates might not care that their action harm the environmental life. As the result, stakeholders have questioned corporates' environmental and operational management, whether or not corporates responsible towards the environment. They demand the proof that firms actually responsible towards the environment. Thus, to respond stakeholders' questions and demands, corporates disclose their undertaking large-scale initiatives as a form of environmental responsibility in their sustainability report separately, and or as one in annual report.

Both of the two reports explain many things, including environmental section partially. However, they have different focus informations. Annual reports mostly discloses financial information, even though some firms disclose more than that. For instance, adding extra information about corporate citizenship, environmental concerns, and so on. According to United States Securities and Exchange Commission, annual report usually exposes a state of the company report, including Chief Executive Officer's opening letter, financial data, results of operations, market segment information, new product plans, subsidiary activities, and research and development activities on future programs. Contrast to annual report, a sustainability report revelas the economic, environmental, and social impacts caused by corporates' everyday activities (Global Reporting Initiative, n.d.). Global Reporting Initiative (n.d.) also stated that sustainability report "presents the organization's values and governance model, and demonstrates the link between its strategy and its commitment to a sustainable global economy". According to American Institute of CPAs, there are three types of the sustainability reports which companies try to issue. They are Environment, Health and Safety (EHS), Corporate Social Responsibility (CSR), and Sustainability Reports. They are similiar in concept, reporting non financial information, which are focusing on issues distinctively.

In the Wall Street Journal, Deloitte mentioned that there has been an increase in initiatives to promote and, in some instances, enforce more structured environmental, sustainability, and governance (ESG) reporting as today's markets are more strongly correlated with intangible assets. This may happened because many feel that traditional financial metrics may not effectively capture a company's long-term value potential creation, or more like serves indicators of short-term performance (Deloitte, 2013). A huge recognition of the importance of environmental, social, and governance (ESG) performance have been accelerated by market demand pressures of greater transparency in the companies. Thus there is an increasing number of companies and organizations that want to make their operations sustainable, so that they can contribute to the sustainable development actions and serve good disclosures (Global Reporting Initiative, n.d.)

Increasing in the disclosure of ESG report has occurred over the past few years. Several studies consistently show that the amount of social and environmental disclosures made by firms is increasing (e.g. Patten, 1992; Deegan and Rankin, 1996; Deegan *et al.*, 2000; Kolk, 2003; Gibson and O' Donovan, 2007; Raar, 2007; KPMG, 2008; cited in Hrasky, 2011). However, the increase is not happened for the entire companies. There are some that still have not report sustainability report, or if it has, they did not report objectively. For instance, there are several companies in Australia disclosed the symbolic information (Hrasky, 2011) or several companies involved with Exxon Valdez oil spill in Alaska in 1989 increasing the amount of environmental disclosed significantly and immediately after the spill.

In giving the informations for stakeholders, corporates mostly have their own motivations and they may have different preferences in the disclosure. Corporates probably disclose their true nature, what they really did. Otherwise, there are some that disclose unpure motivations. For example, corporates probably disclose to gain impression or to ensure that companies are “good” or “good enough” to be considered by stakeholders. This is in line with research conducted by Degaan *et al.* (2002) and O'Donovan (2002), cited in Hrasky (2011). They mentioned that even though motivations for making such disclosure are various, legitimacy is appropriate and has been used extensively to explain environmental disclosure decisions. As it is already stated, besides providing reports in order to respond stakeholders’ questions and demands, companies also disclose their environmental activities, particularly related to specific terms, to maintain am implicit social contract between companies and its stakeholders. If the social contract is collided, then organization abilities to continue its operations is threatened (Hrasky, 2011).

According to Hopwood (2009), cited in Hrasky (2011), the disclosures can be really manipulative in order to gain legitimacy. This is due to efforts of maintaining the social contract that can be symbolism or true nature (real behavior). Since the disclosure can affected both side, company’s images and stakeholders’ decision making, it is considered that the disclosure can create a positive impression of the performance of the company without any real changes related to company operations (symbolism) or the company has made operational changes in accordance with the expectations of society, which shows the behavior management (Kim et al., 2007). Therefore, as it explained by Hopwood (2009), cited in Hrasky (2011), further research on environmental disclosure, particularly specific disclosure of carbon footprints, is necessary.

Research conducted by Hrasky (2011) aimed to assess whether firms in Australia have adjusted their footprints-related disclosure responses. By adopting the perspective of legitimacy, the study assessed whether pragmatic or moral legitimation approaches dominate by determining whether disclosure tends to be more reflective of the symbolism or real behavior. The study only assessed a small number of companies, the large listed ASX's Top 50 companies.

This research done by developing research conducted by Hrasky (2011). If Hrasky's took fifty large listed companies in ASX's Top 50, this research takes one kind of air industry, namely aerospace, air courier, and airlines industries, which listed in Forbes 2000 in 2011 and 2013. This sector was selected because it is considered more relevant and may represent actual carbon footprints. Also it is based on statistical data gathered from Statista, The Statistics Portal.

1.2 Problem Formulation

Companies provide feedback in order to respond stakeholders' questions and demands and to maintain its implicit social contract through specific disclosures related to the issues associated with carbon footprints. However, the motivation of disclosing the reports still vary depending on the state of the organization and legitimation strategies used (Hrasky, 2011). Thus, the information in the reports may reflect company's actual actions to reduce carbon footprints, or only gives the impression of a symbolic, so that the company is "seen" to be responsible to the environment without any following substantive actions (Hrasky, 2011).

In the problem formulation section, there are three questions proposed to analyze carbon footprints disclosures practices of the specific companies. The questions are proposed based on research conducted by Hrasky (2011). Those research questions then elaborated in hypotheses development section. The questions are:

RQ1. Are firms increasing their specific disclosures related to issues associated with the corporate carbon footprints?

RQ2. Consistent with legitimation strategies, are firms taking steps to signaled these disclosures clearly to stakeholders?

RQ3. Are disclosures related to carbon footprints consistent with a symbolic management or behavioral management approach to legitimation?

1.3 Research Objective and Contribution of The Study

This study aims to analyze, understand, and explain in depth of the phenomenon that became the setting of research. This research is intended to assess the symbolism or behavioural approach related to carbon footprints disclosure practices of the specific companies.

The research expected to give several contributions to those in need. For instance:

1. Academic. The study expected to contribute the development of the accounting literature in Indonesia and worldwide, particularly related

to issues associated with carbon footprints disclosure practices. The study also expected to be a reference for further researches.

2. Practical. For investors, the study is expected to be a consideration for investors and prospective investors before making an investment decision. For managements, this study is expected give insight, so that managements understand of how importance serving the disclosure related to the issues associated with carbon footprints. For society, the study is expected to provide knowledge for the communities about how well the disclosure and to understand better about what it is really expressed in the reports.

1.4 Writing Systematics

The study is written based on predetermined systematic writing as guidance to discuss issues coherently and clearly, so that the study can be more easily to understand. Overall, the study is devided into three chapters, namely:

CHAPTER I: INTRODUCTION

This chapter contains background of the study, problem formulation, research objective and contribution of the study, and writing system.

CHAPTER II: LITERATURE REVIEW

This chapter explains underlying theories, prior researches, theoritical framework, and research question of the study.

CHAPTER III: RESEARCH METHOD

This chapter explains research design and setting, population and sample, type and source of data, data collection method, and analysis method.

CHAPTER IV: RESULT AND DISCUSSION

This chapter explains research object description, data analysis, and result interpretation of the tests.

CHAPTER V: CONCLUSION AND SUGGESTION

This chapter gives concluding statements, limitations, and suggestions for further researches.

CHAPTER II

LITERATURE REVIEW

The literature review contains four sections, namely underlying theory, prior researches, theoritical framework, and hypotheses development. Underlying theory gives insights about what kind of relevant theory. Prior reserch section explains different points of view from other researchers. Theoritical framework catches each parts to be observed in schem. The scheme in quantitative research, mostly, shows the direction of relationship between the variables. However, this study did not use direction to show the relation, the influence, or the effect, but to show how the logical thinking of the basis for assessing disclosure practices related to issues associated with carbon footprints. From the development of theories and prior researches, the hypotheses are proposed in hypotheses development section.

2.1 Underlying Theory

This section explains about the theory that consistent with research questions. There are two theories selected in the research as they are relevant to the study, those are legitimacy theory and impression management theory.

2.1.1 Legitimacy Theory

Legitimacy is not created by the organization. It is a common perception or assumption that the actions of an organization are desirable, proper, or appropriate with social manner, norms, values, beliefs, and definitions; in short, well mannered (Suchman, 1995). Thus, firm should behave within the limits that are socially acceptable, based on the notion that it needs to maintain and continue its operations (O'Donovan, 2002). It is also the provision of an external party organization, which reflects the collective perception and confidence of the organization's concern (Suchman, 1995). When an organization gain legitimacy, then the organization is considered as trustworthy and deserves support. Meanwhile, organizations which lack of legitimacy would be less acceptable and considered as less trustworthy (Meyer and Rowan, 1991; Suchman, 1995; Zimmerman and Zeitz, 2002; cited in Hrasky, 2011).

Legitimacy theory also states the relationship between stakeholders and organization. Legitimacy theory explains that firms have an implicit contract that should be maintained with stakeholders. If the contract is violated, then firm and its operations can be threatened (Hrasky, 2011). Therefore, legitimacy theory confirms that firm tends to keep the conflicts away and ensure that its operations are accepted according to norm (Sethi, 1997; cited in Langer, 2008).

Further, legitimacy theory defines another more deep theory as well, namely legitimacy gap theory. As Sethi (1975), cited in Langer (2008), outlined, a "legitimacy gap" is a gap of expectation that shows an incompatibility between society's or stakeholders' expectation and organization's actions. The gap that arises can harm organization's image and reputation (Bridges, 2004; cited in Langer, 2008). Hrasky (2011) argued that potential legitimacy gap occured because of heightened concerns about corporate carbon footprints and its related issues.

It is also supported by McDonnell and Bartlett (2009) that climate change pressure possibly motivates legitimation strategies and be the gap. Legitimacy forces the organization to change its nature of operations, so that it does not harm the environment and meet stakeholders' expectations (Hrasky, 2011).

That is, when the firm does things that can damage the environment, such as waste disposal that do not be processed further and directly discharged into the river or elsewhere; or in other words, when companies produce outcomes that harm the environment and can not be tolerated by sociecty, paricularly stakeholders; the company feels the need to convince stakeholders that all carbon footprints impacts from company's activities are under control of certain law, acceptable, do not harm the environment, and especially meet society's or stakeholders expectations (Hrasky, 2011). One way to convince by increasing its disclosure specifically related to carbon footprints and corporate operations. Several studies consistently show that the amount of disclosure parctices produced by firms increase, spesifically social and environmental disclosures (Kolk, 2003; Gibson and O'Donovan, 2007; Raar 2007; KPMG, 2008; cited in Hrasky, 2011).

In the context of legitimacy theory and the tendency of corporate carbon footprints discosure practices, there is a strong relationship between them. As legitimacy is given by stakeholders, depends on their perceptions; and as firm needs to convince stakeholders that its operations are well mannered and acceptable; thus, it can be assumed that firm's disclosure practices do not really reflect their nature. In the other words, it can be a symbolic disclosure. This is in line with Marshall and Brown (2003), which state that "corporations are reporting data in ways that provide little information to stakeholder groups about their efforts to improve future environmental performance".

This study uses legitimacy theory because of its ability to reflect motives of the carbon footprints disclosure practices of the firm. This is consistent with several studies which mentioned that the way the company interacts with the environment is seen as an important aspect as the legitimcay of the company. Company responds to situations that are considered potentially threatened their legitimacy, in order to maintain social contract with stakeholders. If stakeholders considered that company's operations inconsistent with the values of the underlying contract, it can be said that the company's contract is threatened (Gray *et al.*, 1988;. Deegan, 2002; cited in Hrasky, 2011).

2.1.2 Impression Management Theory

Impression management theory (also called self-presentation) is the work of Erving Goffman, a sociologist. Goffman discussed in his seminal book, *The Presentation of Self in Everyday Life*, "the importance of selfpresentation for defining the individual's place in the social order, for setting the tone and direction of an interaction, and for facilitating the performance of role-governed behavior" (Leary and Kowalski, 1990). Impression management refers to the certain action or process done by someone to impress others that he or she has seen to do certain good thing or to be a good people (e.g. Austin, 1969; Schlenker, 1980, cited in Leary and Kowalski, 1990; Schlenker and Leary, 1982; Rosenfeld, 1995, cited in Bolino *et al.*, 2014). Austin (1969) explains that impression management is the prosess done by induviduals in order to influence others' opinions or perceptions towards their actions. Rosenfeld *et al.* (1995), cited in Bolino *et al.* (2014), explain that "employees use impression management (IM) to create, maintain, or protect an image held by other individuals." Accordingly, impression management theory is not limited in person, such as employees, only. It can be involved in all conditions of daily life; for instance, in work places, colleges, and many more.

Specific to firm and its disclosure practice context, besides giving information to stakeholders, firm produces report in several motives; for instance, to give favorable impression. For example, firms have increasingly carried out the legal requirements to report financial and non-financial information to stakeholders, by presenting achievements and other favorable images of the firms to increase their legitimacy and image of the firms, instead of providing information to stakeholders to show the actual firms' performances (Gibbons *et al.*, 1990; Patten, 1992; Arrington and Francis, 1993; Hopwood, 1996; Brown and Deegan, 1998; Buhr, 1998; Neu *et al.*, 1998; Deegan, 2002; cited in Ogden and Clarke, 2005). In other words, related to corporate reporting, impression management "occurs when management selects information to display and presents that information in a manner that distorts readers' perceptions of corporate achievements" (Neu, 1991; Neu *et al.*, 1998; cited in Brennan 2009). Therefore, social and environmetal reports produced by firm are considered as a tool of impression management, as well as annual report, which seen as a media or starightforward way to create preferred image or identity (Arndt and Bigelow, 2000; cited in Ogden and Clarke, 2005).

In short, this study uses impression management theory because of its ability to reflect the firms behaviour that seek to be seen as likable and effective by stakeholders. This is in line with several studies which mentioned that firm does not disclose their actions in order to deliver financial or non financial information to the stakeholders, but also to obtain other goal, which is to gain good impression from its stakeholders that its actions are appreciated.

2.2 Prior Researches

There are three major sides related to the tendency of disclosure practices of firms, though not all of them explore specifically about carbon footprints disclosure practices; in fact, mostly promote a general talk, environmental disclosure practices. Those threefold are the agree side, the disagree side, and the impartial side (neutral). The agree side stated that the disclosure practices increase over the time and they are more like a symbolic management, in order to obtain legitimacy, impression, and protect firm's social contract. The disagree side proposed the opposite results from the agree side. The impartial side (neutral) proposed neutral statements. They did not mentioned that tendency show neither a symbolic managament nor behavioural management or their results show both managements in one study. In short, did not clearly mention about one side of management.

There are many researchers on the agree side; in fact, compare to other sides, most of them are on the agree side. For instance, Sethi, 1979; Patten, 1992; Deegan and Gordon, 1996; Deegan and Rankin, 1996; Deegan *et al.*, 2000; Deegan, 2002; Deegan *et al.*, 2002; Milne and Patten, 2002; O'Donovan, 2002;

O'Dwyer, 2002; Kolk, 2003; Marshall and Brown, 2003; Gibson and O'Donovan, 2007; Raar, 2007; McDonnell and Bartlett, 2009; and Hrasky, 2011.

The agree side stated that the disclosure practices increase over the time (Patten, 1992; Deegan and Gordon, 1996; Deegan and Rankin, 1996; Deegan *et al.*, 2000; Kolk, 2003; Gibson and O'Donovan, 2007; Raar, 2007; and Hrasky, 2011). Patten (1992) investigated the firms that involved Exxon Valdez oil spill in Alaska in 1989. The results stated that the firms significantly increase their environmental disclosure in annual reports, immediately after the spill, as they consider that environmental disclosures can be utilized as a tool to response the changes of firms' public perceptions. Deegan and Gordon (1996) also argued that environmental disclosures made by Australian firms generally increase during 1988 to 1991, as the increase of societal concern of environmental issues. Deegan and Rankin (1996) investigated environmental reporting practices of twenty Australian companies that successfully prosecuted by the New South Wales, and Victorian Environmental Protection Authorities (EPA), because of their involvement in four incidents; Exxon Valdez and Bhopal disaster, the Moura Mine disaster in Queensland, Iron Baron oil spill (off the coast of Tasmania), and the Kirki oil spill (off the coast of Western Australia). They found that those companies provided more number of social information in their annual reports than before the incidents happened. They also stated that Australian firms will only produce environmental information that are favorable for their images and still produce favorable environmental information, predominantly, even when they were prosecuted.

Those in the agree side also mentioned in their researches that firms utilize their reports in order to gain legitimacy and impression of their stakeholders. Deegan and Gordon (1996) argued that firms’ environmental disclosure practices are self-laudatory (impression management). They mentioned that firms propose positive stuffs of their environmental performance, but fail to disclose the negative stuffs. That supports Marshall and Brown’s (2003) study, who proposed that “corporations are reporting data in ways that provide little information to stakeholder groups about their efforts to improve future environmental performance”. Deegan *et al.* (2000) suggested that organizations utilize their annual report in order to influence society’s perceptions towards their operations. That supports Deegan’s (2002) study, who mentioned that the desire to legitimate an organization’s operations is one of many motivations that bring manager disclose information of organization’s social and environmental performances externally. Hrasky (2011) stated that Australian firms tend to be use sybolic management approach, rather than behavioural management approach.

The researchers that follow disagree side are fewer than those in the agree side. Frost *et al.* (2005), Simnett and Nugent (2007), and Kim *et al.* (2007) are those fewer lists. Frost *et al.* (2005) analized the nature and extent of sustainability reporting practices of companies listed in Australian Stock Exchange in various reporting medias. They found that annual report is the least valuable information source provide corporate sustainability and the overall level of sustainability reporting againts GRI is very low. Simnett and Nugent (2007) analyzed the case of developing a standard on corporates’ carbon emissions disclosures, a more specific issue. They mentioned that the amount of carbon emissions disclosures of the firms analyzed are less than ten percent, even only seven of 135 firms fully disclosed carbon emissions in their annual reports in 2005.

Even though these two researches did not clearly proposed the nature of disclosures they have examined, there is one research conducted by Kim *et al.* (2007) that proposed the strong arguments. Kim *et al.* (2007) identified two approaches of corporates' reputation, namely symbolic management and behavioral management. They found that symbolic management approach have a positive effect on symbolic reputation, but do not have significant effect on corporate profitability. However, behavioural management approach have a positive effect on performance reputation and have a significant effect on profitability. They then suggested that the behavioral management approach is more effective to build reputation and obtain profits, as they stated that "corporations should direct their capabilities to building a behavioral management approach that emphasizes strategic choices and proactive implementation of performance improvement choices".

The researchers that remain impartial side are Gotsi and Wilson, 2001 and Hopwood (2009). Gotsi and Wilson (2001) only defined the concept of corporate reputation and identified its relationship with corporate image. The result said that corporate reputations influence and is influenced by behaviour, symbolic, and communication. Hopwood (2009) stated that corporates' disclosure may reflect its true environmental activities (transparent). However, Hopwood (2009) also noted that environmental disclosures may tend to “thicken the corporate veil” when those disclosures are used to influence perceptions of its audience.

2.3 Theoritical Framework

Legitimacy is a common perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions (Suchman, 1995). It is provided by the community, in this case is the stakeholders, the company, following the company's performance. Meanwhile, the company also has a relationship with stakeholders, i.e. the social contract (Hrasky, 2011). Social contract and legitimacy are interconnected. If the company does not maintain a relationship with the stakeholders, the company has the possibility to break the contract. If the contract is violated, then the stakeholders will tend to give poor legitimacy to the company (Hrasky, 2011).

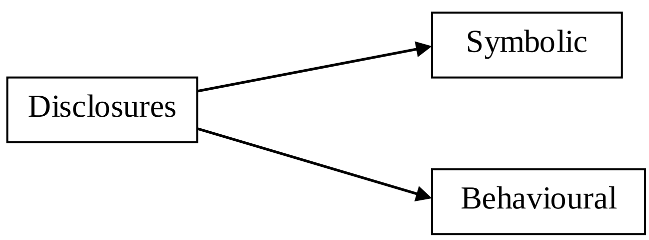
Impression management refers to the certain action or process done by someone to impress others that he or she has seen to do certain good thing or to be a good people (e.g. Austin, 1969; Schlenker, 1980, cited in Leary and Kowalski, 1990; Schlenker and Leary, 1982; Rosenfeld, 1995, cited in Bolino *et al.*, 2014). Austin (1969) explains that impression management is the prosess done by induviduals in order to influence others’ opinions or perceptions towards their actions. Rosenfeld *et al.* (1995), cited in Bolino *et al.* (2014), explain that “employees use impression management (IM) to create, maintain, or protect an image held by other individuals.”

To obtain a good legitimacy and good impression, while keeping the social contract with stakeholders, corporate's carbon footprints information are disclosured in the annual reports and/ or stand-alone sustainability reports. Therefore, the companies feel the need to convince stakeholders that all their activities do not harm the environment (Hrasky, 2011).

Thus, regarding corporate carbon footprints disclosure practice, the aims of the study are to analyze whether aerospace and airlines companies increase the amount of its carbon footprints disclosure practices, whether they increase the highlighting devices to draw direct attention of the readers, and to analyze the tendency of their carbon footprints disclosure practices.

Even though the study is a quantitative research, the direction of arrow of its theoritical framework does not show the relationship or what influence what. Nonetheless, it shows the logical thinking of how disclosures made by companies can be more like a symbolic management or behavioural management.

Figure 2.1 Theoritical Framework



2.4 Hypotheses Development

The research questions are formulated based on background, problem formulation. It is also based on three set of categories developed by Hrasky

(2011). The first set is represents symbolic management, which contains normative statements, aspirational target, and awards or recognition. Second set is represents behavioural management, which contains internal activities, external activities, and assisting others. The last set contains other part that are not included as symbolic or behavioural management, which are descriptive statements and other.

After proposed the three research questions and underlying theories, the hypotheses are proposed. Hypothesis then developed in the hypotheses development section in point 2.4.1 to 2.4.3.

2.4.1 The Increase of Carbon Footprints Disclosure Practices

Ideally, a firm provides its reports in order to give clear and objective information of its operations to stakeholders. Stakeholders then use the reports to evaluate firm's performance, mostly in financial measurement, to predict future performance, and then make an investment decision.

However, ideal condition does not applied for good. Surely firm gives information and stakeholders decide the rest; in fact, firm has its own perception in delivering its performance information, especially non financial performance, such as environmental performances, social activities, etcetera. As Hopwood (2009) stated, corporates' disclosure have the potential to bring the truth of environmental activities, but they also have potential to be manipulative.

Those potentials may appear because firm needs to make sure that stakeholders consider them as a good organization, while gaining profits. In some cases, gaining profit opposites with gaining reputation, perception, impression, or image. Generally, firm will do any mean necessary to increase profit, which sometimes against the law and acceptable manners. Therefore, to gain both profits and impressions, firm proves its actions in their annual reports, sustainability reports, or other stand-alone environmental reports.

There are two ways to convince stakeholders, by increasing the amount of disclosure and by increasing the quality of the disclosure. Legitimacy theory and impression management theory work in both ways. Legitimacy theory explains that firm gains legitimacy as long as its stakeholders considered so, while impression management theory states the actions taken to impress others and influence their perceptions towards the one that done the actions.

Mostly, firms take the first way, by increasing the amount of disclosure. This is in line with several previous researches (e.g. Patten, 1992; Deegan and Gordon, 1996; Deegan and Rankin, 1996; Deegan *et al.*, 2000; Kolk, 2003; Gibson and O'Donovan, 2007; and Raar, 2007). They stated that environmental disclosure practices increase over the time examined, particularly for the firms that involved in bad incident or being prosecuted by legal law.

Thus, the first hypothesis is proposed as:

H1. Firms increase their carbon footprints disclosure practices in their reports.

2.4.2 The Increase of Signalling Devices Usage in Corporates' Carbon Footprints Disclosure

Annual reports and sustainability reports (or other integrated environmental reports) mostly contain parts or sections which may attract readers directly to specific part. It can be seen by the use of highlighting devices, such as headings, headlines, call-out boxes and texts, and so on.

As it mentioned in the hypotheses development of first hypothesis, there are two ways to convince stakeholders, by increasing the amount of disclosure and by increasing the quality of the disclosure. Legitimacy theory and impression management theory work in both ways. Legitimacy theory explains that firm gains legitimacy as long as its stakeholders considered so, while impression management theory states the actions taken to impress others and influence their perceptions towards the one that done the actions.

Mostly, firms take the first way, by increasing the amount of disclosure. So that the use of highlighting devices, such as headings, headlights, and call-out texts. It is used as a media to draw direct attention of the readers to specific expected parts (Hrasky, 2011).

Thus, the second hypothesis is then proposed as:

H2. Firms take steps to signal their carbon footprints disclosures clearly to stakeholders.

2.4.3 The Tendency of Corporates' Carbon Footprints Disclosure Practices

As it mentioned in the hypotheses development of first hypothesis, firm does not always provide information of its operations with purpose "to let stakeholders know", but also with other purposes. In fact, firm has its own perception in delivering its performance information, especially non financial performance, such as environmental performances, social activities, etcetera. As

Hopwood (2009) stated, corporates' disclosure have the potential to bring the truth of environmental activities, but they also have potential to be manipulative.

Those potentials may appear because firm needs to make sure that stakeholders consider them as a good organization, while gaining profits. In some cases, gaining profit opposites with gaining reputation, perception, impression, or image. Generally, firm will do any mean necessary to increase profit, which sometimes against the law and acceptable manners. Therefore, to gain both profits and impressions, firm proves its actions in their annual reports, sustainability reports, or other stand-alone environmental reports.

There are two ways to convince stakeholders, by increasing the amount of disclosure and by increasing the quality of the disclosure. Legitimacy theory and impression management theory work in both ways. Legitimacy theory explains that firm gains legitimacy as long as its stakeholders considered so, while impression management theory states the actions taken to impress others and influence their perceptions towards the one that done the actions.

In this point, firms take the second way, by increasing the quality of the disclosure. That can be analyzed from how they bring the fact; analyzing their words, sentences, paragraphs, or pages of their annual reports, sustainability reports, or other stand-alone environmental reports.

Those in the agree side also mentioned in their researches that firms utilize their reports in order to gain legitimacy and impression of their stakeholders. Hrasky (2011) stated that Australian firms tend to be use sybolic management approach, rather than behavioural management approach. Meanwhile, Deegan and

Gordon (1996) argued that firms' environmental disclosure practices are self-laudatory (impression management). They mentioned that firms propose positive stuffs of their environmental performance, but fail to disclose the negative stuffs.

The third hypothesis is proposed as four partial hypotheses. As it suggested by O'Donovan (2002), it is considered that the information content of carbon footprints disclosures in the annual reports is more general than other type of reports (e.g. in sustainability report, media releases, or other integrated stand-alone environmental reports). Thus, third first hypothesis is proposed as:

H3a. Firms' carbon footprints disclosure in annual reports is consistent with a symbolic management.

H3b. Firms' carbon footprints disclosure in sustainability reports is consistent with a symbolic management.

H3c. Firms' carbon footprints disclosure in annual reports of annual reporters only is consistent with a symbolic management.

H3d. Firms' carbon footprints disclosure in annual reports of sustainability reporters is consistent with a symbolic management.

CHAPTER III

RESEARCH METHODS

This chapter explains several steps taken while doing the research. This chapter contains five section, namely research design and setting, population and sample, type and source of data, data collection method, and analysis method. Research design and setting explains the details of the study. For instance, what is analyzed in the study, the extent of researcher interference, and the purpose of the study. Population and sample disclose research object. This section also explains about sampling technique taken to select which population are appropriate as a sample. Type and source of data discusses about data type required in the study, whether primary or secondary data. Besides, this section also explains from which data are obtained, from interviews, printed reports, or other. Data collection methods explains about how data are obtained. It also explains what kind of analysis taken to collecting data. The last section is analysis method. This section explains how data collected are processed, so that a conclusion of the topic can be drawn.

3.1 Research Design and Setting

Research design contains several details of the study. What analyzed in the study, the extent of researcher interference, and also the purpose of the study are explored in this section.

The study analyzes four type of disclosures. The first type, annual reports. Meaning, analyzes overall annual reports of the firms included in aerospace, air courier, and airlines industries listed in Forbes 2000 in 2011 and 2013. Later, it called as Annual Reports, as it seen on the tables in the next chapter four. The second type, sustainability reports. Meaning, analyzes overall sustainability reports of the firms included in aerospace, air courier, and airlines industries listed in Forbes 2000 in 2011 and 2013. Later, it called as Sustainability Reports, as it seen on the tables in the next chapter four. of the firms in 2011 and 2013. The third type, annual reports of annual reporters only. Meaning, analyzes annual reports specifically of the firms; included in aerospace, air courier, and airlines industries listed in Forbes 2000 in 2011 and 2013; that only produced annual report in 2011 and 2013. Therefore, companies that also produced sustainability reports are excluded. Later, it called as Annual Reports of Annual Reporters Only, as it seen on the tables in the next chapter four. The last type, annual reports of sustainability reporters. Meaning, analyzes annual reports specifically of the firms; included in aerospace, air courier, and airlines industries listed in Forbes 2000 in 2011 and 2013; that also produced annual report in 2011 and 2013. Therefore, companies that did not produce sustainability reports are excluded. Later, it called as Annual Reports of Sustainability Reporters, as it seen on the tables in the next chapter four.

The type of the study is a quantitative research. However, the study tend to be descriptive research, since it analyze the tendency of the disclosures made by companies. Consequently, the study uses firm as its unit of analysis.

The extent of researcher interference to the study is minimum. This happened for reason that researcher do not put any additional factor that can influence result modification of referenced prior study conducted by Hrasky (2011).

3.2 Population and Sample

Population of the study are all firms included in aerospace, air courier, and airlines industries listed in Forbes 2000 in 2011 and 2013. Forbes 2000 is selected because it is considered as a reliable source. Meanwhile, samples were selected by purposive sampling method, as it was considered to give certain criterias to determine what kind of sample which are suitable. There are two requirements that must be fulfilled so that a certain company can be included as the final sample, those are:

1. Companies listed in Forbes 2000 and included in aerospace, air courier, and airlines industries.
2. Must be listed or have ranks in both year, 2011 and 2013.

Companies included in aerospace, air courier, and airlines industries were selected because they represent heavy activities which related to carbon footprints, carbon emission, climate change, and other similar related terms. Even though aviation is responsible only for twelve percent of CO_2 emissions from all transports sources (compared to seventy four percent from road transport), aviation “emitts around eighty percent of CO_2 emissions from flights of over fifteen hundreds kilometres, for which there is no practical alternative mode of transport available” (Air Transport Action Group, n.d.).

The years were selected with several considerations. First, the years represents nowadays conditions. Even though it is allowed to make comparison of a long time ago; such as 2005 and 2013 (before and after the term becomes a buzzword) or 1977 and more recent years, 2010 (Cho *et al.*, 2015); not all of the firms still provide the reports on its websites. Mostly, the firms provide reports start from 2010. 2010 was not choosen because the list of Forbes 2000 was not sufficient. Thus, to the best of researcher knowledge, the most appropriate years were 2011 and 2013.

3.3 Type and Source of Data

The type of data in the study is secondary data. The study uses annual reports, sustainability reports, and other integrated reports. Analysis is restricted to printed reports only because it is not possible to discover what information had been available on their websites retrospectively, even though companies make the huge amount of information related to the issues associated with carbon footprints which are available on their websites (Hrasky, 2011).

3.4 Data Collection Method

To assess each hypotheses, content analysis of environmental disclosure made by companies was accomplished. Content analysis applied in each printed reports available made by each companies. Even though firms make a huge amount of information related to specific issues in their websites, the study did not involve any information from that. As it s already mentioned in the type and source of data section, it is not possible to discover what information had been available on their websites retrospectively (Hrasky, 2011).

3.5 Analysis Method

There are several styles of analyzing data in quantitative research. One of them is content analysis. Content analysis is a technique used to gather and analyze the content of text (Neuman, 2004). The study uses content analysis method because it aims to understand whether disclosure made by companies tend to be symbolism or behavioral by analyzing the meaning of the text in annual report, sustainability report, and other integrated report. As Neuman (2004) explained, this technique is chosen for some usefulness; to help problems involving a large number of text, to help when a topic must studied “at a distance”, and to help reveals messages in a text that are difficult to see with causal observation.

Measures of specific disclosures related to carbon foortprints issues are needed to assess the hypotheses (Hrasky, 2011). However, images are excluded due to the potential subjectivity and ambiguity in interpreting the contents (Hrasky, 2011). Besides, if the purpose of the study is analyzing the disclosure practices in response to the specific carbon-related concerns, then it should be clearly indentifiable with these areas (Hrasky, 2011). As it is known, there are some mixed insights between the terms of “carbon footprints”, “carbon emission”, “greenhouse gas emissions”, “carbon intensity”, and “carbon accounting”. Those terms often used in the same context, particularly in the section environmental of sustainability report. The statement is supported with Hrasky’s (2011) explanations which argued that,

> The review of popular conceptions of carbon footprints reported above indicated that the notion of carbon footprints is intertwined with broader concerns related to greenhouse gas emissions and their impact on global warming and climate change. Thus disclosures that contain, or are unambiguously linked with closely adjacent disclosures that contain, information about carbon related issues (such as footprints, emissions, trading and so on) and those containing the specific terms "climate change", "greenhouse gas" and "global warming" were included in the analysis.

According to Milne and Adler (1999), Deegan *et al.,* (2000), Deegan *et al.,* (2002), and Criado-Jiminez *et al.,* (2008), cited in Hrasky (2011), the unit of analysis of the study was the sentence. A simple quantification of sentences is adequate to determine the first hypothesis (Hrasky, 2011). Ingram and Frazier (1980) also suggested that the sentence is easily identified and is less subject to intercoder variation than any other measures; words and pages. Besides, sentences do not need to standardize the words. "Sentences are to be preferred if one is seeking to infer meaning" (Gray *et al.*, 1995; cited in Deegan *et al.*, 2002). Hrasky (2011) noted that sentence as the unit of analysis is properly reasonable, as words are too small to convey meaning, while pharagraphs or pages may contain many different thematic units.

Indicators of signalling are needed to answer the second hypothesis about steps to signal relevant disclosure clearly to stakeholders (Hrasky, 2011). For exmple, using headings. Headings can focus readers' attention directly to specific parts of document (Hrasky, 2011). Headings also can attract attention and emphasise key points (Martin, 1989; Lemke, 1998; Jameson, 2000; Somerick, 2000; cited in Hrasky, 2011).

The third hypothesis needs a set of coding categories (Table 3.1) to capture differences in the nature of the disclosure practices. The set of categories developed by Hrasky's (2011) is used to capture both symbolic and behavioural. To capture a reflection of symbolic management approach, the first three categories are used, while the second three categories capture a behavioural management approach. A further two categories are also needed. One is to capture descriptive statements of facts related to the company and its operations, but that do not particularly indicate relevant actions taken by the company. The other category is to capture occurrences of statements that do not fit into the previous seven categories (Hrasky, 2011).

There are three anlayizes steps taken to assess each research questions in the study. First, descriptive statistics analysis is taken. The second analysis is test of normality. The last is Wilcoxon signed-ranks test.

Table 3.1
The Disclosure Categories

Disclosure type	Description	Exemplifying disclosure
Normative statement	Statements espousing commitment to and recognition of the importance of carbon footprints, global warming and climate change but not indicative of specific action or outcome.	We believe it is important for Australia to establish a long-term greenhouse gas emissions reduction goal and to map a path to achieve it. Climate change and resource scarcity are issues that require us to evolve our business model to meet our responsibilities.
Aspirational target	Articulation of targets or objectives to be achieved in the future without associated action.	Our ultimate goal is to have no carbon emissions released to the atmosphere. We have set targets for paper use, recycling facilities and greenhouse gas emissions.
Awards or recognition	Statements indicating external recognition of positive efforts pertinent to carbon footprints, global warming and climate change.	We were included in the 2004 Climate Leadership Index comprising the 50 “best in-class” responses.
Internal activities	Statements about specific internal corporate actions taken relevant to carbon footprints, global warming and climate change.	Where possible we install electricity generators that that use the waste gas as fuel. Electricity produced in this way actually reduces greenhouse gas emissions. The $A30 million plant that we opened in September will generate approximately six megawatts of electricity per hour and reduce greenhouse gas emission by 250,000 tonnes of carbon dioxide equivalent per year.
External activities	Statements about involvement in activities relevant to carbon footprints, global warming and climate change that	Since becoming a member of the Greenhouse Challenge Program one division has completed a range of efficiency improvement projects resulting in reduced greenhouse gas emissions of more than one million

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	are initiatives developed with partners or projects external to the organisation.	tonnes per annum. To support efforts to research the impacts of climate change we have partnered with the EarthWatch Institute to offer an opportunity for our co-workers to join an international conservation research project.
Assisting others	Statements about actions taken to help others to reduce their carbon footprints.	We have developed a range of products so customers have a choice about their contribution to greenhouse gas emissions reduction. All colleagues who are allocated a car space for non-company vehicles are required to offset their annual greenhouse gas emissions through a subscription to *GreenFleet*.
Descriptive Statements	Statements of fact about the company and/ or its operations but which do not describe specific action taken to reduce environmental impact.	The average CO2 emissions from our vehicle fleet is 9.2CO2e per vehicle. In 2008 32 per cent of greenhouse gases were CO2 and 68 per cent were N2O.
Other	General statements, not company specific related to carbon footprints, global warming and climate change.	Tonne for tonne, methane gas produced by landfills and other activities has a global warming potential 21 times higher than carbon dioxide. Carbon dioxide equivalent is the basis of comparing the warming effect of greenhouse gases.

Source: Hrasky, Sue, "Carbon footprints and legitimation startegies: symbolism or action?", *Accounting, Auditing, and Accountability Journal, 2011*.

3.5.1 Descriptive Statistics Analysis

Descriptive statistics is used to give a view or description of data, which can be observed from several analyzes; mean, standard deviation, variance, minimum and maximum, sum, range, and kurtosis and skewness (Ghozali, 2006). The study used mean (indicates general view of certain data group), standard deviation (indicates information of data variability), minimum (indicates the lowest value), and maximum (indicates the highest value).

3.5.2 Classical Assumption Test

Before taking the next analysis, the classical assumption test is needed. test of normality is needed. Classical assumption test is various. For instance, multikolinearitas test, heterokedastisitas test, test of normality, autocorrelation test, and many more. The study takes test of normality to determine whether or not the data set are normally ditributed.

3.5.2.1 Test of normality

Test of normality taken in the study is Saphiro-Wilk test. One of the main test for the normality assessment is Saphiro-Wilk test (Ghasemi and Zahediasl, 2012). Saphiro-Wilk test is taken because the sample size is small, as it is known that the test is more appropriate for small sample size (less than fifty samples), eventhough the test also can handle big samples sizes as large as 2000 (Laerd Statistics, n.d.).

3.5.3 Wilcoxon Signed Ranks Test

The Wilcoxon signed-ranks test is a nonparametric test applies to two-sample designs involving two related samples, matched samples, repeated measurements, or “before” and “after” measures (Lowry, n.d.). The test was taken as an alternative to paired t-test when the distribution between pairs is severely non-normally distributed (McDonald, n.d.).