The Association of Characteristics of Hong Kong Listed Companies to the extent of Voluntary Environmental and Social Disclosures

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Statement of Originality

The thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, contains no material previously published or written by another person, except where due reference has been made in the text. I give consent to the final version of my thesis being made available worldwide when deposited in the University’s Digital Repository, subject to the provisions of the Copyright Act 1968.
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Abstract

The research explores the association of characteristics of Hong Kong (HK) listed companies to the extent of voluntary environmental and social disclosures disclosed in the Main Board of the Stock Exchange of Hong Kong Limited (HKSX) in 2014 after the issue of the “Environmental, Social and Governance Reporting Guide” in HK listing rules. Implemented at the end of 2013, these rules provide environmental, social and governance reporting guidelines and key performance indices to HK listed companies to make more voluntary environment and social disclosures in their annual reports. Following previous research into the determinants of voluntary environmental and social disclosures, this study adopts legitimacy theory to test the association between many determinants of listed companies and the extent of voluntary environmental and social disclosures in HK setting after the implementation of the Guide.

The study is the first to use Bloomberg data scores to measure the extent of voluntary environmental, social and governance disclosures in HK. To be included in the study, HK listed companies had to have all three Bloomberg voluntary corporate disclosure scores in 2014, resulting in a sample of 131 listed companies on the Main Board of the HKSX. Utilities and financial industries were excluded because they are regulated by specific rules and laws on reporting and disclosure. Using multiple linear regression analysis to test the association of the above characteristics, the results showed environmental, social and governance disclosure scores that were low compared to previous research. Only the corporate governance disclosure was significantly and positively associated with voluntary corporate environmental and social disclosures meaning that companies with good corporate governance practice and reporting tend to provide more voluntary corporate environmental and social disclosures. Other results showed that companies with higher media publicity and good corporate governance practice and reporting tend to provide more voluntary social disclosure. Family ownership, a significant feature of company structure in HK, impacts significantly and negatively with voluntary social disclosure so that family owned companies tend to make less voluntary social disclosures probably due to lower demand for such disclosure in family owned companies. Future researches should incorporate specific corporate governance variables to assess their associations with voluntary environmental and social disclosures. Longitudinal research approach should be used to evaluate the success of Appendix 27 and the reason of not complying with Appendix 27 should also be investigated in future research.

Keywords: Voluntary disclosure, Voluntary environmental disclosure, Voluntary social disclosure, the Stock Exchanges of Hong Kong Limited, Environmental, Social and Governance Reporting and Guide
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Chapter 1

Introduction

1.1 Background
Voluntary disclosures are additional financial or non-financial information provided by companies exceeding the mandatory disclosures required by various authorities such as governments, stock exchanges and accounting standards boards. Mandatory disclosures usually refer to financial and governance information. Voluntary disclosures are generally a response to the request of stakeholders, such as investors and the public, who want to know more about companies’ environmental, social and ethical performances. These requests for further information are more prevalent in developed countries, such as the United States of America and the United Kingdom. The demand elsewhere for voluntary disclosure has been increasing due to the increase in global concerns about environmental, social and corporate governance issues in both developed and developing places, including Hong Kong (HK). The increase of public and commercial attention, in particular to investment sectors, on voluntary disclosures has been further attracting academic and professional accounting bodies’ attentions to study the format, extent and determinants of voluntary disclosures and reasons for providing voluntary disclosures. The benefits to listed companies from providing voluntary disclosures to stakeholders are well known. Such disclosures are termed corporate responsibility disclosures and reporting (Boston College Center for Corporate Citizenship, 2012; Ernst & Young, 2013).

As a developing economy with a colonial background, the HK Government has had a laissez-faire economic policy so that companies could focus on developing economic and financing activities to pursue their own economic goals without paying special attention to corporate social responsibilities and voluntary disclosures. After the handover of HK governance by Britain to China in 1997, and the Asian financial crisis in 1998, the HK Government has been changing from a laissez-faire policy to a “positive non-intervening economic policy” and later on to a “appropriately proactive governance” policy to provide relevant infrastructure for economic growth and to develop and implement adequate and needed social policies to soften numerous social
conflicts (Zhou, 2015). Stakeholders, including the public, professional organizations and pressure groups, have been alerted by the changes resulting in requests to the HK Government to increase disclosure from companies and to ensure that any increase in information is credible by tightening reporting requirements in the Companies Ordinance (Cap. 622) as well as the HK listing rules. Even though HK is one of the world’s financial centres, both these regulatory authorities (the Stock Exchange of Hong Kong Limited (HKSX) and the HK Government) have not provided guidelines and requirements for voluntary corporate responsibility disclosures.

In the past 13 years, the HKSX has faced different challenges and changes, such as the Asian financial crisis and an influx of China-based companies listing in HK, challenges and changes that have been transforming the company listing environment in HK. Although the public had not requested more information (voluntary disclosures) from companies, the Exchange has been encouraging listed companies to provide more voluntary disclosures to fulfill the needs of stakeholders in the investment community and elsewhere but most listed companies have not acknowledged that encouragement to increase the extent of voluntary disclosures. However, at the end of 2011, HKSX conducted public consultation with stakeholders to see whether they agreed with the publication of voluntary environmental and social disclosure and reporting guidelines to accompany the HK listing rules. Public consultation on the proposal ended in April 2012. The result was encouraging as the HKSX received 106 submissions from stakeholders, including institutional investors, listed companies, business associations, practitioners, non-government and non-profit organizations, individuals and unlisted companies. This change has not been welcomed by some critics who have voiced their displeasure with the introduction of the “comply or explain” provisions in the listing rules because it violates the tradition of “hands off” the local economy. They argue that the HK Government should allow listed companies to formulate their own voluntary environmental, social and governance disclosures. However, most welcomed the guidelines that were to be in Appendix 27 to the listing rules. This led to their implementation in the financial year of 2013, applying to all HK listed companies (Hong Kong Exchanges and Clearing Limited, 2012). The submissions to the proposal were informative. While most respondents were supportive, only 19 responses were received from listed companies, a response that accounted for only 1.3% of HK listed
companies. This poor response rate the HK limited companies displayed a lack of interest by their lack of support to Appendix 27 despite the support for it from stakeholders. Further public consultations took place in 2013 and 2014 to review the implementation progress of Appendix 27 and in 2015 to decide whether it was acceptable to make certain disclosure categories becoming “comply or explain” content in listed companies’ annual reports. The 2015 consultation resulted in 203 responses from a broad range of stakeholders. While most welcomed some amendments to the provisions in Appendix 27, the consensus was to make Appendix 27 a “comply or explain” provision in the listing rules for both the Main Board and the Growth Enterprise Market stock exchanges in the HKSX. Therefore, Appendix 27 has been implemented on “comply or explain” basis to listed companies on the Main Board and Growth Enterprise Market effective on or after 1 January 2016 (Hong Kong Exchanges and Clearing Limited, 2015). Again, there was a poor response from listed companies, with only 37 responses (less than 2% of HK listed companies) further indicating that HK listed companies did not support the “comply or explain” provision in the HK listing rules. Due to the complexity and time required to prepare the key performance indices in Appendix 27, the implementation of “comply or explain” on key environmental performance indices would be implemented on or after 1 January 2017.

According to the revised Appendix 27, there are two levels of disclosure obligations: “comply or explain” provisions and recommended disclosures. If a listed company does not report on one or more items in these ‘comply or explain’ provisions, it must provide reasons in its environmental, social and governance report why it does not report. Based on the interpretation of “comply or explain” in Appendix 14 of the “Corporate Governance Code and Corporate Governance Report” and Appendix 27, the HKSX emphasizes that all provisions and recommended best practices are not mandatory rules. Deviations from provisions are acceptable if the listed company considers there are more suitable ways to comply with the principles. The HKSX also reminds stakeholders that departures from provisions and recommended best practice are not breaches. Stakeholders are encouraged to carefully consider and evaluate reasons provided by the listed companies in the “comply or explain” process. Like other major stock exchanges, the HKSX has no intention to make Appendix 27 mandatory on HK listed companies. Nevertheless, it shows that the HK Government and the HKSX are committed to
following international trends to put more effort in urging HK listed companies to make more voluntary environmental and social disclosures in their annual reports. The Corporate Governance Code and the Corporate Governance Report’s Appendix 14 of the listing rules set out the rules for corporate governance disclosure in HK listed companies; such disclosures are not within the scope of this research.

This chapter proceeds by defining what is meant in the reporting context by disclosure, characteristics and difference of companies’ mandatory and voluntary disclosures with particular attention to voluntary environmental and social disclosure arising in previous research. This Chapter also introduces research questions, rationale, objective and research approach about this research. The last section describes the structure of this research paper.

1.2 Disclosure
The Macquarie Dictionary defines disclosure as the act of disclosing; exposure; revelation, while to disclose is to cause to appear, allow to be seen, make known, reveal; to lay open to review. The Merriam-Webster Dictionary provides a legal definition of disclosure: the revelation to investors of financial information about a corporation. This definition is constraining as it refers only to financial information. What is being asked of companies by stakeholders is wider information about the non-financial aspects of companies, aspects which have the potential to impact their financial performance and their contribution to the host society. The HKSX invoked this potential when it issued the consultation paper for the public consultation with stakeholders about the publication of voluntary environmental and social disclosure and reporting guidelines to accompany the HK listing rules. The consultation paper, “Review of the Environmental, Social and Governance Reporting Guide”, states that voluntary disclosures could enhance listed companies’ values. As well voluntary disclosures could enhance risk management and control, improve access to capital, improve efficiency and effectiveness of supply chains, enhance company reputations, improve profit margins, innovation, and help retain talents and provide legitimacy to business operations (Hong Kong Exchanges and Clearing Limited, 2015).
There are two types of disclosure – mandatory or voluntary. Mandatory disclosures are mandated by governments and listing rules to disclose financial information, such as net profits, and certain non-financial information, such as lawsuits, required by company laws and/or accounting standards. Companies make disclosures (monetary and non-monetary) in different formats, such as graphs, diagrams and photos, and in different media, such as on company websites, in annual reports and separate specialised reports, such as environment and social reports. Disclosures may include climate change, human rights, employee relations, product liability, philanthropy and corporate governance, matters that are disclosed voluntarily in annual reports, press releases, company websites or in a separate sustainability report (Chiu and Wang, 2014). Owusu-Ansah (1998) categorises the content of disclosures as monetary, nonmonetary or quantitative related to financial position and performance of a company, such as net profits and sales growth.

Listed HK companies make both mandatory and voluntary disclosures with mandatory disclosures complying with the Companies Ordinance (Cap. 622) and HK listing rules. An independent board of directors or other information intermediaries can monitor companies’ performance by referring to mandatory and voluntary disclosures made by management via financial reports or press releases (Healy and Palepu, 2001). Since voluntary social disclosures address stakeholders’ desires for more company information other than mandatory disclosures, the HKSX also encourages listed companies to make important voluntary disclosures, such as those related to the key components of business success: employment, health and safety and training and development. Information about these matters are only shown as expenses in the mandatory financial statements without further detail. “Corporate Governance Code and Corporate Governance Report” in listing rules Appendix 14 is another example that the HKSX provides some guidance to listed companies to make some corporate governance voluntary disclosures in annual reports.

According to Healy and Palepu (2001), listed companies use voluntary disclosures to reduce the information asymmetry between the company and its stakeholders. The concept of information asymmetry was proposed by James Mirrlees who was awarded the Nobel Memorial Prize in Economics for his development of asymmetric information
econo™c theory thereby laying down the methodological foundations of the modern approach to decision making under imperfect and asymmetric information. Asymmetric information economic theory focuses on uncertainty where individuals or companies, such as insurance companies or used car companies, obtain different types of information. The typical situation is that companies have private information about their own characteristics that are not directly available to other stakeholders. The theory shows that not all players possess the same information about the costs and benefits of a given deal so that informational asymmetries can clearly give an advantage to one party over another (Mirrlees, 1997). Numerous transactions in which information are unevenly distributed and decision making based on imperfect knowledge is far from trivial. Without that symmetrical information, economic transactions can be inefficient and society’s resources are being wasted. Resources are spent in an attempt to overcome these difficulties. His analysis further extended to the “revelation principle” that shows that individuals and companies must be given appropriate incentives to share private information or to exert unobserved efforts. Therefore, if regulatory authorities want to encourage and motivate companies to provide more private and voluntary information to the public, they have to provide incentives or guidance to make those voluntary disclosures. By applying this principle, the HKSX requires listed companies to make mandatory disclosures such as those in the Companies’ Ordinance (Cap. 622) and listing rules. The HKSX also provides guidance, such as Appendix 14 of the “Corporate Governance Code and Corporate Governance Report” and Appendix 27 of the “Environmental, Social and Governance Reporting Guide”, in the listing rules, to encourage voluntary disclosures to reduce the information asymmetries among listed companies and stakeholders. Failure by listed companies to make mandatory disclosures can result in loss of listing status on the HKSX.

While mandatory disclosure requires minimum amounts of information to fulfill the legal and regulatory requirements of government or regulatory bodies, voluntary disclosure is the free selection of accounting or other information that a company’s management think is relevant to the decision making of stakeholders (Meek, Roberts and Gray, 1995). While Meek et al. (1995) refer to the “free selection”, Hassan and Marston (2010) suggest that the term “voluntary disclosures” also includes disclosures suggested by regulatory bodies. Disclosures are commonly made in the annual report
although some companies have made disclosures on their websites or in a separate voluntary disclosure report.

Various reasons have been advanced as to why companies make, or should make, voluntary disclosures. Healy and Palepu (2001) and Boesso & Kumar (2007) argue from an investors’ perspective that voluntary disclosures are used to iron out agency problems among management and investors. Voluntary corporate social disclosure also can help a company to achieve legitimacy status (Lindblom, 1994). Corporate social disclosure is also regarded as a method to protect company reputation and to influence stakeholders’ perceptions and mindsets (Deegan, 2002; Milne and Patten 2002; Chen and Roberts 2010; Islam and Deegan 2010). Companies share voluntary noneconomic information with stakeholders to minimize information asymmetry, to mitigate potential regulatory and political pressure and to take advantage of investment opportunities (Chiu and Wang, 2014). Others such as Adams, Hill and Roberts, (1998), Neu, Warsame and Pedwell (1998), Haniffa and Cooke (2005) and De Villier and Van Staden (2006) consider that voluntary social disclosure maintains the legitimacy of companies in society.

1.3 Research Question
This research explores whether HK companies make voluntary disclosures, and if so, whether those companies exhibit the characteristics of listed companies commonly used in previous research (namely profitability, industry classification, nature of ownership, leverage, media publicity, company size and corporate governance practice). The characteristics will be tested with the extent of voluntary environmental and social disclosures in HK listed companies for the year ended 2014. The financial year ended 2014 was chosen because the recommended practice proposed by Appendix 27 was first implemented at financial year ended 2013 and had been implemented for one year at the end of 2014 before becoming “comply or explain” on 1 January 2016. Therefore, the year 2014 was the only time in which to measure the extent of voluntary environmental and social disclosures and the association of internal factors of listed companies with that extent after the proposed “comply or explain” Appendix 27 had been implemented for one year.
Prior research on the association of characteristics of HK listed companies with the extent of voluntary environmental and social disclosure has adopted different theories and different variables with different measurements and timing that produced mixed results. Commonly that research tended to use different measurements and different content analysis methods to estimate the extent of voluntary environmental and social disclosures so that results were mixed. This research will also differ from the previous studies in that it is the first to use Bloomberg’s corporate environmental and social disclosure scores for HK, scores that are used by the investor community as proxies to measure the extent of voluntary corporate environmental and social disclosure respectively. The higher the disclosure scores, the more voluntary corporate environmental and social disclosures were made. Moreover, the study assumes that the higher the Bloomberg corporate governance disclosure scores, the more voluntary corporate governance practices and disclosures there are.

While the above listed characteristics commonly used to explore the association of those characteristics with voluntary disclosures, the characteristics of media publicity has been little researched in relation to HK. Using legitimacy theory to study the association of media publicity with voluntary disclosures, Hooghiemstra (2000) found that social and environmental disclosures increased due to increased public concerns and media reporting particularly after environmental accidents. Voluntary social disclosures could be used to repair corporate image and identity. This is the first research to explore the association of media publicity with the extent of voluntary environmental and social disclosures of HK listed companies in 2014.

Prior research has used different theories to explain the association between company characteristics and voluntary disclosures. These theories include stakeholder theory, legitimacy theory, agency theory and signaling theory. There is limited research using legitimacy theory for HK. This research wants to see whether legitimacy theory is able to explain the above associations in HK listed companies.

This study may provide research support to the HK Government and the HKSX making the “comply or explain” provision in HK listing rules effective on 1 January 2016 if it is discovered that listed companies are not willing to increase the extent of voluntary
environmental and social disclosures without the positive intervention of HK Government and the HKSX.

1.4 Contribution
This research will adopt legitimacy theory to investigate the association of characteristics of listed companies to environmental and social disclosures in HK. Since there is limited research using legitimacy theory to investigate such a relationship in HK, this research will extend the application of legitimacy theory to explain the association of the companies’ characteristics with the extent of voluntary environmental and social disclosure in a financial centre like HK. This research may provide evidence to justify the strengthening of voluntary disclosure requirements for HK listed companies by making the requirements “comply or explain”.

1.5 Organization of the thesis
The next chapter is the literature review covering the association of characteristics of listed companies and voluntary social disclosure in Western and Asian countries, including HK. Research design and method are outlined in Chapter 3. Research findings, analysis and discussion are documented in Chapter 4. Chapter 5 is the chapter that includes conclusions, contributions, limitations and recommendations for further studies.
Chapter 2
Literature Review

2.1 Introduction
This chapter examines the literature on voluntary disclosures and their association with the characteristics of listed companies and with the extent of voluntary disclosures. Many stock exchanges, such as those in Australia, Malaysia, Shanghai and Shenzhen, have taken actions to promote voluntary environmental and social disclosures, so that listed companies are incorporating voluntary environmental and social disclosures into their business practices. Investors have been integrating voluntary environmental and social disclosures into their investment strategies (Hong Kong Exchanges and Clearing Limited, 2011). In this chapter, voluntary environmental and social disclosures are reviewed in separate sections. Section 2.2 examines the literature concentrating on voluntary social disclosures while the following two sections focus on the literature on the association of the major characteristics of listed companies with voluntary environmental and social disclosures. Section 2.5 discusses theoretical frameworks that have been previously used to explain the rationale of making voluntary disclosures. The research gaps identified from the literature review will be addressed in the final section.

2.2 Voluntary Disclosure
Over the past several decades, there have been increasing demands from the investment community and stakeholders for listed companies to provide relevant information for investment decision making beyond that supplied by the financial statements. Companies have responded with voluntary disclosures mainly relating to environmental, social and ethical issues (Gray, Kouhy and Lavers, 1995; Adams et al., 1998; Deegan, 2002; Reverte, 2009). Information about climate change, human rights, relationships with employees, product liability, philanthropy and corporate governance appear in listed companies’ annual reports. Most companies’ social disclosures are made voluntarily so that they supplement the mandatory disclosures based on legal requirements. As such, voluntary disclosures are additional information disclosed over and above legal requirements but may also include disclosures suggested by an authoritative code or body (Chiu and Wang, 2014). Meek et al. (1995) defined voluntary
disclosure as disclosures freely made by company management to give relevant financial or nonfinancial information to interested users to make business, investment and other decisions. Since these disclosures are voluntary, companies can also use disclosures to safeguard or enhance company images and to affect stakeholders’ perceptions of a company (Deegan, 2002; Milne and Patten, 2002; Chen and Roberts, 2010; Islam and Deegan, 2010). Additionally, voluntary social disclosures can reduce information asymmetries between a company and its stakeholders to mitigate regulatory pressure and to provide advantage in obtaining future investment opportunities (Chiu and Wang, 2014).

Since the 1970s, voluntary social disclosure has been recognized as a response to public criticism leading to an awareness that companies need to provide more voluntary information about the environmental, social and ethical aspects of their performance; for example, companies make voluntary corporate social disclosures to reduce public criticism and ward off government regulations toward them (Abbott and Monsen, 1979; Dierkes, 1979). The extent and quality of corporation information disclosures made among multi-national companies that control and manage resources worldwide attracted both academic and professional accounting bodies’ attention (Gray, Radebaugh and Roberts, 1990). The early studies were conducted mainly in the United States of America such as those by Parket and Eilbrit (1975), Bowman and Haire (1976) and Abbott and Monsen (1979). The studies were social measurement disclosure studies finding that the voluntary information was mainly disclosed in annual reports. The studies also provided suggestions about what should be disclosed in voluntary corporate social disclosures in annual reports (Epstein, Flamholtz and McDonough, 1976). Some companies went further, publishing separate corporate social reports to satisfy the demands of their stakeholders (Bebbington, Gray and Larrinaga, 2000). This increase in voluntary disclosure was mirrored in Western Europe (Grojer and Stark, 1977; Dierkes, 1979; Schreuder, 1979; Ullmann, 1979; Brockhoff, 1979). In summary, the 1970s saw two major developments in voluntary corporate social disclosure, namely, nonfinancial social disclosure and the adoption of separate social reports.

From the 1980s, studies of voluntary corporate social disclosure mainly focused on social matters (Ullmann, 1985; Cowen, Ferreri and Parker, 1987; McGuire, Sundgren
and Schneeweis, 1988; Belkaoui and Karpik, 1989) particularly voluntary environmental disclosures (Ingram and Frazier, 1980; Chen and Metcalf, 1980; Wiseman, 1982; Rockness, 1985; Freeman and Jaggi, 1988). The growing concern with the environment led to the development of environmental reports in the 1990s (Zeghal and Ahmed, 1990; Roberts, 1992; Tilt, 1994; Robertson and Nicholson, 1996; Adams, Coutts and Harte, 1995; Clarke and Gibson-Sweet, 1999). In the 2000s, social and environmental reports were combined with economic elements which enriched voluntary corporate social disclosures’ breadth and variety while still reflecting stakeholders’ financial and nonfinancial concerns (Fifka, 2013). At the same time, voluntary corporate social disclosure expanded from developed countries to developing countries and then to emerging economies. The forms of communication and media used to deliver voluntary corporate social disclosures expanded to the internet due to its lower cost, speedy updates, and reachability to the community (Isenmann and Lenz, 2001; Isenmann and Lenz, 2002; Adams and Frost, 2006). Based on the above review, voluntary corporate social disclosure has been widely produced by companies worldwide (Fifka, 2013).

Focusing on HK, the earliest qualitative research on voluntary corporate social disclosure was done by Lynn (1992) that aroused the interest of researchers on the managerial and professional perceptions of environmental performance and voluntary reporting in HK. The results concluded that disclosure of environmental information was not common in HK (Jaggi and Zhao, 1996). No specific theories were adopted in these papers. Starting in year 2000, most of the research done in HK were quantitative empirical studies investigating the impact of ownership structure, corporate disclosure practices, board leadership, outside directors’ expertise, and board independence on the extent of voluntary disclosure. Some studies were based on agency theory while others did not adopt a specific theory. Others examining the association between the characteristics of listed companies and the extent of voluntary disclosures by HK listed companies were based on theories such as stakeholder theory, legitimacy theory, agency theory and signaling theory. Only one study was solely based on legitimacy theory (Gao, Heravi and Xiao, 2005), a study that used 1993 to 1997 financial data of HK listed companies to investigate the factors affecting voluntary corporate social and environmental reporting. The most recent research was done by Chau and Gray (2010)
based on 2002 financial data of HK listed companies to investigate the associations among family ownership, board of director independence and the extent of voluntary disclosures.

Overall, there is a trend in that both the public and the investment community have asked for more social disclosures, particularly environmental and social disclosures. Due to the slow reaction of listed companies to the requests for more disclosures and the poor response of listed HK companies to accede to these requests, the HKSX decided to make both corporate governance practices and environmental and social disclosures “comply or explain” provisions in the HK listing rules. The former is found in Appendix 14 “Corporate Governance Code and Corporate Governance Report” and the latter is found in Appendix 27 “Environmental, Social and Governance Reporting Guide”.

2.3. Characteristics of Listed Companies and the extent of Voluntary Disclosure
The major characteristics of listed companies used in studies associating characteristics with disclosures are profitability, company size, industry classification, nature of ownership, regulatory measures, social attention, leverage, shareholders’ influence, media pressure, managerial perceptions, auditor type, company age and corporate governance practice. These characteristics have been used to explore their associations with the extent of voluntary and disclosures, particularly with voluntary environmental and social disclosures in Western and Asian countries. Each of the characteristics will be reported in turn.

2.3.1. Profitability
Whether profitability is correlated with voluntary social disclosures generated mixed results (Choi, 1998). Some studies found that profitability, represented by return on equity, was positively correlated with voluntary social disclosures in the United States of America (Roberts, 1992). Those findings suggest that more profitable companies, such as those with higher returns on assets, have more resources (and are possibly more socially responsible) to provide voluntary social disclosures in the United Kingdom (Brammer and Pavelin, 2008). Profitable companies, measured as higher returns on capital employed, tend to make more voluntary disclosures to the public to promote
their profitable performances in Malaysia (Ghazali and Weetman, 2006). Profitable companies face higher social constraints and public scrutiny so profitable companies need to explain that they operate in accordance with social norms and expectations in the United States of America (Holthausen and Leftwich, 1983) because it is very costly to breach social norms and expectations (Islam and Deegan, 2010). Others found negative correlations with profitability so that less profitable companies made voluntary social disclosures presumably to distract attention from their poor financial results so that the disclosures emphasized long term financial returns (Ingram and Frazier, 1983; Vance, 1975) Some studies found no statistical relationships between voluntary social disclosures and profitability; the lack of a relationship was attributed to differing alertness of corporate social responsibilities and its associated reporting practices in different countries (Da Silva Monteiro and Aibar-Guzman, 2010; Prado-Lorenzo, Gallego-Alvarez and Garcia-Sanchez, 2009; Clarkson, Richardson and Vasvari, 2008; Stanny and Ely, 2008; Alsaeed, 2006; Prencipe, 2004; Choi, 1999 and 1998; Inchausti, 1997; Hackston and Milne, 1996; Patten, 1992a; Freedman and Jaggi, 1988; Cowen et al., 1987; Chen and Metcalf, 1980). Market capitalization and profitability were found to be statistically associated with the content of voluntary social disclosures (Tagesson, Blank, Broberg and Collin, 2009). Overall whether there is a statistical relationship between profitability and voluntary social disclosures is not certain.

2.3.2. Company size

Larger companies are more visible to the community suggesting that they face more public pressure than their smaller counterparts which in turn leads them to undertake more legitimating behavior in order to avoid possible government intervention and breaching of their social contracts. Not surprisingly, size of companies was found to be statistically related to a greater extent of voluntary social disclosures (Suttipun and Stanton, 2012; Da Silva Monteiro and Aibar-Guzman, 2010; Gautam and Singh, 2010; Morhardt, 2010; Saleh, Zulkifli and Muhamad, 2010; Sotorrio and Sanchez, 2010; Zeng, Xu, Dong and Tam, 2010; Prado-Lorenzo et al., 2009; Brammer and Pavelin, 2008; Stanny and Ely, 2008; Alsaeed, 2006; Naser, Al-Hussaini, Al-Kwari and Nuseibeh, 2006; Vuontisjarvi, 2006; Haddock, 2005; Haniffa and Cooke, 2005; Campbell, Craven and Shrives, 2003; Moore and Robson, 2002; Nishanen and Nieminen, 2001; Alnajjar, 2000; Imam, 2000; Stray and Ballantine, 2000; Clarke and Gibson-Sweet, 1999; Choi,
1999 and 1998; Esrock and Leichty, 1998; Neu et al., 1998; O’Dwyer and Gray, 1998; Tsang, 1998; Inchausti, 1997; Deegan and Gordon, 1996; Robertson and Nicholson, 1996; Hossain, Perera and Rahman, 1995; Niskala and Pretes, 1995; Patten, 1992a and 1992b; Andrew, Gul, Guthrie and Teoh, 1989; Cowen et al., 1987; Chen and Metcalf, 1980; Spicer, 1978). Of particular note is where size was measured by market capitalization the statistical relationship held (Schadewitz and Niskala, 2010; Tagesson et al., 2009). When numbers of employees and total assets were used to measure size, only a few studies found that company size did not have statistical relationship on voluntary social disclosure (Ratanajongkol, Davey and Low, 2006; Ahmad, Hassan and Mohammad, 2003). Overall, voluntary social disclosure is positively correlated with company size.

2.3.3. Industry type

Commonly studies classified companies on an industry basis according to their impact on the environment. Environmentally and socially sensitive industries such as manufacturing, mining and chemicals, tend to generate more adverse social and environmental impacts than other industries so that they are likely to face greater public and perhaps shareholder pressure than other less environmental and social sensitive industries like finance and services. A statistical correlation between extent of voluntary social disclosures and industry type has been found (Spicer, 1978; Chen and Metcalf, 1980; Cowen et al., 1987; Patten, 1992a and 1992b; Esrock and Leichty, 1998; Alnajjar, 2000, Stanny and Ely, 2008; Morhardt, 2010; Zeghal and Ahmed, 1990; Cormier and Magnan, 2003; Deegan and Gordon, 1996; Robertson and Nicholson, 1996; Clarke and Gibson-Sweet, 1999; Stray and Ballantine, 2000; Campbell, 2003; Campbell et al., 2003; Haddock, 2005; Brammer and Pavelin, 2008; O’Dwyer and Gray, 1998; Cormier, Magnan and Van Velthoven, 2005; Daub and Karlsson, 2006; Stiller and Daub, 2007; Tagesson et al., 2009; Niskala and Pretes, 1995; Niskanen and Nieminen, 2001; Vuontisjarvi, 2006; Vormedal and Ruud, 2009; Noci, 2000; Rizk, Dixon and Woodhead, 2008; Araya, 2006; Singh and Ahuja, 1983; Ratanajongkol et al., 2006; Choi, 1998 and 1999; Yamagami and Kokubu, 1991; Stanwick and Stanwick, 2006; Zeng et al., 2010; Liu and Anbumozhi, 2009). Moreover, companies actively participating in social and environmental activities produced more voluntary social disclosures than companies which did not perform socially and environmentally
(Ingram and Frazier, 1980; Belkaoui and Karpik, 1989; Gelb and Strawser, 2001; Clarkson et al., 2008; Adams et al., 1995; Brammer and Pavelin, 2004). However, a few negative correlations were found (Wiseman, 1982; Hughes, Anderson and Golden, 2001) as was no statistical relationship (Rockness, 1985; Stanwick & Stanwick, 1998; Quaak, Aalbers and Goedee, 2007). While numerous studies have found correlations, others found that industry type has no correlation with voluntary social disclosures. The lack of correlation was attributed to different countries’ practices (Inchausti, 1997; Moneva and Llena, 2000; Llena, Moneva and Hernandez, 2007; Da Silva Monteiro and Aibar-Guzman, 2010; Alsaeed, 2006; Sobhani, Amran and Zainuddin, 2009). Overall, whether there is a statistical relationship between industry type and voluntary social disclosure is not certain.

2.3.4. Ownership type

Type of ownership has been shown to influence the quantity of voluntary social disclosures (Secchi, 2006; Rashid and Lodh, 2008), with Cormier et al. (2005) finding that ownership affected the quantity of environmental reporting. Nationally owned companies reported higher levels of social and environmental information than private companies (Cormier and Gordon, 2001) and government owned companies disclosed more voluntary items through websites than private companies (Tagesson et al., 2009). Research into the effect of stock market listing on the quantity of voluntary social disclosure were not conclusive (Inchausti, 1997; Moneva and Llena, 2000) although Da Silva Monteiro and Aibar-Guzman (2010) found that stock market listing was a significant factor affecting voluntary social disclosure in Portugal. Foreign ownership, nationality of parent companies and country of origin generate significant impacts on the quantity of voluntary social disclosures (Baskin, 2006; Kolk, Hong and Van Dolen, 2010; Baskin, 2006; Moneva and Llena, 2000). Other research found that ownership did not have a significant impact (Naser et al., 2006; Alsaeed, 2006; Da Silva Monteiro and Aibar-Guzman, 2010).

Industry ownership structure influenced corporate responsibility reporting practices (Rizk et al., 2008). The numbers of shareholders influenced voluntary social disclosure policy (Roberts, 1992; Ullmann, 1985). Companies with many shareholders made more voluntary social disclosures due to more pressure from those shareholders with the
disclosures reducing information asymmetries (Cullen and Christopher, 2002; Ullmann, 1985; Prencipe, 2004). Companies with a few shareholders disclosed less voluntary information because investors could get information directly from the company reducing the need to make voluntary disclosures (Brammer and Pavelin, 2008).

International listed companies were found to face pressure from both local and foreign stakeholders who asked for more voluntary social disclosures (Hossain et al., 1995) so that a positive statistical relationship was found between foreign listings and voluntary social disclosures. The reliance on equity markets also increased the quantity of voluntary disclosures (Cormier and Magnan, 2003). Having an international listing increased voluntary social disclosures compared to other listed companies in Ghana (Rahaman, 2000). Degree of internationalization, to some extent, affected voluntary disclosure (Vormedal and Ruud, 2009). Overall, whether there is a statistical relationship between ownership type and voluntary social disclosure is not certain.

2.3.5. Regulatory measures.

Not surprisingly, regulatory measures, such as environmental regulations, had statistical relationships with the quantity of voluntary social disclosure (Abbott and Monsen, 1979; Alciatore, Dee and Easton, 2004; Deegan and Gordon, 1996). Cormier et al. (2005) found that strong regulatory measures to pursue or punish polluters by increasing the cost of bad environmental performance increased the quality and quantity of environmental disclosures but later research found that societal, political and regulatory factors did not influence the quantity of voluntary social disclosures (Vormedal and Ruud, 2009). Companies that were prosecuted under environmental laws increased the quantity of voluntary social disclosures to repair their tarnished images and reputations (Deegan and Rankin, 1996). In a 13 year longitudinal study on social and environmental reporting, Gray et al. (1995) found that political developments increase the quantity of voluntary disclosures in term of increases in numbers of pages on voluntary disclosures and corporate social reports in the United Kingdom. Overall, there is a positive statistical relationship between regulatory measures and voluntary social disclosure.
2.3.6. Social attention

Social attention, such as public expectations and pressure, and media attention, had a statistical relationship with the extent of voluntary social disclosure (Abbott and Monsen, 1979; Alciatore et al., 2004; Deegan and Gordon, 1996). Cormier et al. (2005) found public pressure affected the quality and quantity of environmental reporting but later research found that societal, political and regulatory factors did not influence voluntary social disclosures (Vormedal and Ruud, 2009). Media pressure and visibility had a positive correlation with voluntary social disclosure (Cormier and Magnan, 2003). Senior management perspectives on social and environmental reporting affected the quantity of social and environmental disclosures in Ghanaian companies (Rahaman, 2000).

Listed companies’ reputations in term of political visibility linked to sensitive sectors of environmental activities influenced the quantity of voluntary social disclosures. The more politically visible firms are, the greater the quantity of voluntary social disclosures which are speculated to reduce political costs (Prado-Lorenzo et al., 2009; Sotorrio and Sanchez, 2010). In Central-Eastern countries, such as Poland, Hungary, Slovakia, Czech Republic, the Baltic States and Slovenia, and Western European countries, the socio-political contexts in which the sampled companies operated had a stronger influence on the quality and quantity of voluntary disclosures than individual specific variables (Steurer and Konrad, 2009). In a European setting, corporate governance codes significantly impacted the disclosure quantity of corporate responsibility reporting (Baskin, 2006). Lack of concern for the environment, absence of perceived needs and benefits generated from voluntary environmental reporting and little statutory pressure all contributed to lower levels of voluntary environmental disclosures in Singapore (Perry and Tse, 1999). Legal conformity had a positive influence on voluntary social disclosures (Yusoff, Lehman and Mohd, 2006). A country’s corporate social disclosure and reporting environment had a significant impact to the quantity of voluntary disclosures in Mexico and Japan, (Logsdon, Thomas and Van Buren, 2006; Yamagami and Kokubu, 1991; Stanwick and Stanwick; 2006). Overall, there is a positive statistical relationship between social attention and voluntary social disclosure.
2.3.7. **Leverage**

Highly leveraged companies are speculated to face pressure from creditors and other stakeholders to disclose more voluntary information to reduce information asymmetry. This speculation was confirmed in several studies which found a positive statistical relationship between debt levels and quantity of voluntary social disclosures (Hossain et al., 1995; Naser et al., 2006; Ismail and Chandler, 2005). In some cases, some highly leveraged companies used means, such as reducing discretionary social and environmental activities and costs to increase reported earnings, other than voluntary disclosures to share information and communicate with their creditors and stakeholders (Hibbitt, 2004) while in Saudi Arabia leverage was not found to influence the quantity of voluntary disclosure (Alsaeed, 2006). Ahmad et al. (2003) found a negative correlation between leverage and quantity of environmental information in Malaysian listed companies’ annual reports. Overall, whether there is a statistical relationship between leverage and voluntary social disclosure is not certain.

2.3.8. **Stakeholders’ influence**

Investors, governments and environmentalists have stronger influences than other stakeholders to urge companies to produce greater levels of voluntary social disclosure (Neu et al., 1998; Paul, Cobas, Ceron, Frithiof, Maass, Navarro, Palmer, Serrano and Deaton, 2006; Belal and Owen, 2007; Yusoff et al., 2006; Baskin, 2006). Only one study in a Chinese setting, that by Liu and Anbumozhi (2009), reported that stakeholders did not influence voluntary environmental disclosures due to the government’s influence on Chinese listed companies. Increased alertness on environmental reporting and issues from companies’ management increased voluntary social disclosures in Ghana (Rahaman, 2000). Overall, stakeholders’ pressure and competition made companies disclose more voluntary information (De Villiers, 2003).

2.3.9. **Media pressure**

Among other stakeholders, the associations between media pressure and/or attention and environmental disclosure have been studied separately in research using media agenda theory that argues that the media can raise the public’s attention about the environmental performance of companies which then have to address the concerns by
increasing the quantity of environmental information in annual reports to legitimate their business activities. This association was established in an Australian setting by Brown and Deegan (1998). Increased media publicity of environmental practices increased the environmental visibility and responsiveness of companies that exerts pressure on the named companies to respond to the criticism to legitimate their business practices. They did so by preparing environmental plans and increasing their voluntary environmental disclosures (Bansal and Clelland, 2004; Bansal and Roth, 2000; Bowen, 2000; Henriques and Sadorsky, 1996). Media pressure was also found to be positively associated with environmental reporting in Canadian manufacturing industries (Bewley and Li, 2000). Other studies linked media coverage with other variables. Deegan and Rankin (1999) linked media coverage with annual report users’ expectations by surveying the attitudes of senior executives in Australia, finding that they were positively correlated with the quantities of voluntary environmental disclosures. Haddock (2005) linked media attention with that from customers to find that they also influenced the quantity of voluntary environmental information reporting. Exposure to criticism influenced environmental disclosure but public expectation did not in the United Kingdom (Campbell, 2003). Media exposure also did not affect voluntary environmental disclosures’ qualities (Brammer and Pavelin, 2008) due to concentrated ownership issues in United Kingdom. Overall, there is a positive statistical relationship between media pressure and voluntary social disclosure.

2.3.10. Managerial perception
Managerial perceptions, ascertained by surveys and interviews with companies’ management and environmental managers, were positively correlated with the extent of voluntary social disclosures in Australia, the United Kingdom and Ghana (O’Donovan, 2002; Collision, Lorraine and Power, 2003; Rahaman, 2000). However, managerial skepticism and negative attitudes toward environmental commitment and corporate social reporting in Japan, the United Kingdom and Bangladesh led to a reduction in the extent of voluntary social disclosures (Martin and Hadley, 2008; Belal and Owen, 2007; Nakamura, Takahashi and Vertinsky, 2001). Contrarily, two studies in South Africa found that positive managerial perceptions and attitudes toward voluntary environmental disclosure might not lead to greater levels of disclosure (De Villiers and Barnard, 2000; De Villiers, 2003) due to the fact that managers are in fear of being held
responsible if they make environmental disclosures. Overall, whether there is a statistical relationship between managerial perception and voluntary social disclosure is not certain.

2.3.11. **Auditor type**

The auditor’s firm size had a significant impact on voluntary social disclosures (Choi, 1998 and 1999) with a listed company’s audit status also exerting a positive influence on voluntary disclosures (Inchausti, 1997). Later research (Alsaeed, 2006) was contradictory, finding that auditing status did not have a significant statistical relationship with voluntary disclosures in Saudi Arabia. These contradictory findings may be due to the research being conducted in different countries with different audit practices. Overall, whether there is a statistical relationship between auditor type and voluntary social disclosure is not certain.

2.3.12. **Company age**

Age of listed companies was discovered to have positive influence on social performance and voluntary disclosure. Older companies had better social performance and made more voluntary disclosure in United Kingdom supermarket industry than their younger counterparts (Moore and Robson, 2002; Prencipe, 2004) but Alsaeed (2006) did not find a significant statistical relationship between company age and voluntary disclosure in Saudi Arabia. Again, the settings may influence the results. Overall, whether there is a statistical relationship between company age and voluntary social disclosure is not certain.

2.3.13. **Corporate governance practice**

Corporate governance practices are positively associated with voluntary social disclosure and reporting (Chan, Watson and Woodliff, 2014, Rashid and Lodh, 2008). Eng and Mak (2003) discovered that ownership structure and board composition were associated with the quantity of voluntary disclosures. Significant government ownership and higher percentages of shares owned by the chief executive officer and executive directors increased the quantity of voluntary disclosures. An increase of outside directors on the board of directors increased the independence of the board and reduced voluntary disclosures. Haniffa and Cooke (2005) discovered that the increase in
numbers of directorships held by a Chairman of the Board increased the level of voluntary corporate social reporting in companies’ annual reports. Overall, there is a significant statistical relationship between corporate governance practice and voluntary social disclosure.

2.4 Voluntary social disclosure in HK

The sections above summarized previous research on the association of companies’ characteristics and voluntary social disclosure and reporting outside HK. Even though HK is one of the global financial centres with the most active stock exchange market in the region, voluntary disclosure development particularly in voluntary environmental and social disclosures, has lagged behind western countries. Partly this may be due to the adoption of a “positive non-intervention” government policy which meant that government has not actively promoted best practice, such as corporate governance and environmental and social disclosures, to companies listed on the HKSX. Moreover, sizeable listed companies and tycoons have monopolized the economy so that a majority of them tend to focus on profitability and economic returns rather than corporate governance, environmental and social issues (The International Forum on Globalization, 2011) as evidenced by only 190 of the 1,244 HK Main Board listed companies disclosing limited environmental and /or sustainability information in 2010 (Hong Kong Environmental Protection Department, 2011). In the past 10 years, the change from “positive non-intervention” to “appropriately proactive governance” government policy has sped up voluntary disclosure development in HK (Zhou, 2015).

Pioneering quantitative research to explore the statistical relationship of company size, industry category and overseas ownership with the quantity of voluntary corporate social disclosures of staff development, community relation, staff development and community relation and environmental issues of 264 listed companies with year-end 1989 on the HKSX was reported by Lynn (1992). She found that the categories of industry and overseas ownership were highly associated with the quantity of voluntary corporate social disclosures but company size was not. The lack of stakeholders’ demand for the quantity of voluntary corporate social disclosures and the domination of family-owned listed companies limited the quantity of voluntary corporate social disclosures. Her research only considered the impact of three variables, namely
company size, industry category and overseas ownership, on the quantity of corporate voluntary social disclosures so the research was not comprehensive enough to explore the correlation of listed companies’ characteristics to the quantity of voluntary corporate social disclosures. Moreover, the study was not detailed enough to measure the actual quantity of voluntary social disclosure because it only measured the quantity of voluntary social disclosure by the numbers of companies disclosing staff development, community relation, staff development and community relations and environmental issues.

A later study by Jaggi and Zhao (1996) explored the voluntary environmental disclosures of HK listed companies and Certified Public Accountant firms to see whether the views of management and certified public accountants impacted the reporting of environmental information. Using questionnaires distributed to 28 listed companies on the HKSX and 35 certified public accounting firms, the study found that environmental reporting was positively and significantly associated with managements’ views on environmental issues and the environmental exposure of the business’s operations. Management provided environmental disclosures which were beneficial to management. Because their client might not agree with it, Certified Public Accountants did not actively propose voluntary environmental disclosures even though some of them noted the importance of environmental disclosure. The research was limited by its small sample size and did not explore the social reporting issues.

Five years later another study used quantitative methods to examine the relationship of corporate governance items (namely independent directors and the proportion of family members on the boards of directors, the existence of an audit committee, chairman duality) and five control variables (namely company size, size of assets, debt levels, profitability and industry category) with the quantity of voluntary disclosures measured by adjusted relative disclosure index from 35 selected voluntary disclosure items derived by previous studies (Meek et al., 1995) and annual reports in HK (Ho and Wong, 2001). A relative disclosure index was then calculated for individual sampled companies by dividing the absolute disclosure score to the highest possible disclosure score without applying any subjective weighting in the calculation. Based on information asymmetry and agency theories, the authors examined 98 HK listed
companies’ annual reports from 1994 to 1997. Using information gained from those reports, the establishment of an audit committee was found to be highly associated with the quantity of voluntary disclosure. The proportion of family members on the boards of directors was inversely related to voluntary disclosure. Other variables were found not significantly associated with voluntary disclosure. The limitation of this research included small sample sizes and further study should be done after the issuance of corporate governance guideline of Appendix 14 in the HK listing rules. Moreover, the amount of voluntary disclosure extracted from 35 voluntary disclosure items that were computed by adjusted relative disclosure index was not detailed so that the subjective measurements were not tested for credibility and reliability.

Ownership type was postulated to be associated with voluntary disclosure by Chau and Gray (2002). Their comparative study of 60 listed companies in the United States of America, United Kingdom and Continental Europe and 62 listed companies in Singapore and HK, using the voluntary disclosure scores developed by Meek et al. (1995) confirmed the association. Chau and Gray (2002) adopted the same method used in Ho and Wong (2001) to set up the voluntary disclosure checklist by checking and deleting all mandatory disclosure requirements in both HK and Singapore. There were 113 items divided into three voluntary information types in the checklist, namely (1) voluntary strategic information including general corporate information, corporate strategy, acquisition and disposals, research and development, future prospects, (2) nonmonetary information including directors’ and employees’ information, social policy and value added information and (3) monetary information including segmental information, financial review, foreign currency information and stock price information.

The voluntary disclosure index for an individual company was computed by dividing the total voluntary disclosure found by highest voluntary disclosure based on the summation and unweighted scoring approach of the disclosure items supported by previous research (Ahmed and Nicholls, 1994; Cooke, 1991; Meek et al., 1995). The research found that voluntary disclosures increased with dispersion of ownership. Due to lower demand for voluntary disclosure in family owned listed companies, family owned listed companies had a highly negative relationship to voluntary disclosure. The use of a small sample size as well as not taking into account other listed companies’ characteristics were research limitations. While the study was published in 2002, the
research was based on 1997 information so that further study should be undertaken to look into the effect of family ownership on voluntary disclosure. Moreover, the measurements of the quantity of voluntary disclosures were also not detailed and also were subject to subjectivity to select which items should be counted as voluntary disclosures. The measurements were not tested in term of credibility and reliability.

Ferguson, Lam and Lee (2002) examined the association of characteristics of China State-owned companies listed on the HKSX and the quantity of voluntary disclosures including strategic, monetary and nonmonetary information based on a cost and benefit framework. The sample included 142 Chinese State-owned companies, excluding banks and financial institutes listed on the HKSX at the end of 1996. There were six independent variables, namely H-share companies\(^1\), red-chip companies, total assets, leverage, industry type and whether these companies also listed on other foreign stock exchange markets. The quantity of voluntary disclosure was measured by a voluntary disclosure index of 102 items identified by Gray et al. (1995) and Hossain et al, (1995). After the deletion of mandatory items under both HK and International Generally Accepted Accounting Principles, the final disclosure index had 93 items which were classified into strategic information, financial and nonfinancial information based on the model developed by Meek et al. (1995). According with previous studies, unweighted disclosure scores were used to avoid subjectivity of allocating different weightings to each voluntary disclosure item in line with previous research. Both weighted and unweighted scores report substantially identical results (Chow and Wong-Boren, 1987; Lau, 1992). Companies received a score of one for each item identified and a voluntary disclosure score was then computed as the ratio of the total items identified to the highest possible item score application to a specific company. The study found that company size and leverage were significantly associated with the quantity of voluntary disclosures. Industry type and multiple listing in other stock exchanges were not significantly associated with voluntary disclosures. The research found that China State-owned companies disclosed more voluntary disclosures on strategic and financial information than non-China State-owned companies due to a “showcasing” effect. The

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\(^1\) H-share companies are incorporated in China and are approved by the China Securities Regulatory Commission to list in HKSX. The shares of these companies are subscribed for and traded in HK dollars or other currencies (Hong Kong Exchanges and Clearing Limited, 2017).
Chinese government adopted a “state-encouraged disclosure policy” to encourage State-owned HK listed companies to make more voluntary disclosures to gain capital market credibility and attract foreign investors to invest in Chinese State-owned companies. The limitations of this research was due to the small sample size although the “showcasing” effect should be further investigated in future research. Similar to previous HK based studies, the measurements of the quantity of voluntary disclosures were not detailed and were subjective because choice determined which voluntary disclosures were included in the calculation. The voluntary disclosure index calculations also lacked credibility and reliability.

Gul and Leung (2004) examined the association of voluntary corporate disclosures and two variables, CEO duality and the percentage of independent and experienced non-executive directors on the board. Control variables, including company size, leverage, liquidity, profitability, audit firm size, market value ratio, multiple listings in other stock exchanges, industry type, new capital issuance and equity market liquidity were utilised. The study used 385 HK listed companies in 1996 based on agency theory to investigate the association by multiple linear regression models. To assess the extent of voluntary disclosure previous research conducted by Botosan (1997), Meek et al. (1995) and Hossain et al. (1995) was used to develop an index to measure the voluntary disclosures in 1996 annual reports. After eliminating the difference between the United States of America and HK voluntary disclosure requirements, the final disclosure list contained 44 items including companies’ background data, monetary and nonmonetary performance information. For individual item in each voluntary disclosure index, a company received a score “1” if it was identified and “0” if the item was not identified. The voluntary disclosure score was the sum of the scores given to individual items in the disclosure indicator. This research found that chief executive officer duality is associated with a lower quantity of voluntary disclosures because chief executive officer duality creates a conflict of interest to make voluntary disclosures. Moreover, a higher proportion of independent and experienced non-executive directors was associated with higher quantity of voluntary disclosures because they could monitor managers closely. Only company size, profitability and market value ratio were found to be significantly correlated with voluntary disclosures. The limitations of this study were the use of 1996 aged data and not examining the effects of newly introduced voluntary corporate
governance disclosure requirements. The measurements of the quantity of voluntary disclosures were not detailed while items were subjectively deleted in the voluntary disclosure list before calculating the voluntary disclosure score. The voluntary disclosure score lacked credibility and reliability.

Using a 1996 sample of 376 HK listed companies, Leung and Horwitz (2004) studied the relationship of voluntary segment disclosure with two variables, namely ownership structure and composition of corporate boards. The variables used were corporate governance, company size, leverage, audit firm size, exchange listing status, minority interests, issue of new capital, competition, profitability and industry type. The measurement of the quantity of voluntary segment disclosure used a binary variable with code “0” for the company with the minimum segment disclosure and “1” for the company with voluntary segment disclosure above the minimum. This study found that companies with concentrated board ownership made less voluntary segment disclosures particularly when the companies were in a poor financial performance situation. The presence of non-executive directors contributed to an increase in the quantity of voluntary segment disclosures in low concentrated ownership firms. Only audit firm size and company size were associated with a high quantity of voluntary segment disclosure. This study urged that law makers and regulators in Asia Pacific, including HK, to enhance corporate governance and transparency in voluntary disclosure. The limitations of this study were that only voluntary segment disclosures in annual reports were studied while the quality of voluntary segment disclosures was not studied. Companies’ reputation and media exposure that affected the quantity of voluntary segment disclosure were not studied. The measurement of voluntary segment disclosure with binary variable was too simple so that it did not show the quantity of the voluntary segment disclosure of each company.

Gao et al. (2005) explored the statistical relationship of company size and industry category to the quantity of voluntary social and environmental disclosures of 33 banking, property and utilities listed companies from 1993 to 1997. Unlike other studies using a dichotomous basis of disclosure or non-disclosure like Lynn (1992), the study measured the quantity of voluntary social and environmental disclosure of six categories by word counting. The categories were those used in previous studies, including
environment, energy, health and safety, human resources, community and fair business practices. The research found that voluntary social and environmental disclosures were highly correlated with company size and industry category. The limitation was the small sample size. Their findings were not generalizable to other industries because banking and utilities industries are special industries subject to special statutory rules and reporting requirements in HK. The measurements of the quantity of voluntary social and environmental disclosures were subject to subjectivity on selection of items to count and counting of relevant social and environmental wordings. Moreover, the measurement lacked credibility and reliability.

Taylor and Shan (2007) explored the statistical relationships of company size, media exposure, capital risk in term of beta and strategic posture in term of companies’ donations to the quality and quantity of voluntary environmental and social disclosures of 56 China-based listed companies on the HKSX in 2005. The quality and quantity of voluntary environmental and social disclosures were measured by a disclosure scoring worksheet used by Nelson, Banks and Fisher (2003). The worksheet had four major categories, namely overview of corporate social responsibility, environmental disclosure, employment issue disclosure and community disclosure resulting in 18 items on the worksheet. To calculate the quantity of voluntary environmental and social disclosure score, if an item was identified in an annual report, “1” was marked in the worksheet otherwise “0” was marked. The final score was divided by 18 to calculate the percentage that represented the quantity of voluntary environmental and social disclosure score. For computation of the quality of voluntary environmental and social disclosures, the same worksheet was used and if an item existed, it was further scored on an ordinal scale ranging from poor (1) to excellent (5) and otherwise, it was give “0”. The voluntary disclosure percentage was then calculated by the division of total disclosed items’ scores and maximum total disclosed items’ scores. They found that the larger listed companies made larger and more donations than the smaller companies which resulted in higher quality and quantity of voluntary environmental and social disclosures than the smaller companies. Other variables, such as profitability, did not correlate with the quality and quantity of voluntary environmental and social disclosures. Media exposure was found not related to quality and quantity of voluntary environmental and social disclosures because of the media screening imposed on China-
based listed companies in HK. The study also concluded that stakeholder theory was more effective than legitimacy theory in explaining the association of companies’ characteristics to the quality and quantity of voluntary environmental and social disclosures. The research limitation was the small sample size. The influx of Chinese-based listed companies on the HKSX and the significant change in political, economic and social situation in China in recent years requires updated research to revisit the finding. The measurements of quality and quantity of voluntary environmental and social disclosures were also subject to subjectivity on selection of voluntary environmental and social disclosures in the worksheet. Moreover, it was subjective and too simple to rank the quality of voluntary environmental and social disclosures by an ordinal scale from poor (1) to excellent (5). Again, these measurements lacked credibility and reliability.

Another later study by Chau and Gray (2010) explored the statistical relationship of three corporate governance variables to the quantity of voluntary disclosures of 273 non-financial listed companies on the HKSX for the financial year ended 2002. The variables were ownership type, chairman independence and ratio of independent directors on boards of directors; the other control variables were equity return, company size, liquidity, debt level, auditor type, company growth, status of listing and industry category. The measurement of the quantity of voluntary disclosures was based on Meek et al. (1995) so that voluntary disclosures were divided into strategic, non-financial and financial items and were further trimmed down by eliminating all mandatory items through checking with HK Companies Ordinance (Cap. 622), HK accounting standards and professional practicing accountants and accounting academics in HK to derive 85 voluntary disclosures items. To get the voluntary disclosure score, a scoresheet was used to capture the quantity of voluntary disclosure for each company. A company got “1” if a specific voluntary disclosure was found otherwise it got “0”. The voluntary disclosure score was calculated by dividing the numbers of scores a company got and total possible voluntary disclosure scores. All the corporate governance variables were highly and positively correlated to the quantity of voluntary disclosures but the other control variables, except company size, were not highly correlated to the quantity of voluntary disclosure. This finding was different from previous findings. Company size was found to be positively related to the quantity of voluntary disclosure but debt level
was found not highly related to the quantity of voluntary disclosure. The limitation of this research was that it was a cross sectional study that used 2002 data rather than over a period of time. It was also limited by the selection of items included in the calculations of disclosure scores that involved some degree of subjectivity. Moreover, since some voluntary disclosure items have become mandatory items, it requires an update to explore the correlation again. Same as previous researches, the measurement of quality and quantity of voluntary disclosure in this research had the same subjectivity problems in selecting voluntary disclosure items in the worksheet and the voluntary disclosure score lacked of reliability and credibility.

The above HK based studies found mixed results on the association of profitability, company size, industry type, leverage, media exposure, ownership and corporate governance variables with the extent of voluntary social disclosures in HK. Comparisons are hampered by differing measurements of the extent of voluntary social disclosure. Most of the studies were quantitative without referring to particular theory to explain the results.

In the following section, major theoretical frameworks, namely stakeholder theory, legitimacy theory, agency theory and signaling theory, commonly used in previous researches are explained and discussed to decide the theory that will be adopted in this research.

2.5 Voluntary corporate social disclosure theoretical frameworks
While voluntary corporate social disclosure has increasingly been produced by companies, questions remain about why they expend firm resources to publish information not required by law. Various theories have been used by researchers examining corporate voluntary disclosure. Stakeholder theory, legitimacy theory, agency theory and signaling theory are the most popular ones adopted to provide explanations of the reasons why companies engage in voluntary corporate social disclosure. Each will be examined in turn in the following paragraphs.
2.5.1. Stakeholder theory

Stakeholder theory is based on the relationship of an organization with those outside the organization who can affect its decision making. Those who can affect or are affected by company decision making and achievement of organizational goals are called stakeholders (Freeman, 1984). This means that the term encompasses shareholders as well as investors, creditors, staff, customers, suppliers, government and public, all of whom are capable of affecting a company’s decision making and in extreme circumstances, the survival of a company. Some stakeholders form interest groups which can exercise their formal or informal influences to highlight public concerns and opinions affecting the business decisions of a company (Clarkson, 1995).

Donaldson and Preston (1995) identify three forms of stakeholder theory: descriptive, instrumental and normative. The descriptive form describes specific company characteristics and behaviour concerning the past, present and future of a company (Brenner and Cochran, 1991; Clarkson, 1991) whereas the instrumental form studies the effect and contribution of stakeholder concerns and actions on profitability. The theory speculates that a company which satisfies stakeholders’ demands achieves both profitability and growth (Preston and Sapienza, 1991; Barton, Hill and Sundaram, 1989; Aupperle, Carroll and Hatfield, 1985; Kotter and Heskett, 1992). The normative form studies the impact of the moral and philosophical functions of a company on stakeholders (Carroll, 1989; Marcus, 1993). This broad focus is based on utilitarian libertarianism and the social contract: a company should not merely satisfy shareholders but is morally and philosophically accountable to other stakeholders affected by the business’s activities. Management has to utilize resources to satisfy all stakeholders. This form of stakeholder theory posits that once a company acts in the normative form then it can also achieve descriptive and instrumental forms (Donaldson and Preston, 1995). Management should recognize that moral goals are equally important to profit maximization goals.

Accounting perspectives using stakeholder theory consists of two branches labelled ethical and managerial. The managerial accounting perspective of stakeholder theory states that a company should be obliged to provide business performance and financial information to assist the readers of financial statements to evaluate business
performance more widely than they can deduct from the financial statements and so make more informed investment and business decisions. The ethical branch is based on the concept of rights that stakeholders have the right to be treated fairly by a company and so this branch states that a company should protect and satisfy stakeholders’ rights (Deegan, 2001; Deegan and Samkin, 2009). As such a company should disclose non-financial information to all stakeholders even though some stakeholders may not be interested in this information (Deegan and Samkin, 2009). This contrasts with the managerial branch which advocates that the company’s obligations to supply information are restricted to identified significant and powerful stakeholders (Roberts, 1992; Watts and Zimmerman, 1986). Stakeholder theory points out that a company can take either active or passive actions to satisfy its various stakeholders. Voluntary corporate social disclosures are regarded as an important communication media to achieve this objective because disclosures reduce information asymmetry and build stronger stakeholder relationships, gaining stakeholders’ support and approval thus ensuring greater likelihood of organizational success and survival (Deegan and Samkin, 2009; Gray, Owen and Dams, 1996).

Critics of stakeholder theory claim it to be a management technique to influence and manage stakeholders (Key, 1999). Donaldson and Dunfee (1994) and Jones (1995), for example, proffer that stakeholder theory does not offer a new model supported by strong logic and causality of variables to explain or predict companies’ behavior. The multiple forms of stakeholder theory are said to provide a limited view of what actually happens in practice. Additionally, it is very difficult to classify stakeholders (Donaldson and Preston, 1995; Rowley, 1997). Stakeholder theory has been criticized also for not focusing on evaluation of the impact of an external environment on a company (DiMaggio and Powell, 2000).

Despite the above criticisms, stakeholder theory is widely adopted in studies of corporate voluntary disclosure because it provides clear targets to which a company is accountable (Key, 1999). Many researchers have utilized stakeholder theory to explain the relationship of organizations with society (Ullmann, 1985; Roberts, 1992; Milne and Patten, 2002; Van der Laan Smith, Adhikari and Tondkar, 2005; Chen and Roberts, 2010; Huang and Kung, 2010). For example, Gray et al., (1995) and Roberts (1992)
discovered that voluntary corporate social disclosure was successfully employed to manage organizations’ stakeholder relationships. Later, Tang and Luo (2011) showed how a company changed their voluntary disclosures based on the change of influence and power of stakeholders. Generally, research shows that management has to make changes and “voluntary” disclosures to obtain stakeholders’ support and approval to continue their business because stakeholders can directly or indirectly influence other stakeholders to provide or withdraw resources to a company (Frooman, 1999). In summary, according to stakeholder theory a company needs to make voluntary disclosures to satisfy its stakeholders whether powerful or not.

2.5.2. Legitimacy theory

Also drawing on the relationship of a company with the broader community in which it operates, legitimacy theory is based on a “generalized perception or assumption that a company has to perform desirably, properly, or appropriately within socially constructed system of norms, values, beliefs and definitions” (Suchman, 1995). Companies’ actions can gain legitimacy when they are congruent to the value system of the society that affects the continuity of a company (Ghazali, 2007). The foundation of legitimacy theory is that companies and business activities affect (positively or negatively) the environment in which they operate and which in turn affects stakeholders so that in certain situations government may intervene in companies’ operations to reduce any adverse impacts to society. As with stakeholder theory, legitimacy theory is related to the concept of a “social contract” that is said to exist between a company and its host society (Patten, 1992a). If a company breaches the social contract then discontent will arise among stakeholders who may terminate the social contract so that support and resources may be withdrawn thus affecting the continuity of a company (Deegan and Rankin, 1996). Similar to stakeholder theory, legitimacy theory has different forms. Institutional legitimacy theory emphasizes the ways that a company seeks to obtain social acceptance by making their operations acceptable to stakeholders and thus obtain approval from its host society. Organizational legitimacy is based on a resource dependency framework in which stakeholders may withdraw resources from organizations if an organization is not performing in line with their expectations.
A company must establish legitimacy by acting in accordance with the social contract and its inherent values. To maintain that legitimacy, the company must change to cope with the constant change of social values as well as to timely communicate what they have done to meet the expectations of society (Tilling and Tilt, 2010). To extend legitimacy, a company has to win confidence from society that it is acting in line with social values and norms. Lastly, a company needs to defend legitimacy by informing and educating the society about any changes made in order to manage public perceptions. Legitimacy is thus based on what the host society perceives about a company so that the actual content of the company is not as important as the perception that the public holds. Thus, companies may resort to manipulating public views of it by drawing public attention away from negative activities to positive activities, such as charitable activities, that benefit the society. A legitimacy gap is said to exist when there is a difference between social norms and organizational activities (O’Donovan, 2002), a difference that may be caused by a change of social norms or of social expectations of organizations.

According to legitimacy theory, an organization can have pragmatic legitimacy, moral legitimacy and cognitive legitimacy (Suchman, 1995). Pragmatic legitimacy is achieved by a company promoting truthful and trustworthy images and values to stakeholders. Moral legitimacy is based on stakeholders’ assessments of companies’ activities and means to achieve legitimacy. Companies need to disclose what they have done and the resulting outcomes when they make disclosure to earn moral legitimacy (Hrasky, 2012). Growing public pressure increases the need for organizational disclosures to show organizational legitimacy to the public (Deegan, Rankin and Tobin, 2002) so that companies increase their disclosures when their legitimacy image is under pressure (Deegan and Gordon, 1996) to protect their reputations and images (Hooghiemstra, 2000). Thus, voluntary disclosure is one of the methods organizations use to communicate their legitimacy (Dowling and Pfeffer, 1975).

Criticism of the theory has focused on its not being able to make predictions based on managerial perceptions of the social contract (Mobus, 2005; Owen, 2008), the key to legitimacy theory. A social contract that can be explicit or implicit does not contribute to the identification of legitimacy gaps. Managerial perception of those gaps is very
difficult to discern and predict. As well, it is very difficult to predict the effect of strategies used to manage and reduce legitimacy threats. Legitimacy gaps are not clearly explained so how those gaps are closed by using legitimating actions, such as voluntary social disclosures, is also unclear (Deegan, 2002). The theory is also unclear as to how managers can establish and manage legitimacy with all stakeholders or whether managers should only pay attention to particular groups that fall within the domain of stakeholder theory (Deegan, 2002). Despite the above criticism, legitimacy theory helps to explain the motives of managers to disclose information voluntarily. It provides an explanation of how managers use voluntary disclosures to manage and defend the legitimacy of a company even though its predictive capacity is weak. Its explanatory power may explain its wide use; the theory is one of the most cited theories in corporate environmental reporting research (Guthrie and Parker, 1990) and analyzing corporate disclosure (Campbell, 2003; Deegan and Rankin, 1996; Islam and Deegan, 2010; Mobus, 2005; Wilmshurst and Frost, 2000; Branco, Eugenio and Ribeiro, 2008; Ahmad and Sulaiman, 2004).


2.5.3. Agency theory

In modern corporations, ownership is separated from control; shareholders (principals) delegate to management (agents) of the company so that an agency relationship exists. Agency theory speculates about the effect of this division of ownership from control
(Jensen and Merkling, 1976; Morris, 1987). The theory has two major assumptions: individuals are assumed to maximize their personal interests rather than the principals’ interests; and individuals are rational when they make decisions. Agency costs are incurred by both parties if one or both act only in their self-interest so that conflict occurs among the parties. To minimize agency costs, principals will incur costs both to monitor an agent’s activities and to align the agent’s activities with their interests. Managers as agents are willing to enter into contracts with principals so that certain actions that are against the principal’s interest will not be undertaken because they will gain more from not doing an action than they would by acting opportunistically. Acting in line with the principal’s interest to minimize monitoring costs generates bonding costs to provide more information such as voluntary corporate social disclosures to principals.

Providing information by agents to principals is problematic due to information asymmetry problems that arise from the division of ownership from control: managers hold more information than principals. Agency problems occur when principals and agents maximize interests that are not aligned. Information asymmetry is the critical factor. Agency problems and costs can be minimized by disclosing more information to the principals given that the benefit from disclosure exceeds costs caused by agency problems (Ness and Mirza, 1991). Making voluntary social disclosures can reduce information asymmetry among principals and agents or management and shareholders. Information asymmetry and costs are supposedly reduced when information are disclosed (Oliveira, Lima and Craig, 2006; White, Lee and Tower, 2007).

Criticism of agency arises from its oversimplification of human nature into a contractual relationship in which both principals and agents are self-interested maximizers of monetary returns and organizational activities should not be considered equivalent to individual activities. (Donaldson, 1990). Moreover, agency theory mainly focuses on the allocation of financial resources and does not consider nonfinancial items, such as the impact of family ownership. Particularly, agency theory is less applicable to explain principal and agent relationship in family businesses because the same persons act as shareholders and management of the company (Chakroun and Matoussi, 2012). Jensen and Meckling (1976) provided a framework linking disclosure behavior to corporate
governance that is used to manage agency problems, ensuring that management acts in the interest of shareholders. The stronger the corporate governance, the more governance mechanisms are in place, and the stronger internal control, all lead to greater extent of disclosures to minimize speculative act and information asymmetry (Leftwich, Watts and Zimmerman, 1981; Welker 1995).

2.5.4. Signaling theory

While agency theory acknowledges the information asymmetry problem between company insiders and outsiders who seek information about the company, signaling theory directly deals with this information asymmetry that has been discussed in the above section of agency theory. According to signaling theory, companies with good news tend to provide more information (“signals”) to outsiders to differentiate themselves from other companies whose news is not as good (Connelly, Certo, Ireland and Reutzel, 2011). Companies with good news will provide good news signals to the market so that the market can act accordingly (Whiting and Miller, 2008). If there is no signal provided to the market, the asymmetric information situation will possibly result in outsiders/stakeholders interpreting the non-signal as very bad news.

Companies can use different methods to provide signals to information users. Making voluntary disclosures is one way to provide favorable signals to different users (Watson, Shrives and Marston, 2002; An, Davey and Eggleton, 2011). According to Watson et al. (2002) and Xiao, Yang and Chow (2004) making voluntary social disclosures is one of the most effective methods to achieve the signaling objective of a company. Even companies with bad news have incentives to provide information to outsiders (stakeholders), information that suggests that their news is not as bad as that of the non-signaling companies. Signaling theory appears to complement other theories. Legitimacy theory suggests that companies provide voluntary social disclosures to provide signals that they comply with social norms to obtain legitimacy (An et al., 2011). Within stakeholder theory, companies provide voluntary social disclosures to provide positive signals to manage and fulfill stakeholders’ expectations. Within agency theory, providing voluntary social disclosures can reduce information asymmetry among principals and agents or management and shareholders. The extent of voluntary social disclosures provides a signal to principals that nothing is hidden. Information
asymmetry and costs are supposedly reduced when more information are disclosed (Oliveira et al., 2006; White et al., 2007).

Even though signaling theory is widely used in social science studies, the tenets of this theory are still unclear so that the theory requires further development. Nowadays, it is very difficult to find a unique way to provide signals to information users (Connelly et al., 2011). While signaling theory focuses on the positive signals that the company will give to information users, it does not test the effect of unintentional negative signals (Connelly et al., 2011). Additionally, it is unclear how the information users received are interpreted by outsiders/stakeholders so that interpreted information accords with what companies intended to communicate (Spence, 2002).

2.5.5 Comparison of different theories on voluntary social and environmental disclosures
As discussed above, different theories explain why corporations provide voluntary social and environmental information to outside parties. Stakeholder theory and legitimacy are the most widely used theories to explore the content and level of social and environmental information disclosure (Gray et al., 1995). Although previous voluntary social disclosure studies have adopted different theoretical frameworks to explain voluntary social disclosures, many have used legitimacy theory (Patten, 1992a; Guthrie and Parker, 1990; Muttakin and Khan, 2014) because it provides the most assertive theoretical framework to explain voluntary social disclosures especially voluntary environmental disclosures (Branco et al., 2008; Campbell, 2003; Deegan and Rankin, 1996; Islam and Deegan, 2010; Wilmshurst and Frost, 2000). Legitimacy theory has been adopted because the researchers possibly believe that the reason why companies provide environmental disclosures is to legitimate their business operations and to repair reputations from adverse news published about the company or legal actions taken against it. Legitimacy theory also provides the most suitable explanation to unpack the motives of companies to provide voluntary social disclosures from perspective of congruence of a company’s value system with a social value system. If there is a disparity between these two value systems, the legitimacy of the company is threatened. Legitimacy theory suggests a relationship between companies’ voluntary social disclosure and public concerns so that companies have to use voluntary social
disclosures to address these concerns to meet societal expectations (Suttipun and Stanton, 2012). Legitimacy theory has also been adopted to analyse different corporate strategies to keep legitimacy with the public (Deegan et al., 2000; Patten, 1992a). Studies have found that different types of corporate social disclosures in annual reports, such as climate change, human rights, employer and employee relationships, product liability, corporate governance and charitable activities, were used by management to legitimate companies’ businesses and operations (Deegan, 2002; Hogner, 1982; O’Donovan, 2002; Wilmshurst and Frost, 2000). Legitimacy theory was also adopted to explore why well known banks make more social responsibility disclosures in annual reports and websites to legitimate their corporate position and to improve public reputations in Portugal (Branco and Rodrigues, 2006). Legitimacy theory has also shown an association of voluntary environmental disclosures between industries with differing environmental sensitivities (Campbell, 2003).

Compared to agency theory, legitimacy theory gives a more holistic view of corporate social disclosure as it finds that corporates have to adhere to a social contract to act desirably so that they can gain public approval for their business objectives to exist successfully and continuously (Brown and Deegan, 1998; Deegan, 2002; Guthrie and Parker, 1990). Compared to stakeholder theory, legitimacy theory looks at a company as part of wider social system so that it offers a wide view to explain disclosures to maintain legitimacy within a system-based perspective that companies are influenced by the society not just merely by stakeholders of the companies (Deegan, 2001). Van der Lann (2009) pointed out that stakeholder theory is a more suitable theory to explain managerial behavior in providing solicited social disclosures to satisfy specific and identified stakeholder’s information needs while legitimacy theory deals with public perceptions of a company so that companies use voluntary social disclosures to achieve, maintain and restore legitimacy as perceived by the public. Since Appendix 27 “Environmental, Social and Governance Reporting and Guide” is focused on voluntary social disclosures that are released to general public in HK without specific and identified stakeholders therefore this paper selects legitimacy theory to explore the statistical relationship of companies’ characteristics to voluntary social disclosure.
Within the literature adopting legitimacy theory to explain voluntary social disclosures, there are three types of studies. Firstly, descriptive studies such as, Buhr and Freedman (2001) and Golob and Bartlett (2007) focused on the nature and extent of corporate social disclosure. Branco and Rodrigues (2006) compared countries and periods and adopted legitimacy theory to examine social responsibility information disclosure of Portuguese banks in websites in 2004, comparing those disclosures with disclosures made in the relevant 2003 annual reports. The result that Portuguese banks disclose more voluntary social disclosures to improve their images accords with legitimacy theory as an explanation for the voluntary social disclosures. Secondly, explicative studies focus on potential factors affecting corporate social disclosure, for example, Suttipun and Stanton (2012) adopts legitimacy theory to investigate the quantity and content of environmental information disclosure provided in Thailand listed companies’ annual reports and tested companies’ characteristics to the quantity of environmental disclosure in the annual reports. A third group of studies focus on the impact of social and environmental information on stakeholders. Hooghiemstar (2000) for example, uses legitimacy theory to explain that companies provide more social disclosures to explain business actions in order to manage and maintain the community’s perceptions about the images and reputations of the companies. Companies are more likely to do so after environmental and social incidents, such as the Exxon Valdez oil spill and the chemical leak in Bhopal in India. Because this research is an explicative study to investigate the association of listed companies’ characteristics to the extent of voluntary environment and social disclosures in HK, legitimacy theory will be used to explain the results.

Studies investigating the association of listed companies’ characteristics to the extent of voluntary environmental and social disclosure found differing results because they used different theoretical frameworks with different variables and measurements. Those studies utilizing legitimacy theory commonly used quantitative research methods namely multiple linear regression analysis to identify the characteristics of listed companies influencing voluntary disclosure in annual reports (Suttipun and Stanton (2012), Kansal et al. (2014), Juhmani (2014), Patten (1992b), Aerts and Cormier (2009), Neu et al. (1998), Mahadeo et al. (2011), Magness (2006), Wilmshurst and Frost (2000) and in HK by Taylor and Shan (2007)). A few studies used qualitative methods to investigate issues related to listed companies’ corporate social and environment
disclosures. Those methods included surveys, interviews and case studies. Legitimacy theory was adopted to investigate the topic in different countries, for example, Hooghiemstra (2000), O’Dwyer (2002), Deegan et al. (2000), O’Donovan (2002), Wilmshurst and Frost (2000) and in HK, Taylor and Shan (2007).

Most researchers have chosen quantitative research methods to investigate the association of characteristics of listed companies and voluntary disclosures due to the availability of listed companies’ data collected from annual reports, reputable databases and websites with the added characteristic of objectivity. Moreover, quantitative research offers more objective ways, such as content analysis, to measure the nature and extent of voluntary social disclosures than the more subjective qualitative approaches. Common problems of qualitative research are low feedback rates for surveys and difficulties in finding objective interviewees for interviews and selection of suitable case studies. Therefore, quantitative research method is adopted in this research.

Based on the above review of the literature and theoretical frameworks adopted in previous studies to explore the association of characteristics of listed companies with the extent of voluntary disclosures, four research gaps are identified that are discussed in section 2.6.

2.6 Research Gaps

The latest research into the association of company characteristics to the quantity of voluntary disclosures of HK listed companies was based on 2002 annual reports. Since that time HK has faced a financial crisis, an increase in the number of China-based companies listing on its Stock Exchange, and environmental, social and legislative changes. The recent implementation of Appendix 14, “Corporate Governance Code and Corporate Governance Report” and issuance of Appendix 27, “Environmental, Social and Governance Reporting Guide” in the HK listing rules have changed the disclosure landscapes of HK listed companies. To update the findings of that earlier study, annual reports of HK listed companies for the financial year ended 2014 will be examined. It is the first research to explore the association of companies’ characteristics and the quantity of environmental and social disclosures in HK listed companies after the issuance of Appendix 27 in 2013.
The second research gap concerns the measurements of the quantity of voluntary disclosures. In previous research, the measurements contributed to different findings on the association of companies’ characteristics and the quantity of voluntary disclosures. As discussed earlier, the measurements of voluntary disclosures were subjective and did not provide enough detail. Moreover, they were not as credible and reliable as other capital market voluntary corporate disclosure scores, such as those published by Bloomberg (environment, social and governance) and now recently available for the professional investment community. This research proposes to use the Bloomberg scores for voluntary disclosures relating to the environment, social matters and governance for the measurement of the quantity of voluntary environmental and social disclosure in HK listed companies.

The third research gap is that the use of theory to inform research into voluntary disclosures by HK companies has not been consistent. Some studies adopted no specific theory (Chau and Gray, 2010; Lynn, 1992; Jaggi and Zhao, 1996; Gao et al., 2005), others adopted mixed theories (Taylor and Shan, 2007), a cost-benefit framework (Ferguson et al., 2002) or agency theory (Gul and Leung, 2004; Leung and Horwitz, 2004; Chau and Gray, 2002; Ho and Wong, 2001). Elsewhere, legitimacy theory has been broadly and successfully adopted in studies on the association of companies’ characteristic and the quality and quantity of voluntary disclosures. It has been used with stakeholder theory by Taylor and Shan (2007) to explore the association of Chinese companies’ characteristics and the quality and quantity of voluntary environmental and social disclosures in 2005. Even though stakeholder theory was also found more effective to explain the association of companies’ characteristics and quality and quantity of voluntary environmental and social disclosures of Chinese owned companies listed in HK, this research proposes to adopt legitimacy theory alone to investigate the association of companies’ characteristics and the quantity of voluntary environmental and social disclosure in HK.

Previous studies have shown that media attention increased the quantity of voluntary disclosures (for example, Brown & Deegan, 1998; Neu et al., 1998; Hooghiemstra, 2000). Legitimacy theory indicates that companies are likely to increase the quantity of
voluntary disclosures to promote their images and to provide justification for their business operations when under media pressure (Hooghiemstra, 2000). The association of media publicity and the quantity of voluntary disclosures has only been tested in relation to the association of companies’ characteristics and voluntary disclosures in the Taylor and Shan (2007) study of Chinese companies listed on the HKSE. The adoption of legitimacy theory to test the association of media publicity and the voluntary disclosures of listed companies on the HKSE is thereby strengthened.

Based on the above, the research objective of this study is to adopt legitimacy theory to explore the association of the HK listed companies’ characteristics with quantity of voluntary environmental and social disclosures made by them. The research design and method are discussed in the next chapter, Chapter 3.
Chapter 3
Research Method

3.1 Introduction
This chapter introduces the research method that will be used to investigate the association of company characteristics such as size, industry classification, profitability, leverage, ownership dispersion, media publicity and corporate governance with the associated voluntary disclosures made by sampled corporations. As mentioned in the previous chapters, the earliest research conducted on corporate social disclosure in HK was published in 1992 based on 1989 annual reports (Lynn, 1992) with the latest research based on 2002 annual reports published in 2010 (Chau and Gray, 2010). Since 2002, HK has faced a financial crisis, an increase in the number of China-based companies listing on its stock exchange, as well as corporate governance, environmental, social and legislative changes. The aim of this study is to update the findings of that earlier study. While environmental and social disclosures have not become a “comply or explain” provision in the HK listing rules as yet, HK has an Appendix 27 to the “Environmental, Social and Governance Reporting Guide” to guide voluntary corporate disclosures and a governance reporting guide to encourage HK listed companies to provide voluntary environmental and social disclosures. Since the HKSX published the Appendix in its listing rules in 2013, no research has been done to explore whether the statistical relationships found in earlier studies still apply to HK listed companies.

During the past two decades, investigations into associations between the characteristics of HK listed companies and the quantity of voluntary environmental and social disclosures revealed mixed results depending on the theoretical framework, variables and measurements used. This research adopts legitimacy theory to explore the association of companies’ characteristics with the quantity of voluntary environmental and social disclosures. The research will use independent variables, such as company size, profitability, leverage, nature of ownership, industry type, that have been used in other studies using legitimacy theory to allow some comparisons with previous studies. To increase the independence between the researcher and the data, a publicly available
data resource, Bloomberg’s corporate governance scores that are proxies for corporate governance practices of HK listed companies will be used to test the associations with Bloomberg voluntary corporate environmental and social disclosures scores. Such use of this resource has not been used in similar research focusing on HK although the scores have been used in studies by Fafaliou, Lekakou and Theotokas (2006); Giannarakis and Litinas (2011); Giannarakis, Litinas and Sariannidis (2011); Sariannidis, Giannarakis, Litinas and Konteos (2010), Wang and Sarkis (2013); Eccles, Serafeim and Krzus (2011); Kim and Adriaens (2013); Sherman (2011); Abramskiehn, Wang & Buchner (2015). The use of Bloomberg scores may limit comparability with previous studies. Based on literature review of similar HK researches, it is the first time that HK based research will examine the association between media publicity and voluntary disclosures of the sampled listed companies. Moreover, it is the first research that uses the Bloomberg’s scores to explore the association of corporate governance compliance and practice to the quantity of voluntary environmental and social disclosure for HK listed companies in 2014.

The next section details the research design and method while the measurement of voluntary disclosures in dealt with in Section 3.3. Major companies’ characteristics that may be associated with voluntary environmental and social disclosures are discussed and the resulting hypotheses are outlined in Section 3.4. Empirical models and statistical methods are explained in Section 3.5.

3.2 Selection of sampled companies

As stated earlier, this study will explore the statistical relationships of the characteristics of HK listed companies with the quantity of voluntary environmental and social disclosures made by those companies. As at 31 December 2014, there were 1,657 companies listed on the HKSX Main Board. These companies form the population for this study. From this population, companies will be drawn based on the availability of all three environmental, social and governance disclosure scores in Bloomberg’s online database. Financial institutions and utilities corporations are excluded because they report according to special HK rules and legislations. Only 131 companies possessed the three essential Bloomberg scores for 2014. These companies are listed in the
following table with their industrial categorization based on Bloomberg’s industry classification.

Table 3.2
Sampled companies included in the study

<table>
<thead>
<tr>
<th>Total number of HK listed companies in 2014</th>
<th>1,657</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less: listed companies which did not have all environmental, social and corporate governance disclosure scores</td>
<td>(1,499)</td>
</tr>
<tr>
<td>Less: Utilities, insurance, diversified finance and banks</td>
<td>(27)</td>
</tr>
<tr>
<td>Total number of selected companies</td>
<td>131</td>
</tr>
</tbody>
</table>

Industry distribution:

<table>
<thead>
<tr>
<th>Industry category</th>
<th>Number of companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Automobile and components</td>
<td>4</td>
</tr>
<tr>
<td>Capital goods</td>
<td>17</td>
</tr>
<tr>
<td>Commercial and professional services</td>
<td>1</td>
</tr>
<tr>
<td>Consumer durables and apparel</td>
<td>7</td>
</tr>
<tr>
<td>Consumer services</td>
<td>6</td>
</tr>
<tr>
<td>Energy</td>
<td>10</td>
</tr>
<tr>
<td>Food and Staples retailing</td>
<td>1</td>
</tr>
<tr>
<td>Food beverage and tobacco</td>
<td>7</td>
</tr>
<tr>
<td>Healthcare and personal product</td>
<td>1</td>
</tr>
<tr>
<td>Healthcare equipment and service</td>
<td>1</td>
</tr>
<tr>
<td>Materials</td>
<td>16</td>
</tr>
<tr>
<td>Media</td>
<td>1</td>
</tr>
<tr>
<td>Pharmaceutical, biotechnology and life science</td>
<td>2</td>
</tr>
<tr>
<td>Real estate</td>
<td>24</td>
</tr>
<tr>
<td>Retailing</td>
<td>5</td>
</tr>
<tr>
<td>Semi-conductor and semi-conductor equipment</td>
<td>3</td>
</tr>
<tr>
<td>Technology hardware and equipment</td>
<td>5</td>
</tr>
<tr>
<td>Telecommunication services</td>
<td>5</td>
</tr>
<tr>
<td>Transportation</td>
<td>15</td>
</tr>
<tr>
<td>Total numbers of selected samples by industry</td>
<td>131</td>
</tr>
</tbody>
</table>
3.3 The Measurement of Voluntary Disclosure Scores

In previous studies, two common methods were used to measure voluntary disclosure scores, namely a dichotomous method and a quantity method. The dichotomous method is based on the binary separation of disclosure from non-disclosure for each voluntary disclosure item. A chart is used which lists each voluntary disclosure item usually predetermined by using those items used in previous studies. If a voluntary disclosure is matched with an item in the voluntary disclosure summary, “1” will be recorded, otherwise “0” will be given. The voluntary disclosure score for an individual firm is computed as the total numbers of matched voluntary disclosure scores divided by the total numbers of voluntary disclosure items in the voluntary disclosure summary that are used by, for example, Cooke (1991 and 1992), Meek et al., (1995), Hossain et al., (1995), Haniffa and Cooke (2002), Naser and Nuseibeh (2003), Alaseed (2006), Lakhal (2005), Cheng and Courtenay (2006), Al-Shammari (2008) and Hossain and Hammami (2009). The quantity method refers to the counting of the numbers of words or sentences with in the individual voluntary disclosures; the method was used by, for example, Deegan & Rankin (1996), Deegan and Gordon (1996), Haniffa and Cooke (2005). The advantage of using the dichotomous method is that it is simple and easy to calculate a voluntary disclosure score if the disclosures consist only of words but it fails to show the extent of the company’s involvement in particular voluntary disclosure items if the disclosing company makes use of visual images such as graphs. The advantage of using quantity method is that it is a simple and convenient method to calculate the voluntary disclosure score in a more detailed way but it is very difficult to compare among annual reports if font size, paper margin, pictures and graphs are different. Its reliability may vary as to the means of counting – using computer word counts or personal counting.

This research proposes a different method – the use of a third party calculative rating score developed by Bloomberg\(^2\). Bloomberg’s voluntary corporate environmental, social and governance disclosure scores are patented and designed by the company. Scores from Bloomberg’s online database are calculated from data collected from

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\(^2\) Bloomberg is a worldwide reputable business and financial information and news service provider via website and subscription based online terminals to more than 325,000 subscribers globally.
publicly available information based on the Global Reporting Initiative Framework that was set up by the Global Reporting Initiative. Bloomberg collects environmental, social and governance data from web sites, annual reports and industry surveys. Individual data are weighted in terms of their degree of materiality and transparency in relation to the environmental, social and governance disclosure items. The voluntary corporate environmental disclosure score includes data from carbon dioxide emissions, greenhouse gas emissions, total energy consumption, total water use, total waste, number of spills, energy efficiency policy, emissions reduction initiatives, environmental supply chain management, green building policy, waste reduction policy, water policy, sustainable packaging, environmental quality management policy, climate change opportunities discussion, risks of climate changes discussion, climate change policy, new product related to climate change, biodiversity policy and international environmental verification. The voluntary corporate social disclosure score includes employee numbers, percentage of women in workforce, workforce accidents, social supply chain management, community spending, health and safety policy, employee corporate social responsibility training, policies relating to fair remuneration, training, equal opportunity, human rights, child labor, business ethics, anti-bribery, ethics policy, employee protection, and whistle blowing, and being a signatory of the United Nations Global Compact. The voluntary corporate governance disclosure score includes board structure, board independence, board and executive diversity, board duration, board committee, audit committee, independent audit committee, compensation committee, nomination committee, corporate social responsibility and sustainability committee, board and executive activities related to corporate social responsibility, shareholder rights, auditor ratification, annual general meeting voting rights, director compensation and Global Reporting Initiative Criteria Compliance.

Each of the three scores are calculated for different industry sectors so that companies’ environmental, social and corporate governance data are evaluated against competitor companies in the same industry (Fafaliou et al., 2006; Giannarakis and Litinas, 2011;  

\(^3\)The Global Reporting Initiative is a leading worldwide non-profit organization, which has been developing sustainability reporting since 1990s. It provides worldwide standards on sustainability reporting and disclosure to help stakeholders to make better decisions. It is a participating entity of the United Nations Environmental Programme.
Giannarakis et al., 2011; Sariannidis et al., 2010). The scores range from 0.1 (indicating a low level of environmental, social and governance disclosure data) to 100 (indicating a high level of environmental, social and disclosure data). Non-disclosure by companies means that they do not have voluntary corporate environmental, social and governance disclosure scores for the areas not disclosed. Each environmental, social and governance item is weighted in terms of importance with workforce data carrying greater weights than other disclosures. The environmental, social and governance disclosure score is also tailored to different industries so that an individual company is assessed based on the environmental and social information associated with their industry segments with special characteristics and challenges on environmental, social and governance matters. The calculations by Bloomberg means that the voluntary corporate environment, social and governance scores provide a quantitative measure of environmental, social and governance disclosure performance using a fixed and consistent measurement system.

Bloomberg voluntary corporate environmental, social and governance disclosure scores have been used in studies by Wang and Sarkis (2013); Eccles et al. (2011); Kim and Adriaens (2013); Sherman (2011); and Abramsiehn et al. (2015). The magnitude of social, environmental and governance scores can be used as proxies for corporate transparency to society (Daub, 2007), management quality and the potential for the management to grow profitably in the future (Eccles et al., 2011), and confidence in capital markets (Qu and Leung, 2006). These publications represent acceptance of the use of Bloomberg disclosure scores in research into voluntary disclosures. Their use in published research gives their use credibility as the survey by Levy, Duca and Alma (2012) shows: 70 percent of companies which complied with the Global Reporting Initiatives framework scored over 50 on Bloomberg scores and 79 percent of companies that did not comply with Global Reporting Initiatives framework scored less than 50. Despite their recent usage, the methodology, calculation and criteria of Bloomberg environmental, social and governance disclosure scores are not transparent mainly due to the need to safeguard business secrets and to avoid imitation by competitors (Delmas and Blass, 2010).

In this study, to allow comparison with previous studies, this study adopts multiple linear regression analysis to identify the characteristics of listed companies influencing
voluntary disclosure in annual reports (see Kansal et al. (2014), Juhmani (2014), Suttipun and Stanton (2012), Mahadeo et al. (2011), Aerts and Cormier (2009), Magness (2006), Wilmshurst and Frost (2000), Patten (1992b), Neu et al. (1998), and in HK by Taylor and Shan (2007) for reference). The voluntary corporate environmental disclosure scores and the voluntary corporate social disclosure scores are to be used as the dependent variables. The voluntary corporate governance disclosure score will be an independent variable to test the statistical relationship of voluntary corporate environmental and social scores and the corporate governance practice and disclosures of the listed companies in HK. The variables are explained in more detail in next section.

3.4 Major characteristics affecting voluntary disclosures

3.4.1 Company size (“SIZE”)

Intuitively, with confirmation by legitimacy theory and previous studies, the larger the company, the more visible they are, so more voluntary disclosures will be made to satisfy greater social expectation (Cowen et al, 1987). Larger companies are expected to have greater social commitment than smaller companies because larger companies have more resources and capacity to make more social commitments and to fulfill more social responsibilities; this was shown in Malaysia by Teoh and Thong (1984). Large companies make more voluntary disclosures due to their greater visibility to stakeholders to legitimate their business operations (Cowen et al., 1987). Large companies also have more resources to provide more social initiatives than smaller companies (Siregar and Bachtiar, 2010; Werther and Chandler, 2005; Graafland, Van de Ven and Stoffele, 2003; Ho and Taylor, 2007). Ghazali (2007) found that larger companies use voluntary disclosures to manipulate the political environment and to improve and repair their reputations (Hooghiemstra, 2000). Company size has been measured by the numbers of employees (Tagesson et al., 2009), market value of equity (Ho and Taylor, 2007), total revenue (Suttipun & Stanton, 2012; Adams et al., 1998; Tagesson et al., 2009), market capitalization (Ghazali, 2007; Reverte, 2009) and total assets (Brammer and Pavelin, 2004; Haniffa and Cooke, 2005; Siregar and Bachtia, 2010; Hossain and Reaz, 2007; Khan, 2010; Reverte, 2009; Rahman, Hawani, Mohamed and Hanim, 2011). A majority of previous studies found significant associations between company size in term of total assets and the extent of voluntary
disclosure even though Meznar and Nigh (1995) found that larger companies have more power to resist stakeholders pressure to provide information about public affairs activities in American firms and Roberts (1992) did not find any significant correlation between company size and social disclosure in the United States of America. Previous findings relating to HK companies varied. This study adopts total revenue to represent company size, a characteristic that has been found significantly associated with the extent of voluntary corporate social and environmental reporting in HK (Gao et al., 2005). This finding gives rise to the first hypothesis:

H1a: There is a significant association between company size and the voluntary corporate social disclosure score.

H1b: There is a significant association between company size and the voluntary corporate environmental disclosure score.

3.4.2 Profitability ("NP")

Previous research has consistently suggested a high statistical association between company profitability and voluntary disclosures (Belkaoui and Karpik, 1989; Cowen et al., 1987; Ismail and Chandler, 2005; Roberts, 1992; Ullmann, 1985). Gamerschlag, Moller and Verbeeten (2011) discovered a positive relationship between profitability and environmental disclosures but no association with social disclosures. Many studies have asserted justifications for the association between profitability and voluntary disclosures. Tagesson et al. (2009) found that profitable companies can afford the cost of making corporate social responsibility reporting so they make more corporate social responsibility disclosures than less profitable companies. Management of profitable companies tended to make more voluntary disclosures to demonstrate their successes which, in turn, provides justification for their management position and remuneration (Inchausti, 1997). Highly profitable companies attract government attention that increases voluntary disclosures to ward off government scrutiny (Ng and Koh, 1994). Profitable companies provide more corporate social responsibility information to legitimate their existence (Haniffa and Cooke, 2005).
Nevertheless, the statistical relationship was not consistently shown in other studies. Ho and Taylor (2007) found that less profitable companies made more social and environmental disclosures, showing their environmental and social contributions to society in the United States of America and Japan. Siregar and Bachtiar (2010) found that profitability has no significant association with corporate social responsibility disclosures because the cost of making disclosures outweigh the benefits for companies listed on the Indonesia stock exchange. Findings relating to profitability and voluntary disclosures differ for HK companies. This study uses reported net profit as a proxy for profitability (Suttipun & Stanton, 2012). This finding gives rise to the second hypothesis:

H2a: There is a significant association between profitability and the voluntary corporate social disclosure score.

H2b: There is a significant association between profitability and the voluntary corporate environmental disclosure score.

3.4.3 Leverage (“DE”)
Leverage represents the financial risk of a company. From a pragmatic legitimacy point of view, companies are required to manage creditors’ expectations (key stakeholders) so that they can operate and survive. Companies with higher leverage levels tend to disclose more information to avoid negative responses from creditors (Haniffa and Cooke, 2005; Reverte, 2009). Suckman (1995) noted a strategy of ‘stockpiling’ legitimacy when companies with high financial risk making more voluntary social disclosures as a politically symbolic action to secure the support of the public. Other studies produced mixed results on the association between leverage and voluntary social disclosures. While Jensen and Merkling (1976) and Jaggi and Low (2000) found a positive association between leverage and voluntary disclosures, others such as Branco and Rodrigues (2008) and Andrikopoulos and Krikiani (2013) have found a negative correlation in Portugal and Denmark respectively. These contradictory findings are mirrored in the previous research focused on HK. Debt/book value of equity was generally adopted as the measure of the leverage of a company (Reverte, 2009; Cormier
et al., 2005). This study will also use that measure of leverage. This finding gives rise to the third hypothesis:

H3a: There is a significant association between leverage and the voluntary corporate social disclosure score.

H3b: There is a significant association between leverage and the voluntary corporate environmental disclosure score.

3.4.4. Industry classification (“IND”)

The industry in which a company operates has an impact on whether they make voluntary disclosures (Adams et al., 1998). Research suggests that some industries, such as manufacturing companies, which generate negative connotations relating to their environmental and social impacts tend to make more voluntary disclosures in order to provide legitimacy to their business activities (Jenkins and Yakovleva, 2006; Ho and Taylor, 2007). Some environmental sensitive industries disclose more voluntary environmental information compared to those not in environmentally sensitive industries (Patten, 2002; Cho and Patten, 2007; Cho, Guidry, Hageman and Patten, 2012). Nevertheless, Frias-Aceituno, Rodriguez-Ariza and Garcia-Sanchez (2014) and Sierra-Garcia, Zorio-Grima and Garcia-Benau (2015) found limited evidence of an industry effect on voluntary sustainability reporting in different countries. Frias-Aceituno et al. (2014) found that different business sectors affect the choice of making voluntary sustainability reporting in 1,590 international companies. Based on legitimacy theory, findings regarding industry classification and disclosure by HK companies is mixed (Gao et al., 2005). This study will use a method used in previous research by assigning a value, 1 (one) to companies that are considered highly sensitive to environmental and social matters and a value 0 (zero) to low sensitive companies (Choi, 1999; Hackston and Milne, 1996; Patten, 1992a). This finding gives rise to the fourth hypothesis:

H4a: There is a significant association between industry classification and the voluntary corporate social disclosure score.
H4b: There is a significant association between industry classification and the voluntary corporate environmental disclosure score.

3.4.5. Ownership dispersion (“OWN”)

Where ownership of a company is highly dispersed, dispersion has been shown to correlate with more voluntary corporate responsibility disclosures (Ullmann 1985; Roberts, 1992; Cormier et al., 2005; Brammer and Pavelin 2008; Gamerschlag et al., 2011). Ownership dispersion is highly relevant to this study as HK has many family-owned listed companies. Intuitively, family-owned and controlled companies are less likely to be concerned with public accountability and organizational legitimacy than non-family owned and controlled companies so that they will tend to make less voluntary disclosures (Chau and Gray, 2002). Non-family owned and controlled companies need to make more voluntary disclosures to fulfill the information needs of their investors and stakeholders. Since there are many family-owned and controlled listed companies in HK, ownership dispersion is likely to influence voluntary corporate environmental and social disclosures. This variable is measured by whether the company is family owned and controlled or not. Based on previous studies of HK listed companies, this study classifies companies as family owned and controlled companies if a family controls 10% or more of companies’ outstanding common shares and one or more members in the board of director is occupied by family members (Chen & Jaggi, 2000). Value 1 (one) is assigned to family-owned companies; otherwise 0 (zero) is assigned. This finding gives rise to the fifth hypothesis:

H5a: There is a significant association between family owned and controlled companies and the voluntary corporate social disclosure score.

H5b: There is a significant association between family owned and controlled companies and the voluntary corporate environmental disclosure score.

3.4.6. Media publicity (“MP”)

According to Bansal and Clelland (2004) media publicity has a strong association with voluntary disclosures. The media has frequently been used by listed companies to secure legitimacy and to repair their public reputations (Hooghiemstra, 2000). Previous
studies in environmental reporting found that environmental issues have aroused more public attention and public media reports create more community pressure to push companies to make more environmental disclosures (Bewley & Li, 2000; Brown & Deegan, 1998; Deegan et al., 2000; Patten, 2002). This variable in previous studies consists of the number of articles found in newspapers that reference listed companies (Reverte, 2009). With the internet, news about listed companies would be distributed by different channels, therefore, this study uses the Google search engine to search for the official names of the sampled listed companies to obtain a count of news items that will represent media publicity. The assumption is that the higher the number of news items from the Google search, the greater media publicity. In this study, the numbers of media news items found from the Google search for 2014 will be used to represent the variable, media publicity. The relationship of media publicity to voluntary environmental and social disclosure has not been investigated for listed companies in HK. This finding gives rise to the sixth hypothesis:

H6a: There is a significant association between media publicity and the voluntary corporate social disclosure score.

H6b: There is a significant association between media publicity and the voluntary corporate environmental disclosure score.

3.4.7. Corporate governance score (“CGS”)

From a legitimacy theory perspective, good corporate governance practice is to fulfill the social contract between the society and companies which should respect their public and take public interests and concerns diligently and so are accountable to social expectations and to the host society (Yusoff and Alhaji, 2012). Prior research in HK found a significant correlation between corporate governance and voluntary disclosures (Ho and Wong, 2001; Chau and Gray, 2010) where corporate governance practice is the proxy for numbers or ratios of independent directors on board, chairman duality, family ownership (Chau and Gray, 2010), proportion of experienced director on the board, directors’ ownership (Gul and Leung, 2004), family members’ proportions in the board of director and existence of audit committee (Ho and Wong, 2001). This research uses the Bloomberg corporate governance disclosure score which ranges from 0 to 100 based
on major variables, such as size of the board of directors, the number of independent directors and their proportion of the board, board duration, numbers of board meetings, audit committee, compensation committee, nomination committee, sustainability committee, Global Reporting Initiatives compliance and board management attendance, to investigate the association of corporate governance practice to the voluntary environmental and social disclosure. A high corporate governance disclosure score will indicate better corporate governance practices and disclosure. This finding gives rise to the seventh hypothesis:

H7a: There is a significant association between corporate governance disclosure score and the voluntary corporate social disclosure score.

H7b: There is a significant association between corporate governance disclosure score and the voluntary corporate environmental disclosure score.

The following summarizes the above hypotheses:

H1a: There is a significant association between company size and the voluntary corporate social disclosure score.

H1b: There is a significant association between company size and the voluntary corporate environmental disclosure score.

H2a: There is a significant association between profitability and the voluntary corporate social disclosure score.

H2b: There is a significant association between profitability and the voluntary corporate environmental disclosure score.

H3a: There is a significant association between leverage and the voluntary corporate social disclosure score.
H3b: There is a significant association between leverage and the voluntary corporate environmental disclosure score.

H4a: There is a significant association between industry classification and the voluntary corporate social disclosure score.

H4b: There is a significant association between industry classification and the voluntary corporate environmental disclosure score.

H5a: There is a significant association between family owned and controlled companies and the voluntary corporate social disclosure score.

H5b: There is a significant association between family owned and controlled companies and the voluntary corporate environmental disclosure score.

H6a: There is a significant association between media publicity and the voluntary corporate social disclosure score.

H6b: There is a significant association between media publicity and the voluntary corporate environmental disclosure score.

H7a: There is a significant association between corporate governance disclosure score and the voluntary corporate social disclosure score.

H7b: There is a significant association between corporate governance disclosure score and the voluntary corporate environmental disclosure score.

### 3.5 Empirical Models and Statistical Methods

Based on legitimacy theory, and using the above variables, the empirical models are:

**Model 1**

\[
SDS_i = \beta_0 + \beta_1 SIZE_i + \beta_2 IND_i + \beta_3 NP_i + \beta_4 DE_i + \beta_5 OWN_i + \beta_6 MP_i + \beta_7 CGS_i + \epsilon_i
\]
Model 2

\[ EDS_i = \beta_0 + \beta_1 SIZE_i + \beta_2 IND_i + \beta_3 NP_i + \beta_4 DE_i + \beta_5 OWN_i + \beta_6 MP_i + \beta_7 CGS_i + \epsilon_i \]

where

SDS = Bloomberg Voluntary Corporate Social Disclosure Score
EDS = Bloomberg Voluntary Corporate Environmental Disclosure Score
SIZE = total revenue
IND = environmentally and socially sensitive industry = 1; other industries = 0
NP = net profit
DE = Debt / Book value of equity
OWN = family owned and controlled = 1; other ownerships = 0
MP = numbers of news items in Google search results of listed company official name
CGS = Bloomberg Corporate Governance Disclosure Score

Statistical application software, SPSS will be used for a multiple linear regression model stepwise method to investigate the statistical associations of social disclosure scores and environmental disclosure scores with the various variables listed above. The multiple linear regression model stepwise method is to allow the number of independent variables entered based on F-test exceeding certain critical value and whether a critical alpha level is met or removed independent variables based on whether the partial F-value is less than a critical value. The order of entry or removal of independent variables are determined by statistical criteria generated by the stepwise procedure in SPSS. Statistical analysis, such as descriptive statistics, correlation, multicollinearity, and F-test will be used to analyze overall associations of the seven independent variables with the voluntary corporate social disclosure score and environmental disclosure score. The findings will be detailed in Chapter 4.
Chapter 4
Finding and Discussion

4.1 Introduction
Based on the research design and method discussed in Chapter 3, SPSS version 22 was used to conduct a multiple linear regression model by stepwise method on the selected companies obtained from a listing from the HKSX to ascertain whether there are statistical associations of social disclosure scores and environmental disclosure scores with various variables. To do so the following hypotheses were tested to find out if there was an association between the characteristics of listed companies with the voluntary corporate social disclosure scores and environmental disclosure scores:

Hypotheses 1a and 1b tested the association between company size and the voluntary corporate social disclosure score and the environmental disclosure score respectively.

Hypotheses 2a and 2b tested the association between profitability and the voluntary corporate social disclosure score and the environmental disclosure score respectively.

Hypotheses 3a and 3b tested the association between leverage and the voluntary corporate social disclosure score and the environmental disclosure score respectively.

Hypotheses 4a and 4b tested the association between industry classification and the voluntary corporate social disclosure score and the environmental disclosure score respectively.

Hypotheses 5a and 5b tested the association between family owned and controlled companies and the voluntary corporate social disclosure score and the environmental disclosure score respectively.

Hypotheses 6a and 6b tested the association between media publicity and the voluntary corporate social disclosure score and environmental disclosure score respectively.
Hypotheses 7a and 7b tested the association between corporate governance disclosure score and the voluntary corporate social disclosure score and environmental disclosure score respectively.

The following two empirical models were applied to the selected sample of 131 listed companies to determine whether the independent variables were associated with the extent of voluntary corporate environmental disclosure and the extent of voluntary corporate social disclosure respectively:

*Model 1* was used to test hypothesis 1a, 2a, 3a, 4a, 5a, 6a and 7a
\[
SDS_i = \beta_0 + \beta_1 SIZE_i + \beta_2 IND_i + \beta_3 NP_i + \beta_4 DE_i + \beta_5 OWN_i + \beta_6 MP_i + \beta_7 CGS_i + \epsilon_i
\]

*Model 2* was used to test hypothesis 1b, 2b, 3b, 4b, 5b, 6b and 7b
\[
EDS_i = \beta_0 + \beta_1 SIZE_i + \beta_2 IND_i + \beta_3 NP_i + \beta_4 DE_i + \beta_5 OWN_i + \beta_6 MP_i + \beta_7 CGS_i + \epsilon_i
\]

where
SDS = Bloomberg Voluntary Corporate Social Disclosure Score
EDS = Bloomberg Voluntary Corporate Environmental Disclosure Score
SIZE = total revenue
IND = environmentally and socially sensitive industry = 1 and other industries = 0
NP = net profit
DE = Debt / Book value of equity
OWN = family owned and controlling = 1 and other ownerships = 0
MP = numbers of news items in Google search results using listed company official name
CGS = Bloomberg Corporate Governance Disclosure Score

Voluntary corporate social disclosure score (SDS), voluntary corporate environmental disclosure score (EDS), corporate governance disclosure score (CGS), total revenue (SIZE), net profit (NP) and debt / book value of equity (DE) were obtained from Bloomberg. For the industry classification variable, the Bloomberg industry classification was adopted to clarify companies that were considered highly sensitive to environmental and social matters by assigning 1 (one) to them and assigning 0 (zero) to
low sensitive companies. Based on previous research, this study classified companies as family owned and controlled companies if a family controls 10% or more of companies’ outstanding common shares and one or more membership in the board of director is occupied by family members. Value 1 (one) was assigned to family-owned companies otherwise 0 (zero) was assigned to non-family owned companies. Media publicity was represented by the numbers of media news items related to sampled public companies’ official names found from Google search engine for 2014. The resulting news stories using the companies’ official names were reviewed and checked to ensure they were related to the sampled public companies in 2014.

The following sections outline the statistical findings of the various models about the association of company characteristics with voluntary corporate environmental and social disclosure scores. The final section discusses the implications of the findings for the HK government and the HKSX on the implementation of Appendix 27 “Environmental, Social and Governance Reporting Guide” as a “comply or explain” provision in the HK listing rules to further enhancement of corporate environmental and social disclosures to listed companies in HK.

4.2 Statistical results of the association between companies’ characteristics and voluntary social and environmental disclosure scores

The first model (1) tested the association between company size, profitability, leverage, industry classification, ownership dispersion, media publicity, and corporate governance score and the quantity of voluntary corporate social disclosure that was represented by the Bloomberg social disclosure score. The second model (2) tested the association between the same company characteristics (company size, profitability, leverage, industry classification, ownership dispersion, media publicity, corporate governance score) and the quantity of voluntary corporate environmental disclosure again represented by the Bloomberg environmental disclosure score.

For the results of voluntary social disclosure score in terms of descriptive statistics, see Appendix 1, Table 1. The maximum and minimum voluntary social disclosure scores were 57.89 and 3.51 respectively. The mean and standard deviation of voluntary corporate social disclosure scores for HK listed companies (Model 1) were 27.47 and
12.85 respectively. The standard deviation indicated broad variations in voluntary corporate social disclosure scores among the companies. The mean of 27.47 was lower than 50 and so represented relatively low quantities of voluntary corporate social disclosures among the 131 companies, lower than the S&P 500 companies making voluntary social disclosure as reported by Coppola (2016) and Levy et al. (2012). The use of 50 as benchmark is because 70 percent of companies which complied with the Global Reporting Initiative framework scored over 50 on Bloomberg scores and 79 percent of companies that did not comply with Global Reporting Initiative scored less than 50 (Levy et al. 2012). The standard deviation showed that these HK listed companies tended to report different quantities of social disclosures.

For the second model, *environmental* disclosure, the maximum and minimum voluntary environmental disclosure scores were 53.49 and 2.33 respectively (Appendix 1, Table 1). The mean and standard deviation of voluntary corporate environmental disclosure scores for HK listed companies were 15.33 and 11.49 respectively (Appendix 1, Table 1). As the mean (15.33) was lower than 50, it represented considerably less voluntary disclosures than the S&P 500 companies mentioned earlier (Coppola, 2016; Levy, et al. 2012). The use of 50 as benchmark is discussed in last paragraph. The standard deviation of 11.49 indicated that these companies tended to report different quantities of voluntary corporate environmental disclosures.

ANOVA showed that for Model 1 (*social* disclosure) the $R^2$ was 0.334 showing that the model could explain 33.4 percent of the variability of voluntary corporate social disclosure scores in the study (Appendix 1, Tables 3). The multiple linear regression stepwise model provided an F value of 21.253 (Appendix 1, Table 4) for the voluntary corporate social disclosure score, a result which was significant at the 0.00 level thus showing that the model could explain the variations in voluntary corporate social disclosure scores of the selected HK companies.

For the *environmental* disclosures, the $R^2$ was 0.385, showing that the model was able to explain 38.5 percent of the variability of the voluntary corporate environmental disclosure scores of the companies used in this study (Appendix 1, Tables 7). The multiple linear regression stepwise model provided an F value of 80.799 (Appendix 1,
Table 8) for the voluntary corporate environmental disclosure scores which was significant at 0.000 level indicating the model was able to explain the variations in the voluntary corporate environmental disclosure scores of the 131 sampled HK companies.

Standardized beta coefficients, t-statistics and probability levels were calculated for each independent variable in Models 1 and 2. Since all the correlation coefficients of both these models were below 0.8, there were no significant collinearity issues to explain the regression results for both models (Farrar and Glauber, 1967; Judge, Griffiths, Hill, Lutkepohl and Lee, 1985). The following paragraphs report the statistical stepwise regression model results of the association of independent variables with voluntary social disclosure scores and environmental disclosure scores.

4.2.1. Corporate governance
The maximum and minimum corporate governance disclosure scores were 67.86 and 28.57 respectively. The mean and standard deviation were 50.98 and 6.24 respectively (Appendix 1, Table 1). There was a positive and significant correlation between the social disclosure scores and the corporate governance disclosure scores, a result that was confirmed by the stepwise regression scores (Appendix 1, Table 2). The corporate governance disclosure score was significantly associated with the social disclosure scores, again a result that was confirmed by the stepwise regression scores (a standardized coefficient beta 0.510 and p=0.000; Appendix 1, Table 5). This result supported hypothesis 7a which posited such an association.

There was also a positive and significant correlation between corporate governance disclosure scores and voluntary corporate environmental disclosure scores, that result was confirmed by the stepwise regression score (Appendix 1, Table 6). Only corporate governance disclosure scores were significantly associated with voluntary corporate environmental disclosure scores with a standardized coefficient beta 0.621 and p=0.000, a result also confirmed by the stepwise regression scores (Appendix 1, Table 9).

The statistical results for both models (1 and 2) suggested that HK listed companies with high corporate governance scores made more voluntary corporate environmental and social disclosures than companies with low corporate governance disclosure scores.
This result was in line with the findings of Ho and Wong (2001), Chau and Gray (2010) and Giannarakis (2014) that good corporate governance practice was to fulfill the social contract between society and companies so that companies should respect and take public interests and concerns diligently and to be accountable to public expectation.

Both Hypotheses 7a and 7b were supported.

4.2.2. Media publicity

The maximum and minimum numbers of news items based on the official name of listed companies in Google search in 2014 were 219 and 3 respectively. The mean and standard deviation were 111.95 and 55.21 respectively (Appendix 1, Table 1). Media publicity was found to have positive and significant correlation with voluntary corporate social disclosure scores and confirmed by the stepwise regression score (Appendix 1, Table 2). Media publicity was also found to be significantly associated with voluntary corporate social disclosure scores, a result also confirmed by the stepwise regression scores (standardized coefficient beta 0.155 and p=0.041, Appendix 1, Table 5).

For voluntary environmental disclosure scores, media publicity showed that it had positive correlation with voluntary environmental disclosure scores also confirmed by the stepwise regression score; however, it was not significantly associated with voluntary corporate environmental disclosure scores (also not confirmed by the stepwise regression scores; Appendix 1 Table 6 and Table 9). These findings accorded with those of Bansal and Clelland (2004) that listed companies tended to seek legitimacy and so used disclosures to repair any damage to their reputations (Hooghiemstra, 2000) by using media publicity. However, in this study media publicity was significantly associated with voluntary corporate social disclosures rather than voluntary corporate environmental disclosures.

The results supported hypothesis 6a that there was an association between media publicity and voluntary corporate social disclosures while hypothesis 6b that there was an association between media publicity and environmental disclosures was not supported. Consistent with the Western perspective, HK listed companies tended to improve their reputations and images by engaging in social activities which were
voluntarily disclosed to the public (Neu et al., 1998). There were no significant environmental incidents revealed by the media search which would have given the HK listed companies incentives to increase their voluntary *environmental* disclosures in 2014.

Hypothesis 6a was supported. Hypothesis 6b was not supported.

4.2.3. *Family ownership*

Family ownership was found to be negatively correlated with voluntary corporate *social* disclosure scores (Appendix 1, Table 2) and to be negatively and significantly associated with voluntary social disclosure scores (results were confirmed by the stepwise regression scores, standardized coefficient beta -0.203 and p=0.006, Appendix 1, Table 5). Family ownership also had a very low correlation (0.049) with voluntary *environmental* disclosure scores, a result confirmed by the stepwise regression score (Appendix 1, Table 6) and the characteristic was found not to be significantly associated with voluntary *environmental* disclosure scores; the result also not confirmed by stepwise regression scores. (Appendix 1, Table 9). The results were in line with those found by Chau and Gray (2002) and Chen & Jaggi (2000); non family ownership companies tended to make more voluntary disclosures. This study added to those findings by showing that non family owned HK listed companies made more voluntary corporate social disclosures than family owned companies while family ownership was not significantly associated with voluntary environmental disclosures.

The results supported hypothesis 5a of an association between family-owned and controlled companies and voluntary social disclosures while hypothesis 5b, that there was an association between family ownership and environmental disclosures was not supported.

4.2.4. *Profitability*

Profitability was found to be positively correlated with voluntary *social* disclosures (Appendix 1, Table 2), also confirmed by the stepwise regression score but was not significantly associated with voluntary social disclosure scores, a result also confirmed by the stepwise regression scores (Appendix 1, Table 5). Profitability had positive
correlation with voluntary \textit{environmental} disclosure scores (confirmed by the stepwise regression score Appendix 1, Table 6) but was not significantly associated with voluntary environmental disclosure scores, a result confirmed by the stepwise regression scores. (Appendix 1, Table 9). The finding was in line with that of Ho and Taylor (2007) and Siregar and Bachtiar (2010) that profitability had no significant association with social responsibility disclosures including voluntary environmental and social disclosures, although the finding in this study could not contribute to the arguments of those authors that the result was due to the higher costs involved in making social responsibility disclosures.

Both hypotheses 2a and 2b that there was an association between profitability and the voluntary corporate social disclosure scores and the environmental disclosure scores were not supported.

\textbf{4.2.5. Company size}

Company size was positively correlated with voluntary \textit{social} disclosure scores and confirmed by the stepwise regression score (Appendix 1, Table 2) but was not significantly associated with voluntary social disclosure scores, a result also confirmed by the stepwise regression scores (Appendix 1, Table 5). Company size was found to have a negative correlation with voluntary \textit{environmental} disclosure scores, and confirmed by the stepwise regression score (Appendix 1, Table 6). Company size was not significantly associated with voluntary environmental disclosure scores, a result also confirmed by the stepwise regression scores (Appendix 1, Table 9). The finding that there was no significant association between company size and voluntary \textit{social} disclosures was in line with the findings of Meznar and Nigh (1995) and Roberts (1992) for the United States of America.

The results did not support hypotheses 1a and 1b that there was an association between company size and voluntary corporate social disclosures and environmental disclosures.

\textbf{4.2.6. Leverage}

Leverage was found to have a positive correlation with voluntary \textit{social} disclosure scores and confirmed by the stepwise regression score (Appendix 1, Table 2) but was
found not to be significantly associated with voluntary social disclosure scores, a result also confirmed by the stepwise regression scores (Appendix 1, Table 5). Leverage was found to have a negative correlation with voluntary *environmental* disclosure scores (confirmed by the stepwise regression score Appendix 1, Table 6) and was not significantly associated with voluntary environmental disclosure scores (a result also confirmed by the stepwise regression scores Appendix 1, Table 9). The finding was in line with that of Alsaeed (2006) that leverage was not significantly associated with voluntary social and environmental disclosures.

The results did not support the hypotheses 3a and 3b that there were such associations.

**4.2.7. Industry classification**

Industry classification was found to be negatively correlated with voluntary corporate *social* disclosure scores (confirmed by the stepwise regression score Appendix 1, Table 2) and was found not significantly associated with voluntary corporate social disclosure scores (a result also confirmed by the stepwise regression scores Appendix 1, Table 5). Similar results were found for *environmental* disclosure: industry classification was found to have a negative correlation with voluntary environmental disclosure scores (Appendix 1, Table 6). The finding was confirmed by the stepwise regression (Appendix 1, Table 9), a finding consistent with those of Frias-Aceituno et al. (2014) and Sierra-Garcia et al. (2015) that there was limited evidence of an industry effect on voluntary disclosures.

The results did not support both hypotheses 4a and 4b of an association of industry type with voluntary disclosures. The following table, Table 4.2 summarises the results.
<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Supported or Not Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a: There is a significant association between company size and the voluntary corporate social disclosure score.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H1b: There is a significant association between company size and the voluntary corporate environmental disclosure score.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H2a: There is a significant association between profitability and the voluntary corporate social disclosure score.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H2b: There is a significant association between profitability and the voluntary corporate environmental disclosure score.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H3a: There is a significant association between leverage and the voluntary corporate social disclosure score.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H3b: There is a significant association between leverage and the voluntary corporate environmental disclosure score.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H4a: There is a significant association between industry classification and the voluntary corporate social disclosure score.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H4b: There is a significant association between industry classification and the voluntary corporate environmental disclosure score.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H5a: There is a significant association between family-owned and controlled companies and the voluntary corporate social disclosure score.</td>
<td>Supported</td>
</tr>
<tr>
<td>H5b: There is a significant association between family-owned and controlled companies and the voluntary corporate environmental disclosure score.</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H6a: There is a significant association between media publicity and the voluntary corporate social disclosure score.</td>
<td>Supported</td>
</tr>
<tr>
<td>H6b: There is a significant association between media publicity and the voluntary corporate environmental disclosure score.</td>
<td>Not Supported</td>
</tr>
</tbody>
</table>
H7a: There is a significant association between corporate governance disclosure score and the voluntary corporate social disclosure score. | Supported
---|---
H7b: There is a significant association between corporate governance disclosure score and the voluntary corporate environmental disclosure score. | Supported

4.3 Discussion

4.3.1. Corporate governance score

In this study, as was expected from the review of the literature, the corporate governance score was found to be significantly and positively associated with the scores relating to voluntary corporate social disclosure and environmental disclosure. This means that if a company has good corporate governance practices, it is more likely to make more voluntary corporate environmental and social disclosures than those firms with poorer practices. According to the items contained in the Bloomberg corporate governance score, good governance includes the size of the board, chief executive officer duality, diversity of both the board and its executives, numbers of board meetings, board independence, the presence of an audit committee and compliance with Global Reporting Initiatives. The findings were consistent with most studies showing that board size was significantly and positively related to the extent of voluntary corporate social responsibility disclosure (Said, Zainuddin and Hason. (2009), a finding confirmed by Esa and Ghazali (2012) for Malaysian listed companies and Giannarakis (2014) for the United States of America). Board size was crucial to corporate governance because it was used as a proxy for effective monitoring.

An independent chairman of the Board was found to be positively and significantly related to the extent of voluntary disclosure by Chau and Gray (2010). Independent chairmen were supposedly motivated to disclose information to outsiders because they were expected to provide an independent check on the chief executive officer (Coller & Gregory, 1999). Alternatively, companies with a non-independent chairman might tend to withhold information to outsiders and reduced the extent of voluntary disclosure in HK listed companies (Chau and Gray, 2010). The finding was consistent with Forker (1992) and others (Gul and Leung, 2004; Huafang and Jianguo, 2007) who found a
significant negative relationship between chief executive officer duality and the extent of voluntary disclosure. Other researchers showed that chief executive officer duality did not seem to be a determinant for the extent of corporate social responsibility disclosure in Malaysia, the United States of America, European countries and in Singapore (Said et al, 2009; Michelon and Parbonetti, 2012 and Cheng and Courtenay, 2006). From a legitimacy theory perspective, corporate governance practices represented by Bloomberg corporate governance score were significantly associated with the increased volume of voluntary corporate environmental and social disclosures over the previous findings relating to HK which might satisfy the social contract and legitimate the operations of the various companies included in the study.

4.3.2. Ownership

Not surprisingly, family ownership was found to be significantly and negatively associated with the voluntary corporate social disclosure scores that indicated that family owned companies made less voluntary corporate social disclosures than non-family owned companies. The result was consistent with the previous finding of Chau and Gray (2002) for HK and Singapore. Contrarily, family ownership was not significantly related to environmental disclosure scores in the sample studied. This result might reflect the situation of HK being a financial centre which tends to emphasize financial matters rather than environmental matters in term of carbon dioxide emission, energy consumption, total water use, total waste and environmental policies. This study showed that family ownership was not significantly associated with the extent of voluntary corporate environmental disclosures by HK listed companies. From a legitimacy theory perspective, HK family owned companies were more significantly influenced by social contract with their “relevant public” who were family shareholders and employees (Newson and Deegan, 2002) and so their voluntary disclosures would be directed to legitimating their business operations to their shareholders and employees.

4.3.3. Media Publicity

Media publicity was found to be significantly associated with the voluntary corporate social disclosure score, indicating that listed companies made more voluntary corporate social disclosures if they had a high media profile. It was a finding consistent with the Western perspective that companies respond to higher print media attention by
increasing voluntary disclosures (Neu et al., 1998). It was also consistent with the common understanding that listed companies want to improve their reputations and images by engaging in social activities which are voluntarily disclosed to the public. Since there were no significant environmental incidents which impacted the HK listed companies, media publicity was not found to be significantly associated with the voluntary environmental disclosure score and the result was not unexpected. This result was consistent with the finding of Taylor and Shan (2007) that Chinese HK companies made more voluntary corporate environmental disclosures to act as a “show case” to attract foreign investors. Listed companies rather put more time and effort to improve and report business and financial performance than spending to enhance voluntary environmental disclosure because it was not easy to articulate the connectivity between socio-environmental impacts and business performance (Hong Kong Exchanges and Clearing Limited, 2012). The finding was not consistent with that of Neu et al. (1998) although that finding related to Canadian companies operating in environmentally sensitive industries. This study showed that media publicity was not significantly associated with voluntary environmental disclosure scores, a finding that was consistent with the findings of Taylor and Shan (2007) in HK. Stakeholders in HK, including media and non-government environmental organizations, were not well aware of what sustainability was about and how to demand listed companies, in particular family owned listed companies, to be accountable for their business actions by voluntary disclosures and reporting (Martig, 2009). Based on legitimacy theory perspective, HK listed companies were significantly influenced by media publicity to make more voluntary corporate social disclosures to satisfy the social contract with their host society and to legitimate their business activities but they did not make more voluntary corporate environmental disclosures possibly because they had implementation, mindset and resource barriers including the fear of being open and accountable about environmental data (Martig, 2009).

4.3.4. Company size

Company size was not found to be significantly associated with voluntary corporate social disclosure scores and voluntary corporate environmental disclosure scores. This indicated larger HK listed companies were not significantly influenced by their size to make more voluntary environmental and social disclosures than smaller listed
companies. The finding was consistent with earlier findings (Roberts, 1992; Barako, Hancock and Izan, 2006; Smith, Yahya and Marzuki, 2007) in relation to environmental reporting. It was also consistent with Lynn’s (1992) earlier finding in relation to HK. This study also found that HK companies were not significantly affected by their size to make more voluntary social and environmental disclosures to avoid regulations and reduce political costs (Gray et al., 1995; Adams et al., 1998; Alsaeed, 2006). This result was also consistent with studies by Eilbert and Parket (1973), Trotman and Bradley (1981), Haniffa and Cooke (2005), Branco and Rodrigues (2008), Gamerschlag et al. (2011), Hossain and Reaz (2007), Khan (2010), Reverte (2009) and Rahman et al., (2011). Nevertheless, such a result was not consistent with legitimacy theory which posited that a company’s size increased visibility and so would make more voluntary disclosures to avoid scrutiny from the government and from pressure groups.

4.3.5. Profitability
Profitability was found not to be associated with voluntary corporate environmental and social disclosure scores. This result might be due to the fact that for profitable HK listed companies, most of which were family owned, it was not necessary to invest in social responsibility initiatives and reporting (Giannarakis, 2014) because these companies operated their businesses like private companies (Martig, 2009). Arguably, voluntary disclosures were more influenced by the “public” rather than “economic” pressure (Williams, 2001; Esa and Ghazali, 2012). That Profitability was not associated with voluntary disclosures was also consistent with the findings of McNally, Eng and Hasseldine (1982), Alsaeed (2006), Michelon and Parbonetti (2012), Reverte (2009), Siregar and Bachtiair (2010), Branco and Rodrigues (2008), Patten (1992a) and Gray et al. (1995). Other studies showed no association between voluntary social and environmental disclosures and financial performance (Connelly and Limpaphayom, 2004; Stanwick and Stanwick, 2000). Contrarily, Gamerschlag et al. (2011) found that profitable companies increased the extent of voluntary disclosures. Based on result of this study, from a legitimacy theory perspective, HK listed companies were significantly influenced by a social contract with a “relevant public” that is probably government and shareholders (Newson and Deegan, 2002) to make more voluntary environmental and social disclosures. Even though they were profitable and had sufficient resources to provide more voluntary disclosures, they were not significantly influenced by
profitability to make more disclosures because they might have mindset barriers to, and worry about, being open and accountable for their actions when they published environmental information (Martig, 2009). Moreover, HK listed companies might have similar mentality with South Korean companies which did not perceive an economic gain from increasing voluntary disclosures so they chose not to adopt global voluntary disclosure practices (Newson and Deegan, 2002).

4.3.6. Leverage
Leverage was not statistically significant indicating that size of debt did not influence HK listed companies to make voluntary corporate environmental and social disclosures. This finding was consistent with Siregar and Bachtiar (2010), Reverte (2009), Rahman et al., (2011), Michelon and Parbonetti (2012), Gul and Leung (2004) and Ho and Wong (2001) but was inconsistent with Esa and Ghazali (2012) and Branco and Rodrigues (2008). A possible explanation for the finding was that creditors had developed a private information process with companies so the need for voluntary public disclosures was mitigated (Alsaeed, 2006; Huafang and Jianguo, 2007). Based on result of this study, from a legitimacy theory perspective, HK listed companies were not significantly influenced by their leverage and contracts with creditors to make more voluntary environmental and social disclosure.

4.3.7. Industry Classification
Industry classification was not statistically significant with voluntary corporate environmental and social disclosure scores which indicated membership of a particular industry was not significantly associated with HK companies’ decisions to make voluntary corporate environmental and social disclosures. The finding was consistent with previous studies conducted in various countries: in United States of America (Cowen et al., 1987); in India (Sahay, 2004), in Malaysia (Ahmad et al., 2003) in Thailand (Suttipun and Stanton, 2012) and in HK (Lynn, 1992; Ferguson et al. (2002). Chau and Gray (2010) also found industry classification was not significantly associated with overall voluntary disclosure in HK. However, other studies found that companies operating in environmentally sensitive industries made more voluntary disclosures to avoid any impeding costs (Deegan and Gordon, 1996; Meek et al., 1995). For this study, even though 43 percent of sampled companies were in environmental and social
sensitive industries, including companies from automobile and components, capital goods, energy, healthcare equipment and service, materials, semi-conductor and semi-conductor equipment and technology hardware and equipment, it was found that industry classification was not significantly associated with voluntary corporate environmental and social disclosures. The finding might be due to the lack of environmental policies encouraging listed companies to make voluntary environmental and social disclosures so HK listed companies only focused on fulfilling mandatory corporate disclosure requirements rather than to satisfy a social contract and expectations. According to Martig (2009), voluntary disclosures did not generate immediate financial returns to these companies and they were also worried of being accountable for their actions when they published environmental data. Based on result of this study, from a legitimacy theory perspective, even HK listed companies in environmental and social sensitive industries were not significantly influenced by a social contract with a “relevant public” (Newson and Deegan, 2002) to make more voluntary environmental and social disclosures to legitimate their business operations.

4.4 Overall Implications of Research Findings

Only corporate governance practice was significantly and positively correlated with the extent of voluntary corporate environmental and social disclosures by HK listed companies. In relation to voluntary corporate social disclosures, family ownership was significantly and negatively correlated to voluntary corporate social disclosures while media publicity was significantly and positively correlated with voluntary corporate social disclosure. Gray (1988) found that there were cultural impacts to the accounting system and disclosure developments in HK, Singapore and other less developed Asian countries which tend to comply with prescriptive legal requirements and statutory control than to be flexible and transparent. Using Gray’s (1988) argument, HK listed companies tended to be significantly influenced by compliance with rules and regulations to make disclosures instead of using voluntary disclosures to satisfy social expectations, to legitimate their business operations and to enhance their reputations and images.HK

The lack of encouragement of HK Government and the HKSX to make more voluntary corporate environmental and social disclosures was possibly due to the laissez-faire
policy of those bodies to avoid intervening in business operations. After the handover of HK to China in 1997, the HK Government and the HKSX have changed their laissez-faire policy to a more positive policy that encourages HK listed companies to enhance their corporate governance practices and disclosures implementing a “comply or explain” policy.

Chapter 5 concludes the results and findings of this empirical research on the association of characteristics of HK listed companies with voluntary environmental and social disclosures in 2014. Lastly, the contribution, limitations and future research are considered.
Chapter 5
Conclusion

5.1 Introduction
This chapter summarizes and discusses the findings of this study. The contribution of this research lies in its support of the “comply or explain” provision in HK listing rules and the important influence of corporate governance practices on the extent of voluntary corporate environmental and social disclosures. Research limitations are also discussed, with the chapter ending with the recommendations for further research.

5.2 Conclusion
This study utilized legitimacy theory to investigate the association of listed companies’ characteristics with the extent of voluntary corporate environmental and social disclosures by 131 listed HK companies. The year studied, 2014, was the only time in which to measure the extent of voluntary environmental and social disclosures and the association of internal factors of listed companies with that extent after the proposed “comply or explain” Appendix 27 had been implemented for one year. Only 131 (7.9 percent) listed companies made all disclosures that would be required by the implementation of Appendix 27’s “comply or explain” possibly indicating that managements of the corporations were not enamoured with the proposal. The extent of disclosures was measured by the Bloomberg corporate social disclosure, environmental disclosure and governance scores, a novel method in this area of research. The higher the Bloomberg corporate social, environmental and governance disclosure scores, the greater the corporate social, environmental and governance disclosures. The major benefit of using Bloomberg disclosure scores is that each disclosure data point is weighted in terms of significance, contrary to prior studies which use equal or subjective weight approaches for their criteria. In addition, it provides a distinct disclosure score for each of corporate environmental, social and governance disclosure categories.
This study found that the corporate governance disclosure score, a proxy for companies’ corporate governance practices and disclosure, is the only independent variable significantly and positively associated with the extent of voluntary corporate environmental disclosure. This result accords with previous research that found if a company has good corporate governance practices, it is more likely to make more voluntary corporate environmental disclosures than those firms with poorer practices. The other hypothesized relationships of company size, profitability, leverage, media publicity, ownership and industry classification are not significantly associated with the extent of voluntary corporate environmental disclosure.

For corporate social disclosure, the corporate governance disclosure score and media publicity are significantly and positively associated with the corporate social disclosure score while family ownership is negatively and significantly associated with the corporate social disclosure score. The family ownership result was consistent with the previous finding of Chau and Gray (2002) for HK. The association with media publicity accords with previous findings that listed companies made more voluntary corporate social disclosures if they had a high media profile.

Using legitimacy theory to study the association of media publicity with voluntary disclosures, Hooghiemstra (2000) found that social and environmental disclosures increased due to increased public concerns and media reporting particularly after environmental accidents. Voluntary social disclosures could be used to repair corporate image and identity. Based on the results of this study, media publicity was found to be significantly associated with voluntary corporate social disclosure rather than corporate environmental disclosures in HK listed companies to secure legitimacy (Bansal and Clelland, 2004) and used disclosures to repair reputations (Hooghiemstra, 2000). Since there were no significant environmental incidents which affected the HK listed companies, media publicity was not significantly associated with voluntary environmental disclosures. The result may also be due to the long term influence of the laissez-faire policy towards corporations in HK, while stakeholders in HK may not be aware of how to hold listed companies accountable for their business actions by voluntary disclosures and reporting (Martig, 2009).
This research wanted to see whether legitimacy theory is able to explain the above associations in HK listed companies. Based on the result of this study, legitimacy theory is able to explain the association of corporate governance practice to voluntary corporate social and environmental disclosures to fulfill the social contract between the society and companies (Ho and Wong, 2001; Chau and Gray, 2010; Giannarakis, 2014). Moreover, it is able to explain the association of media publicity with voluntary corporate social disclosure rather than voluntary corporate environmental disclosures as discussed above. Lastly, it is able to explain the association of non-family ownership companies with voluntary corporate social disclosure rather than voluntary corporate environmental disclosure to legitimate their business operations that was in line with findings of Chau and Gray (2002) and Chen and Jaggi (2000).

As mentioned in the introduction, this study may provide research support to the HK Government and the HKSX making the “comply or explain” provision in HK listing rules effective on 1 January 2016 if it is discovered that listed companies are not willing to increase the extent of voluntary environmental and social disclosures without the positive intervention of HK Government and the HKSX. The findings of this study are too early to indicate whether the “comply or explain” provision in the HK listing rules will increase voluntary corporate environmental and social disclosures by listed companies. Gray (1988) found that there were cultural impacts on the accounting system and disclosure requirements in HK, so that Singapore and less developed Asian countries tend to comply with prescriptive legal requirements and statutory control rather than be flexible and transparent. The implementation of Appendix 27 is a good initiative to encourage HK listed companies to increase voluntary corporate social and environmental disclosures to satisfy social expectations, to legitimate their business operations and to enhance their reputations and images.

5.3 Contributions
This research updates previous research focusing on the extent of voluntary disclosures by HK listed companies and the association between voluntary environmental and social disclosures and various company characteristics. During the past 10 years, there have been many political, economic and social changes which are reflected in changes to the HK listing rules, changes that focus on corporate governance practices, reporting,
and voluntary disclosures. The findings of this study show that the development of voluntary environmental and social disclosures is slow in that, as mentioned above, only 7.9 percent of Main Board listed companies on the HKSX had all Bloomberg environmental, social and governance disclosure scores in 2014, a result which in itself is indicative of the extent of voluntary disclosures by HK listed companies. Whether the introduction of the “comply or explain” policy to encourage more voluntary disclosures to catch up with the international trend of increasing voluntary disclosures is yet to be seen.

Based on legitimacy theory, this study has findings different from previous studies. It finds that company size, profitability, leverage, family ownership, industry classification and media publicity are not significantly associated with the extent of both voluntary corporate environmental and social disclosures in HK. Only the corporate governance disclosure score is found to be significantly associated with both environmental and social disclosure scores. The result shows that HK listed companies behave differently from what legitimacy theory anticipates: that public companies make more voluntary corporate environmental and social disclosures when they are bigger, more profitable, highly leveraged, operating in environmentally sensitive industries with media exposure to legitimate their business operations, to avoid stakeholders’ intervention in their business activities, to improve and repair their images. The HKSX and HK Government should encourage public companies to disclose more voluntary corporate environmental and social disclosures to increase the transparency of their companies like other stock markets so that stakeholders could have more information to make informed decisions.

Perhaps the contribution of this study is the use of Bloomberg corporate disclosure scores for measuring the extent of corporate environmental, social and governance disclosures. Although this study is not the first to have utilized Bloomberg corporate disclosure scores, it is the first to apply those scores to HK listed companies. The use of objective and commercially acceptable measurements can avoid the weakness of using different subjective voluntary disclosure schedules while increasing the potential comparability of studies using these scores.
This study supports the HKSX’s decision to issue the “comply or explain” policy to all listed HK companies, a policy which was effective on 1 January 2016. The low rates of corporate disclosure scores by the listed companies indicates that a stronger policy was needed if companies were to disclose more information about non-financial matters to their stakeholders. The finding that corporate governance practice is the only significant association with the extent of voluntary corporate environmental and social disclosures supports the approach of “comply or explain” as the policy is directed at those responsible for corporate governance within listed companies. The finding confirms that it is not possible to rely on companies voluntarily providing information to their stakeholders unlike the rest of the world where previous studies have shown significant associations between company characteristics and voluntary disclosures.

5.4 Limitations

This study was only based on Bloomberg data for one year, 2014. Whether this snapshot is indicative of what is happening in relation to voluntary disclosures by HK companies is unknown. As such a longitudinal study incorporating years prior to and after the implementation of Appendix 27 “Environmental, Social and Governance Reporting Guide” is recommended.

Another limitation is that the small sample of only 131 companies that had the required three scores only represents only 7.9 percent of HK listed companies so the result might not be generalizable. The Bloomberg voluntary corporate environmental, social and governance scores are new measurements that require further research to test their reliability. The scores are proprietary ones formulated by Bloomberg without full disclosure of the details of calculation due to business privacy and confidentiality reasons. The lack of full disclosure about their derivation may affect the usefulness of the scores in research into voluntary disclosures. For example, the Bloomberg corporate governance score includes many different items, such as numbers of independent directors, numbers of cross-directorships, diversity, and each element may have different levels of associations with environmental and social disclosures that are controversial and have not been addressed in this research. The generality of the Bloomberg score does not allow differentiating what is important to the overall findings. If a listed company does not report on one or more items in these ‘comply or
explain’ provisions, it must provide reasons in its environmental, social and governance report why it did not report. Another limitation of the use of Bloomberg scores is that the researcher is unable to ascertain whether the companies reported why they did not comply.

Lastly, the discussion about listed companies in environmentally sensitive industries were not significantly influenced by a social contract to make voluntary environmental and social disclosures were based on the assumption that the social contract extends to the environmental and social disclosures. This assumption may not hold if those companies do not recognize such extensions.

5.5 Future research
The findings indicate that future research in the voluntary disclosure area should incorporate variables such as companies listing on other foreign stock exchange markets and more specific corporate governance variables, such as independence of the directors, numbers of independent directors, numbers of cross-directorships, executives’ characteristics, and directors’ diversity, board composition, and the role of audit committees. As mentioned earlier, a longitudinal approach to investigate the extent of voluntary disclosures by HK listed companies to evaluate the success of the ‘comply or explain’ policy would be useful for both HK and for other countries contemplating such a policy. Further research into the attitudes of the decision makers in HK companies may reveal useful information about how to increase the sharing of information between HK companies and their stakeholders especially in non-family companies. Lastly, future research could be conducted to investigate the reasons given by companies for not complying with Appendix 27 and whether the numbers of companies not complying reflects the paucity of companies responding to the public consultations of 2013, 2014 and 2015 regarding Appendix 27’s implementation.
References


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Appendix 1

Table 1

Descriptive Statistics of Model 1 and 2 - Social Disclosure Score (SDS), Environmental Disclosure Score (EDS), Company Size (SIZE), Industry Classification (IND), Profitability (NP), Leverage (DE), Ownership Dispersion (OWN), Media Publicity (MP) and Corporate Governance Disclosure Score (CGS).

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Range</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDS</td>
<td>131</td>
<td>54.39</td>
<td>3.51</td>
<td>57.89</td>
<td>27.47</td>
<td>12.85</td>
</tr>
<tr>
<td>EDS</td>
<td>131</td>
<td>51.16</td>
<td>2.33</td>
<td>53.49</td>
<td>15.33</td>
<td>11.49</td>
</tr>
<tr>
<td>MP</td>
<td>131</td>
<td>216.00</td>
<td>3.00</td>
<td>219.00</td>
<td>111.95</td>
<td>55.21</td>
</tr>
<tr>
<td>OWN</td>
<td>131</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>.44</td>
<td>.499</td>
</tr>
<tr>
<td>DE</td>
<td>131</td>
<td>420.52</td>
<td>.00</td>
<td>420.52</td>
<td>74.79</td>
<td>75.58</td>
</tr>
<tr>
<td>NP</td>
<td>131</td>
<td>125495880128</td>
<td>-16216880128</td>
<td>1092790000000</td>
<td>7273344806</td>
<td>16575565044</td>
</tr>
<tr>
<td>SIZE</td>
<td>131</td>
<td>2781438264992</td>
<td>201735008</td>
<td>2781640000000</td>
<td>97788651012</td>
<td>325738505970</td>
</tr>
<tr>
<td>IND</td>
<td>131</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>.43</td>
<td>.50</td>
</tr>
<tr>
<td>CGS</td>
<td>131</td>
<td>39.29</td>
<td>28.57</td>
<td>67.86</td>
<td>50.98</td>
<td>6.24</td>
</tr>
</tbody>
</table>
Table 2

Correlation Coefficients of Model 1 - Social Disclosure Score (SDS), Company Size (SIZE), Industry Classification (IND), Profitability (NP), Leverage (DE), Ownership Dispersion (OWN), Media Publicity (MP) and Corporate Governance Disclosure Score (CGS).

<table>
<thead>
<tr>
<th>Model 1</th>
<th>SDS</th>
<th>MP</th>
<th>OWN</th>
<th>DE</th>
<th>NP</th>
<th>SIZE</th>
<th>IND</th>
<th>CGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDS</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MP</td>
<td>.278</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OWN</td>
<td>-.127</td>
<td>.022</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DE</td>
<td>.098</td>
<td>-.073</td>
<td>-.163</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NP</td>
<td>.253</td>
<td>.137</td>
<td>-.123</td>
<td>-.160</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SIZE</td>
<td>.235</td>
<td>.152</td>
<td>-.214</td>
<td>.024</td>
<td>.631</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IND</td>
<td>-.044</td>
<td>-.269</td>
<td>-.211</td>
<td>.166</td>
<td>-.060</td>
<td>.142</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>CGS</td>
<td>.520</td>
<td>.251</td>
<td>.142</td>
<td>-.057</td>
<td>.210</td>
<td>.112</td>
<td>-.256</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Notes: Correlation coefficients are presented with significance levels in parentheses.
Table 3
R Square shows that Model 1 explains 33.4% of the variability of Social Disclosure Score.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.578</td>
<td>.334</td>
<td>.319</td>
<td>10.60838</td>
</tr>
</tbody>
</table>

Table 4
ANOVA test shows that Model 1 is significant at F=21.253 and p=0.000.

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>7175.230</td>
<td>3</td>
<td>2391.743</td>
<td>21.253</td>
<td>0.000</td>
</tr>
<tr>
<td>Residual</td>
<td>14292.295</td>
<td>127</td>
<td>112.538</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>21467.525</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5
Results of Multiple Regression Model using Stepwise method that Corporate Governance Disclosure Score, Ownership dispersion and Media Publicity are significant to explain the Social Disclosure Score.

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-27.829</td>
<td>7.665</td>
<td>-3.631</td>
<td>.000</td>
</tr>
<tr>
<td>CGS</td>
<td>1.051</td>
<td>.156</td>
<td>.510</td>
<td>6.754</td>
</tr>
<tr>
<td>OWN</td>
<td>-5.234</td>
<td>1.885</td>
<td>-.203</td>
<td>-2.776</td>
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<tr>
<td>MP</td>
<td>.036</td>
<td>.017</td>
<td>.155</td>
<td>2.066</td>
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</table>
Table 6
Correlation Coefficients of Model 2 – Environmental Disclosure Score (EDS), Company Size (SIZE), Industry Classification (IND), Profitability (NP), Leverage (DE), Ownership Dispersion (OWN), Media Publicity (MP) and Corporate Governance Disclosure Score (CGS).

<table>
<thead>
<tr>
<th></th>
<th>EDS</th>
<th>MP</th>
<th>OWN</th>
<th>DE</th>
<th>NP</th>
<th>SIZE</th>
<th>IND</th>
<th>CGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EDS</td>
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<td></td>
</tr>
<tr>
<td>MP</td>
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<td>1.000</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>(.034)</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>OWN</td>
<td>.049</td>
<td>.022</td>
<td>1.000</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td>(.289)</td>
<td>(.404)</td>
<td></td>
<td></td>
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<tr>
<td>DE</td>
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<td>-.073</td>
<td>-.163</td>
<td>1.000</td>
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<tr>
<td></td>
<td>(.290)</td>
<td>(.203)</td>
<td>(.031)</td>
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<td>NP</td>
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<td>.137</td>
<td>-.123</td>
<td>-.160</td>
<td>1.000</td>
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<td></td>
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<tr>
<td></td>
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<td>(.059)</td>
<td>(.081)</td>
<td>(.034)</td>
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<tr>
<td>SIZE</td>
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<td>.152</td>
<td>-.214</td>
<td>.024</td>
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<td>1.000</td>
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<tr>
<td></td>
<td>(.496)</td>
<td>(.042)</td>
<td>(.007)</td>
<td>(.393)</td>
<td>(.000)</td>
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<tr>
<td>IND</td>
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<td>-.269</td>
<td>-.211</td>
<td>.166</td>
<td>-.060</td>
<td>.142</td>
<td>1.000</td>
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<td>(.010)</td>
<td>(.001)</td>
<td>(.008)</td>
<td>(.029)</td>
<td>(.247)</td>
<td>(.053)</td>
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<td>CGS</td>
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<td>.251</td>
<td>.142</td>
<td>-.057</td>
<td>.210</td>
<td>.112</td>
<td>-.256</td>
<td>1.000</td>
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<tr>
<td></td>
<td>(.000)</td>
<td>(.002)</td>
<td>(.053)</td>
<td>(.258)</td>
<td>(.008)</td>
<td>(.101)</td>
<td>(.002)</td>
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</tr>
</tbody>
</table>
Table 7
R Square shows that Model 2 explains 38.5% of the variability of Environmental Disclosure Score.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>.621</td>
<td>.385</td>
<td>.380</td>
<td>9.04309</td>
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</tbody>
</table>

Table 8
ANOVA test shows that Model 2 is significant at F=80.799 and p=0.000.

<table>
<thead>
<tr>
<th>Model 2</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>6607.540</td>
<td>1</td>
<td>6607.540</td>
<td>80.799</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>10549.302</td>
<td>129</td>
<td>81.778</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>17156.842</td>
<td>130</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 9
Results of Multiple Regression Model using Stepwise method that only Corporate Governance Disclosure Score is significant to explain the Environmental Disclosure Score.

<table>
<thead>
<tr>
<th>Model 2</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-42.931</td>
<td>6.530</td>
<td></td>
<td>6.574</td>
</tr>
<tr>
<td>CGS</td>
<td>1.143</td>
<td>.127</td>
<td>.621</td>
<td>8.989</td>
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</tbody>
</table>