

**School of Accounting  
Curtin Business School**

**An Empirical Study of Corporate Social and Environmental Communication**

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of  
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## DECLARATION

To the best of my knowledge and belief this thesis contains no material previously published by any other person except where due acknowledgement has been made.

This thesis contains no material which has been accepted of award of any other degree or diploma in any university.

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## ABSTRACT

This thesis empirically investigates the extent of social and environmental disclosure (SED) practices by Indian textile and apparel (TA) listed firms for the 2010, 2011, and 2012 financial years. A comprehensive and unique SED index checklist is adopted from the applicable Global Reporting Initiative (GRI 2008) for the TA industry. Three consecutive years of annual reports of a sample of 95 Indian TA firms listed on the Bombay Stock Exchange are examined to assess the extent of SED practices. Firm-level characteristics and corporate governance attributes are incorporated as key predictor variables of SED practices.

In spite of an upward trend in SED practices by Indian TA listed firms, the results indicate a low extent of SED over the three year period with mean disclosure of 13.57%. The overall mean environmental disclosure by these firms (17.98%) is higher than the social disclosure (10.44%). This finding indicates that firms operating in more environmentally sensitive industries, including the TA industry, tend to disclose more environmental information in annual reports than firms operating in less environmentally sensitive industries possibly to secure legitimacy.

Pooled multiple regression analysis shows that larger firms, and firms that supply TA products to international brand-name corporate groups, firms with an independent audit committee, firms with better financial performance and firms with international certifications communicate significantly more social and environmental information than their counterparts. Indian TA firms with CEO duality communicate significantly less social and environmental information in annual reports. Interestingly, contrary to the expectations of legitimacy theory, board independence is negatively and significantly associated with the extent of SED. Further, no significant association is found between ownership concentration and the extent of SED. Overall, this thesis provides support for legitimacy theory tenets in explaining the SED practices of Indian TA firms.

The findings of this research have several key implications. The overall low extent of SED by Indian TA firms and the potential adverse impact of this sector to the country's social and natural environment have major implications for future development of social and environmental reporting standards for this sector. Potential concern may arise from such a lack corporate communication related to social or environmental activities and risks as it may lead to questions whether firms domiciled in India and their international brand-name affiliations have been transparent and accountable regarding their production and supply activities. The theoretical contribution of this study is the successful testing of legitimacy theory in the context of an emerging economy. This study contributes towards practice by delineating the relationship between firm corporate characteristics, governance structure and social and environmental disclosure (SED). This thesis highlights the influence of international exposures (brand development and award obtained) and the more roles played by corporate governance attributes on the SED communication practices. These findings highlight the need for improving reporting standards and regulations in regard to corporate governance in India. The dearth of social and environmental disclosure by Indian TA firms has implications for foreign purchasers of branded products as international companies have been implicated in sub-optimal social or environmental practices or incidents.

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## LIST OF KEY ABBREVIATIONS

ACIND	Audit committee independence
AWARD	Award obtained
BIND	Board independence
BRAND	Brand development
BSE	Bombay Stock Exchange
CEO	Chief executive officer
DUAL	CEO duality
FSIZE	Firm size
GOI	Government of India
GRI	Global Reporting Initiative
ICAI	Institute of Chartered Accountants of India
OWN	Ownership concentration
PROFIT	Profitability
SEBI	Securities and Exchange Board of India
SED	Social and environmental disclosure
SEDe	Environmental disclosure
SEDI	Social and environmental disclosure index
SEDIe	Environmental disclosure index
SEDI <sub>s</sub>	Social disclosure index
SEDS	Social disclosure
TA	Textile and apparel



## THESIS RELATED PUBLICATIONS

### Referred Journals

- Nurhayati, R., and G. Taylor. 2015. The determinants of labour practices disclosure: An empirical evidence from textile and apparel industry. *Global Review of Accounting and Finance*. Forthcoming.
- Nurhayati, R., G. Taylor, R. Rusmin, G. Tower, and B. Chatterjee. 2015. Factors determining social and environmental reporting by Indian textile and apparel firms: A test of legitimacy theory. *Social Responsibility Journal*, Forthcoming.

### Conference Papers

- Nurhayati, R., and G. Taylor. 2014. Determinants of labour practices disclosure: Empirical evidence from textile and apparel industry. 29<sup>th</sup> International Business Research Conference, 24-25 November: Sydney, Australia.
- Nurhayati, R., G. Taylor, G. Tower, and R. Rusmin. 2014. The link between corporate governance and environmental disclosure: Empirical evidence from India. 50<sup>th</sup> British Accounting and Finance Association (BAFA) Annual Conference, 14-16 April: London, United Kingdom.
- Nurhayati, R. 2013. Corporate social and environmental reporting practices in textile and apparel industry. Accounting and Finance Association of Australia and New Zealand (AFAANZ) Doctoral Colloquium, 3-5 July: Perth, Australia.

# CHAPTER 1 : OVERVIEW OF THE THESIS

## 1.1 Introduction

This thesis investigates the extent of corporate social and environmental disclosures (SED) of Indian listed companies in the textile and apparel (TA) industry. Insights on prime drivers of such communication are offered.

Manufacturing companies undoubtedly have a major impact on the surrounding environment including people, communities, and the natural environment. The advantages of manufacturing activities include the supply of products required for everyday life, large scale employment, and the payment of tax to government. Nevertheless, these activities have detrimental impacts on the natural and social environment. Non-sustainable industrial activities including manufacturing process in the textile and apparel industry has had unfavourable impacts on the quality of its surrounding environment (Pastakia 2002).

One of the fastest growing sectors in developing countries is the textile and apparel industry. The TA industry has been the engine of the economic development in developing countries (Kim, Traore, and Warfield, 2006). The TA industry is one of the oldest and largest industries in India (ILO 2011). In fact, India is well recognized as one of the major players in the TA industry in the world (CCI 2010). India's TA industry attained such a position as a result of a strong and diverse raw material base, low labour costs, skilled workforce, ongoing efforts by the Indian Government in promoting the industry (Tanange 2010) and the significant role of the World Trade Organization (WTO) in developing this industry internationally (Chaudhary 2011).

Across the world, the Indian textile and apparel industry is well placed. Based on India's global exports in textile and apparel, the industry is in a sturdier position than it was over the last six decades (Tanange 2010). In fact, India's position in the world is well known as the largest producer of jute and the second largest producer of raw cotton, cotton yarn, synthetic yarn and silk (Chaudhary (2011). The TA industry plays a vital contribution to the economic progress of India as this sector

employs an enormous number of people. The industry provides the second largest employment in India after agriculture with more than 35 million people in direct work placements and an additional 50 million people in allied activities (CCI 2010). The textile industry is a major contribution to industrial production (14%), Gross Domestic Product (GDP) (4%), and the country's export earnings (17%) (Indian Ministry of Textile 2011); the apparel industry contributes 12% of India's total exports (ILO 2011).

In spite of the positives of the TA industry in India including its major contribution to the Indian economy in general and employment specifically, the TA industry has the potential to adversely impact the environment and society. The use of raw materials such as cotton, nylon, polyester and dyes as well the production process contributes to high level environmental degradation (Challa 2011). For example, the production of nylon and polyester needs chemicals that release toxic waste and gas. Compared to other sectors, the TA industry can be considered a strong polluter (Challa 2011) as it uses large amounts of chemicals, water and fossil fuels in its manufacturing process leading to soil, noise, water, and air pollution. The Indian Government has implemented regulations to protect the natural environment and has established mechanisms to monitor the environmental impact of the TA industry. In spite of these regulations, such efforts seem to be ineffective in controlling industrial pollution (Pastakia 2002; BNOT 2011). Over-usage of resources such as water and fossil fuels may also disturb the ecological balance worldwide resulting in issues such as climate change, global warming, ozone layer depletion and loss of biodiversity. The end-products manufactured by the TA industry may have large-scale potential adverse impact to the environment (Challa 2011). For instance, washing clothing products for daily usage requires substantial amount of detergents and water that trigger soil and water pollution. Moreover, some materials such as nylon and polyester are not easy to recycle as they take many decades to decompose. Challa (2011) argues textile items should be considered as one of the most unsustainable products in the world.

Associated with the TA industry, there are also exist major social concerns in India such as massive concerns about widespread child labour, a poor health and safety record for workers and unacceptable working conditions (Yperen 2006). One of the most widely reported and controversial issue in India is child labour (LWL

2009). Although in many developed countries child labour is considered inappropriate, such labour practice is quite common in developing countries including in India (LWL 2009). In general, child labour usually stems from the country's poverty and lack of legal enforcement. The TA industry is labour-intensive and offers many entry-level jobs for unskilled labour making it possible for children to work in this sector (Nordås 2004). In fact, the child labour practice in India is considered an intricate problem with a permitted (legal) working age for the clothing industry at age 14 (LWL 2009). This law is often violated. It is estimated that 12% of the population in the age group of 5 to 14 years in India are working as labourers or domestic help (UNICEF 2010). The modern mindset is that instead of working, such young people should be attending school and enjoying their childhood time. Another major issue in the TA industry is health and safety. Yperen (2006) highlights problems throughout the textile sector as it often endangers the life of workers due to the high probability of accidents resulting from fire, use of pesticides and chemicals, and over-exposure to noise and dust during the manufacturing process.

In order to sustain successful outcomes, an entity should be accountable and responsible for its actions that affect its surroundings including the society, business environment and the natural environment (Lawrence and Weber 2008). The growing interest in corporate social disclosure practices is likely driven by the increasing awareness by society of the social and environmental issues that demand corporations to be accountable for their actions and to communicate these issues. It is important for the corporations to clearly communicate their activities in order to obtain approval from society to continue to operate and interact with their stakeholders and society. Hence, corporate disclosure practices can be seen as an effective strategy to bind and legitimatise corporations with societal norms and expectations (Deegan 2002).

Since the 1970s, corporate social and environmental accounting has become an emerging area of research (Choi 1999; Mathews 2004; Beck and Laan 2008) and gained considerable interest to academics around the world. Whilst there are a plethora of studies on corporate social responsibility (CSR) disclosures (see e.g. Haniffa and Cooke 2002; Gul and Leung 2004; Nurhayati, Brown, and Tower 2006; Islam and Deegan 2008; Baek, Johnson, and Kim 2009; Akhtaruddin, Hossain, Hossain and Yao 2009; Akhtaruddin and Haron 2010; Tower, Vu and Scully 2011)

there is a paucity of empirical studies in the area of social and environmental disclosures in the textile and apparel industry particularly in developing country settings.

## **1.2 Research Questions**

The aim of this thesis is to investigate the extent and determinants of corporate social and environmental disclosure (SED) of Indian listed firms in the textile and apparel (TA) industry for the years 2010-2012. Following this aim, this thesis investigates the following key thesis research questions:

1. To what extent do Indian TA listed firms provide voluntary social and environmental disclosures (SED) in their annual reports?
2. What is the relationship between corporate characteristics (i.e. firm size, brand development, profitability and award obtained) and the extent of SED of Indian TA listed firms?
3. What is the relationship between corporate governance variables (i.e. board independence, ownership concentration, audit committee independence and CEO duality) and the extent of SED of Indian TA listed firms?
4. Does the level of social disclosures differ from environmental disclosures? If so, what characteristics help explain these differences?

## **1.3 Significance of Research**

This thesis contributes towards literature, theoretical development and practice. There are very limited studies on corporate social and environmental disclosure practices in the textile and apparel industry particularly in developing countries. One recent study investigates CSR practices of two multinational clothing and sports retail companies (i.e. Nike and Hennes & Mauritz) in Bangladesh (Islam and Deegan 2010). Another study on CSR using a case study approach interviewing senior executives from a major garment company in Bangladesh to investigate motivations of the entity to report social responsibility information (Islam and Deegan 2008). Many studies do not investigate the determinants of CSR practices. Hence this thesis contributes to the literature by conducting an in-depth study of factors determining CSR practices of Indian TA companies. Using a positive

(quantitative) approach and extant CSR related research, this thesis selects four key predictor variables (i.e. corporate size, brand development, board independence and ownership concentration) and incorporates relevant control variables (i.e. audit committee independence, CEO duality, profitability and award obtained) into the analysis. A thorough examination of such a blend of corporate characteristics and corporate governance variables offer insights on corporate voluntary communication practices particularly regarding the social and environmental disclosures of Indian textile and apparel industry. Second, there needs to be more studies in the area of environmental disclosures (e.g. Chatterjee and Mir 2008; Mukherjee, Sen and Pattanayak 2010). There is no known social and environmental disclosure (SED) study focusing on the TA industry in India. Chaudhary (2011) highlights the importance of India in the global economy as one of the fastest growing nations and one of the leading textile and apparel industries in the world. Given the dearth of literature focusing on social and environmental disclosures of the TA industry and the significance of this sector in reducing climate change and betterment of the society, this thesis addresses the gap in the voluntary disclosures literature by closely examining SED with the sole focus on the TA industry.

This thesis provides theoretical development contribution by testing legitimacy theory in an emerging country context and in a potentially high polluting industry. In regard to practice, this thesis specifically offers insights into SED through the use of a comprehensive disclosure index. The regulatory bodies may consider such a comprehensive checklist in developing future guidelines for social and environmental reporting. The disclosure index is adopted from the most appropriate version of Global Reporting Initiative (GRI 2008) that is specifically tailored for the TA industry<sup>1</sup>. The GRI offers (in total) 77 items via a comprehensive index to measure important social and environmental dimensions. The social dimension is further categorised by GRI into four key sub-categories: 'labour practices and decent work', 'human rights', 'society' and 'product responsibility'. Although the environmental dimension is advanced by the GRI in one cohesive grouping, this thesis divides this dimension into five key performance sub-category

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<sup>1</sup> The 2008 version of GRI sustainability reporting guidelines for apparel and footwear sector supplement is the most recent version available to date. Therefore, the 2008 version is used to measure corporate social and environmental communication of Indian listed textile and apparel firms for the 2010-2012 period.

aspects, namely: 'materials', 'energy', 'water and biodiversity', 'emissions, effluents and waste' and 'others'. The GRI framework and its social and environmental dimensions comprehensively may enhance a better understanding of social and environmental disclosures communication in this vibrant economic sector. Overall, the GRI guidelines are adopted in this thesis because they are recognized for their high international profile and influence (Adams 2004) and widely used reporting guidelines (Jonas and Jones 2011). This thesis also contributes towards practice by delineating the relationship between firm corporate characteristics, governance structure and social and environmental disclosure (SED). Lastly, this thesis highlights the influence of international exposure (i.e. brand development and award obtained) and the more roles played by corporate governance attributes on the SED communication practices.

#### **1.4 Assumptions and Limitations**

This thesis assumes that the annual report is the main medium used by Indian TA companies in externally communicating social and environmental issues. Yet, corporations may use a variety of alternative reporting mediums (e.g. sustainability reports and websites) for voluntarily communicating their social and environmental activities. Although corporations may provide social and environmental information in sustainability reports, these reports appear unpopular in emerging economies. As such, only a few Indian firms use separate sustainability reports to communicate their social and environmental information as there is no mandatory requirement in India for listed firms to provide such reports (Tewari and Dave 2012). Garg and Verma (2010) conclude that although websites has become a quite popular medium in India, such a medium is still considered as only an alternative mechanism for corporations to communicate to their stakeholders. In addition, many notable commentators argue that information communicated in annual reports is widely recognized to have a high degree of credibility (Neu, Warsame, and Pedwell 1998; Unerman 2000) and are regarded as the single most important source of information of corporation activities (Wiseman 1982; Adams, Hill and Roberts 1998; Raar 2002) and for constructing their external images (Gray, Kouhy, and Lavers 1995). For these reasons and in line with most disclosure studies particularly in developing economies (see e.g. Nurhayati

et al. 2006, Mukherjee et al. 2010, and Tower et al. 2011), this thesis relies on the annual reports as the sample data source to examine the social and environmental disclosure practices of Indian textile and apparel industry.

The research approach in this thesis assumes that all items in the social and environmental disclosures (SED) index checklist are equally important and applicable to the Indian textile and apparel companies. In measuring the extent of SED, this thesis counts up and treats the items in the checklist with equal weighting (known as the unweighted approach). The unweighted approach is chosen for two main reasons. First, the unweighted approach arguably reduces subjectivity in assigning weights on each SED elements especially if the user preferences are unknown. Second, corporations usually will have similar scores whether the items are weighted or unweighted (Cooke 1991; Coy, Tower and Dixon 1993; Meek et al. 1995). Alternate assumptions are further explored in Chapter 8.

In line with most past disclosure studies, this thesis has two main limitations. First, this thesis focuses solely on the TA listed firms. The entire Indian TA industry does not merely consist of listed companies; there are also many smaller unlisted companies. This thesis only considers listed companies in the sample because they provide the most easily accessible and most credible information to the public (Unerman 2000) and unlisted company annual reports are virtually impossible to obtain. The final thesis findings thus may not capture all variability of the SED practices and limit the generalisation of the findings. Second, this thesis considers a finite number of predictors in investigating the association between corporate characteristics and corporate governance factors leading to future research suggestions.

Despite these common research assumptions and limitations, this thesis provides important contributions to the accounting literature. This thesis offers a wealth of valuable insights by addressing the gap in the voluntary disclosure literature in emerging economies particularly by solely focussing on the textile and apparel industry in India.



## **1.5 Organisation of Thesis**

This thesis is organised in eight chapters as follows. Chapter 1 provides an overview of the thesis, research questions, significance of the thesis, and assumptions and limitations. Chapter 2 outlines the characteristics of the Indian economy. It then critiques the accounting and regulatory environment in India with an accompanying summary of the textile and apparel industry at the global level and the specific Indian TA industry experience. Chapter 3 offers a critical review of the most relevant disclosure literature with a special focus on the link between key predictor variables and social and environmental disclosure (SED) based on the legitimacy theory framework leading to hypotheses development. Chapter 4 presents the overall research approach of the thesis describing the positivist empirical paradigm adopted as well as the specific quantitative statistical research techniques. Chapter 5 provides a full array of the descriptive statistics of the key variables. Chapter 6 reveals the results of inferential statistics that highlights the key finding on the hypothesized predictor variables. The analysis and implication of the results are summarised in Chapter 7. Finally, Chapter 8 concludes the thesis with a review of the thesis findings and suggestions for future research.

## **1.6 Chapter Summary**

This chapter offers an overview of the structure of the thesis. The increasing awareness of society on social and environmental issues demands corporations to do more redeeming activities and communicate them to the stakeholder groups. Such pressures for improvements suggest that there is a need for more studies on voluntary disclosure practices. Past studies mostly provide evidence from a developed country setting yet they provide only some insights on the background of those developing economies. This thesis closely investigates the reporting practices of Indian textile and apparel listed companies by examining the relationship between firm characteristics and corporate governance variables and the extent of social and environmental disclosures. The following Chapter 2, accounting in the Indian textile and apparel industry, offers a summary on business environmental factors shaping Indian accounting practices and a comprehensive discussion on textile and apparel industry at both the global and Indian TA industry level.

## **CHAPTER 2 : AN OVERVIEW OF THE ACCOUNTING ENVIRONMENT IN INDIA**

### **2.1 Introduction**

Chapter Two provides an overview of the accounting environment of India. Using the framework of Gernon and Wallace (1995), this chapter then presents a comprehensive discussion of the environmental factors including cultural and non-cultural factors that shape accounting practices in India. An examination of the accounting milieu of India gives a framework from which disclosure of environmental and social practices in the textile and apparel industry can be explained.

The remainder of this chapter is organised as follows. The next two sections develop a framework of the environmental factors shaping the accounting practices in India. A discussion on the significance of Indian textile and apparel sector is also offered in this chapter. The last section summaries this chapter.

### **2.2 Framework Depicting Country Overview**

This thesis applies Gernon and Wallace's (1995) framework in describing the accounting profile of India. They adopt an accounting ecology perspective to provide an integrated and holistic view of a country's accounting scene. Moreover, Gernon and Wallace's (1995) developed environmental factors that they feel influence and are influenced by accounting and takes both cultural and non-cultural factors such as population and geographical area into account. Accounting ecology is defined as a "multidimensional system in which no one factor occupies a predominant position and in which the perceptions held by actors on some unfolding accounting phenomena, as well as the accounting phenomena themselves, are the objects of study and analysis" (Gernon and Wallace 1995, 59). By adopting such a perspective, this thesis gains insights in the Indian accounting practices that helps to explain corporate communication practices of textile and apparel sector in that country.

## **2.3 Environmental Factors Shaping Indian Accounting Practices**

Using an accounting ecology perspective, Gernon and Wallace (1995) offers a framework that encompasses five separate but interrelated environmental factors. They argue that accounting practices of a nation are directly related to its environment. Conceptually, environmental factors need to be considered in explaining accounting practices of a nation. Those environmental factors are: (a) societal, (b) organisational, (c) professional, (d) individual, and (e) accounting. According to Chatterjee (2005a), such a framework arguably offers two main advantages. First, it helps to explain the accounting profile of India. Second, it provides insights to explain the relationship between each environment factor and its influences on accounting practices in India.

### **2.3.1 Societal Environment**

According to Gernon and Wallace (1995), societal environment encompasses both cultural and non-cultural components, namely demographic and structural. The following sub-sections provide a discussion of those two elements that compose the societal environment of India.

#### **2.3.1.1 Cultural Elements**

Culture has been defined as a collective programming process by a society which distinguishes the belief system of members of one society from other societies (Hofstede 1984). As such, culture becomes crystallised in the institutions and tangible products of a society (Hofstede 1984). Therefore, culture should be viewed as a collective mechanism. Hofstede developed five dimensions that constitute culture. These cultural dimensions are ‘power distance’, ‘individualism-collectivism’, ‘uncertainty avoidance’, ‘masculinity-femininity’ and ‘long-term orientation’ (Hofstede and Hofstede 2005). Using Hofstede’s index, a country could be assigned to a certain dimension based on its score in a particular dimension<sup>2</sup>. A

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<sup>2</sup> In interpreting the indices, a country that possesses a score of more than 60 points in a particular dimension means that country is considered to have high position on that dimension. However, a score between 50 to 60 attributed to a country is considered to have a medium position while a score of less than 50 is considered to have low position in a particular dimension (Chatterjee 2005a).

discussion of Indian cultural dimensions using Hofstede's framework is now discussed.

According to Hofstede (1984), 'power distance' refers to the degree of tolerance for power inequality distributed among members of a society. He asserts that members of society with large 'power distance' accept a hierarchical environment and do not expect justification for inequality. On the other hand, people in a small 'power distance' society strive for power equality and demand justification for inequality. Hofstede and Hofstede (2005) classify India as a high power distance country based on the power distance index (PDI) score of 77 (ranks 17<sup>th</sup>/18<sup>th</sup> among 74 countries and regions). This high PDI score possibly stems from links with Hinduism that emphasizes respect for the elderly, knowledge and hierarchy (Rao 2012). Indian work organisation is characterised as "respect for paternalistic, hierarchic authority by age, caste, family status and gender" (Amba-Rao, Petrick, Gupta, and Von der Embse 2000, 64). In such an environment, networking and socialising among Indian workers may work best within the same level only. Indian subordinates tend to obtain approval from their superiors before undertaking any action (Kumar and Sethi 2006).

'Individualism' refer is to "a preference for a loosely knit social framework in society wherein individuals are supposed to take care of themselves and their immediate families only" (Hofstede 1984, 83). 'Collectivism', in contrast, stands for people's preference to integrate and maintain their loyalty into a group (Hofstede 1984) and are related to an extended family structure (Hofstede and Hofstede 2005). In an individualistic society, members of society are expected to take care of themselves and their immediate families only, while in a collectivistic society, there is much more responsibility embedded to the member of the society in caring for others (Hofstede 1984). Based on the individualism index (IDV), India's low score on this dimension which is 48 (ranks 31 among 74 countries and regions) indicates that this country is collectivistic (Hofstede and Hofstede 2005).

The 'uncertainty avoidance' dimension is related to the extent to which members of a society avoid uncertainty and ambiguity (Hofstede 1984). He states that a society with strong 'uncertainty avoidance' attempts to control the future and tends to be intolerant to deviant ideas and behaviour by emphasising rules and laws. In contrast, in a weak 'uncertainty avoidance' society, a more relaxed atmosphere

and tolerate deviation are maintained (Hofstede 1984). According to Hofstede and Hofstede (2005), India ranks 64<sup>th</sup> in regard to ‘uncertainty avoidance’ with an uncertainty avoidance index (UAI) score of 40. The low score of UAI reflects that Indians are less concerned in avoiding uncertainty. Although Hindus have belief in reincarnation, they try to attain ‘moksha’ that refers to freedom from reincarnation (Chatterjee 2005b). This belief may encourage Indians to be less concerned in avoiding uncertainty (Chatterjee 2005b).

Hofstede (1984) points out that the fundamental issue addressed in regards to the ‘masculinity-femininity’ dimension is how a society differentiates social roles between the sexes. Society that strives to maximise social differentiation between the sexes when men conduct more outgoing and assertive roles whereas women undertake caring and nurturing roles is called ‘masculine’ society. The dominant values in a ‘masculine’ society are assertiveness and acquisition of monetary items. On the contrary, in a ‘feminine’ society, the dominant values are caring for all members of society and quality of life. According to Hofstede and Hofstede (2005), the masculinity index (MAS) score of 56 (ranks 28<sup>th</sup>/29<sup>th</sup> among 74 countries and regions) suggests that India is a ‘masculine’ society. Hinduism differentiates roles between the sexes that allowing power differentials between men and women (Rao 2012).

The fifth dimension is referred to ‘long-term’ versus ‘short-term orientation’. The fifth dimension was derived from Confucian’s teachings that essentially deal with a society’s searching for virtue. ‘Long-term orientation’ is defined as the “fostering of virtues oriented toward future rewards - in particular, perseverance and thrift” while ‘short-term orientation’ stands for “fostering of virtues related to the past and present - in particular, respect for tradition, preservation of “face”, and fulfilling social obligations” (Hofstede and Hofstede 2005, 210). In short, this dimension refers to whether a society has a ‘long-term’ or a ‘short term’ orientation of life. According to Hofstede and Hofstede (2005), Indian society is ranked eight among 39 countries and regions with a Long-Term Orientation (LTO) score of 61. Such a quite high of LTO score suggests that Indian society has a ‘long-term orientation’ of life. This might be derived from the philosophical thought of Hinduism that introduces the doctrine of ‘karma’. The doctrine of ‘karma’ asserts that “individuals will be rewarded for good deeds in future life and penalized for

actions that are morally inappropriate” (Kumar and Sethi 2006, 57). Indians perceive the concept of time as cyclical (Kumar and Sethi 2006; Rao 2012). The cyclical time concept combined with the belief of ‘maya’ means that the world is an illusion has encouraged Indian to have flexible attitude with regards to time (Rao 2012). According to Hofstede and Hofstede (2005), in a ‘long-term oriented’ society, family and work are not separated. This concept encourages the presence of family enterprises in India.

Those cultural dimensions that shape the characteristics of a country in fact influences accounting the practices of that country (Iskandar and Pourjalali 2000). Gray (1988) links Hofstede’s cultural values with accounting values namely ‘professionalism’ versus ‘statutory control’, ‘uniformity’ versus ‘flexibility’, ‘conservatism’ versus ‘optimism’, and ‘secrecy’ versus ‘transparency’. ‘Professionalism’ is defined as “a preference for exercise of individual professional judgement and maintenance of professional self-regulation as opposed to compliance with prescriptive legal requirements and statutory control” (Gray 1988, 8). ‘Uniformity’ refers to a preference for continuous implementation of uniform accounting practices among companies whereas ‘flexibility’ allows the implementation of different accounting practices among companies to best suit their circumstances. ‘Conservatism’ refers to a preference for taking a cautious approach into consideration when dealing with uncertainty of future events while as opposed to a more optimistic approach which introduces risk-taking behaviour. ‘Secrecy’ is defined as “a preference for confidentiality and the restriction of disclosure of information about the business only to those who are closely involved with its management and financing as opposed to a more transparent open publicly accountable approach” (Gray 1988, 8).

Gray (1988) proposes four hypotheses in regards to the relationship between cultural values and accounting values that summarized in the following Table 2.1.

**Table 2.1 Relationship between Gray’s Accounting Values and Hofstede’s Cultural Dimensions**

Cultural Values (Hofstede 1984)	Accounting Values (Gray 1988)			
	Professionalism	Uniformity	Conservatism	Secrecy
<b>Power Distance</b>	-	+	?	+
<b>Uncertainty Avoidance</b>	-	+	+	+
<b>Individualism</b>	+	-	-	-
<b>Masculinity</b>	?	?	-	-

Sources: Adopted from Baydoun and Willett (1995) and Chatterjee (2005a).

Using Gray’s concept (1988) that links Hofstede’s original cultural dimensions (1984) in particular ‘power distance’ and accounting values, the characteristics of accounting values in India can be described as having low ‘professionalism’, high ‘uniformity’, low ‘conservatism’, and high ‘secrecy’ as depicted in Table 2.2.

**Table 2.2 Accounting Values of India**

<b>Professionalism</b>	Low
<b>Uniformity</b>	High
<b>Conservatism</b>	Low
<b>Secrecy</b>	High
<b>Type of Accounting System</b>	United Kingdom
<b>Specific Factor Colonial History</b>	British

Source: Chatterjee (2005a). The above analysis is based on taking the cultural value of ‘power distance’ and linking it to the corresponding accounting value as given by Gray (1988). However, where such a link has not been found in the table, the cultural dimension of ‘uncertainty avoidance’ has been taken into consideration (Chatterjee 2005a, 35).

Those characteristics, particularly high ‘secrecy’, certainly influence the accounting practices in India as the firms may restrict the disclosure of voluntary information to the public. Based on the aforementioned discussion, it is predicted that Indian corporations including textile and apparel firms tend to provide low voluntary information in their annual reports including information on the social and environmental issues.

### 2.3.1.2 Non-Cultural Elements

The non-cultural aspect encompasses two elements namely ‘demographic’ and ‘structural societal’ variables. According to Gernon and Wallace (1995), ‘demographic’ variables include the size of population of a country, land area, and geographical location.

India is ranked as the second most populous country (after China) in the world with over 1.2 billion people (Associates and Devonshire-Ellis 2012). Even though traditionally considered as a disadvantage, a large population will benefit the country by providing “an expansive low-cost workforce” that will lead to the cost savings and drive the economic growth of the country (Associates and Devonshire-Ellis 2012, 3).

According to Chatterjee (2005b), India possesses a number of different races, languages, religions and beliefs that live in relative harmony. The country has a wide variety of languages spoken. However, the national language of India is Hindi while the official language is English (Chatterjee 2005b). As the birthplace of Hinduism, the majority of the population in India are Hindus (80.5%) followed by other religion such as Islam (13.4%) and Christianity (2.3%).

India is geographically located in the Southern Asia region. The country has a massive land area (more than 3.2 billion km<sup>2</sup>) compared to its neighbouring countries such as Bhutan, Nepal, Bangladesh, Myanmar and Pakistan. Table 2.3 shows the key demographic figures of India.

**Table 2.3 Key Demographic Figures of India**

<b>Capital</b>	New Delhi
<b>Area</b>	3,287,263 km <sup>2</sup>
<b>Borders</b>	Bhutan, China, and Nepal to the Northeast Bangladesh and Myanmar to the East Pakistan to the West
<b>Population</b>	1,210,193,422
<b>Language</b>	Hindi (the National Language) and English (the Official Language)
<b>Major Religions</b>	Hinduism (80.5%), Islam (13.4%), Christianity (2.3%), Sikhism (1.9%), Buddhism (0.8%), and Jainism (0.4%)

Source: Chatterjee (2005b), Associates and Devonshire-Ellis (2012) and Adeney and Wyatt (2010). The figures are based on the 2011 data except for the religious data that use the 2001 census and analyst estimates.



Past studies on social and environmental disclosure practices, particularly in the Asian region (e.g. Belal 2000; Cahaya, Porter, and Brown 2006; Nurhayati et al. 2006; Gunawan 2007; Sobhani, Amran, and Zainuddin 2009; Khan 2010; Othman and Ameer 2010; Said et al. 2011; Cahaya et al. 2012; Djajadikerta and Trireksani 2012; Khan et al. 2013) indicate a low extent of such disclosures. Therefore, a low extent of social and environmental information communicated by Indian textile and apparel (TA) firms is expected.

Structural variables take account of the economic, political, and legal system of a country (Gernon and Wallace 1995). Before a major reformation opening of Indian market to the world in 1991, India had a rigid economic system that restrained the economy performance of the country. However, after the liberalization in 1991, the economic performance of India increased. Such an increase on Indian economy development brings the country closer to the world market and attracts more foreign investors. Such international exposures arguably influence the reporting practices in India.

In regards to the administrative and constitutional affairs, India follows the governing structure of the United Kingdom (Adeney and Wyatt 2010). The constitution of India sets the country up as “sovereign socialist secular democratic republic with a parliamentary system of government” (Associates and Devonshire-Ellis 2012, 12). According to Budhwar, Varma, and Sengupta (2011), as the supreme body (legislature), the Parliament of India consists of two houses which are refereed as the Upper House (Rajya Sabha) and the Lower House (Lok Sabha). The prime minister is the head executive while the president is the head for constitutional concerns. India has 28 states and seven union territories. The Indian legal system, that is constituted based on the English common law, has a three-tier legal system (Budhwar et al. 2011). The legal system consists of the Supreme Court, the state High Courts, and Subordinate (or District) Courts.

It is expected that the most influential non-cultural factor that impact accounting practices in India is the economic liberalization of India in the early 1990s. As with many other developing countries, India became integrated with the global economy. In line with the increased global integration of India, Indian firms have become increasingly aware of corporate social responsibility which demands corporations to be more socially and environmentally conscious. As a result, for

firms to be able to compete on the global stage, they have to not only produce quality products, but also have to address public concerns on such matters including human rights, labour conditions, safety requirements, society development, and environmental stewardship (Elsayed and Hoque 2010). Further, Elsayed and Hoque (2010) assert that corporate senior management's perception on global competition is likely to influence the corporate voluntary disclosure practices of firms. Accordingly, intense global competition may encourage companies to conduct their business on a more socially and environmentally responsible basis that likely leads to more voluntary information including information on social and environmental activities to be communicated to the stakeholders.

### **2.3.2 Organisational Environment**

According to Gernon and Wallace (1995), organisational environment refers to elements such as organisational size, technology, complexity, culture and human capital resources. Organisations that can influence other organisations include private corporations, public sector bodies, state or national governments, and international bodies (e.g. the World Bank, International Accounting Standards Committee, and national standard setting bodies).

According to Budhwar et al. (2011), nepotism has been perceived as a common practice in Indian organisations since the power source is originally based on family and friends. In spite of such a corporate culture, the Government of India (GOI) has strived to make a more conducive business environment. The GOI has privatized some of its public sector companies to encourage competition and has shaped laws and regulation by lowering tax rates and trade barriers to attract more foreign investors (Associates and Devonshire-Ellis 2012). As a result, India has been considered as an attractive foreign direct investment (FDI) destination since 1991. In fact, India is globally ranked as the second most attractive FDI destination (Associates and Devonshire-Ellis 2012).

According to Chatterjee (2005a), the immediate link between the organisational environment and the accounting practices in India can be identified by the fact that the Accounting Standards Board (ASB) of the Institute of Chartered Accountants of India (ICAI) started to issue the mandatory accounting standards at

the same year of the economic liberalization by the GOI in 1991. With a more liberal and open economic system, India has attracted foreign investors which required more reliable, accountable and comparable accounting information as the basis to make business decisions. The GOI may also use the accounting standards to control the activities of private sector companies (Chatterjee 2005a). In spite of the mandatory information such as corporate taxable income, both the government and foreign investors may expect more voluntary information including information on social and environmental issues to be disclosed in corporate annual reports. Such an expectation may encourage corporations to disclose more voluntary information.

### **2.3.3 Professional Environment**

Professional environment refers to “events and/or trends bearing on the determination of roles and relationship in the accounting profession” (Gernon and Wallace 1995, 60). According to Chatterjee (2005a), there are five aspects required in understanding the professional environment in India. Those key aspects include professional membership, accounting standards, accounting standard setting process, statutory requirements, and stock exchange listing requirements of India.

Under the Chartered Accountants Act 1949, the Institute of Chartered Accountants of India (ICAI) was established in 1949 to regulate the profession of chartered accountancy profession in India. The ICAI plays an important role in the domain of financial reporting, standard setting, auditing, corporate governance, and fiscal policies (ICAI 2012b).

As the accounting standards-formulating body in India, the ICAI established the Accounting Standards Board (ASB) in 1977 to harmonize various accounting policies and practices in India with the first standard issued in 1979 (Joshi and Abdulla 1995). With the support of Ministry of Corporate Affairs, the ICAI has commenced the convergence of Indian Accounting Standards with the IFRSs on April 1, 2011 for listed entities and other public interests entities such as banks, insurance companies and large-sized entities (ICAI 2012b). In formulating the Accounting Standards, the ASB of ICAI states that they should consider the local circumstances comprising legal and economic environment (ICAI 2007). India has

deviated from certain IFRS.<sup>3</sup> The stated reasons for such deviations are necessary “to maintain consistency with legal, regulatory and economic environment, and keeping in view the level of preparedness of the industry and the accounting professionals” (ICAI 2007, 5). Although the ASB of ICAI was criticised for the absence of public hearing in issuing the accounting standards (Joshi and Abdulla 1995), presently the ASB of ICAI states that they follow due process to ensure the achievement of high quality accounting standards. Corresponding to the IFRSs, the ASB of ICAI has so far issued 30 of Indian Accounting Standards (ICAI 2012b). There is no mandatory requirement to disclose elements of GRI’s social and environmental performance indicators in these accounting standards.

According to Chatterjee (2005a), there are two key laws governing Indian corporate disclosures. Those statutes are The Companies Act 1956 and The Securities and Exchange Board Act 1992 (both have been amended a number of times). The Companies Act 1956 Section 211 (3A) requires every company to comply with the Accounting Standards issued by the ICAI in preparing the annual accounts<sup>4</sup>. The Securities and Exchange Board of India (SEBI) also requires every listed company to continuously comply with the Accounting Standards issued by the ICAI.

Under the Securities and Exchange Board of India Act 1992, the SEBI was established in 1992 to regulate the securities market in India. The organisation structure of the SEBI has formed with the same structure as the Securities and Exchange Commission (SEC) of the USA (Chatterjee 2005a). Although India has 23 stock exchanges in various cities, there are two major stock exchanges in term of market shares and turnover. Those two major stock exchanges in India are the National Stock Exchange (NSE) and the Bombay Stock Exchange (BSE) that

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<sup>3</sup> Major deviations of Indian Accounting Standards from IFRS include IAS 1 (Presentation of Financial Statements), IAS 2 (Inventories), IAS 7 (Cash Flow Statements), IAS 11 (Construction Contracts), IAS 16 (Property, Plant and Equipment), IAS 17 (Leases), IAS 19 (Employee Benefits), IAS 21 (The Effects of Changes in Foreign Exchange Rate), IAS 24 (Related Party Disclosures), IAS 28 (Investments in Associates), IFRS 1 (First-time Adoption of Indian accounting Standards) and IFRS 3 (Business Combinations) (Perumpral et al. 2009; ICAI 2012a).

<sup>4</sup> However, Section 211 (3B) of the Companies Act 1956 provides guidance for companies in regards to departures from the Accounting Standards. In case of non-compliance with the Accounting Standards, every company shall disclose in its profit and loss account and balance sheet the following: (a) the deviation from the accounting standards, (b) the reasons for such differences, and (c) the financial effect of such differences.

account for more than 98% of the market of stock trading (Machiraju 2009). Under the Securities Contracts (Regulation) Rules 1957, the basic listing requirements are as follows (Machiraju 2009, 39-40):

- (i) The memorandum and Articles of Association must not contain any provisions that restrict free transfer of shares.
- (ii) The company must offer for public subscription at least 25 per cent of its issued capital.
- (iii) The minimum issued capital of the company should be at least Rs.10 crores (100 million Rupees) in the case of BSE and Rs.5 crores (50 million Rupees) in others.
- (iv) Application should be invited in denominations of market units of trading.
- (v) Previous track record of dividend payment for three years is necessary.

The professional environment in India has arguably laid the foundation for the advancement of accounting practices in India. It is therefore expected that the GOI, particularly the ICAI and the SEBI will encourage greater disclosure of voluntary information including information on social and environment issues by the Indian corporations. The fact that India actively participate as a member of a number of international accountant professions likely influences the reporting practices of that country. This is because such international organisations increasingly focus on topical issues relating to corporate social responsibility and good corporate governance. For instance, the IFAC encourages accountants as its members to support the engagement of corporations in terms of strategic, operational, and reporting perspectives on the environment, social, and governance aspects (IFAC 2013). Such an effort is mainly driven by the increasing demand by investors on the environmental, social, and governance disclosures (IFAC 2013). The commitment of the GOI in adopting IFRSs with a due process procedure in setting the standards coupled by the statutory and stock exchange requirements for Indian listed companies may also enhance the reporting practices of the country.

#### **2.3.4 Individual Environment**

Gernon and Wallace (1995) assert that the choices of accounting policy are made by individuals. They state that individual environment “covers the actions of these individuals as persons, organisations and professional bodies in their effort to pursue their respective self-interests” (Gernon and Wallace 1995, 60).

As discussed earlier, India is a long-term orientation country. The Indian orientation of life roots from the Hinduism that views the phenomenal world as an illusory (Kumar and Sethi 2006). This orientation of life may encourage the Indian to “display passivity and helplessness in dealing with the external world” (Kumar and Sethi 2006, 60). Such a life orientation may also influence the reporting practices of Indian corporations. The corporations may focus their efforts to provide mandatory information as required by the government and may pay less attention to report the voluntary ones.

### **2.3.5 Accounting Environment**

According to Gernon and Wallace (1995, 60), accounting environment refer to “accounting practices, rules and/or trends that affect or are affected by the other slices of the environment”. Similar to many other countries, India shows a strong commitment to converge its Accounting Standards with the IFRSs. As noted earlier, many of governing systems in India including its accounting system has developed in accordance with the British systems. In recent times, Indian accounting environment has also been noticeably influenced by the USA<sup>5</sup>. The influences of those two dominant members of the IASB upon the Indian governing systems have made the convergence with IFRSs in India more acceptable (Chatterjee 2005a). The implementation of the process obviously changes the regulations of other institutions such as the Securities and Exchange of India (SEBI) and the Reserve Bank of India (RBI) (ICAI 2012b).

Although the Indian accounting and legal systems have been developed based on the British systems, the Companies Act 1956 has been amended many times to meet the changing needs of the country and adopt international norms (Chatterjee 2005a). The Companies Act requires enterprises to prepare financial statements that provide a true and fair view in regards to their financial position and working results. The Indian economic liberalisation and recent globalisation issues arguably intensified the necessity of that country to adopt a set of internationally recognised accounting standards. India’s convergence on IFRSs may influence the corporate voluntary disclosure practices of the country. As pointed out by Elsayed and Hoque

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<sup>5</sup> The significant influence by the USA is reflected with the similar structure of the SEBI to the SEC (Chatterjee 2005b).

(2010), the level of a corporate's voluntary disclosure is positively influenced by its perceived influence of international accounting standards. Accordingly, corporations are likely to disclose more voluntary information if they perceive greater usefulness of voluntary disclosure under the international accounting standards (Elsayed and Hoque 2010).

## **2.4 The Significance of the Indian Economy**

This section describes the significance of Indian economy. The first subsection covers the Indian economy during the pre-liberalization period (1947-1991) followed with a discussion of the country's economy after liberalization (after 1991).

### **2.4.1 Indian Economy: Pre-Liberalization**

After the independence of India in August 1947, Indian economy was isolated from the world market. India designed its economic rigidly by adopting 'inward-looking' and 'state-interventionist' policies to achieve what they perceived to be a self-reliant economy (Budhwar 2001). Such a rigid economic system is characterized by extensive regulation and protectionism that has largely constrained investment and economic growth of India (Budhwar 2001).

Since 1951, the Government of India (GOI) adopted a mixed economy principle that refers to the existence of both private and public sectors (Chatterjee, Mir, and Al Farooque 2009). However, the GOI placed uneven attention to those two sectors. The GOI gave too much importance to the public sector (Gupta 1997). The public sector dominated the process of planned economic development in India. Unfortunately, the sector was operated inefficiently because it was corrupt and wasteful (Das 2009). On the other hand, private sector was excessively regulated and controlled by the GOI (Gupta 1997; Chatterjee et al. 2009; Singh 2010). According to Das (2009), private sector and international trade worked under a complex system of permits and licenses. Unsurprisingly, the Indian export performance and the Indian economy growth were unimpressive. Over the first three decades after its independence the economic growth of India was unsatisfactory as the average annual GDP growth rate was close to 3.5% (Thakur and Kumar 2008; Singh 2010).

Fortunately, the GOI realized that the country was improperly governed and tried to work out the economy condition of the country. According to Das (2009), the GOI reformed its economy during the mid-1980s with moderate policy liberalization in the areas of trade, industry, and tax reforms, and increase in the investment in public sector infrastructure. Such economy reforms resulted in a better economy growth particularly after 1983 (Das 2009). The gross domestic product (GDP) growth of India began to pick up the pace. During 1981 to 1991, the average annual GDP growth rate significantly improved to 5.6% (Das 2011). In spite of such a notable improvement on the Indian economy growth, nearly one half of the Indian population lived below the poverty line (Das 2009). However, Indian economy has improved over time particularly since of the major reform on Indian economy policies in 1991.

#### **2.4.2 Indian Economy: Post-Liberalization**

According to Das (2011), compared to the economic reforms during the mid-1980s, Indian major economy reforms in 1991 were far wide ranging and crucially important. With the economy nearly bankrupt, the GOI was forced to commence the liberalization and globalization in India (Gupta 1997). As in many developing countries, such a market-oriented reformation program was assisted by the International Monetary Fund (IMF) through a stabilization package. The Indian economy reforms in 1991 that promoted domestic market competition (Das 2009) were characterized by gradual deregulation and delicensing of industry designed to integrate the country into the global economy (Anagol 1995; Kapur and Pillania 2011). For instance, the GOI began to relax its stringent controls over the private sector, deregulated its trade policy by lowering its high trade tariffs and reformed taxation and the financial sector. In addition, the GOI developed a proactive foreign direct investment (FDI) policy to attract more foreign investors (Associates and Devonshire-Ellis 2012).

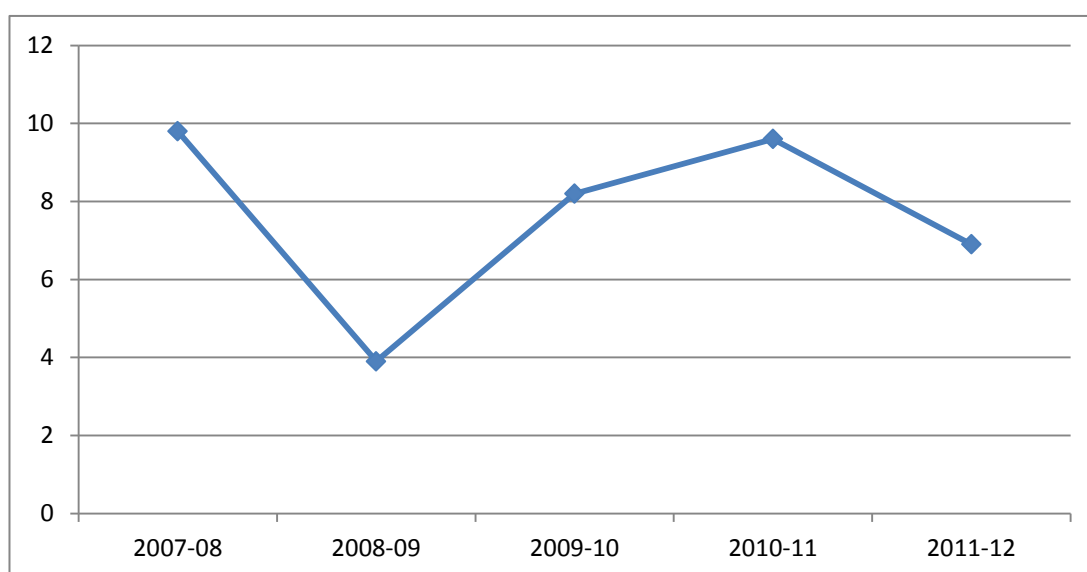
Over the last two decades, the economy of India has been substantially transformed (Das 2011). The GDP of India has risen rapidly since its major economic reforms in 1991. According to Das (2011), during the Eighth Five Year Plan (1992 to 1997), the average GDP growth rate increased to 6.7% per annum.



However, the average GDP growth rate slowed to 5.5% per annum during the Ninth Five Year Plan (1997 to 2002). The slow-down in the Indian economic performance during the Ninth Plan period was mainly caused by a lack of progress in the macroeconomic reforms and a number of declining outcomes in savings and investment performance, industrial production, and agriculture growth (Das 2011). The East Asian financial crisis between 1997 and 1998 and global economic recession to some extent also contributed to the deceleration of the average GDP growth of India (Kapur and Pillania 2011). Indian economic performance during the Tenth Five Year Plan (2002 to 2007) had a higher growth trajectory with the average GDP growth rate during the Tenth Plan period being 7.8% per annum (Das 2011). During the Tenth Plan period, the highest GDP growth rate was 9.6% for the fiscal year 2006-07 (Thakur and Kumar 2008).

Compared to the previous period (2002-2007), there was a slight decline in Indian economy performance. The average GDP growth rate during the Eleventh Plan period was about 7.7% (World Bank 2012) which was still regarded as a respectable performance. As illustrated in Figure 2.1, the lowest GDP growth rate was 3.9% in the fiscal year 2008-09 while the highest one was 9.6% in fiscal year 2010-11. The Global Financial Crisis that started in August 2007 clearly had an adverse impact on the performance of the Indian economy during the fiscal year 2008-09.

**Figure 2.1 Indian Annual GDP Growth Rate (2007-2012)**



Source: World Bank (2012) and Bartsch and Seth (2012).

With the integration of the Indian economy globally, that country could not remain immune to the Global Financial Crisis over the 2007 to 2009 period (Das 2009). As shown in Figure 2.1, the Indian economy initially was not affected by the crisis. This is because the Indian economy was mainly driven by domestic demand and investment (Das 2011). The so called 'great recession' eventually transmitted to the Indian economy through three channels namely the financial sector, exports, and the exchange rate (Kumar 2009). However, the Indian economy did not suffer as much as that of other countries and recovered relatively faster compared to other countries (Debroy 2009).

As discussed earlier, the Indian economy has experienced rapid changes since its independence in 1947. Based on its economic performance over the two last decades, India is considered to be one of the fastest growing economies in the world (Das 2011; Budhwar and Varma 2011). In order to sustain its high economic growth, India arguably has to take into account social responsibility initiatives. As suggested by Athreya (2009), there should be an optimum blend on efforts directed by the government, corporations, and citizens concerning the address of social and environmental issues. For instance, the GOI may provide guidelines and impose rules and laws on crucial CSR related issues. Corporations may also voluntarily address and report more social and environmental activities. On the other hand, citizens may initiate their own social and environmental responsibilities starting from the simplest ones by, for example, dumping their rubbish in the right place, consuming water and electricity wisely and preference to buying products or services from socially and environmentally considerate corporations.

Rapid changes in the Indian economy and integration with the world market, including the attraction of more foreign investors, arguably could influence the reporting practices of Indian corporations. Increasing public awareness globally (e.g. investors, customers, and society) on corporate social responsibility coupled with the engagement of the Government of India (GOI) with a number of international organisations (e.g. the World Bank and World Trade Organization (WTO)) arguably could influence the reporting practices of Indian corporations. Therefore, Indian textile and apparel firms are expected to communicate more voluntary information to provide their stakeholders with a more complete picture on how they integrate social and environmental issues into their business operations.

## **2.5 Significance of Indian the Textile and Apparel Industry**

The textile and apparel industry is the oldest and one of the largest industries in India (Bhandari and Maiti 2007). At the global level, India is one of largest textile producers capable of producing a wide variety of textiles (Ministry of Textiles, GOI 2012b). The industry is arguably perceived as a primary industry to the country mainly through its major contribution to the Indian economy. This section is organised into four sub-sections describing the structure of the TA industry, the role of the World Trade Organization (WTO) and the Government of India (GOI) in promoting the industry, and the current status of the Indian textile and apparel industry.

### **2.5.1 The Structure of the Indian Textile and Apparel Industry**

The Indian textile and apparel industry is primarily a cotton-based industry since the industry largely depends on cotton for its production process. According to the Ministry of Textiles, GOI (2012b), cotton accounts for more than 75% of the total fibre consumption in the spinning mills.

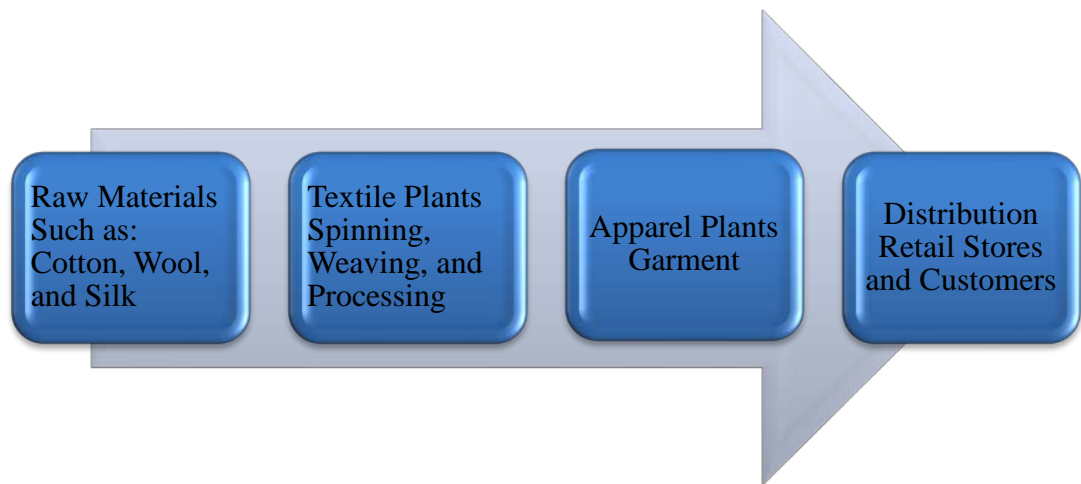
In essence, the structure of industry can be grouped into two main sectors that are organised (centralised) and unorganised (decentralised) sector (Bhandari and Maiti 2007; Tanage 2010; Khurana 2011; Ministry of Textiles, GOI 2012b). The organised sector mainly represents medium to large companies (Bedi 2009) that can be categorized into spinning and composite mills. The difference between the two mills is that the spinning mills only engage in producing yarn whereas the composite mills include both spinning and weaving activities. The pilot study of this thesis with a sample of a hundred of Indian textile and apparel listed companies (financial year 2009-10 which ends on 31 March) suggests that the majority of the companies (87%) have composite mills (Nurhayati 2013).

The unorganised sector mainly consists of marginal and small firms that are primarily involved in weaving activity (Bhadari and Maiti 2007). Consequently, the unorganised sector depends heavily on the organised sector for yarn supplies. The unorganised sector has four segments including hand looms, power looms, hosiery, and processing units. In addition, the apparel products largely come from the unorganised sector. The unorganised sector accounts for the bulk of Indian textile

and apparel products (Bhandari and Maiti 2007; Ministry of Textiles, GOI 2012b). However, this thesis only considers the listed textile and apparel companies in the organised sector. The main reason is due to the data availability. Publicly listed Indian textile and apparel companies belong to the organised sector either as spinning or composite mills. Publicly listed companies are faced with more regulations from the government and may be owned by a more diverse group of shareholders than the unlisted companies. In gaining a more complete knowledge about corporate performance, such diverse stakeholders may not only relay their interests on the mandatory information reported in the financial statements; they may also demand more voluntary information to be disclosed in annual reports. For instance, environmentalists may require more information on corporate environmental activities to be disclosed in publicly available media. Consequently, the publicly listed companies are expected to disclose more information voluntarily in their annual reports compared to the unlisted companies.

As illustrated in Figure 2.2, the textile and apparel industry can be viewed as a supply chain with a number of distinct activities (Nordås 2004). According to Narayanan (2008), the production process on the textile sector can be divided into a number of interrelated stages including spinning (involves the production of yarn from fibres), weaving (involves manufacturing fabric from the yarns), and processing (involves chemical treatment and colouration of yarns and fabrics). On the other hand, the apparel sector includes the manufacturing of garments from fabrics (Narayanan 2008). Therefore, the final product from textile plants which is fabrics may become the raw material for the apparel plants and can be processed further into apparel products such as blouses, skirts and pants. The textile plants may also directly distribute their products to the retail stores for customer needs.

**Figure 2.2 The Supply Chain in the Textile and Apparel Industry**



Sources: Adapted from Nordås (2004), Narayanan (2008), and Tanage (2010).

According to Nordås (2004), compare to the apparel sector, the textile sector is generally more capital intensive and tends to be more highly automated. As a result, the textile sector requires a skilled workforce in order to efficiently run modern machinery in the production process. On the other hand, the technology used in the production of apparel products has remained relatively unchanged over the past century with each worker being specialized into one or more operations. In addition, the apparel sector is more labour-intensive and offers more jobs to unskilled labour particularly for women in poor countries (Nordås 2004).

In spite of the economic advantages offered by the textile and apparel industry, the industry has a number of negative characteristics including extensive manufacturing activities that involve chemical treatment, the use of large amount of resources such as water and fossil fuels, poor waste management, safety and health concerns and the use of a large poorly skilled workforce. Because of those inherent characteristics, the textile and apparel industry has potential adverse social and environmental impacts. Accordingly, companies that engage in the production of textile and apparel products may (and arguably should) provide more social and environmental information in their annual reports. Such proactive actions may be used to encounter the negative publicity of their potential adverse impacts as well as to legitimate their activities to their stakeholders.

## **2.5.2 The Role of the World Trade Organization in Promoting the Textile and Apparel Industry**

The development of the worldwide textile and apparel sector is now considered. In 1962, international trade on textile and apparel products was regulated under the General Agreement on Tariffs and Trade (GATT) with Long Term Agreement Regarding International Trade in Cotton Textiles (LTA) (Nordås 2004). After renegotiating a number of times, the LTA was replaced with the Multi Fibre Agreement (MFA) in 1974. The MFA essentially set a country quota for exporting its textile and apparel products to another country. As many other developing countries that produce textile and apparel products, India also had such an export arrangement with developed countries such as USA, Canada and countries in the European Union (Bhandari and Maiti 2007). The MFA arguably disadvantages the developing countries as the exporters (Kathuria and Bhardwaj 1998; Nordås 2004). As pointed out by Nordås (2004, 13), the MFA violated multilateral system principles in the following ways:

- It violated the most favoured nation principle;
- It applied quantitative restriction rather than tariffs;
- It discriminate against developing countries;
- It was not transparent.

In 1995, the GATT was replaced by the World Trade Organization (WTO). At the global level, the WTO has played an important role in regards to the development and growth of the textile and apparel industry (Chaudary 2011). The WTO revised the MFA in 1995 with the Agreement on Textiles and Clothing (ATC) that demands members of the WTO to remove all quotas on international trade of textile and apparel products by January 2005 (World Trade Organization 2013). The liberalization of the global textile and apparel products trading arguably benefits developing countries, including India. The majority of past studies conducted to estimate the impact of dismantling quotas on global textile trade suggest that Asian countries are most likely to be advantaged from this process (Bhandari and Maiti 2007).

Although the WTO has no specific agreement with its members in regards to the social and environmental issues, the WTO pays considerable attention to such issues. According to WTO (2013), the WTO recognises that the International Labour

Organization (ILO) as the competent labour standards setting body that promotes the standards in accordance with international trades. For instance, the members of WTO are committed to take into account a set of core labour standards including freedom of association, no work discrimination (including gender discrimination), no forced labour, and no child labour. In regards to environmental issues, the WTO establishes the Trade and Environment Committee to incorporate an environmental and sustainable development into the WTO programme (WTO 2013). Therefore, it is argued that involvement of the WTO, particularly in the international trading of the textile and apparel products, may to some extent influence the social and environmental reporting practices of that industry.

### **2.5.3 The Role of the GOI in Promoting the Indian Textile and Apparel Industry**

Following the phase-out of the MFA, the Government of India (GOI) has been making progress in promoting and supporting the textile and apparel industry (Shetty 2001; Chaudary 2011). The Indian Ministry of Textiles has set up policies including the National Textile Policy 2000, National Jute Policy 2005 and Textile Export Quota Policy 2000-2004. The common objective of those policies is to develop a robust and vibrant textile and apparel industry capable of producing good quality products at acceptable prices in order to meet the growing demand both domestically and internationally, contribute to the provision of sustainable employment and the growth of the Indian economy, and be able to compete for an increasing share of the TA global market (Ministry of Textiles, GOI 2012a). Globally, India has a share, on average, of 5% of textile and apparel trade (Agarwal 2014). Under those regulations, the GOI has introduced a number of steps in order to increase the share of the textile and apparel market globally in India including introducing a number of schemes and attracting foreign direct investment (FDI).

The Ministry of Textiles (GOI 2012a) launched a number of schemes such as the Technology Up Gradation Fund Scheme (TUFS), Scheme for Integrated Textile Park (SITP), and Brand Promotion Scheme to support the textile and apparel industry in supporting the Indian TA industry. According to the Ministry of Textiles, (GOI 2012a), the TUFS was established in 1999 to facilitate the textile sector with modernisation and up-gradation technology for the machinery used in the industry.

The SITP was launched in 2005 to address an infrastructure bottleneck in the textile and apparel industry (Ministry of Textiles, GOI 2012a). The scheme was designed to provide world-class infrastructure facilities by setting up the textile (including apparel) units on a public-private partnership approach. Another scheme that was designed specifically for the apparel sector is the Brand Promotion Scheme. This scheme was launched on a public-private partnership model to promote the acceptability of Indian apparel brands globally (Ministry of Textiles, GOI 2012b).

In fostering the growth and development of the textile and apparel industry, the Government of India established a number of supporting institutions for that industry. According to the Ministry of Textiles, (GOI 2012b), those institutions include advisory boards (e.g. Jute Advisory Board and India Handlooms Board), export promoting councils (e.g. The Cotton Textiles Export Promotion Council, The Synthetic & Rayon Textiles Export Promotion Council, and Apparel Export Promotion Council), textile research associations (e.g. Bombay Textile Research Association) and other autonomous bodies (e.g. National Institute of Fashion Technology). Although each of those institutions differs in scope of responsibilities, they were established to support the role of the GOI in promoting the textile and apparel industry.

In its early inception after the liberalisation of India in 1991, FDI was perceived as another form of western imperialism in India and faced resistance from the public (Singh 2005). It took years to change this negative mindset of FDI before regaining support. The GOI now regards FDI as an important vehicle for the development of the Indian economy (Ministry of Textiles, GOI 2012b). More specifically, the Indian Ministry of Textiles has established a FDI Cell with the main objective to attract FDI to the industry. Among emerging countries, India has the most liberal and transparent policies in FDI (Ministry of Textiles, GOI 2012a). The Ministry of Textiles allows 100% FDI in an automatic route in the textile and apparel industry. According to Chaudhary (2011), there has been a constant increase in FDI inflows in the textile and apparel industry. As a result, the Indian textile and apparel industry is considered to be the second most attractive destination for FDI after China (Chaudhary 2011).

The increasing importance of FDI in the Indian economy may contribute to the corporate social responsibility practices in that country. FDI is a long term



investment on production capacity from a foreign country to a host country (Lim and Tsutsui 2012). Such a relatively long-term time span arguably creates greater business embeddedness in the host country that leads to a greater pressure for the host country to adopt the concept of corporate social responsibility (Lim and Tsutsui 2012). For instance, long term investment relations through FDI may contribute to basic social improvement in less developed countries including better labour contracts, labour supervision, and working condition (Bardy, Drew, and Kennedy 2012). It is therefore can be argued that FDI may enhance the adoption of corporate social responsibility practices as well as their reporting practices on the corporate annual reports.

#### **2.5.4 Current Status of the Indian Textile and Apparel Industry**

According to Bhandari and Maiti (2007), India textile and apparel industry is blessed with a natural competitive advantage that helps the industry to growth sustainably. The industry has a strong supply of cotton fibre inventory (Bhandari and Maiti 2007). This is because the industry has plentiful raw material and numerous varieties of cotton fibre that arguably help the industry to control its production costs (Khurana 2011). The fact that India has abundant low cost and skilled workforce adds support to the Indian textile and apparel industry. In addition, Indian population of more than 1.2 billion people with increasing buying power by the middle class creates an enormous domestic market (Nordås 2004; Chaudhary 2011) as textile and apparel products occupy one of the most basic needs of people.

The Indian textile and apparel industry plays an important role to economic development. The industry contributes to the Indian economy through industrial output, employment generation and the export earning of the country (Ministry of Textiles, GOI 2012b). The industry offers direct employment to more than 35 million people (Ministry of Textiles, GOI 2012b) and an additional 50 million people in allied activities (Corporate Catalyst India 2010). After agriculture, the industry serves as the second largest employer in India (Narayanan 2008). In regards to the contribution of the textile and apparel industry to industrial output, the industry contributes about 14% to industrial production of India (Ministry of Textiles, GOI 2012b). In addition, the industry contributes 4% to gross domestic product (GDP)

and 17% to export earnings of India (Ministry of Textiles, GOI 2012b). The GOI point out that “the growth and all round development of this industry has a direct bearing on the improvement of the economy of the nation” (Ministry of Textiles, GOI 2012b, 3).

In regards to India’s exports worldwide, the textile and apparel industry is one of the largest contributing sectors of that country (Ministry of Textiles, GOI 2012b). As presented in Table 2.4, exports of textile and apparel products have increased steadily approximately 10% since 2005. The WTO removed quotas on international trade for textile and apparel products in January 2005. The ATC has influenced India’s exports of those products. In fact, according to Indian Ministry of Textiles (2012c), Indian textile and apparel products are exported to more than a hundred countries. However, among those export destination countries, the USA and the European Union account for about 70% of total Indian exports (Ministry of Textiles, GOI 2012c).

**Table 2.4 The Figure of Indian Textile and Apparel Export**

<b>Financial Year</b>	<b>Export (Billion USD)</b>	<b>Export Growth (%)</b>
2005-06	17.52	24.87
2006-07	19.15	9.30
2007-08	22.15	15.66
2008-09	21.22	-4.19
2009-10	22.41	5.61
2010-11	27.47	22.58
2011-12	33.31	21.26

Source: Ministry of Textile, the Government of India (2012c). Note: Financial year of Indian companies ends on 31 March.

The highest export growth of about 25% with the export value of 17.52 billion USD was achieved in 2005-2006. An increase of more than 9% and 15% over the previous year was reported in fiscal year 2006-07 and 2007-08, respectively. However, export growth declined by about 4% in 2008-09 with the export value of 21.22 billion USD. The Global Financial Crisis that hit the world by the year 2008 clearly affected the performance of the Indian textile and apparel industry. This mainly caused by decline in demand of products from the USA, European Union and

Japan as the major destinations for Indian export on textile and apparel products (Ministry of Textiles, GOI 2012c). High growth resumed 2010-11 and onwards.

Interestingly, the impact of the Global Financial Crisis in terms of profitability in the textile and apparel sector is more mixed (Mahajan 2009). There were less effects of the Global Financial Crisis on low cost apparel producers. For instance, garment producers in Pamidi and Anantapur district of Andhra Pradesh, jeans manufacturers in Bellary district of Karnataka, and saree weaving units in Madhya Pradesh continued to thrive (Mahajan 2009). In contrast, garment export units in Bangalore were severely hit by the crisis as many importers cancelled orders or postponed delivery schedules (Mahajan 2009). The Global Financial Crisis has affected the employment in India particularly in the export oriented sectors such as textile and apparel sectors (Ghosh 2009) with more than 500,000 workers on the sector lost their jobs (Debroy 2009).

During the 2009-10 and 2010-11 years, the Indian textile and apparel export grew significantly from 22.41 billion USD to 27.47 billion USD with export growth of more than 5% and 22%, respectively. In the financial year 2011-12, the exports reached 33.31 billion USD with steadily growth of more than 21% over the previous year. However, in regards to India's total export of all commodities, the share of the textile and apparel export in financial year 2011-12 has declined compared to the previous financial year from 11.05% to 10.93%. Apart from such a slight decline against total Indian exports on all commodities, the Indian textile and apparel export figures over the last three years (22.41 billion USD in 2009-10, 27.47 billion USD in 2010-11 and 33.31 billion USD in 2011-12) suggest that the industry did not take a long time to recover from the adverse impacts of the global financial crisis. As the largest importer of Indian textile and apparel products, the positive growth on the USA's imports since 2010 has caused the Indian textile and apparel industry to grow steadily (Ministry of Textiles, GOI 2012c).

The Indian textile and apparel industry is experiencing increased collaboration with foreign companies. Following the liberalisation of international trade by the WTO, India has emerged as one of the major sourcing destinations (Ministry of Textiles, GOI 2012c). India frequently supplies its textile and apparel products to a number of internationally recognized apparel companies (e.g. Mark & Spencer, Hugo Boss, Levi Strauss, Benetton, Rip Curl, Guess, Puma, Crocs and

Calvin Klein) as well as to reputable stores (e.g. IKEA, Wal-Mart, Carrefour, Woolworth, and Coles). The pilot study of this thesis with a sample of a hundred of Indian textile and apparel listed companies financial year 2009-10 suggests that 17% of the sample has such international affiliation (Nurhayati 2013).

It is argued that being suppliers to well-known international companies may influence the reporting practices of the textile and apparel industry particularly in regard to social and environmental issues. This is because such companies may perceive social and environmental issues as an important agenda item and may also impose their values in regards to such issues to their suppliers. As Mandal (2012) points out, international companies particularly those which engage in global outsourcing are facing increasing pressures from customers, civil society and other parties to adhere to social and environmental standards while maximising their profits. Increasing pressures on social and environmental issues drive the international companies and subsequently their suppliers to internalize such issues into their business. It is therefore expected that Indian textile and apparel companies particularly suppliers of products to well-known international companies conduct more social and environmental activities and report the activities in their annual reports.

The impact on the international trade liberalisation on the operating profits of Indian firms is mixed. Some companies continuingly earned profits while others reported losses. According to Chaudhary (2011), the open market situation resulted from the abolition of a quota system has augmented global competition. Consequently, only the strong companies were able to adapt and survive. Medium and small companies were more vulnerable and unable to survive (Chaudhary 2011). The pilot study of this thesis with a sample of a hundred Indian textile and apparel listed companies financial year 2009-10 highlights that 29% of the Indian textile and apparel listed companies reported losses during that year (Nurhayati 2013). This figure may also indicate that companies may have not fully recovered from the global financial crisis.

In spite of the milestones achieved by the Indian textile and apparel industry, the industry faces a number of problematic issues. Those problems include the lack of capital and technological development, lack of sufficient infrastructural development, high cost of power and power cuts, and unreasonable rises in raw

material prices (Bedi 2009; Tanage 2010; Khurana 2011). Other crucial problems faced by the industry are a high incidence of sickness and child labour issues (Level Works Limited 2009). In addition, as a result of Indian economic liberalisation in early 1990s, rapid development of the industrial sectors has contributed to a number of environmental problems in India (Bowonder 1986; Batra 2013). As social and environmental issues gain increasing public attentions globally, corporations have faced increased pressures to consider the impact of their business activities on the social and natural environment and to communicate such activities to stakeholders. Such pressures arguably encourage Indian corporations particularly firms operating in social and environmental sensitive industries such as textile and apparel industry to communicate more social and environmental issues in their annual reports to demonstrate their concern on such issues.

## **2.6 Summary**

Using Gernon and Wallace's framework (1995), the first section of this chapter offers a comprehensive discussion on the profile of India and its accounting practices. The complex interaction among country specific characteristics that encompasses five environmental factors influences the accounting practices in India. The next section describes the Indian economy before and after the liberalisation era. This chapter also discusses the significance of its vibrant textile and apparel industry including the structure of the industry, the role of WTO and the GOI in promoting the industry, and the current status of that industry.

Environmental factors including 'societal' (cultural and non-cultural factors), 'organisational', 'professional', 'individual' and 'accounting' shape Indian accounting practices. In particular such factors have mixed influences on corporate reporting practices. For instance, the link between Indian culture 'power distance' and accounting values characterises India as having low 'professionalism', high 'uniformity', low 'conservatism', and high 'secrecy'. Those characteristics, particularly high 'secrecy', may discourage Indian textile and apparel firms to disclose more voluntary information (including social and environmental information) in their annual reports. On the other hand, the most influential non-cultural factors of the economic liberalisation of India in the early of 1990s provides

the avenue for a better reporting practices as India more competitively integrated with the global economy. As a result, such an intense global competition may encourage firms to conduct their business with consideration of socially and environmentally responsible activities and to communicate such efforts in the annual reports.

The Indian long-term orientation of life may shape 'individual' environment factors which may influence the reporting practices of Indian corporations. The corporations may focus their efforts to provide mandatory information as required by the government and may pay less attention to report voluntary information including information on social and environmental issues. However, the other environmental factors of 'organisational', 'professional' and 'accounting' may encourage Indian corporations to communicate more voluntary information. The reasons for such an argument are as follows. First, in spite of the mandatory information, organisational bodies such as Indian Accounting Standards Board (ASB) and foreign investors may expect more voluntary information including information on social and environmental issues to be communicated. Second, in regard to the 'professional' environment, the Institute of Chartered Accountants of India (ICAI) and the Securities and Exchange of India (SEBI) encourage greater disclosure of voluntary information as a response to increasing public awareness on transparency and accountability. The commitment of the GOI in adopting IFRSs coupled by the statutory and stock exchange requirements for Indian listed firms may also enhance reporting practices. Third, as India becomes more integrated with the global economy, the necessity of the country to have a set of internationally recognized accounting standards (i.e. IFRS) becomes increasingly important. India's convergence on such international reporting standards may influence the corporate voluntary disclosure practices of that country.

Indian economic liberalisation contributed to rapid changes in that country's economy development. Such changes open the country to the world market and attract more foreign investors. As a result, Indian corporations, including textile and apparel (TA) firms, are expected to communicate more voluntary information to stakeholders. At the global level, India is one of largest textile producers and is perceived as one of the pillars of the Indian economy. Indian TA firms frequently supply TA products to international brand-name companies. Such arrangements may

influence the reporting practices of the textile and apparel industry particularly in regard to social and environmental issues. This is because these companies may perceive social and environmental issues as highly important and may also impose their values in regards to such issues to their suppliers. The increasing importance of FDI in the Indian economy may also contribute to the corporate social responsibility practices of the country. It is therefore expected that Indian textile and apparel firms, in particular those that supply their products to the brand-name companies communicate more social and environmental information in their annual reports.

The next chapter provides the literature review and develops the hypotheses. In particular, the chapter examines prior studies on corporate social and environmental disclosure practices, followed with a discussion on the relevant theories and the rationale on the choice of legitimacy theory underpinning this thesis. The hypotheses development of this thesis ends the next chapter.

# **CHAPTER 3 : LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

## **3.1 Introduction**

The preceding chapter discusses the accounting environment in India which incorporates major cultural and non-cultural factors that shape accounting practices of that country. This chapter provides the literature review and hypotheses development that underpins this study. This chapter is organised as follows. The first section reviews legitimacy theory as the theoretical framework of SEDs. This is followed by sections that review social and environmental disclosures from a global perspective and then adapted to the Indian context. This chapter also sets out the conceptual schema and the rationale for hypotheses development.

## **3.2 Theoretical Framework: Legitimacy Theory**

This section details the theoretical framework of SED practices of Indian listed companies. The choice of legitimacy theory is initially discussed followed by a review of prior literature that relies on legitimacy theory in the context of developing countries.

### **3.2.1 Choice of Legitimacy Theory**

Prior studies on corporate social and environmental disclosure have relied on a wide range of theoretical perspectives including agency theory (e.g. Akhtaruddin, Hossain, Hossain, and Yao 2009), stakeholder theory (e.g. Ullman 1985; Roberts 1992; Cahaya, Porter, and Brown 2008), legitimacy theory (e.g. Murthy and Abeysekere 2008; Islam and Deegan 2008, 2010), institutional theory (e.g. Cormier, Magnan, and Van Velthoven 2005; Amran and Siti-Nabiha 2009; Amran and Haniffa 2011), and political economy theory (e.g. Williams 1999; Purushothaman, Tower, Hancock, and Taplin 2000; Nurhayati et al. 2006). Cotter, Lokman, and Najah (2011) argue that these theories can be grouped into two main categories: a) socio-political theories and b) economics-based theories. Socio-political theories including political



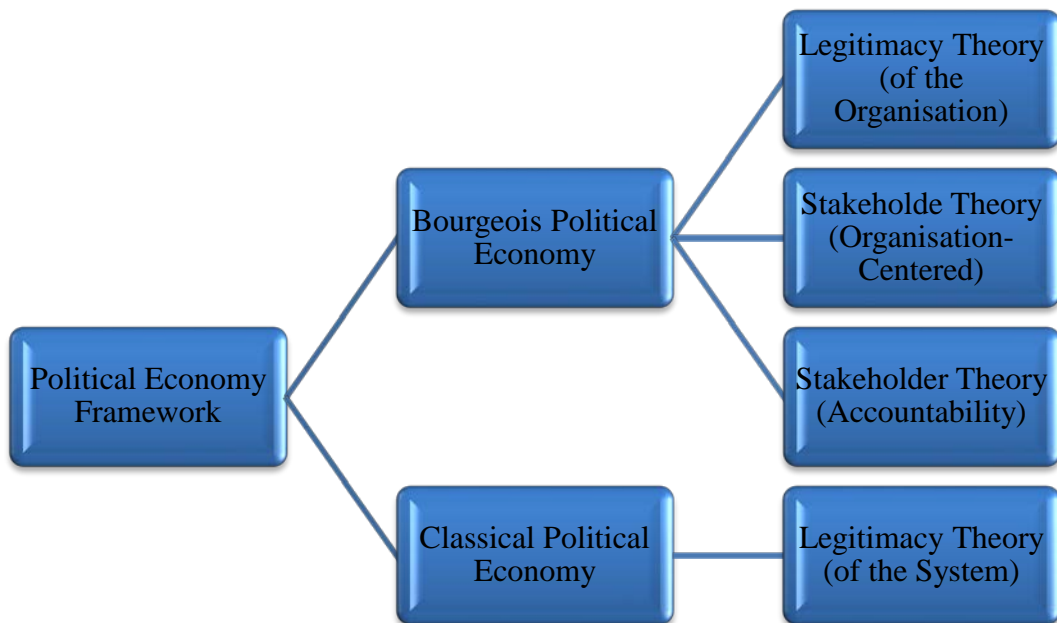
economy theory, stakeholder theory, legitimacy theory and institutional theory all utilize the concept of corporate citizenship. On the other hand, economics-based theories including agency theory, signalling theory, and proprietary cost theory focus on shareholder wealth maximisation in determining organisational behaviour including the rationale for making voluntary disclosures in reporting media.

It has been argued that within the field of social and environmental accounting research, legitimacy theory and stakeholder theory are considered influential theories in terms of motivating SED practices (Chen and Robert 2010). These theories are essentially overlapping as they both involve interaction of organisations and society (Gray, Kouhy, and Lavers 1995). However, “their approaches to decomposing this complex social phenomenon are different” (Chen and Robert 2010, 651). Both of these theories arise from political economy theory, which provides the framework for systems based theories. (Gray, Owen, and Adams 1996). Under the concept of political economy theory, business activities take place in a social, political and economic framework. Corporates are influenced by society and also influence the society in which they operate (Islam and Deegan 2008). For instance, corporations may conduct more social and environmental activities and voluntarily disclose such activities to respond to the pressures from their social, political and economic settings. Such a response including how firm management communicate their social and environmental activities via annual reports for example, may influence their surroundings. For instance, such actions may change the public perception of corporations, provide feedback to regulators in setting better policies on such issues and contribute to the economic development of a region and country.

As depicted in Figure 3.1, political economy theory can be more specifically divided into two variants known as classical and bourgeois (Gray et al. 1996; Henderson, Peirson, and Harris 2004). Classical political economy accounts for a broader perspective, questioning the legitimacy of the system as a whole (macro-level), rather than the legitimacy of individual entities such as that offered by a bourgeois perspective (Gray et al. 1995; Gray et al. 1996). The main difference between those two variants lies in the level of analysis. The classical political economy framework places “structural conflict, inequality and the role of the State at the heart of the analysis” whereas bourgeois political economy theory perceives the

interactions between groups in a pluralistic way (Gray et al. 1996, 47). As such, classical political economy framework best offers insights in regards to mandatory disclosures while the bourgeois variant more clearly addresses voluntary disclosures (Gray et al. 1996). Furthermore, under a bourgeois political economy framework, corporations are continually shaped by the social and environment in which they operate in pursuing their own self-interest (Gray et al. 1996). As such, extant literature suggests that the bourgeois variant is widely used in explaining corporate social disclosure practices (Gray et al. 1996; Williams and Pei 1999, Purushothaman et al. 2000; Henderson et al. 2004).

**Figure 3.1 Political Economy (System-Based) Theories**



Source: Adapted from Gray et al. (1996).

Although legitimacy and stakeholder theories essentially have inherent similarities, they have a number of important differences. First, under stakeholder theory, corporations have to identify important groups of stakeholders which may demand different information to be addressed through disclosure practices (Abeysekera 2006). On the other hand, legitimacy theory postulates that corporations consider society as a whole rather than overly focusing on particular groups of

stakeholders in disclosing voluntary information (Arvidsson 2010). Second, legitimacy theory offers a broader perspective than stakeholder theory. This argument stems from the concept that legitimacy theory tends to consider the expectations of society in general (Islam and Deegan 2008). Accordingly, legitimacy theory arguably has more power in explaining corporate behaviour particularly their social and environmental disclosure practices. Third, these two theories differ in their levels of perception and resolution (Gray et al. 1995). Thus, it can be implied that stakeholder theory focuses on the economic motivations whereas legitimacy theory focuses on the social motivations of the corporation in disclosing information (Gray et al. 1995).

In spite of the often-voiced position that there is no universally accepted theoretical framework for corporate social and environmental accounting (e.g. Hackston and Minle 1996; Choi 1999; Campbell, Craven, and Shrives 2003), literature advocates that the most widely used theory in explaining corporate motivation to disclose social and environmental information is legitimacy theory (Deegan 2002; Deegan, Rankin, and Tobin 2002; O'Donovan 2002; Belal and Momin 2009; Islam and Deegan 2008, 2010). Legitimacy theory is “a theory that, as applied in the social and environmental reporting literature, is rather simplistic but nevertheless appears to be the theoretical basis most frequently used in attempts to explain corporate social and environmental disclosure policies” (Deegan et al. 2002, 318).

Moreover, the choice of the most suitable theory in explaining voluntary social and environmental disclosure depends on the focus of the study (Chen and Robert 2010). More explicitly, the nature of information scrutinized and external parties considered determine the choice of theoretical framework of a study (Cotter et al. 2011). In studies investigating non-financial disclosures such as SED with no prior expectations of information required by stakeholders, legitimacy theory is considered very useful in explaining the factors behind such disclosure. Accordingly, this thesis adopts legitimacy theory as the theoretical framework to explain social and environmental disclosure (SED) practices of Indian textile and apparel listed firms. In the next section, a general model of legitimacy theory is provided followed by adaption of this framework to the Indian context. In doing so, further support for use of legitimacy theory is provided below.

### 3.2.2 Legitimacy Theory Tenets

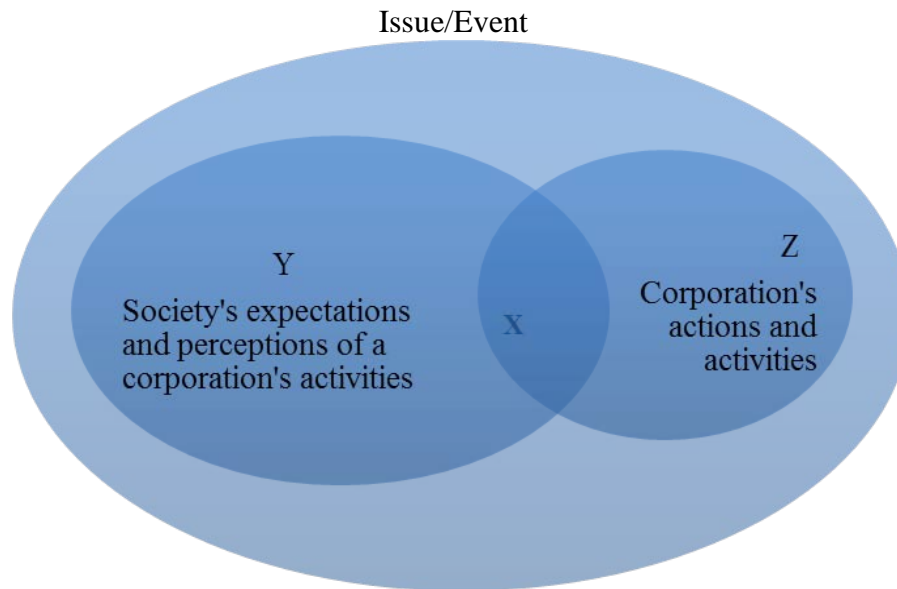
In the context of the relationship between corporations and society, Lindblom (1994), as cited in Deegan (2006, 275), defines legitimacy theory as “a condition or status which exists when an entity’s value system is congruent with the value system of the larger social system of which the entity is a part”. Accordingly, “when an actual or potential disparity exists between the two value systems, there will exist a threat to organisational legitimacy” (Dowling and Pfeffer 1975, 122). In line with such a definition, Suchman (1995, 574) argues that legitimacy is “socially constructed in that it reflects a congruence between the behaviours of the legitimated entity and the shared (or assumed shared) beliefs of some social group; thus, legitimacy is dependent on a collective audience, yet independent of particular observers”.

Ensuring the congruence between corporate’s performance and the expectations of society is a critical point for the corporation in gaining its legitimacy to operate. However, although a corporate’s performance can be congruent with the expectations of society, legitimacy can be still threatened if the corporation failed to disclose its efforts in attempting its compliance with the expectation of society (Deegan 2006). Furthermore, Deegan (2006) asserts that “legitimacy is assumed to be influenced by disclosures of information and not simply by (undisclosed) changes in corporate actions” (Deegan 2006, 281). Accordingly, legitimacy might be seen as the ultimate reason for corporations to undertake corporate social behaviour and to use such activities as a form of publicity or to influence society (Lindblom 1994 cited in Deegan 2006). Disclosures are thus a necessary part of the corporate dynamic in terms of maintaining legitimacy.

O’Donovan (2002) illustrates legitimacy based on the concept of a social contract. As depicted in Figure 3.2, the area marked by X indicates congruence between the activities of a corporation and the expectations as well as perceptions of society. On the other hand, the areas of Y and Z represent incongruence between the actions performed by corporation and the perception of society in regards to the actions that should be done by the corporation. In order to be considered as a legitimate entity, corporation have to ensure that area X is as large as possible. Corporation can establish its legitimacy by matching its performance with society’s expectations and perceptions (Henderson et al. 2004). In other words, in order to

legitimately operate, corporation should do its best to negate or minimize incongruence or the so called legitimacy gap.

**Figure 3.2 Issues/Events and Corporate Legitimacy**



Source: O'Donovan (2002)

In the absence of specific laws in governing corporate social and environmental disclosure particularly in developing countries including India, corporations may seek ways to legitimate and re-legitimate their business operations. This argument may be factual particularly for industries using production processes which, if not properly managed, potentially harm the social and natural environment. Corporations in industries including the textile and apparel industry may voluntarily conduct social and environmental activities and communicate these activities in order to establish and maintain a favourable relationship with society or to negate the disparity when it is present. Prior research suggests that corporate voluntary disclosures published through annual reports may help corporations in attaining their legitimacy with society (Brown and Deegan 1998; Neu, Warsame, and Pedwell 1998).

It is the entity's responsibility to build strategies for minimising any legitimacy problems. According to Suchman (1995), legitimacy is concerned with

strategies for gaining, maintaining and repairing the relationship between entities and society. Lindblom (1994), as cited in Deegan (2006), identified four strategies that could be employed by the entity to resolve such problems. First, the entity may seek to educate and inform its stakeholders concerning its objectives to improve performance and by acknowledging that its performance is now more aligned with the values and expectations of society. Second, the entity may influence the perceptions of its stakeholders regarding certain events without changing the actual performance of the entity by communicating an alternative definition of social legitimacy. Third, the entity may distract its stakeholders' attention away from the entity's negative issues. For instance, corporations may highlight the entity's attempts to fulfil social expectations in other areas. Fourth, the entity may influence external expectations of its performance by, for instance, demonstrating that the social expectations are unreasonable to attain.

Legitimacy theory focuses on societal recognition of the adequacy of corporate social behavior (Nasi, Nasi, Philips, and Zyglidopoulos 1997). Legitimacy theory posits that the society judges entities based on the image they create to society. According to legitimacy theory, entities can only survive if the society believes that the entity is operating in accordance with the expectations of the society (Gray et al. 1996). Hence to establish legitimacy, entities need to portray the image that they are operating in such a manner (Henderson et al. 2004). Legitimacy threats take place when there is a gap between societal expectations and the perception of the society that the entity is not fulfilling such expectations (Nasi et al. 1997).

Voluntary social and environmental disclosure can be used as a mechanism to influence public perceptions of corporations' activities (Henderson et al. 2004). Such disclosure may enhance corporate legitimacy by creating a positive impression to society (Neu et al. 1998). In addition, communicating social and environmental activities helps the corporations in securing its legitimacy gap (Henderson et al. 2004) and consequently, maintaining their organisational legitimacy (Neu et al. 1998). Corporations often use (social and) environmental disclosures to counteract criticisms and to gain societal support (Campbell 2003). As such, disclosure can be used as a means to attain corporate legitimisation (Waller and Lanis 2009). In other words, the corporations provide environmental and social information "to protect their

self-interests in order to foster, sustain and legitimize relationships” by offering images that support the society as a whole (Williams 1999, 211).

### **3.2.3 Prior SED Studies Using Legitimacy Theory**

A number of empirical studies in the field of social and environmental disclosure (SED) have tested the applicability of legitimacy theory in explaining such disclosure practices (Deegan 2006). However, past studies provide inconsistent results. Although certain prior empirical studies (e.g. O’Donovan 2002; Pellegrino and Lodia 2012; Lanis and Richardson 2013) offer strong evidence that legitimacy theory explains the behaviour of corporations in communicating their social and environmental activities in legitimating their business operations, however certain other studies (e.g. Campbell, Craven, and Shrives 2003) only provide limited support for the theory.

Using content analysis, Tsang (1998) examined the annual reports of Singaporean listed companies over a ten years period (1986-1995) belonging to the banking, food & beverages and hotel industries. The study stated that CSR in Singapore was in its early stages and the amount of disclosures remained stable since 1993. Almost one half of the companies did not have any CSR disclosures throughout the ten years period. Furthermore, the non-disclosing companies were of a smaller size compared to the disclosing ones. The study also revealed that banking companies significantly communicated less social information than hotels.

Examining the annual reports of one of the largest Australian companies (i.e. BHP Ltd) for the period of 1983-1997, Deegan et al. (2002) provide support for legitimacy theory. Their study used content analysis to investigate the extent and type of social and environmental disclosures over that period. Findings of their study suggest an upward trend of SED over the 15 years period with human resources and environmental information representing the most disclosed themes. These themes essentially relate to media attention. Furthermore, management of the company seemed to disclose positive information to response unfavourable media attention. Hence, their study provides evidence that greater media attention encourages a corporation to disclose more social and environmental information.

O'Donovan (2002) investigates to what extent environmental disclosures in the annual reports were interrelated to legitimacy strategies (i.e. to gain, maintain, or repair public legitimacy) as well as the choice of specific legitimization tactics. His study extended the applicability and predictive power of legitimacy theory by conducting in-depth interviews with six senior managers from three large Australian companies that operated in paper and pulp, mining, and chemical industries. The interviews were designed to generate responses in regards to the legitimacy strategies from the respondents in regards to hypothetical environmental issues/events. The study also scrutinized annual reports and media reports on environmental issues of the companies as the secondary data sources. The main finding of the study supports legitimacy theory as the explanation for environmental disclosures. The study also argues that companies use specific legitimisation tactics as a strategic response to legitimacy threatening issues/events.

Braco and Rodrigues (2006) compared the use of web sites and annual reports as the key mediums in reporting social responsibility information of 15 Portuguese banking companies. The researchers used content analysis in measuring the level of social responsibility disclosure. Their study pointed out that the choice of disclosing medium depends on the targeted public. Environmental and human resources information were communicated more in the annual reports while products and consumers and community involvement information were more presented in the corporate web sites. This study also suggested that well known banks seem to provide more extensive social responsibility information in web sites as well as in the annual reports as they may have greater visibility among consumers.

Gunawan (2007) applied legitimacy and stakeholder theories as the theoretical framework of her study for investigating corporate social disclosures (CSD) of Indonesian listed companies. Using content analysis, this pilot study examined sixty annual reports for the year 2003, 2004, and 2005 to reveal the extent of CSD practices. This study also conducted an exploratory analysis to find out the motivation of Indonesian listed companies in disclosing social information as well as the perceived importance of CSD information by stakeholders. Descriptive analysis of the study revealed a very low extent (on average about 24 sentences) of CSD by Indonesian listed companies. The finding suggested that products information is the most important issue of CSD perceived by the stakeholders. The study also



highlighted the likely main motives of Indonesian corporations in communicating social information in their annual reports which are designed to create a positive societal image, to demonstrate accountability, and to comply with the needs of stakeholders.

In 2008 and 2010, Islam and Deegan conducted two studies on social and environmental disclosure practices focussing on the garment industry. Both of their studies adopted multiple theoretical lenses including legitimacy theory and produce findings consistent with legitimacy theory tenets. Islam and Deegan (2008) attempted to describe and explain the SED practices of a major export-oriented garment trade organisation in Bangladesh (i.e. BGMEA) by using stakeholder, legitimacy, and institutional theories. Their study used a dual methodology that combines interviews and content analysis. They interviewed the BGMEA senior executives to reveal their perceptions in regards to what pressures and expectations are imposed by its stakeholders and how those two variables have changed across time. Then, the researchers linked the perceptions of the BGMEA senior executives to their organisation SED practices on the annual reports for a 19 year period (1987-2005). The findings of their study suggested that particular stakeholder groups including customers (i.e. multinational buying companies), media, and non-governmental organisations (NGOs) have placed pressure on Bangladeshi garment industry. Moreover, such pressure which represents the expectations of the global community is likely to motivate the industry in setting the social and environmental policies as well as the disclosure practices.

A study by Archel, Husillos, Larrinaga, and Spence (2009) offers an expanded view of legitimacy theory by examining a Spanish company particularly in regard to the relationship between corporate legitimising strategies and the State support for such strategies. Their study focused on the automotive industry by solely examining the renowned Germany multinational automotive firm, Volkswagen (VW) that operated in the State of Navarra, Spain (VW Navarra). They performed social and environmental disclosure (SED) analysis in the context of the relational dynamics between the firm/society/State. Their study suggested that VW Navarra used SED strategically to legitimize a new lean production process that triggered dispute between the company and its workforce through the manipulation of social

perceptions. Their study also provided evidence that the strategy pursued by VW Navarra was supported through ideological alignment with the State.

Another study by Islam and Deegan (2010) scrutinized social and environmental disclosure (SED) practices on the annual reports of two global clothing and sports retail companies (i.e. Nike and Hennes & Mauritz). They used dual theoretical frameworks which are legitimacy and media agenda setting theories to investigate the relationship between media attention and corporate SED practices. Their study provided an account for labour practices (i.e. child labour and working condition) as these issues attract the greatest amount of negative media attention particularly in regard to such practices in developing countries. Furthermore, on the basis that corporate decisions for voluntarily disclosing social and environmental information were also influenced by a number of factors other than media attention, their study found that those two global companies provide positive SED to respond negative media attention.

Using a comprehensive disclosure index and a sample of 2009 sustainability reports from the largest companies in 24 countries, Faisal, Tower, and Rusmin (2012) investigated corporate sustainability disclosure practices in a global context. They developed their disclosure index based on the Global Reporting Initiative (GRI) 2006 guidelines. Their study provided empirical evidence of a high extent of sustainability disclosure which was, on average, almost 62%. They found that high profile industries communicate more sustainability information than the low profile industries. Surprisingly, their study revealed that companies operating in emerging country systems disclose more sustainability information than Anglo-Saxon or Communitarian jurisdictions. Overall, their study concludes that companies operating globally use sustainability disclosures as a tool for legitimising their business operations.

Pellegrino and Lodia (2012) focused their attention on the Australian mining industry by exploring how environmental disclosure via media releases is used as a means to respond to climate change and better guarantee their social legitimacy. Their study used a multi-case research design by identifying legitimising disclosure strategies of four key bodies in the industry including BHP Billiton and Rio Tinto and the Mineral Council of Australia and Australian Coal Association. They argued that Australian mining industry associations used various legitimising disclosure

strategies and communication media possibly in response to different stakeholder groups.

Du and Vieira (2012) adopted a case study methodology in investigating corporate social responsibility (CSR) strategies and communication in the oil industry. Their study analysed corporate websites of five large US oil companies (i.e. Exxon Mobil, Chevron, ConocoPhillips, Valero Energy, and Marathon Oil) and the largest UK oil company (i.e. BP). They analysed corporate websites over the period August 2011 to July 2012. Their study found that oil companies addressed diverse CSR issues. In regard to CSR communication, their study revealed that oil companies used a number of tactics including factual arguments and story-based methods in pursuit of more effective communication methods. Overall, their study demonstrated inter-relationships between business strategy, CSR practices, and CSR communication.

A more recent longitudinal study by Lanis and Richardson (2013) provided empirical evidence on the relationship between CSR disclosure and corporate tax aggressiveness. Their study compared CSR disclosure practices between two groups of companies listed on Australian Stock Exchange (ASX) categorised as those that were more tax aggressive and those more non-tax aggressive during the 2001-2006 periods. Using a matched sample of twenty companies for each group during the period studied, they suggested that tax aggressive companies communicate more CSR information than non-tax aggressive companies in order to lowering public concern that potentially arise in regard to their tax aggressiveness behaviour.

Based on the aforementioned discussion, it is evident that the existing literature on voluntary disclosures, particularly the social and environmental disclosures, is largely consistent with the tenets of legitimacy theory. Prior empirical studies of both developed and emerging economies also provide support for the applicability of legitimacy theory in explaining corporate social and environmental disclosure practices<sup>6</sup>.

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<sup>6</sup> However, Campbell et al. (2003) and Ahmad and Sulaiman (2004) found only limited support for legitimacy theory in explaining social and environmental disclosure practices in particular industries. Using time series data from the annual reports of three companies representing three industries (tobacco, brewing, and retailing) in United Kingdom for the period of twenty years (1975-1997), Campbell et al. (2003) examined the extent to which

A literature review on corporate social and environmental disclosure studies with legitimacy theory as the theoretical framework highlights a number of interesting findings. First, there have been an increasing number of such studies particularly in regard to emerging economies such as Indonesia, Malaysia, and Bangladesh. However, studies on SED disclosures in developed countries such as Australia, United Kingdom, and Spain as the background of studies still dominate the arena. Second, although literature suggests two main approaches (i.e. content analysis and disclosure index) in analysing SED, prior SED studies on developed countries tend to use content analysis in assessing extent of SED in annual reports. However, since this study focuses on an emerging country (i.e. India) that generally provides relatively low voluntary disclosure in the corporate annual reports, the use of a disclosure index is arguably more beneficial. Joseph and Taplin (2011) feel that choice of country studied may well dictate the method in which extent of SED is assessed (i.e. use of content analysis and or a disclosure index). Moreover, Nurhayati et al. (2006) feel that a disclosure index is more suitable for a developing country which has a relatively low extent of voluntary (social and) environmental disclosures. Third, although the literature highlights the use of media other than annual reports for assessing extent of disclosure (e.g. company websites and sustainability reports), the use of annual reports as the main medium for investigating corporate CED practices is still prominent. Fourth, prior studies conducted in emerging economies seem to be conducted on a cross-sectional basis. Potential, further work could be conducted on a longitudinal basis. Fifth, prior studies on corporate SED tend to focus on particular industries such as hotel, food and beverage, banking, tobacco, retailer (e.g. clothing and sports), automotive, chemical

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voluntary social disclosures negate a perceived legitimacy gap. Their study revealed that companies with lesser apparent legitimacy gap sometimes communicate more voluntary social information. Overall, their study concludes that legitimacy theory could not thoroughly explain the variation in social disclosures by the three companies. Ahmad and Sulaiman (2004) examined the extent and nature of environmental disclosures of Malaysian listed companies in 2008 that belong to the industrial products and construction industries. They adopted a dual methodology by analysing annual reports as well as use of a questionnaire survey of 138 companies listed in the Kuala Lumpur Stock Exchange. Their findings suggested a very low extent of environmental disclosures with only general information being reported. The authors acknowledged that their study provides only limited support for legitimacy theory in explaining the nature of environmental disclosures and the reasons for such disclosures.

and mining industries. It appears that there is a lack of study on manufacturing companies that belong to the textile and apparel industry. This thesis, therefore, longitudinally investigates the SED practices by Indian textile and apparel listed to fill the gap in the literature.

### **3.3 Social and Environmental Disclosure**

The discussion on social and environmental disclosure (SED) is divided into a number of sub-sections including the stated definition of SED, findings of prior empirical studies on SED, and a list of key determinants from past SED studies.

#### **3.3.1 Definition of Social and Environmental Disclosure**

Prior literature suggests that there have been growing public interest on corporate social and environmental initiatives. This interest has stimulated studies by increasing corporate social and environmental disclosure practices internationally.

Interestingly, however, there is no one universal accepted definition for social and environmental disclosure (SED)<sup>7</sup>. Disparity in definitions of SED arises from the different ways corporations integrate their social and environmental concerns into their business operations and the interaction of corporations with their stakeholders on a voluntary basis (Reverte 2009). Additionally, the lack of universally accepted definition probably stems from the absence of imposed regulations or laws on how to comprehensively conduct and report corporate social and environmental activities.

Literature suggests that corporate social and environmental disclosure (SED) can be defined in a number of ways. However, according to Yam (2013), this variety in definitions of corporate social responsibility can be broadly grouped into two schools of thought. The first school of thought advocates that corporations have an

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<sup>7</sup> The terminology of social and environmental disclosure (SED) can be interchangeably used by a number of terminologies that essentially have similar conceptualisation of corporate responsibilities toward society, including prominently tagged as corporate social responsibility (CSR). Accordingly, this thesis occasionally uses CSR language and jargon instead of SED where the meaning would be clearer. This thesis assumes that those two terminologies possess very similar meanings. In addition, Kotonen (2009, 178) asserts that CSR reporting has been labelled as ‘social accounting’, ‘social and/or environmental disclosure’, ‘sustainability disclosure’, ‘social auditing’, ‘social review’, ‘social and/or environmental reporting’, and ‘sustainability reporting’.

obligation to maximize their profits within the boundaries of regulations and ethical constraints. On the other hand, the second school more comprehensively asserts that corporations should have a broader range of obligations to society. Furthermore, prior literature is largely based on the later school of thought. Unsurprisingly, as society generally expects corporations to move beyond their profit-oriented motives to be more socially responsible entities (Yam 2013).

Gray, Owen, and Maunders (1987) offer a widely cited definition of CSR. They define CSR as “the process of communicating the social and environmental effects of organisations’ economic actions to particular interest groups within society and to society at large” (Gray et al. 1987, ix). Their definition explicitly covers both social and environmental issues that are influenced by the business activities of corporations. Their definition is also arranged in line with the tenets of legitimacy theory (and also stakeholder theory). Such a definition highlights concern that corporations should not only maximise their financial performance but they also have to actively protect the natural environment and promote the welfare of society as a whole. As stated by Frederick et al. (1992) cited in Hinson, Boateng, and Madichie (2010, 499), CSR signifies that “a corporation should be held liable for any of its actions that affect people, communities and the environment.” Furthermore, “this concern spans issues beyond economic, technical and legal requirement for the firm to all actions that centre on improving society” (Davis 1973 cited in Hinson et al. 2010, 499). The above conceptualisation of legitimacy and communication is arguably comprehensive and consistent. Accordingly, this thesis adopts the definition of SED offered by Gray et al. (1987).

### **3.3.2 Determinants of Social and Environmental Disclosure Studies**

According to Reverte (2009), studies on corporate social responsibility can be grouped into three types: (1) descriptive studies which attempt to investigate the nature and extent of CSR practices; (2) explicative studies that explore determinants of CSR practices; and (3) studies that examine the impact of CSR practices on users and their reactions. In addition, Adams (2002) point out that CSR determinants examined in the prior studies can be grouped into three categories: (1) corporate characteristics (e.g. size, industry type, and economic performance), (2) general

contextual factors (e.g. country of origin, time, specific events, cultural and economic context), and (3) internal context (e.g. identity of company chair and existence of social reporting committee). This thesis addresses the first two types of research agenda in the area of corporate social and environmental disclosure (i.e. to investigate the nature and extent of SED practices, to explore the determinants of SED practices) and to determine which corporate characteristics drive disclosure of SED practices of Indian textile and apparel listed companies<sup>8</sup>.

Adopting legitimacy theory tenets, Haniffa and Cooke (2005) helpfully investigate the influences of culture (i.e. ethnic background of directors and shareholders) and corporate governance elements (i.e. board composition, multiple directorships, and type of shareholders) on corporate social disclosure (CSD) practices of Malaysian corporations. Using both disclosure index and content analysis, their study examined annual reports for the years 1996 and 2002 of 139 non-financial Malaysian listed corporations to measure the extent of CSD practices. The research instrument was developed based on five themes (i.e. environment, employee information, community involvement, products or service information, and value-added information). Their findings indicated that boards dominated by Malay directors, executive directors, a chair with multiple directorships and foreign share ownership were significantly associated with CSD practices. In addition, a number of control variables including corporate size, profitability, multiple listing and type of industry were found to be significantly associated with CSDs.

Rizk, Dixon, and Woodhead (2008) investigated corporate social and environmental disclosure practices in the 2002 annual reports year of 60 Egyptian companies in nine high polluting industries. They use disclosure indices to examine the annual reports of those companies. Their study uses a 34 item disclosure index covering environmental, energy, human resources, and customer and community issues. They suggest a low level of social and environmental disclosures in annual reports. There were significant variances in disclosure practices among companies in those nine industries. Employee related information was found to be more prevalent information disclosed in the annual reports. Moreover, compared to private

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<sup>8</sup> This thesis excludes the third type of SED research agenda (i.e. examine the impact of CSR practices on users and their reactions) due to unavailability of publicly accessed database on users of CSR information (e.g. customers, employees, government, and public at large) to investigate the impact of CSR practices on users as well as their reactions on such practices.

corporations, government owned companies disclosed more employee related information. These findings highlight the significance of ownership structure in influencing disclosure practices of high polluting Egyptian companies.

Using a multi-theoretical framework of legitimacy theory, Braco and Rodrigues (2008) compares internet and annual reports as medium of corporate social responsibility (CSR) disclosure of Portuguese listed firms. Their study includes a number of independent variables (i.e. international experience, company size, industry affiliation, and media exposure) and control variables (i.e. profitability and leverage). Their study uses an unweighted disclosure index in examining the extent of CSR disclosure practices of Portuguese listed companies. Descriptive analysis reveals that companies prefer to use annual reports as a medium to communicate their CSR information. Furthermore, their findings demonstrate a higher presence of human resources information disclosed in annual reports than on the internet and conversely in respect to information related to community involvement. Regression analysis shows a positive relationship between company size and the extent of CSR disclosure both in the annual reports and corporate websites.

Using a multi-theoretical framework of stakeholder, legitimacy, and agency theories, Reverte (2009) investigates the determinants of corporate social responsibility disclosure ratings of Spanish listed companies. The study incorporates a number of predictor variables including corporate size, industry sensitivity, profitability, ownership structure, international listing, media exposure, and leverage. The researcher uses the data from the Observatory on Corporate Social Responsibility (OCSR)<sup>9</sup> in determining the CSR disclosure rating. The finding of that study suggests that companies with higher CSR disclosure ratings are larger in size, have higher media exposure and belong to more environmentally sensitive industries. Media exposure, corporate size and industry are the most significant determinants of CSR disclosure ratings of Spanish listed companies whereas profitability and leverage were not the predictors of the CSR ratings. Overall, that

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<sup>9</sup> Observatory on Corporate Social Responsibility (OCSR) is an association of organisations (e.g. NGOs, trade unions, customers, and civil society) which provides report on CSR disclosures by publicly listed Spanish corporations and offers CSR disclosure rating (Reverte 2009).



study concludes that legitimacy theory seems to be the most relevant theory in explaining the CSR disclosure practices.

An empirical study by Tagesson, Blank, Broberg, and Collin (2009) adopts a multi-theoretical framework including stakeholder and legitimacy theories in investigating the extent and content of social and environmental disclosures on the websites of Swedish listed companies. They use a 22 item disclosure index covering three themes including environmental disclosure, ethics disclosure, and human resource disclosure. Using a sample of 267 listed companies, their study includes corporate size, industry type, profitability, ownership concentration, and ownership identity as the determinants of the extent and content of SED practices. Some 63% companies, on average, communicated social and environmental information on their websites. In addition, the most prevalent information disclosed by the companies is environmental issues. Multiple regression analysis reveals that corporate size is the strongest explanatory variable of the extent of SED practices. Larger companies disclose more CSR information in their websites. Profitability also positively influences the extent and content of CSR disclosure. Interestingly, contrary to that hypothesised, state-owned companies communicate more CSR information than privately-owned companies.

Khan (2010) adopts legitimacy theory in investigating the effect of corporate governance variables (i.e. board independence, composition of women directors, and existence of foreign nationalities on board) and corporate characteristic variables (i.e. corporate size, profitability, and leverage) on corporate social reporting (CSR) reporting practices of private commercial banks (PCB) in Bangladesh. This study uses content analysis as well as a disclosure index in examining annual reports for 2008 year of 30 PCB listed on the Dhaka Stock Exchanges (DSE). This study developed a 60 item research instrument covering seven broad categories (i.e. contribution to health sector, contribution to education sector, activities for natural disaster, donations, activities for employees, environmental issues, and Product/services statements) in measuring CSR reporting. Although CSR reporting in Bangladesh is voluntary, firms, on average, report 634 words per annual report relating to CSR. Furthermore, mean CSR disclosure of 34% as measured by a disclosure index highlights some commitment to such reporting. The most disclosed category is product and services related items followed by activities for employees

and contributions for natural disasters. Multiple regression analysis indicates that board independence, existence of foreign nationalities on the board, corporate size and profitability were the predictors for CSR reporting. However, there is a statistically insignificant relationship between women representation in the board and leverage with CSR reporting.

Using stakeholder theory, Hamid and Atan (2011) conducted a study that investigates the relationship between the level of corporate social responsibility disclosure and the nature of ownership structure of three largest Malaysian telecommunication companies. They examine annual reports for the years 2002 to 2005 of those companies to reveal whether ownership structure (i.e. local, government, and foreign ownerships) influences the corporations in disclosing social responsibility information. They selected three themes of CSR disclosure including community, human resources, and environment. Their study suggests that the level of disclosure increased moderately during the period. However, the level of CSR themes disclosure indicates some variability. A company owned by government (i.e. the GLC) communicates more on community and human resource information whereas a local company (i.e. Maxis) and a foreign owned company (i.e. Digi) place their communication priority on providing community information. Their finding suggests that the corporate ownership structure influences the CSR disclosure of Malaysian telecommunication companies.

Using legitimacy theory as the theoretical framework, Mahadeo, Oogarah-Hanuman, and Soobaroyen (2011) conducted a longitudinal study of corporate social disclosure (CSD) in Mauritius. They use content analysis to examine 165 annual reports for the time period 2004-2007. Their descriptive analysis suggests a significant increase in the extent and variety of CSD themes (i.e. social, ethics, environment, and health and safety). Almost all listed companies provided CSD with social issues remains the most disclosed theme. A pooled regression analysis reveals that corporate size explains the variations in overall CSD and social theme disclosure while leverage positively related to the variations in environmental theme and health and safety theme disclosures. On the other hand, profitability and industry affiliation are not predictors for the extent and variety of CSD themes. They conclude that legitimacy theory well explains the development of CSD in Mauritius.

Uwuigbe and Uadiale (2011) compared the level of corporate social and environmental disclosure between Nigerian listed companies that belong to building material and brewery industries. They use content analysis to scrutinize annual reports of ten companies for period 2004 to 2008. Firms disclosed a very low level of corporate SED practices. T-test statistics suggests that corporate SED practices between those two industry sectors are significantly different. Companies belonging to the brewery industry provide more social and environmental information in their annual reports.

Rouf (2011) conducted an exploratory study to investigate the extent and nature of corporate social (CSR) disclosure of companies listed on the Dhaka Stock Exchange. The study tests the relationship between a number of corporate governance and corporate characteristics variables and CSR disclosure. Using a 39 item unweighted disclosure index encompassing five themes (i.e. environmental, employee, community, energy, and products information), this study examines the 2007 annual reports of companies. The multiple regression analysis shows a positive association between board independence and the extent of CSR disclosure. Moreover, the analysis shows that a number of control variables including board leadership structure, existence of audit committee, and profitability have a positive association with the extent of CSR disclosure. Interestingly, corporate size is found to be insignificant to the extent of CSR disclosure in Bangladesh.

Bayoud, Kavanagh, and Slaughter (2012a) investigated the association between corporate social responsibility disclosure and corporate performance in regards to financial performance, employee commitment and corporate reputation. They developed hypotheses based on stakeholder theory tenets. Their study examined annual reports of 40 Libyan listed companies representing a number of industrial sectors. There are four themes considered in their study including environmental, customer, community involvement, and employee. Findings from multivariate analysis revealed a positive association between the level of CSR disclosure and organisational performance in terms of financial performance and corporate reputation. However, their study found statistically insignificant relationship between the level of CSR disclosure and employee commitment. The study concluded that Libyan companies placed priority on improving financial

performance and corporate reputation by disclosing more CSR information in the annual reports.

An empirical study conducted in Malaysia by Esa and Ghazali (2012) investigated corporate governance elements (i.e. board size and board independence) and firm characteristic variables (i.e. company size, profitability, and leverage) to identify factors that influence corporate social responsibility (CSR) disclosure. Using a disclosure index, they examined 27 annual reports of Malaysian government-linked companies (GLCs) for the year 2005 and 2007. In determining the extent of CSR disclosure, this study developed a 21 item disclosure index encompassing five categories (i.e. human resource, value-added information, environment, community involvement, and product or service information). The paired-sample t-test indicated a statistically significant increase in the extent of CSR disclosure practices of Malaysian GLCs over time. This suggested that the efforts of Malaysian Government in promoting CSR among GLCs resulted positive impact on CSR disclosure in the annual reports. Results demonstrate that board size (at 1% level of confidence) as well as board independence and leverage (at 10% level of confidence) were the predictors of CSR disclosure in Malaysian GLCs.

Bayoud, Kavanagh, and Slaughter (2012b) selected four themes of corporate social responsibility (CSR) disclosure (i.e. environmental, customer, community involvement, and employee) to investigate factors (i.e. company size, company age, and industry type) influencing the level of CSR disclosure. Using a multi-theoretical framework of stakeholder and legitimacy theories, their study examined annual reports for the period 2007 to 2009 of 40 Libyan companies that belong to mining, manufacturing, services, and banks and insurance industry sectors. Multivariate regression analysis revealed a positive association between company age and industry type and the level of CSR disclosure. Their findings indicated that older companies provide higher level of CSR disclosure in regards to environmental disclosure and customer disclosure. Companies that belong to sensitive industries disclosed more CSR information compared to the insensitive industries. However, both company age and industry type failed to explain differences in community disclosure and employee disclosure practices of Libyan companies.

The above studies provide an important foundation for better understanding on disclosure practices. However, studies were often overly descriptive and contain

one year only data sets. This thesis will expand the analysis and coverage. The above studies document a number of theoretical perspectives (i.e. legitimacy theory, stakeholder theory, resource-based theory, and agency theory), critiquing this literature on determinants of SED studies suggests that the most frequently used and appropriate theories in explaining corporate SED practices is legitimacy theory. Legitimacy theory best examines the linkage between corporate reporting and social expectation. It is apparent that the key determinants noted in legitimacy theory-based studies of SED are corporate characteristics variables (i.e. corporate size, profitability, and leverage). Besides those corporate characteristics variables, corporate governance variables (i.e. board independence, audit committee, and ownership concentration) can also heavily influence and be possible determinants of SED practices. The next section discusses the evolution and practices of corporate social responsibility in India.

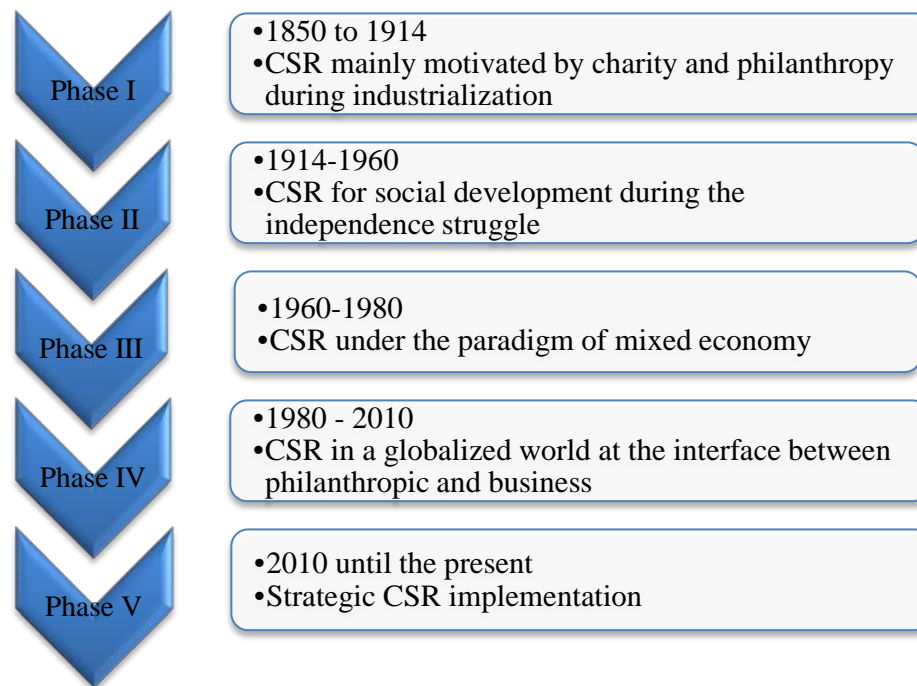
### **3.4 Corporate Social Responsibility in India**

According to Campbell et al. (2003), the majority of corporate SED practices in western countries have been conducted on a voluntary basis. Similarly, corporate SED practices in India are largely voluntary. This section documents the evolution of and current corporate social reporting (CSR) practices in India.

#### **3.4.1 The Evolution of CSR practices in India**

India has a long tradition in regards to CSR practices dating back to pre-colonial times. Such practices are closely linked to the political and economic history of India (Chahoud et al. 2007). As illustrated in Figure 3.3, CSR practices in India can be summarised as a five phase evolutionary model ranging from the corporate charity stage to corporate citizenship.

**Figure 3.3 Evolutionary Development of CSR in India**



Source: Modified from Sundar (2000); Chahoud et al. (2007); Chakrabarty (2011); Nivarthi, Quazi, and Saleh (2012); Mandal (2012).

The first phase of CSR development in India (1850 to 1914) reflected the beginning of industrialisation in the country. Charity and philanthropy represent the beginning elements of CSR in India (Sundar 2000). Both elements currently still influence CSR practices in India (Chahoud et al. 2007). CSR practices in India were originally based on charity for religious purposes including donations to temples, temple construction, pilgrim rest houses and provision of water supplies (Sundar 2000). According to Chahoud et al. (2007), these practices were conducted contemporaneously with industrialisation during the colonial period. A few rich business families represented pioneers of industrialisation in India (e.g. Tata, Birla, and Shriram) were not solely considering their contributions to society as a religious charity purposes but they also considered philanthropic motives. Well established family businesses began to set up trusts and donated money to institutions such as schools, hospitals, art galleries and museums (Chahoud et al. 2007; Mandal 2012).

The second phase of CSR development in India (1914-1960) witnessed the country's struggle for independence. Mahatma Gandhi's theory of trusteeship of wealth influenced Indian businessess to actively engaged in the independence

struggle (Sundar 2000; Chahoud et al. 2007). Gandhi urged Indian businesses to engage in social reform and generate capacity for self-defence as a protest against the British regime (Nivarthi et al. 2012). Motivated by the vision of a modern and free India (Chahoud et al. 2007), businesses engaged in the abolition of untouchables, empowerment of women and rural development (Mandal 2012). According to Sundar (2000), there was a maturing of philanthropy practices during the second phase of CSR development.

The third phase of CSR development in India (1960-1980) was influenced by a mixed economy policy adopted by the Government of India (GOI). There was “a shift from self-regulation to strict legal and public regulation of business activities” including legislation on labor and environmental standards (Chahoud et al. 2007, 27). The Government of India (GOI) also took care of many social activities that had been done voluntarily by corporations through charity and philanthropy mechanisms (e.g. education, health services, and relief on natural disaster) resulting in a decline in philanthropy activities by corporations (Sundar 2000). Before economic liberalisation in early 1990s, the GOI gave too much importance to the public sector (Gupta 1997) and introduced restrictions on the private sector, high taxes, quotas and a licence system contributed to the increase in corporate malpractices (Nivarthi et al. 2012) such as establishing charitable trusts for tax planning purposes (Sundar 2000). According to Chahoud et al. (2007), there was a national workshop on CSR in 1965 with the role of businesses as respectable corporate citizens included as the main agenda. However, in spite of attempts made by Indian academics, “this CSR approach did not materialize at that time” (Chahoud et al. 2007, 28).

Phase four of CSR development in India (1980-present) is characterized by the move from charity and traditional philanthropy to a more direct engagement (Sundar 2000) by integrating CSR into a coherent and sustainable business strategy (Arora and Puranik 2004; Chahoud et al. 2007). Indian economic reforms in the 1990s which were characterized by liberalisation and deregulation of Indian economy have steadily been integrated the country into the global market (Chahout et al. 2007; Kapur and Pillania 2011; Nivarthi et al. 2012). As a result of such reforms, India experienced an economy boom (Arora and Puranik 2004) resulting in increased profitability of businesses, corporate CSR engagement that coincided with a surge in the expectations of public and government of businesses (Sundar 2000).

It is likely that India has currently moved to the fifth phase of CSR development since 2010. The fifth phase seems to be characterized by more strategically CSR implementation. As one of the most influential players globally (Budhwar and Varma 2011; Associates and Devonshire-Ellis 2012), India has become an attractive destination for foreign companies in outsourcing their needs or manufacturing site for multinational companies in reducing their production costs. As suppliers or manufacturers for the global market, Indian companies, including Indian textile and apparel (TA) companies have to address the growing awareness of social and environmental issues perceived by Western consumers particularly in regards to labour and environmental standards, health and safety, and working conditions. These perceptions influenced CSR practices in India as well as its reporting practices. In particular, Indian corporations that supply products to global market have to comply with standards set out by internationally reputable organisations such as ILO and GRI in order to compete in the global market (Chahout et al. 2007). Furthermore, such corporations have to address changes in the business environment by incorporating the interests of stakeholders into their business strategy (Nivarthi et al. 2012).

### **3.4.2 Prior Studies on SED in India**

A study by Singh and Ahuja (1983) was one of the earliest attempts to investigate corporate social reporting practices in India. Using a sample of 40 annual reports of public sector companies for the year 1975-1976, they provide a descriptive analysis of corporate social reporting practices. They reveal that only about 40% of companies communicated more than 30% of social and environmental disclosure items, as measured by content analysis, in their annual reports. Such a relatively low figure suggests that social and environmental initiatives and their disclosure were not the priority agenda of Indian public sector corporations.

Raman (2006) conducted a study to investigate the extent and nature of corporate social reporting (CSR) under the sections: 'Chairman Message' or 'Letter to the Shareholders' in the annual reports of 40 companies of the top 50 Indian companies. Using content analysis, the study found that 95% of the sample provided at least one sentence on practices in regards to social responsibility. Raman (2006)



also reported that the nature and extent of CSR varied among companies with the most disclosed information being product or service improvement and development of human resources. Adopting legitimacy theory, Chatterjee and Mir (2008) examined the environmental reporting practices of the top 45 Indian companies chosen on the basis of market capitalisation. Using content analysis, their study investigated reporting practices via corporate web sites and annual reports for 2003-2004. Although India has an established policy in regards to environmental protection, Indian companies are not forced to disclose environmental information. Most of the companies studied made environmental disclosure both on their websites and in their annual reports. However, the study revealed that the companies had a tendency to provide more environmental information on their web sites as compared to annual reports. Indian companies provide environmental information in their website on average 20 sentences whereas in the annual reports averaged 14 sentences.

Using content analysis, Murthy (2008) investigated corporate social disclosure (CSD) practices of the top 16 Indian software firms, listed on the Mumbai Stock Exchanges for the 2004 year. The study selected four main themes to measure CSD practices including human resources, community development, service contribution, and environment. Human resources related information was the most disclosed category of information followed by community development and environment themes. In addition, the study suggested that the Indian software companies mostly provided corporate social information in the 'other sections' of annual reports (e.g. introductory, corporate overview, and intangible asset report).

Using a similar approach to that of Raman (2006), Shankar and Panda (2011) explored the extent and nature of corporate social reporting of 40 Indian listed companies represented by four industries including iron and steel, cement, textile and the automobile industries. Using content analysis, their study examined the 'Chairman's message' or 'Director's reports' in the annual reports for the financial year 2004 of Indian companies in regards to three main themes (i.e. corporate concerns for profits, transactional concerns, and contextual concerns). Their study suggested that qualitative statements dominated the report particularly while quantitative statements were often used relating to profit. They reveal that companies in the sample disclosed at least one sentence on corporate social responsibility

information. The study reported variation in regards to CSR in chief executive officers (CEOs) messages across the four industries. In general, ‘profitability’ was the most disclosed theme whereas ‘rural and urban affairs’ was the least disclosed theme. In regard to the most disclosed theme, textile industry firms provided the least extent on such disclosure on average of 35 sentences compared to the cement industry (on average 59 sentences) and automobile industry firms (on average 53 sentences). They concluded that this variation is caused by the absence of a universally accepted format for CSR reporting.

Sen, Mukherjee, and Pattanayak (2011) explored the state of environmental disclosure practices of Indian companies operating in industries with direct adverse environment impacts. Their study used content analysis to examine 22 annual reports for the 2008 year of companies belonging to the oil and petrochemicals, mining and minerals, cement, and steel industries. They suggested that there were a variation across both industries and companies in regard to the level of environmental information disclosed in the annual reports. Their study asserted that environmental information disclosed in the annual reports was found to be more qualitative in nature. In term of practical implications, Sen et al. (2011) concluded that those environmentally sensitive companies did not adequately address the needs of their stakeholders. Consequently a suitable framework for environmental disclosure in India was urged.

Using stakeholder theory and legitimacy theory, Tewari and Dave (2012) investigated companies belonging to the information and technology (IT) industry in regard to their corporate social responsibility disclosures in sustainability reports. Their study compared the CSR disclosure practices of the multinational companies operating in India in the 2007 year. Their study used Global Reporting Initiative (GRI) guidelines in examining the standardisation of sustainability reports published by both of Indian companies and MNCs. Only a few Indian companies used sustainability reports to communicate their social and environmental information. Indian companies generally preferred annual reports as the medium in communicating such information. Their study pointed out that only 6 companies out of 46 Indian top companies published sustainability reports. On the other hand, 20 companies out of 42 internationally-based MNCs provided sustainability reports. Interestingly, despite only few sustainability reports being published by Indian

companies, the quality of the reports measured by the difference in presentation (e.g. use of colour and graphics and GRI ranking received) were higher compared to the MNCs.

In the context of India, prior literature suggests a number of interesting trends in regards to the empirical researches on social and environmental disclosure. First, prior Indian SED studies were mostly conducted on a cross sectional basis and limited to small (under 100, usually 40 or below) companies. Second, prior studies on the area of SED in India were mostly descriptive in nature. Findings from prior studies highlight that the 'Director's reports' contained the most information on social and environmental issues and human resources was the most prominent theme disclosed. Third, there were no studies that solely focussed on the Indian textile and apparel (TA) industry. Given that the TA industry is one of the most influential industries economically in India (Ministry of Textile GOI 2012), a study on SED practices that solely concentrates on the India TA industry offers insights on such practices that may benefit both academics as well as many non-academics parties (e.g. Government of India as the policy maker and shareholders as key user groups).

### **3.4.3 Prior Studies on Determinants of SED in India**

In regards to prior studies exploring predictors for social and environmental disclosure (SED) practices in India, there are only limited prior studies that have examined the determinants of SED practices in India. Maheshwari (1992) investigated the relationship between corporate characteristics (i.e. company size, industry, profitability, and presence of social responsibility committee) of Indian listed firms and corporate social responsibility (CSR) disclosures. Using content analysis, this study considered seven categories (i.e. environment, energy, fair business practices, human resources, community involvement, product safety and other disclosures) in examining 100 annual reports of public sector companies from a number of industry sectors. The study revealed that fair business practices, 'environment' and 'community involvement' were the most disclosed information in annual reports with the average number less than one page. Results from regression analysis suggested that size was the most significant determinant of CSR disclosures. Larger companies provided greater CSR disclosures in the annual reports. Industry is

also found to be a predictor for CSR disclosures particularly in regards to energy and community involvement. Steel, mining, paper and paper products, and chemical and fertilizer industries provided the most CSR disclosure in their annual reports whereas the electronic industry communicated the least CSR disclosure.

In the absence of any underlying theory as the framework of the study, Pahuja (2009) investigated the relationship between corporate characteristics and environmental disclosure practices in Indian. This study developed a 23 item disclosure index for determining the extent of environmental disclosures. Using large companies belonging to a number of industry sectors, this study examined annual reports from the period 1999 to 2001 of 91 large Indian manufacturing companies. The sample of this study included both public and private sector companies. This study reported that public sector companies disclosed significantly higher environmental information than the private sector companies. Moreover, firms belonging to higher polluting industries (including oil, gas, and petrochemicals, iron, steel and others metals and textiles) provided significantly higher environmental disclosure than those in lower polluting industries (general engineering, automobiles, and electrical products). The study revealed that firm size, profitability, industry sector, and environmental performance were significant determinants of environmental disclosure practices in India. Companies which were bigger in size, more profitable, having higher environmental performance and belonging to public sector companies communicated more environmental information in their annual reports.

Mukherjee, Sen, and Pattanayak (2010) used legitimacy and stakeholder theories to investigate the relationship between firm characteristics and corporate environmental disclosure practices in India. Using a disclosure index and content analysis consisting of 20 items covering broad range of environmental issues, their study examined in total 80 annual reports of Indian companies across ten polluting industries. This study used both a quality score and total environmental occurrence score. A descriptive analysis of the study suggested a moderately low extent of environmental disclosure of mean score of 1.701 (out of 3) and the extent of such disclosure was varying across the 10 industries. Their study found that petrochemical industry provided the most environmental disclosure with the mean score of 1.857 (out of 3) whereas oil and refinery industry communicated the least environmental

information with the mean score of 1.429 (out of 3). They also revealed that Indian companies mostly disclosed environmental information in the 'Director's Report' and 'Chairman's Speech' sections. Results from regression analysis suggested that effective tax rate was positively and significantly associated with environmental disclosure whereas liquidity and leverage were negatively and significantly associated with such disclosure practices. However, size and profitability were not significant predictors of environmental disclosure practices of Indian companies.

Prior studies in India that investigate the determinants of SED usually find that corporate size, profitability, leverage and industry sectors are the most significant determinants of SED practices. Studies examining the status and the relationship between corporate governance attributes and SED in India are sparser. It is argued that the requirement to maintain a good corporate image through the reporting of social (and environmental) information is largely dependent on corporate governance mechanisms (Khan 2010; Rouf 2011). By incorporating corporate governance structures and international exposure (i.e. brand development and award obtained) variables arguably enrich the study. Therefore, this study aims to fill the gaps in the literature by longitudinally investigating SED practices of Indian TA industry and exploring factors (i.e. corporate characteristics and corporate governance variables) influencing such practices.

### **3.5 Conceptual Schema**

In order to select the most relevant explanatory variables for social and environmental disclosure practices of Indian textile and apparel (TA) listed companies, this thesis has reviewed a number of relevant prior empirical studies throughout the world (e.g. Rizk et al. 2008; Braco and Rodrigues 2008; Reverte 2009; Tagesson, et al. 2009; Khan 2010; Hamid and Atan 2011; Mahadeo et al. 2011; Uwuigbe and Uadiale 2011; Rouf 2011; Bayoud, et al. 2012a; Esa and Ghazali 2012). This thesis also considers prior Indian SED determinant studies (e.g. Maheshwari 1992 and Pahuja 2009). Table 3.1 summaries the determinants of SED practices.

**Table 3.1 Determinants of SED Practices**

<b>Researchers</b>	<b>Country</b>	<b>Theory</b>	<b>Possible Determinants</b>	<b>Significant Determinants</b>
Maheshwari (1992)	India	No theory explicitly stated	<ol style="list-style-type: none"> <li>1. Company size</li> <li>2. Industry</li> <li>3. Profitability</li> <li>4. Presence of social responsibility committee</li> </ol>	<ol style="list-style-type: none"> <li>1. Company size</li> <li>2. Industry</li> </ol>
Haniffa and Cooke (2005)	Malaysia	Legitimacy theory	<ol style="list-style-type: none"> <li>1. Board dominated by Malay directors</li> <li>2. A Malay finance director</li> <li>3. Malay dominated shareholders</li> <li>4. Composition of non-executive directors</li> <li>5. Chairperson with multiple directorship</li> <li>6. Foreign share ownership</li> <li>7. Corporate size</li> <li>8. Profitability</li> <li>9. Gearing</li> <li>10. Listing status</li> <li>11. Industry type</li> </ol>	<ol style="list-style-type: none"> <li>1. Boards dominated by Malay directors</li> <li>2. Chairperson with multiple directorships</li> <li>3. Foreign share ownership</li> <li>4. Corporate size</li> <li>5. Profitability</li> <li>6. Listing status</li> <li>7. Industry type</li> </ol>
Rizk, Dixon, and Woodhead (2008)	Egypt	No theory explicitly stated	<p>Ownership structures</p> <ol style="list-style-type: none"> <li>1. Government owned companies</li> <li>2. Private corporations</li> </ol>	Government owned companies
Braco and Rodrigues (2008)	Portuguese	Legitimacy theory and Resource-based perspective	<ol style="list-style-type: none"> <li>1. International experience</li> <li>2. Company size</li> <li>3. Industry affiliation</li> <li>4. Media exposure</li> <li>5. profitability</li> <li>6. leverage</li> </ol>	Company size

Pahuja (2009)	India	No theory explicitly stated	<ol style="list-style-type: none"> <li>1. Sector</li> <li>2. Nature of industry</li> <li>3. Foreign association</li> <li>4. Control by large business houses</li> <li>5. Size of company</li> <li>6. Profitability</li> <li>7. Leverage</li> <li>8. Exports</li> <li>9. Environmental performance</li> </ol>	<ol style="list-style-type: none"> <li>1. Sector</li> <li>2. Nature of industry</li> <li>3. Size of company</li> <li>4. Profitability</li> <li>5. Environmental performance</li> </ol>
Reverte (2009)	Spanish	Stakeholder theory, Legitimacy theory, and Agency theory	<ol style="list-style-type: none"> <li>1. Corporate size</li> <li>2. Industry sensitivity</li> <li>3. Profitability</li> <li>4. Ownership structure</li> <li>5. International listing</li> <li>6. Media exposure</li> <li>7. Leverage</li> </ol>	<ol style="list-style-type: none"> <li>1. Corporate size</li> <li>2. Industry sensitivity</li> <li>3. Media exposure</li> </ol>
Tagesson, Blank, Broberg, and Collin (2009)	Swedish	Stakeholder theory and legitimacy theory	<ol style="list-style-type: none"> <li>1. Corporate size</li> <li>2. Industry type</li> <li>3. Profitability</li> <li>4. Ownership concentration</li> <li>5. Ownership identity</li> </ol>	<ol style="list-style-type: none"> <li>1. Corporate size</li> <li>2. Profitability</li> <li>3. Ownership identity</li> </ol>
Khan (2010)	Bangladesh	Legitimacy theory	<ol style="list-style-type: none"> <li>1. Board independence</li> <li>2. Composition of women directors</li> <li>3. Existence of foreign nationalities on board</li> <li>4. Corporate size</li> <li>5. Profitability</li> <li>6. Leverage</li> </ol>	<ol style="list-style-type: none"> <li>1. Board independence</li> <li>2. Existence of foreign nationalities on board</li> <li>3. Corporate size</li> <li>4. Profitability</li> </ol>
Mukherjee, Sen, and Pattanayak (2010)	India	Stakeholder theory and Legitimacy theory	<ol style="list-style-type: none"> <li>1. Size of company</li> <li>2. Profitability</li> <li>3. Leverage</li> <li>4. Effective tax</li> </ol>	<ol style="list-style-type: none"> <li>1. Leverage</li> <li>2. Effective tax rate</li> <li>3. Liquidity</li> </ol>

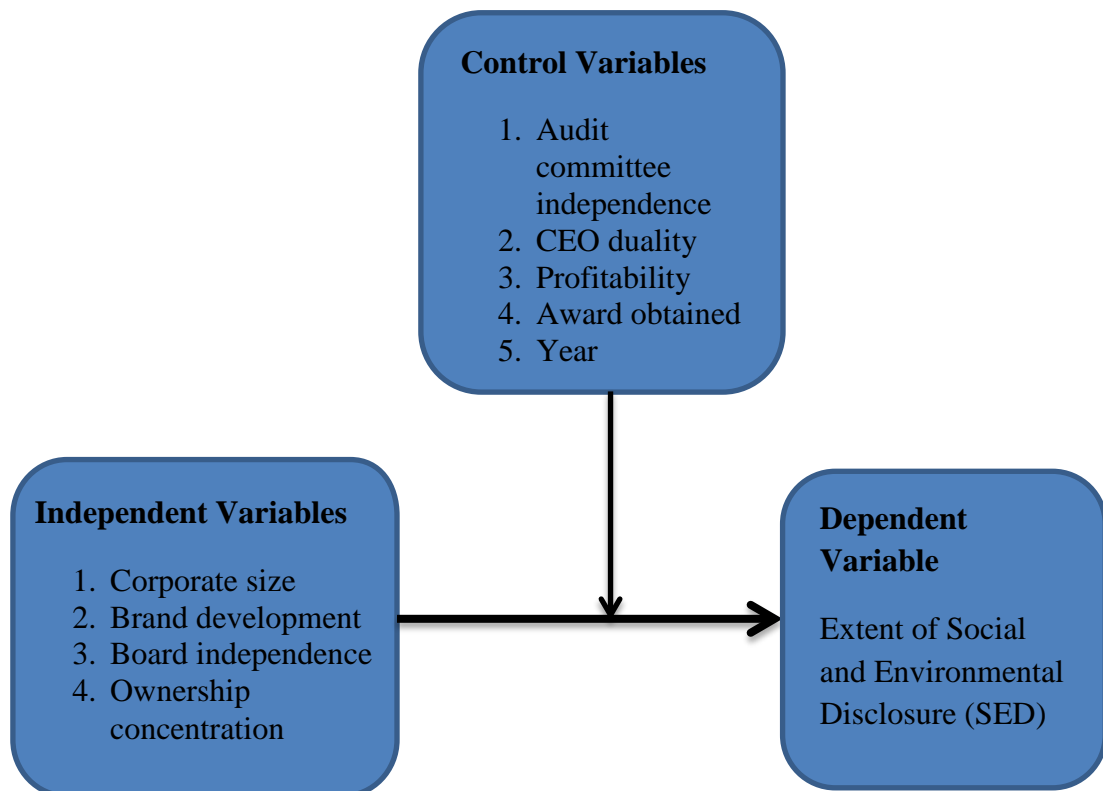
			rate 5. Liquidity	
Hamid and Atan (2011)	Malaysia	Stakeholder theory	Ownership structure 1. Local ownership 2. Government ownership 3. Foreign ownership	Ownership structure 1. Local ownership 2. Government ownership 3. Foreign ownership
Mahadeo, Oogarah-Hanuman, and Soobaroyen (2011)	Mauritius	Legitimacy theory	1. Corporate size 2. Profitability 3. Industry type 4. Leverage	1. Corporate size 2. Leverage
Uwugbe and Uadiale (2011)	Nigeria	Legitimacy theory	Type of industry	Type of industry
Rouf (2011)	Bangladesh	No theory explicitly stated	1. Corporate size 2. Board independence 3. Leadership structure 4. Existence of audit committee 5. Profitability	1. Board independence 2. Leadership structure 3. Existence of audit committee 4. Profitability
Bayoud, Kavanagh, and Slaughter (2012a)	Libya	Stakeholder theory	1. Financial performance 2. Employee commitment 3. Corporate reputation	1. Financial performance 2. Corporate reputation
Esa and Ghazali (2012)	Malaysia	No theory explicitly stated	1. Board size 2. Board independence 3. Company size 4. Profitability 5. Leverage	1. Board size 2. Board independence 3. Leverage
Bayoud et al. (2012b)	Libya	Stakeholder theory and legitimacy theory	1. Company size 2. Company age 3. Industry type	Company size

Prior literature suggests that empirical evidence of the key determinants (i.e. corporate characteristics and corporate governance variables) of social and environmental disclosure practices is still inconclusive. However, corporate size



appears to be the strongest predictor for SED practices. This study provides evidence that two additional variables (i.e. brand development and award obtained) potentially influence SED practices. Accordingly, this study considers four determinants (i.e. corporate size, brand development, board independence, and ownership concentration) of SED practices of Indian textile and apparel listed companies. This study also considers a number of control variables (i.e. audit committee independence, CEO duality, profitability and award obtained). Those variables have to be controlled since past studies (e.g. Williams 1999; Haniffa and Cooke 2005; Akhtaruddin et al. 2009; Persons 2009) suggest that they may potentially influence corporate disclosure practices. As presented in Figure 3.4, the conceptual schema of this thesis outlines possible relationships between predictor variables and dependent variable.

**Figure 3.4 Conceptual Schema**



## **3.6 Hypotheses Development**

By adopting legitimacy theory, this thesis offers insights into social and environmental disclosure (SED) practices of Indian textile and apparel listed companies. This thesis empirically tests the relationship between firm specific characteristics variables (corporate size and brand development) and corporate governance variables (board independence and ownership concentration) and the extent of SED in annual reports (see Figure 3.4). The following four hypotheses are developed based on the legitimacy theory tenets.

### **3.6.1 Firm Size**

Larger corporations are viewed as important economic entities. Hence, they have greater responsibility to provide information to their stakeholders such as employees, customers, suppliers, analysts and the government (Cooke 1991) as they have considerable effect on society (Hackston and Milne 1996). Legitimacy theory states that larger companies are more subject to public scrutiny than the smaller ones. Hence, they are under greater pressure to disclose more information to the public to obtain their support legitimacy for continuing existence (Guthrie and Parker 1989).

Previous studies suggest a positive relationship between size of the entity and the extent of corporate voluntary disclosures (Meek, Roberts, and Gray 1995; Hackston and Milne 1996; Choi 1999; Williams 1999; Cormier and Gordon 2001; Haniffa and Cooke 2005; Cormier and Magnan 2003; Nurhayati et al. 2006, 2014a; Braco and Rodrigues 2008; Reverte 2009; Tower, Vu and Scully 2011; Mahadeo et al. 2011). Research findings from Indian non-textile and apparel companies find a positive association between corporate size and voluntary disclosures (Hossain and Reaz 2007; Das 2009). On the other hand, Mukherjee, Sen and Pattanayak (2010) reported a non-significant relationship. Following the wide support in the extant legitimacy theory literature in regard to a positive relationship between size of company and the extent of voluntary disclosures, this study hypothesises the following:

*H1: All else being equal, there is a positive association between firm size and the extent of social and environmental disclosure by Indian textile and apparel firms.*

### **3.6.2 Brand Development**

Companies with brand-name products are likely to gain much more media attention (Fraser and Fraser 2008) compared to those without brand-name products. Past studies highlight that media power can influence corporate disclosure practices by creating public awareness that can lead to more extensive disclosures by these companies (Brown and Deegan 1998; Michelon 2011). These firms may elect to disclose more information to maintain legitimacy. Such communication also advertises the brand-name to stakeholders including customers, investors, creditors and the society.

International brand-name companies such as Levi's, Benetton, Rip Curl, Guess, Mark & Spencer, Puma and Calvin Klein outsource their merchandise overseas. They generally prefer developing countries that have lower labour costs, less stringent regulations and abundant raw materials to manufacture their products. India frequently supplies its garments to such international brand-name companies. The international brand-name companies may impose their values in regard to social and environmental aspects to their overseas suppliers in order to maintain their well-established image. Such multinational companies may not only create changes in the practices of their suppliers, but they may also make disclosures to demonstrate that they respond to the concerns of the global community (Islam and Deegan 2010). Inconsistent values and subsequent actions between global brand organisations and their suppliers may result in criticisms that harm both parties (Polonsky and Jevons 2009). Moreover, improved brand reputation has an embedded link with good corporate citizenship and corporate social responsibility initiatives (Sagar and Singla 2004). Accordingly, such notions arguably trigger pressure for more voluntary information disclosed in the annual reports of Indian TA listed companies that supply textile and apparel products to those international brand-name companies. Hence the following hypothesis is developed:

*H2: All else being equal, there is a positive association between brand development of textile and apparel products and the extent of social and environmental disclosure by Indian textile and apparel firms.*

### **3.6.3 Board Independence**

Good corporate governance is essential to gain legitimacy. The board of directors is perceived as an essential component of good corporate governance (Mallin, 2004) as they guide internal control mechanisms (Fama and Jensen 1983) and serve as the highest committee in a corporation (Ken and Monem 2008). A higher percentage of independent directors in the board composition may strengthen the public perception of corporate legitimacy (Nurhayati et al. 2006). The public may value an entity more highly if it has more independent directors on the board because such a condition might signify a more effective board in supervising the management decisions including determining the extent of voluntary information communicated to the stakeholders.

The Securities and Exchange Board of India (SEBI) sets out a list of ideal characteristics of the independent directors of listed companies. Independent directors are non-executive directors that are not related to promoters or occupy management positions, nor have business affairs with the company, and are not a substantial stockholder of the company. Indeed, directors who are more independent may have more power to encourage the management to disclose more voluntary information. Consequently, a higher number of independent directors in the board may well result in greater voluntary disclosures (Haniffa and Cooke 2002; Eng and Mak 2003).

Prior studies have inconsistent findings on the relationship between board independence and the extent of voluntary disclosures. Some studies found a positive association (Chen and Jaggi 2000; Akhtaruddin et al. 2009) while others noted a negative association (Haniffa and Cooke 2002; Eng and Mak 2003; Nurhayati et al. 2014a), and also others concluded there was a non-significant association (Nurhayati et al. 2006; Al-Shammari and Al-Sultan 2010). In the Indian context, Hossain and Reaz (2007) found an insignificant association between board composition and the extent of voluntary disclosure made by Indian banking companies. However there is

no existing study that has investigated such an association in regard to the textile and apparel (TA) industry. As stated before, TA industry clearly has a high social and environmental impact upon the Indian society. Hence, as the corporate governance literature signals a positive relationship between the higher presences of independent directors on the board and the extent of disclosure, the present study hypothesizes that:

*H3: All else being equal, there is a positive association between the board independence and the extent of social and environmental disclosure by Indian textile and apparel firms.*

### **3.6.4 Ownership Concentration**

Past studies suggest that ownership structure signifies the level of monitoring and consequently influences the extent of disclosure (see e.g. Eng and Mak 2003). Diffusion of equity owners has also been noted as an important determinant of disclosure practices (Haniffa and Cooke 2002). Owners of more diffused companies are expected to have higher concerns for social and environmental issues compared to less diffused ones as wider interest groups including the government, individuals or groups are expected to be represented in such shareholding. Past studies indicate a negative association between ownership concentration and disclosure (McKinnon and Dalimunthe 1993; Schadewitz and Blevins 1998). In contrast, Eng and Mak (2003) found that ownership concentration was not associated with the voluntary disclosure.

There is no known Indian study that has examined the relation between ownership structure and the extent of SED in environmentally sensitive industries such as TA industry. Similar to many other emerging economies, ownership structure of Indian corporations is often highly concentrated with a domination of family business groups (Gollakota and Gupta 2006; Chakrabarti, Megginson, and Yadav 2008; Bhaumik, Driffield, and Pal 2010). Results from a pilot study indicate that Indian TA family businesses have a high percentage of promoter ownership (55.86% on average) (Nurhayati 2013). According to Heugens, Essen, and Oosterhout (2009), ownership concentration is perceived as a signal of weak corporate governance. Such

a weak governance system may lead to lower voluntary information being communication since concentrated corporations tend to serve the interests of limited stakeholders (references?). Accordingly, the present study develops the following hypothesis:

*H4: All else being equal, there is a negative association between the extent of ownership concentration and the extent of social and environmental disclosure by Indian textile and apparel firms.*

This thesis investigates the association between firm characteristic variables (i.e. corporate size and brand development) and corporate governance attributes (i.e. board independence and ownership concentration) and the extent of social and environmental disclosure (SED) in the annual reports of Indian textile and apparel (TA) listed companies. Four hypotheses are developed based on the legitimacy theory tenets offering important insight into under-researched country and industry sector.

### **3.7 Summary**

This chapter provides a discussion of legitimacy theory as the theoretical framework of this thesis and a review of literature on prior social and environmental disclosure studies. Legitimacy theory provides an ideal framework for textile and apparel companies which are characterized as having potential adverse impacts on the social and natural environment in conducting and disclosing their social and environmental activities as a strategy to maintain their social legitimacy. This approach is especially relevant in a country such as India. Literature suggests that the corporate social responsibility in India has moved from one based on charity and philanthropy motives to a more comprehensive approach incorporating CSR as part of a sustainable business strategy (Chahoud et al. 2007). Prior literature suggests a number of important corporate characteristics and corporate governance variables as the determinants of the extent of corporate social and environmental disclosure practices of Indian TA companies that leads to a development of hypotheses of this thesis (e.g. Haniffa and Cooke 2005; Braco and Rodrigues 2008; Reverte 2009; Khan

2010; Rouf 2011; Esa and Ghazali 2012). There are four hypotheses in this chapter. H1: There is a positive association between firm size and the extent of social and environmental disclosure by Indian textile and apparel firms. H2: There is a positive association between brand development of textile and apparel products and the extent of social and environmental disclosure by Indian textile and apparel firms. H3: There is a positive association between the board independence and the extent of social and environmental disclosure by Indian textile and apparel firms. H4: There is a negative association between the extent of ownership concentration and the extent of social and environmental disclosure by Indian textile and apparel firms.

The next chapter details the research approach of this thesis by discussing the research paradigm, research methodology (including sample selection, measurement of dependent, independent, and control variables), and statistical procedures used in this thesis.

# CHAPTER 4 : RESEARCH APPROACH

## 4.1 Introduction

The purpose of Chapter Four is to detail the research approach used in this thesis. This thesis adopts a positivist quantitative approach to undertake a study on corporate social and environmental communication in the annual reports of Indian textile and apparel (TA) listed companies. The first part of this chapter describes the various research paradigms for conducting a research in social (including accounting) disciplines followed by a discussion of the paradigm chosen for this study. The next few sections of this chapter detail the research methodology, statistical procedures, and additional sensitivity analysis applied in this thesis. The last section summarizes the main points of this chapter.

## 4.2 Research Paradigms

According to Creswell (2007), to undertake quality research, researchers should explicitly provide a paradigm that they adopt in their study. A paradigm can be defined as “the basic belief system or worldview that guides the investigator, not only in choices of method but in ontologically and epistemologically fundamental ways” (Guba and Lincoln 1994, 105). Use of a paradigm determines the research process that should be taken in understanding and explaining a phenomenon (Crotty 1998). Many scholars offer different thoughts regarding the categorisation of research paradigms (see Guba and Lincoln 1994, 2008; Creswell 2007; Crotty 1998). However, Guba and Lincoln (2008) identify five main paradigms for research in social disciplines. Those paradigms are positivism, post-positivism, critical theory, constructivism, and participatory. The discussion of those five contrasting paradigms is presented in the following section.

### 4.2.1 Categories of Paradigms

A paradigm encompasses basic set of beliefs which are inter-related namely ontology, epistemology, and methodology (Guba and Lincoln 1994, 2008; Creswell



2007; Denzin and Lincoln 2008). According to these researchers, ontology refers to the nature of reality and whether the reality is assumed to be a product of individual consciousness or a given thing. Epistemology involves the nature of knowledge. This paradigm addresses the relationship between researchers and the object of study whether the researchers are interacting or independent from the object of study. Methodology identifies certain research methods applied in gaining knowledge (Guba and Lincoln 1994, 2008; Creswell 2007; Denzin and Lincoln 2008). In terms of practice, the concept of research methods deals with data collection and analysis such as sampling, measurement and scaling and statistical analysis (Crotty 1998; Creswell 2007).

The five main paradigms in the context of social science (i.e. positivism, post-positivism, critical theory, constructivism and participatory) are detailed in Table 4.1. Under a positivism paradigm, a phenomenon is viewed as a 'real' item. It assumes that reality is conclusive (Guba and Lincoln 1994) and therefore a phenomenon can be accurately described and casually explained (Bisman 2010). Positivism is highly objectivist (Crotty 1998). Positivism paradigm views the reality through a 'one-way mirror' that perfectly separates the researchers and the object of study (Guba and Lincoln 1994). Consequently, the researchers cannot influence the results or knowledge gained from the study (Guba and Lincoln 1994). In other words, the knowledge is value-free and does not change because of being studied (Healy and Perry 2000). Positivism believes in empirically verifiable knowledge (Crotty 1998) that emphasizes qualitative methods to test stated research questions and/or hypotheses (Guba and Lincoln 1994).

Post-positivism can be viewed as an attenuated form of positivism (Crotty 1998). Post-positivism also views the reality of phenomenon as a real object. However, unlike positivism, the reality cannot be fully apprehended due to imperfect human intellectual capacity and the intractable nature of phenomenon (Guba and Lincoln 1994). The reality is affected by its surrounding environment (Crotty 1998) so that the causal impacts are contingent upon their environment (Healy and Perry 2000). Accordingly, in generalising research findings, post-positivism holds probability and states a certain level of objectivity rather than certainty and absolute objectivity (Crotty 1998; Bisman 2010). Unlike positivism that imposes value-free knowledge, post-positivism researchers are value-aware (Healy and Perry 2000). In

capturing the reality which is viewed from multiple perceptions as much as possible, post-positivism applies multiple methods (Denzin and Lincoln 2008) that might combine quantitative and qualitative techniques (Healy and Perry 2000; Creswell 2007).

The other paradigms (i.e. critical theory, constructivism and participatory) are very different from positivism and post-positivism. In viewing a phenomenon, any of those paradigms accept as true that there is no 'real' reality (Healy and Perry 2000). They believe that a phenomenon studied is shaped by its surrounding environment such as political, economic, social, culture, ethnic and gender values that crystallised over time (Guba and Lincoln 1994; Heron and Reason 1997; Healy and Perry 2000). As such, these three paradigms assert that researchers closely interact with the object of study (Guba and Lincoln 2008). Consequently, knowledge gained from the study is subjective and value-laden (Guba and Lincoln 1994; Healy and Perry 2000). Under critical theory, constructivism and participatory paradigms, the research methodology applied is normally qualitative in nature (Denzin and Lincoln 2008).

**Table 4.1 Paradigms and their Basic Beliefs**

<b>Paradigms</b>	<b>Ontology</b>	<b>Epistemology</b>	<b>Methodology</b>
<b>Positivism</b>	Naïve realism-‘real’ reality but apprehendable	Dualist/objectivist; finding true	Experimental/manipulative; verification of hypotheses; chiefly quantitative methods
<b>Post-positivism</b>	Critical realism-‘real’ reality but only imperfectly and probabilistically apprehendable	Modified dualist/objectivist; critical tradition/community; findings probably true	Modified experimental/manipulative; critical multiplism, falsification of hypotheses; may include qualitative methods
<b>Critical Theory</b>	Historical realism-virtual reality shaped by social, political, cultural, economic, ethnic, and gender values; crystallized over time	Transactional/subjectivist; value-mediated findings	Dialogic/dialectical
<b>Constructivism</b>	Relativism-local and specific co-constructed realities	Transactional/subjectivist; co-created findings	Hermeneutical/dialectical
<b>Participatory</b>	Participative reality-subjective-objective reality, co-created by mind and given cosmos	Critical subjectivity in participatory transaction with cosmos; extended epistemology of experiential, propositional, and practical knowing; co-created findings	Political participation in collaborative action inquiry; primacy of the practical; use of language grounded in shared experiential context

Sources: Adopted from Heron and Reason (1997) and Guba and Lincoln (2008). Shaded area is the paradigm used in this thesis.

#### **4.2.2 Choice of Positivist Empirical Quantitative Approach**

The choice of positivism paradigm is led by the research objectives and then derives research methodology applied in this thesis. This thesis investigates the phenomenon in regards to corporate communication. More specifically, this thesis examines the extent of corporate social and environmental disclosure practices and

predictors of such communication in the annual reports of Indian textile and apparel (TA) corporations. This thesis clearly views that the researchers and the object of study are independent of each other and that the knowledge gained from the study can be empirically verified. The object of study is a 'real' reality that arguably can be soundly described and measured as a dependent variable (i.e. social and environmental disclosure index) with several predictor variables (i.e. firm size, brand development, board independence, ownership concentration, audit committee independence, CEO duality, profitability and award obtained). The causal relationships between the variables studied are hypothesised using a legitimacy theory framework. These tenets fit best in a positivist paradigm.

As prescribed in the positivism paradigm, this thesis relies on an empirical quantitative approach in pursuing the research objectives. This thesis tests the stated hypotheses using appropriate statistical tools namely t-test, ANOVA, correlations and multiple regression before deductively drawing generalisable findings. Such research is "scientific, structured, has a prior theoretical base, seeks to establish the nature of relationships and causes and effects, and employs empirical validation and statistical analyses to test and confirm theories" (Bisman 2010, 5).

### **4.3 Research Methodology**

This section begins with a discussion on the quantitative approach and the sample selection for this study. The measurement of the dependent, independent and control variables of this thesis is also described in this section.

#### **4.3.1 Sample Selection**

The sample data of this thesis are Indian textile and apparel (TA) firms that are listed in the Bombay Stock Exchange (BSE). Although there are 23 stock exchanges in India, this thesis focuses on the textile and apparel companies listed on the BSE. The reasons for the selection are as follows. First, the BSE is considered one of the world's leading stock exchanges (BSE 2012). For instance, it is the fifth most active exchange in the world in terms of number of transactions through an electronic trading system (BSE 2012). The BSE is also recognized as the world's

number one in terms of listed companies as it currently has around 5000 companies listed on that exchange (BSE 2012). Second, the stock exchange is also known as the oldest stock market in India and in Asia (BSE 2012). Third, compared with other Indian leading stock exchanges (e.g. National Stock Exchange of India), the BSE provides a list of industry sectors which better facilitates sample selection. Therefore, this thesis solely relies on the BSE listed companies in drawing the sample selection for Indian textile and apparel companies.

According to the BSE, the population of textile listed companies that exist in the 2012 year with an active status is 282 companies. Whereas, the population of apparel and accessories listed companies in the 2012 year with active status is 100 companies. However, after removing the 67 non-apparel companies that deal in watches, eyewear, jewellery and luggage manufacturing companies, the population of active apparel companies is 37 companies. Therefore, the total population of textile and apparel (TA) Indian companies year 2012 with active status is 319 companies. Among these active firms, this thesis selects, using random stratification approach, the sample of 100 companies each year for 2010, 2011 and 2012. If a complete three year period of annual reports for a company is not available from the website of the BSE, they are downloaded directly from the company's website. If this thesis could not obtain a complete set of annual report for a firm, then the firm is dropped from the sample list and replaced by another firm that is randomly chosen from the total population list. This sample selection procedure results in a total of 300 firm-year observations. However, after excluding potential outliers based on the value of Mahalanobis distance and Cook's distance (Tabachnick and Fidell 2007), the final sample of this thesis are 95 TA firms resulting in a total of 285 firm-year observations. A list of sample Indian TA firms is presented in Appendix A.

#### **4.3.2 Measurement: Dependent Variable**

In order to answer the research questions outlined in Chapter 1, the 2010, 2011 and 2012 annual reports of Indian textile and apparel companies are examined to assess the extent of social and environmental disclosures. This thesis uses a disclosure index in measuring the extent of social and environmental disclosures (SED) which is the dependent variable. A pilot study of this thesis was conducted on

100 annual reports for financial year 2010 of Indian TA firms. The preliminary analysis indicates that Indian TA firms generally provides disclosure on social and environmental information on Director's Report and Management Discussion and Analysis Report.

A disclosure index can be defined as "a quantitative based instrument designed to measure a series of items which, when the score for the items are aggregated gives a surrogate score indicative of the level of disclosure in the specific context for which the devise was created" (Coy, Tower, and Dixon 1983, 122). The disclosure index is commonly applied in examining the extent of either mandatory or voluntary disclosures (Marston and Shrives 1991). The technique is basically a dichotomous procedure. In scoring information disclosed in the annual reports, the information is compared to the items listed on the checklist. An item scores one if the content on the annual report conforms to the items listed on the checklist and scores zero if the opposite condition is true (Meek, Roberts, and Gray1995).

There are two advantages for utilising a disclosure index. First, as a measurement technique, the disclosure index enables the researchers to capture pictures and graphics communicated in the annual reports. Those visual images are considered as more powerful and effective communication methods (Haniffa and Cooke 2005) since such images could be meaningful as a thousand words (Wilmshurst and Frost 2000). Hence, the disclosure index arguably offers the best insight into the extent of corporate disclosure practices (Cooke and Wallace 1989; Hossain, Perera, and Rahman 1995). Second, the disclosure index may be considered as a more suitable technique for developing countries (Nurhayati et al. 2006) that generally have less social and environmental information disclosed in the annual reports compared to the developed countries. This is because of the differences on the economic, political and social settings in developing countries compared to those in the developed countries (Brown, Tower, and Taplin 2004).

As with many other measurement techniques, use of disclosure index approach also has some limitations. The index generally provides an ordinal level of measurement due to its dichotomous procedure in scoring a company (Marston and Shrives 1991). In term of data analysis, use of a dichotomous procedure may limit the statistical techniques used (Marston and Shrives 1991). Such limitations can be overcome by converting the disclosure index into a ratio scale (Cooke 1989; Meek et

al. 1995). As a ratio scale, a disclosure index is measured by dividing the actual score awarded by the total possible scores earned for each firm. However, Cooke (1989, 1992) points out that use of such a dichotomous procedure can be subjective. Subjectivity can be reduced by reading the entire content of annual reports before making any scoring decisions (Cooke 1989, 1992).

In measuring disclosure practices, the appropriateness of the disclosure index depends on the items included in the index. Accordingly, this thesis uses a unique, relevant and comprehensive disclosure index labelled as social and environmental disclosures index (SEDI). This thesis adopts the Global Reporting Initiative's world renown apparel and footwear sector supplement in a pilot version form which released in 2008 (GRI 2008) in determining the index. The 2008 variant<sup>10</sup> of GRI is chosen as it is the most appropriate version to use for the 2010-2012 sample period. The index is formulated using the GRI's performance indicators for social and environmental information. The disclosure index consists of a total of 77 items (Appendix B) that include the social dimension (45 items) and the environmental dimension (32 items). The social dimension is further categorised by GRI into four key categories: 'labour practices and decent work' (17 items), 'human rights' (9 items), 'society' (10 items) and 'product responsibility' (9 items). The environmental category is sub-categorised into five sub-categories comprising 'materials' (3 items), 'energy' (6 items), 'water and biodiversity' (8 items), 'emissions, effluents and waste' (10 items), and 'others' (5 items). All of these 77 items in the SEDI disclosure are voluntary in India.

In applying a disclosure index, two specific measurement approaches can be chosen either weighted or un-weighted disclosure indices. Weighted disclosure indices use different classes based on the importance of items in the checklist according to certain criteria (Cooke 1989, 1992) whereas un-weighted disclosure indices assume that each item in the checklist is equally important and consequently,

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<sup>10</sup> The newer variants of GRI (i.e. G3.1 version released in 2011 and G4 version released in 2013) that are applicable to all organisations regardless of their sector is not used as they do not fit the 2010-2012 sample period and they makes no changes to the textile and apparel sector supplement used in this thesis. The G3.1 version consists of a total of 72 items (i.e. 42 items for social theme and 30 items for environmental theme) whereas the G4 version contains a total of 82 items (i.e. 48 items for social theme and 34 items for environmental theme). Future researchers interested in using these newer variants of GRI may expect a slight change in calculating the SED index due to the new number of items (indicators) included in their disclosure index checklist.

has equal value in statistical computations (Gray, Meek, and Roberts, 1995). Interestingly, although those two approaches are different in nature, nearly similar outcomes are often noted no matter which approach is utilised (Firth 1980; Chow and Wong-Boren 1987).

This thesis uses an un-weighted disclosure index. The reason is not only because the similarity results between preference on the weighted and un-weighted approach but more importantly this study places equal importance to all stakeholders of a company. Under the legitimacy theory as the theoretical framework, this study assumes that there are no prior expectations of information required by stakeholders. In other words, there is considered to be no significant difference on the information required by each stakeholders of a company. As such, there is no good justification to differentiate items constituted the disclosure index by placing different weight on the items since this thesis does not study a particular stakeholder group. Accordingly, the preference on the un-weighted disclosure index is arguably appropriate for this thesis. This is also the most objective approach consistent with the positivism paradigm.

A disclosure score for each firm is calculated as the ratio of the total SED score awarded to the firm divided by the maximum number of SED items that are applicable to the entity. All items included in the index are assigned an equal weighting. The un-weighted approach is chosen to negate any subjectivity as weighting involves a higher level of subjectivity (Cooke 1991; Meek et al. 1995). As stated above, such an approach is considered more appropriate when no special importance is attached to particular specific user-group of corporate annual reports (Cooke 1989; Hossain, Tan, and Adams 1994). To measure the dependent variable, this thesis calculated the SED score for each company by manually checking for each disclosure item based on the following formula:

$$SEDI_i = \frac{\sum_{j=1} dj}{N}$$

where,

- SEDI<sub>i</sub> = The social and environmental disclosure index for company i;
- d<sub>j</sub> = Voluntary disclosure item j. Dummy variable to the value of 1 if the company discloses information about this item, and dummy variable to the value of 0 if the company does not disclose it; and



N = Total maximum number of the social and environmental information disclosed by the company (77 items).

### **4.3.3 Measurement: Independent Variables**

This thesis examines four independent variables: corporate size, brand development, board independence, and ownership structure based on legitimacy theory tenets. This section explains the measurement technique used for each of these independent variables.

#### **4.3.3.1 Firm Size (FSIZE)**

Previous studies suggest that firm size can be measured by total assets (e.g. Cormier and Magnan 2003), total sales (e.g. Choi 1999), total revenue (e.g. Neu et al. 1998), market capitalisation (e.g. Nurhayati et al. 2006; Reverte 2009) or number of employees (Choi 1999; O'Dwyer 2003). According to Cooke (1991) and Hackston and Milne (1996), there is no theoretical ground for selecting a particular measurement for firm size. The natural logarithm of total assets is often used to measure firm size because reduces the skewness often found in the data (Hair, Anderson, Tatham, and Black 2006). In addition, diagnostic tests suggest that such technique results in a best fit between the dependent variable (i.e. social and environmental disclosure) and firm size (Neu et al. 1998). Therefore, consistent with previous studies (Hackston and Milne 1996; Cormier and Magnan 2003; Cormier, Magnan, and Velthoven 2005; Hossain and Reaz 2007), this thesis uses the natural logarithm of total assets as the proxy of firm size. Firm size may also a proxy for measuring a bigger construct for media exposure.

#### **4.3.3.2 Brand Development (BRAND)**

Fraser and Fraser (2008) measure brand-name as a dichotomous variable scoring the firm as one (1) where a firm uses a product brand. This thesis measures brand development as such a dichotomous variable. A firm is considered to have brand development if it discloses in the annual report that it is a supplier of an internationally recognised brand of textile and apparel products. This thesis considers

a number of well-known international brand-name companies including Levi's, Benetton, Rip Curl, Guess, Mark & Spencer, Puma and Calvin Klein and reputable wide-ranging stores including Wall-mart, IKEA, Carrefour and Wesfarmers as internationally recognised brands. Brand development may represent a proxy for foreign involvement.

#### **4.3.3.3 Board Independence (BIND)**

Prior studies that investigate the relationship between board composition and disclosure practices often measure board composition as the proportion of independent directors on the board (Chen and Jaggi 2000; Haniffa and Cooke 2002; Eng and Mak 2003; Nurhayati et al. 2006; Akhtaruddin et al. 2009; Al-Shammari and Al Sultan 2010; Rouf 2011; Li, Mangena, and Pike 2012). In line with previous studies, this thesis also measures board independence as the ratio of independent non-executive directors to total number of directors on the board.

#### **4.3.3.4 Ownership Concentration (OWN)**

Past studies suggest different proxies for ownership concentration. Crasswell and Taylor (1992) use the largest twenty shareholders whereas other studies use the largest ten shareholders (Hossain et al. 1994; Haniffa and Cooke 2002) or 5% or more shareholdings (Roberts 1992; Eng and Mak 2003). Another way to measure ownership concentration is to use of a dichotomous coding (Reverte 2009). A company is coded one if has a majority shareholder and assigned by zero if otherwise. In line with Jindal and Kumar (2012), this study uses promoter ownership (institutional ownership) to measure the ownership concentration since such ownership type is prevalent in Indian textile and apparel listed companies. Jindal and Kumar (2012, 234) argue that in the Indian business context, "percentage of promoter shareholding would represent the true ownership concentration". According to Securities and Exchange Board of India (SEBI), the term promoter shall include: "(a) the person or persons who are in over-all control of the company; (b) the person or persons who are instrumental in the formulation of a plan or programme pursuant to which the securities are offered to the public; (c) the persons

or persons named in the prospectus as promoters” (Disclosure and Investor Protection Guidelines 2000, 53).

#### **4.3.4 Control Variables**

This thesis uses audit committee independence, CEO duality, profitability and award obtained as control variables. As past studies suggest (e.g. Akhtaruddin et al. 2009; Persons 2009; Al-Shammari and al-Sultan 2010; Li et al. 2012; Khan et al. 2013), these variables are included as control variables because they potentially influence corporate disclosure practices.

##### **4.3.4.1 Audit Committee Independence (ACIND)**

Audit committees<sup>11</sup> generally have a role to report and advise the board of directors about business risks such as environment and occupational health and safety (Kent and Monem 2008). The committees play important role in enhancing the effectiveness of board directors in monitoring management (Klein 2002; Spira 2003). It is argued that the existence of audit committees is associated with the extent of voluntary disclosures (Ho and Wong 2001). Furthermore, the independence of audit committees is an essential element that enables the committees to execute their responsibilities more objectively (Abbott, Parker, and Peter 2004). Previous studies on voluntary disclosure measure audit committee variable in a number of ways. Some studies measures audit committee variable as a binary coding for the existence of audit committee (Ho and Wong 2001; Al-Shammari and Al-Sultan 2010; Khan et al. 2013). Other studies measure audit committee independence as the proportion of independent non-executive directors on the audit committee to the total number of directors on the audit committee (Klein 2002; Abbott et al. 2004; Persons 2009; Nelson, Gallery, and Percy 2010; Li et al. 2012). Relevant with Indian regulation, this study measures audit committee independence as dummy variable equals 1 if more than two-thirds of audit committee members are independent non-executive directors and 0 if otherwise.

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<sup>11</sup> The Securities and Exchange Board of India (SEBI) mandates that the audit committee should have a minimum of three members with two-thirds of the members being independent directors.

#### **4.3.4.2 CEO Duality (DUAL)**

CEO duality refers to a condition when a single individual serve as both chief executive officer (CEO) and chairman of the board in a firm. Such a combine leadership structure potentially results in negative governance issues (Khan et al. 2013). Many argue that separation of the position of the CEO and chairman of the board is necessary for enhancing the effectiveness of board directors in providing oversight of corporate management (Haniffa and Cooke 2002). Separating these two functions can lead to a more independent board of directors which enables the board to exert more pressure on the management to disclose more material information (Htay et al. 2012). Conversely, the presence of CEO duality may result in the negligence of further involvement on social (and environmental) activities as well as the disclosure on such activities (Khan et al. 2013). In India, the SEBI allows listed firms to have CEO duality practice in their corporate governance mechanism. However, the SEBI tries to minimise the potential negative impacts of such practice by adding a crucial point stating when CEO duality is present, at least half of the board should consist of independent directors. Prior studies generally measure CEO duality as dummy variable equals 1 if the same person holds the position of CEO and chairman in a firm and 0 if otherwise (Ho and Wong 2001; Gul and Leung 2004; Cheng and Courtenay 2006; Al-Shammari and Al-Sultan 2010; Htay et al. 2012; Ienciu 2012; Khan et al. 2013). In line with previous studies, this study also uses such an approach to measure CEO duality.

#### **4.3.4.3 Profitability (PROFIT)**

Higher profitability may increase an entity's visibility leading to greater demand from society to disclose more information. Corporate economic performance, in general, can be measured by market-based (e.g. price earnings ratio, market return and Tobin's Q) and/or accounting-based measurements (e.g. profit margin, ROA, ROE and ROS). As pointed out by MacGuire, Sundgren, and Schneeweis (1988), both techniques have intrinsic limitations. Although considered less subject to management manipulation, market-based measurements may be neglecting other important stakeholders because such measures only represent investors' valuation of the company performance. In contrast, accounting-based performance measures provide a better overall proxy than market-based methods

(MacGuire et al. 1988). For instance, previous studies (e.g. Cahan, Rahman, and Perera 2005; Nurhayati et al. 2006; Braco and Rodrigues 2008; Reverte 2009) use accounting-based methods such as ROA. For that reasons, this thesis uses accounting based numbers to measure profitability. This thesis defines profitability as net income divided by total assets (ROA).

#### **4.3.4.4 Award Obtained (AWARD)**

Internationally recognised awards obtained such as, ISO 9001, ISO 14001, SA 8000 and OHSAS 18000 may influence corporations obtained such awards in communicating more voluntary information including information on social and environmental issues. In export-oriented industries, including the TA industry, having such internationally recognised awards may strengthen the competitive advantages of firms in this industry particularly in regard to social responsibility and environmental protection. Previous studies (e.g. Bhuiyan and Alam 2004; Qi et al. 2013) indicate that one of corporate motivations in obtaining such awards could be their foreign customers. The potential influence of obtaining such an award to voluntary social and environmental disclosures has not been broadly explored. Sumiani, Haslinda, and Lehman (2007) grouped top 50 Malaysian public firms into those which were ISO 14001 certified and the other group without such certification to explore corporate reporting behaviour. Their study note the influence of ISO 14001 certification in voluntary environmental disclosure in the annual reports of Malaysian public firms. This thesis measures award obtained as dummy variable equals 1 if a firm obtained at least one of these awards including ISO 9001, ISO 14001, SA 8000, OHSAS 18000 and Oeko-Tex® Certificate and 0 if otherwise.

#### **4.4 Statistical Procedures**

Consistent with the positivist paradigm adopted, this thesis applies univariate analysis and multivariate analysis as the main statistical techniques to examine the data and test the hypotheses stated in Chapter Three. Such statistical analysis is important to provide deeper empirical insights. Before conducting the regression analysis, this thesis ensures that a number of classical statistical assumptions of such

analysis (i.e. normality, linearity, multicollinearity and homoscedasticity) are met. These following sections briefly discuss the statistical techniques used in this thesis.

#### **4.4.1 Univariate Analysis**

Univariate analysis involves the analysis of a single variable (Hair et al. 2006) for description purposes (Babbie 2010). A single variable generally has three main characteristics namely distribution, central tendency and dispersion (Trochim and Donnelly 2008). Among those characteristics, the central tendency (i.e. mean, median, and mode) is probably the most widely examined in quantitative studies. Moreover, presentation of mean or average figures may be considered as the most commonly used technique in describing the central tendency (Trochim and Donnelly 2008).

By examining the characteristics of the variables studied, this thesis can summaries large amounts of data from the sample into more concise and meaningful information in two ways. First, in order to answer the first research question stated in Chapter One, such descriptive analysis on the dependent variable enables this thesis to clearly reveal the extent of social and environmental disclosure (SED) provided by Indian textile and apparel companies in their annual reports. Second, descriptive analysis for the predictor variables (i.e. firm size, brand development, board independence, ownership concentration, audit committee independence, CEO duality, profitability and award obtained) provides communication of basic features of the data set that enable this thesis to advance important insights.

Besides having such basic descriptive features of the variables studied, this thesis also uses T-test and ANOVA statistics that are univariate in nature (Tabachnick and Fidell 2007) to include additional insights regarding grouped data sets. Brief discussions of those two statistical tools are presented in the following two sections.

##### **4.4.1.1 T-test**

T-test is “a parametric test to determine the statistical significance between a sample distribution mean and a population parameter” (Cooper and Schindler 2006,

719). In other words, the t-test is an appropriate statistical tool in assessing whether the means of two groups are statistically different from each other. This thesis uses paired sample t-test in order to answer the fourth research question stated in Chapter One regarding whether Indian textile and apparel listed companies on average communicate the extent of social disclosure (SEDs) and the extent of environmental disclosure (SEDe) differently. In addition, this thesis also uses independent t-test to determine whether any significant differences between the extent of social and environmental disclosure (SED) as well as its two major categories (i.e. SEDs and SEDe) and categorical variables (i.e. brand development, audit committee independence, CEO duality and award obtained).

#### **4.4.1.2 ANOVA and Post-Hoc Tukey**

Analysis of variance (ANOVA) is a statistical technique utilised to compare two or more sample means to determine if there are any significant differences between them (Ott and Longnecker 2001). This thesis uses one-way ANOVA with additional post-hoc Tukey analysis to evaluate whether there are any statistical differences with the means SEDI, SEDI<sub>s</sub>, SEDI<sub>e</sub> and their sub-categories and across the three year period (i.e. 2010-2012).

#### **4.4.2 Multivariate Analysis**

Multivariate analysis refers to the analysis of simultaneous relationships among several variables (Hair et al. 2006). This thesis utilises two forms of multivariate analysis namely Pearson correlations and OLS multiple regression to examine the association among the variables studied and to explicitly statistically test the four hypotheses. This thesis begins with the discussion on the Pearson correlations followed by the OLS multiple regressions.

##### **4.4.2.1 Pearson Correlations**

Correlation analysis is an appropriate technique to examine “the strength and direction of the linear relationship between two variables” (Pallant 2011, 128). This study uses Pearson correlations because it accommodates the relationship not only

between two continuous variables but also between continuous and categorical variables. Moreover, examining Pearson correlation matrix data coefficients provides information on potential multicollinearity problems.

#### **4.4.2.2 OLS Multiple Regression**

From previous studies conducted on the area of voluntary disclosures, it is evident that researchers continue to report their research findings using ordinary least square (OLS) methods such as multiple regression. Such indication suggests that OLS multiple regression is therefore arguably the most common technique. OLS multiple regression analysis is used to test the statistical significance of the association between the dependent and the four independent variables. It is based on correlation that accommodates “a more sophisticated exploration of the interrelationship among a set of variables” (Pallant 2011, 148). The OLS multiple regression enables this thesis to test the four hypotheses stated in Chapter Three. Overall, the statistical tests outlined in Section 4.4 will generate a deeper understanding of the communication pattern of Indian TA firms.

### **4.5 Sensitivity Tests**

In addition to the main analysis (i.e. univariate and multivariate analyses) stated above, this thesis also performs extra sensitivity tests in regards to the dependent variable and the independent variables. Alternative measures of the dependent variable are explored as are alternate measures of the independent variables.

#### **4.5.1 Alternate Measures of Dependent Variable**

This thesis conducts sensitivity tests of the dependent variable to ensure validity of measurement of the dependent variable used in the main regression models. The dependent variable (SEDI) is re-measured in a number of ways. First, equally weighted items technique between SEDI’s two major categories (social theme and environmental theme) is used as an alternative measure of the dependent variable. Originally, this thesis measures the disclosure score for each firm by



calculating the total SEDI score awarded to the firm divided by the maximum number of social and environmental disclosure items. The index consist of a total of 77 items including a social category (four sub-categories consisting of 45 items) and an environmental category (five sub-categories consisting of 32 items). This thesis re-measures the dependent variable by using an equally weighted categories technique to negate the possible influence of unequal number of categories between the social dimension and environmental dimension on the main regression findings. Second, instead of using the 77 items, this thesis excludes items that have means in excess of 80% for each year. Third, this thesis re-measures the dependent variable (i.e. SEDI) by way of nine sub-categories that comprise the SEDI. For this sensitivity test, the disclosure score for each firm is calculated by divided the total SEDI score awarded for the firm to 9 items. For instance, a firm will be scored 1 (i.e. disclosed) for 'labour practices and decent work' sub-category if the firm disclosed at least one of the 17 items in that sub-category.

#### **4.5.2 Alternate Measures for Independent Variables**

Extra sensitivity analysis is also performed by running extra regressions using alternate measurement for independent variables (i.e. firm size, brand development, board independence, and ownership structure) to observe whether the main findings remain unchanged. The control variables (i.e. audit committee independence, CEO duality, profitability and award obtained) are kept unchanged.

Corporate size originally measured by natural logarithm of total assets is alternatively measured by natural logarithm of total sales. This thesis originally measured brand development by dichotomous coding; it codes 1 if a company acknowledges that the company is a supplier of an internationally recognized brand of textile and apparel products; otherwise coded by 0. To check the robustness of the finding for the brand development variable, this thesis still uses the dichotomous coding but alters the definition for the brand development as follows. A company is considered to have brand development if the company discloses a domestic or corporate internally created brand-name in its annual reports. In other words, a company that acknowledges its domestic brand in the annual report although it is not

a supplier for an internationally recognized brand of textile and apparel products is now included in the alternate measure.

Instead of the ratio of independent non-executive directors to the total number directors on the board, the measurement for the board independence is replaced by dichotomous coding. The original measurement for the board independence is replaced by categorical coding (i.e. 1 if the proportion of independent non-executive directors on the board is more than 50% and 0 if otherwise). Originally, ownership concentration is measured by promoter ownership as this type of ownership structure is prevalent in Indian TA firms. This sensitivity test uses the proportion of shares owned by shareholders holding more than 5% shares as the alternate measurement for ownership concentration.

## **4.6 Additional Analyses**

This thesis also undertakes additional analyses to gain further insights on Indian TA corporate social and environmental disclosure practices. These analyses are conducted in a number of ways: additional regressions for the nine major sub-categories of SEDI, logistical regression on selected items and other analyses (i.e. propensity score matching test and lagged analysis) to address the potential issues of a self-selection bias and endogeneity.

### **4.6.1 Additional Regressions for Nine Major Sub-Categories of SED**

Separating the disclosure indices into two main categories namely social disclosure (SEDs) and environmental disclosure (SEDe) arguably adds richness of this thesis. By doing such an approach, this thesis might reveal different predictors on corporate communication on these two important issues in the textile and apparel industry. The findings arguably add to the body of knowledge on the area of voluntary disclosures studies. More specifically, this thesis partially fills the gap in the literature on the studies of social and environmental disclosures on emerging economy background particularly on the textile and apparel industry. Further regression analysis will be performed for the SEDs by further separating into its four key sub-categories, namely: 'labour practices and decent works', 'human rights',

‘society’, and ‘product responsibility’. The same technique also applies for SEDe by further separating into its five sub-categories, namely: ‘materials’, ‘energy’, ‘water and biodiversity’, ‘emissions, effluents and waste’, and ‘others’.

#### **4.6.2 Logistic Regression on Specific Items**

In essence, logistical regression is a special type of the regression analysis where the dependent variable is a dichotomous variable (Hair et al. 2006). Applying logistical regression techniques enables this thesis to examine the relationship between predictor variables (i.e. firm size, brand development, board independence, ownership concentration, audit committee independence, CEO duality, profitability and award obtained) and specific individual items of the GRI’s apparel and footwear sector supplement disclosure aspects. The specific items considered in this thesis are based on the five most disclosed items both for SEDs and SEDe. The logistical regression analyses arguably add richness of this thesis by offering additional in-depth insights on the potential variation of the impacts of predictor variables on crucial items as well as the aspects of social and environmental dimension. In other words, such additional analysis enables this thesis to better explain the social and environmental disclosure practices of the Indian textile and apparel listed companies.

#### **4.6.3 Additional Analyses to Address Endogeneity Issues**

The regression analysis assumes that the independent variables are exogeneously determined. However, the extent of board independence may be driven by endogenous factors that may not be necessarily associated with SEDI. Such a potential endogeneity issue potentially limits the regression analysis since the estimators of the regression models are invalid when the endogenous explanatory variables present. This thesis addresses the potential endogeneity issues by including a number of control variables (i.e. audit committee independence, CEO duality, firm profitability and award obtained) in the regression models. In addition, this thesis also performs propensity score matching test as a robustness check of the main regression results. In line with previous studies (e.g. Lennox, Francis and Wang 2012; Hoi, Wu and Zhang 2013; Taylor and Richardson 2014), this thesis undertakes the analysis in two steps. First, board independence is re-measured as a dummy

variable. The variable is scored 1 if the proportion of independent non-executive directors on the board above the median of 50% and is scored 0 if otherwise. Then, a logistic regression model is run for board independence for each year. The explanatory variables used in the logistic regression include firm size, brand development and ownership concentration as well as control variables. The predicted estimates from this logistic regression are used as the propensity scores for each firm-year observation. Second, based on the propensity score, 'one-to-one' matched pairs procedure for board independence is conducted.

Predictor variables in previous year may also endogenously influence the dependent variable in current year. Therefore, this thesis performs lagged analysis as another possible technique to address potential endogeneity issues (e.g. Barros, Boubaker, and Hamrouni 2013). This thesis conducts lagged analysis in three regression models. The association between predictor variables in year 2010 and SEDI 2011 is estimated in Model 1. In the second model, predictor variables in year 2011 are regressed with SEDI 2012. In Model 3, the association between the predictor variables are derived from year 2010 and the dependent variable is SEDI 2012.

## **4.7 Summary**

This chapter details the research approach adopted in this thesis. It begins with contrasting paradigms in social science (including accounting) leading to the positivism paradigm adopt in this thesis. The discussion on this chapter continues with an explanation of the research methodology including sample selection and measurement for the variables studied. This is followed with the statistical procedures of this thesis. This chapter ends with a discussion of additional sensitivity analysis used to gain further insights for the dependent variable (SEDI), the independent variables (firm size, brand development, board independence, and ownership concentration), and the control variables (audit committee independence, CEO duality, profitability and award obtained).

The next two chapters offer an extensive review of the data findings of this thesis. Chapter Five elaborates the descriptive analysis as well as the univariate

analysis of the data set. Multivariate analysis presenting the Pearson correlation and OLS multiple regression is then presented in Chapter Six.

# **CHAPTER 5 : DESCRIPTIVE STATISTICS AND UNIVARIATE ANALYSIS**

## **5.1 Introduction**

Chapter 4 details the research approach used in this thesis. This chapter provides the descriptive and univariate analysis of the dependent and predictor variables. The purpose of the analysis is to answer the first research question ‘to what extent do Indian textile and apparel (TA) listed companies provide voluntary social and environmental disclosure (SED) in their annual reports?’ The chapter also begins to answer the fourth research question ‘does the extent of social disclosure differ from the extent of environmental disclosure?’ The next section describes the characteristics of the dependent variable which is a measure of the extent of social and environmental disclosure (SED) of Indian TA listed companies. Furthermore, this chapter examines the two main categories of SED: social and environmental disclosures. This chapter also describes the characteristics of predictor variables and provides univariate analysis designed to initially examine whether statistical differences of means of the extent of social disclosure (SEDs) and environmental disclosure (SEDe) exist. The last section summarises the key findings of this chapter.

## **5.2 Characteristics of the Dependent Variable: SED Practices**

This section provides the descriptive statistics of voluntary social and environmental disclosure practices by Indian textile and apparel (TA) listed companies for the 2010-2012 period. As outlined in Chapter 4, the extent of SED is formulated using the world renown GRI’s performance indicators for social and environmental information. The SED index (SEDI) comprises of 77 items. Statistical analysis is performed on panel (yearly) data and pooled data using the three key measures SEDI, SEDI<sub>s</sub> and SEDI<sub>e</sub> as the dependent variable(s). The social category is further sub-categorised by GRI into four key sub-categories comprising ‘labour practices and decent work’, ‘human rights’, ‘society’ and ‘product responsibility’. The environmental category is sub-categorised into five sub-categories comprising

‘materials’, ‘energy’, ‘water and biodiversity’, ‘emissions, effluents and waste’, and ‘others’.

Table 5.1 presents the descriptive statistics for social and environmental disclosure index (SEDI) for each of the 2010, 2011, and 2012 financial years as well as for pooled data. As discussed in sub-section 4.3.1 of Chapter 4, initially the annual report sample set consisted of 100 firms for each year (i.e. 300 firm-year observations). However, after excluding outliers, the final sample was reduced to 95 firms for each year resulting in a total of 285 firm-year observations.

As shown in Table 5.1 the extent of social and environmental disclosure by Indian textile and apparel listed firms increased over time ranging from 12.11% in 2010, 13.69% in 2011, and 14.92% in 2012. Such an increasing SEDI figures overtime may indicate that Indian TA firms response the increasing awareness of the stakeholders on social and environmental issues in order to secure their legitimate status. The results indicate a low extent of SED over the three year period with overall mean of social and environmental disclosure index (SEDI) of 13.57% and minimum and maximum SEDI for individual firms of 1.30% and 33.77%, respectively. Over the three year period, the firm that discloses the highest level of social and environmental information (i.e. Alok Industries Ltd) effectively only discloses a third of items of the SEDI checklist.

**Table 5.1 Descriptive Statistics: SEDI (2010, 2011, 2012, and Pooled)**

SEDI	n	Mean %	Median %	Standard Deviation %	Minimum %	Maximum %
2010	95	12.11	11.69	5.35	1.30	32.47
2011	95	13.69	12.99	5.05	1.30	29.87
2012	95	14.92	14.29	5.58	1.30	33.77
Pooled	285	13.57	12.99	5.44	1.30	33.77

Legend: SEDI is the acronym for social and environmental disclosure index. Number of firms’ annual reports is 95 for each year resulting in a total of 285 firm-year observations.

As shown in Table 5.2, ANOVA test indicates that there is statistically significant difference ( $p = 0.002$ ) in social and environmental disclosure practices between 2010 and 2012.

**Table 5.2 ANOVA: SEDI by Year**

Disclosure Practice	Year	n	Mean	F	Sig.
Social and Environmental Disclosure	2010	95	.1211	6.654	.002*
	2011	95	.1369		
	2012	95	.1492		
	Pooled	285	.1357		

Legend: \* significant at 1% level.

Further, a Post hoc Tukey analysis presented in Table 5.3 reveals that SEDI in the 2012 year is statistically significantly higher than SEDI in the 2010 year. However, although there is a steady increase, there is no statistically significant difference in the mean social and environmental disclosures between each of the consecutive years over the 2010-2012 period.

**Table 5.3 Post Hoc Tukey Analysis of SEDI by Year**

Dependent Variable	Year	Year	Sig.
SEDI	2010	2011	.103
		2012	.001*
	2011	2010	.103
		2012	.252
	2012	2010	.001*
		2011	.252

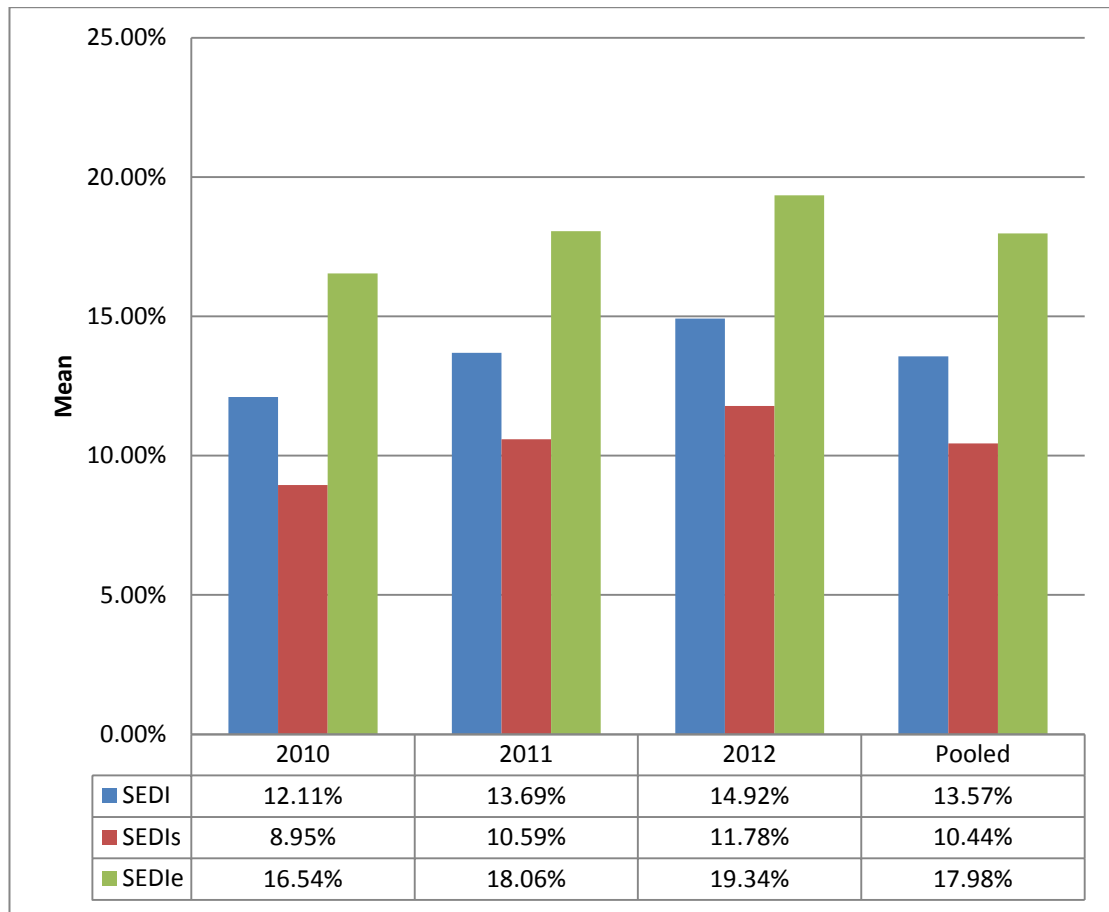
Legend: \* significant at 1% level.

Figure 5.1 graphically presents the key disclosure components: SEDI, SEDIs and SEDIE. The graph shows that social disclosure and environmental disclosure practices both increase over time. On average, firms provide more environmental disclosure compared to social disclosure over the three year period. In regard to social disclosure, the mean of social disclosure index (SEDIs) ranges from 8.95% in 2010, 10.59% in 2011, and 11.78% in 2012 with an overall mean of 10.44% suggesting a low extent of communicating social disclosure practices by Indian TA listed firms. In comparison, the mean of environmental disclosure index (SEDIE) is higher moving from 16.54% in 2010, 18.06% in 2011, and 19.34% in 2012 with an overall mean of 17.98%. Similar finding on the low extent of environmental disclosure is also reported by Nurhayati et al. (2006) in Indonesia (9%), Mukherjee et



al. (2010) in India (17.01%) and Monteiro and Aibar-Guzmán (2010) in Portugal (11.01% in 2002, 15.48% in 2003 and 19.67% in 2004).

**Figure 5.1 SEDI by Categories**



Legend: SEDI = social and environmental disclosure index; SEDIs = social disclosure index; and SEDle = environmental disclosure index.

Table 5.4 presents paired samples t-test analysis of social disclosure and environmental disclosure categories. The results provide evidence that firms statistically significantly communicate more environmental information than social information in their annual reports for each year. There is also a statistically significant difference between these two categories of disclosure in the pooled data set.

**Table 5.4 Paired Samples t-Test Analysis for SEDIs and SEDIE**

	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>Pooled</b>
<b>Mean of paired differences (%)</b>	.0758	.0746	.0755	.0753
<b>t-statistics</b>	10.917	12.765	10.734	19.743
<b>Sig (2-tailed)</b>	.000*	.000*	.000*	.000*
<b>n</b>	95	95	95	285

Legend: \* significant at 1% level.

### 5.2.1 Characteristics of Social Disclosures

Figure 5.2 presents social disclosures (SEDs) data for each of the four GRI sub-categories. The range in means of social disclosures index (SEDIs) over time (shown in brackets) spans from the highest sub-category being ‘labour practices and decent work’ (17.27%-21.60%), to the lowest sub-category ‘human rights’ (0.23%-0.46%), with the other two sub-categories also below 11%: ‘society’ (8.88%-10.63%), and ‘product responsibility’ (2.80%-5.84%). The finding that ‘labour practices and decent work’ is the highest sub-category disclosed in the annual reports is consistent with prior studies highlighting a tendency for firms to disclose more labour related information than other sub-categories in CSR disclosure (Belal 2001; Braco and Rodrigues 2008; Khan 2010; Islam and Deegan 2010; Faisal 2012; Faisal, Tower, and Rusmin 2012). All social disclosure sub-categories slowly consistently increase over time (albeit from a low base), except for ‘human rights’.

**Figure 5.2 SEDIs by Sub-Categories**



Legend: SEDI = social and environmental disclosure index; SEDIs = social disclosure index; and SEDIE = environmental disclosure index.

The social disclosure index (SEDIs) consists of 45 items. As presented in Table 5.5, the item ‘benefit provided for full-time employees’ (95.44%), ‘impacts of operations on communities’ (72.63%), ‘training for employees’ (65.96%), ‘health and safety topic stated’ (48.77%), and ‘customer satisfaction’ (40.70%) are the five most extensively disclosed items. Further analysis of these most disclosed items is discussed in Section 7.5 of Chapter 7.

**Table 5.5 Social Disclosure Index (SEDIs) (%)**

	Average	2010	2011	2012
<b>Social Disclosure (45 items)</b>	<b>10.44</b>	<b>8.95</b>	<b>10.59</b>	<b>11.78</b>
<i>Labour practices and decent work (17 items)</i>	<i>19.33</i>	<i>17.27</i>	<i>19.13</i>	<i>21.60</i>
1. Benefits provided for full-time employees	95.44*	92.63	95.79	97.89
2. Training for employees	65.96*	62.11	65.26	70.53
3. Health and safety topics covered or stated	48.77*	43.16	49.47	53.68
4. Total workforce	35.44	32.63	35.79	37.89
5. Skills management programs to support employees' career	31.93	23.16	33.68	38.95
6. Regular performance and career reviews received by employees	16.49	11.58	16.84	21.05
7. Training to assist workforce or community members regarding diseases	13.68	11.58	11.58	17.89
8. Injury and fatalities	8.07	6.32	8.42	9.47
9. Total number and rate of employee turnover	5.96	9.47	4.21	4.21
10. Employees breakdown by age group and other indicators of diversity	2.11	1.05	3.16	2.11
11. Minimum notice period	1.05	0.00	1.05	2.11
12. Total workforce represented in formal health and safety committees	0.35	0.00	0.00	1.05
13. Percentage of foreign migrant workers as a proportion of total workforce	0.00	0.00	0.00	0.00
14. Percentage of employees covered by collective bargaining agreements	0.00	0.00	0.00	0.00
15. Percentage of workplaces with and without collective bargain agreement	0.00	0.00	0.00	0.00
16. Initiatives to prevent and reduce the occurrence of musculoskeletal diseases	0.00	0.00	0.00	0.00
17. Ratio of basic salary of men to women	0.00	0.00	0.00	0.00
<i>Human rights (9 items)</i>	<i>0.38</i>	<i>0.46</i>	<i>0.23</i>	<i>0.46</i>
18. Right to exercise freedom of association	2.11	1.05	2.11	3.16
19. Workforce training on policies and procedures concerning human rights	0.35	1.05	1.00	1.00
20. Total number of incidents of discrimination and action taken	0.35	0.00	0.00	1.05
21. Incidents of child labour and effort taken to eliminate	0.35	1.05	0.00	0.00
22. Incidents of violations involving rights of indigenous people and action taken	0.35	1.05	0.00	0.00
23. Significant investment agreements that include human rights clauses	0.00	0.00	0.00	0.00
24. Suppliers and contractors undergone screening on human rights	0.00	0.00	0.00	0.00
25. Incidents of forced or compulsory labour and effort taken to eliminate	0.00	0.00	0.00	0.00
26. Security personnel trained for policies or procedures concerning human rights	0.00	0.00	0.00	0.00

<i>Society (10 items)</i>	<i>9.87</i>	<i>8.88</i>	<i>10.10</i>	<i>10.63</i>
27. Impacts of operations on communities	72.63*	57.89	82.11	77.89
28. Priorities in community investment strategy	14.39	1.05	17.89	24.21
29. Public policy positions and participation in public policy development	2.81	5.26	1.05	2.11
30. Fines and sanctions for non-compliance with laws and regulations	2.46	7.37	0.00	0.00
31. Actions taken in response to incidents of corruption	1.75	4.21	0.00	1.05
32. Financial and in-kind contributions to politicians and related institutions	1.05	3.16	0.00	0.00
33. Actions taken and outcomes for anti-trust and monopoly practices	0.70	1.05	0.00	1.05
34. Amount of investment in worker communities broken down by location	0.00	0.00	0.00	0.00
35. Business units analysed for risks related corruption	0.00	0.00	0.00	0.00
36. Employees trained in organisation's anti-corruption policies and procedures	0.00	0.00	0.00	0.00
<i>Product Responsibility (9 items)</i>	<i>4.67</i>	<i>2.80</i>	<i>5.37</i>	<i>5.84</i>
37. Customer satisfaction, including results of customer surveys	40.70*	25.26	46.32	50.53
38. Health and safety impacts over life cycle of products	1.40	0.00	2.11	2.11
39. Incidents of non-compliance with regulations and codes concerning health and safety impacts of product and services	0.00	0.00	0.00	0.00
40. Type of product and service information required by procedures	0.00	0.00	0.00	0.00
41. Incidents of non-compliance with regulations and codes concerning product and service information and labelling	0.00	0.00	0.00	0.00
42. Programs for adherence laws and codes related to marketing communications	0.00	0.00	0.00	0.00
43. Incidents of non-compliance with regulations and codes concerning marketing communications.	0.00	0.00	0.00	0.00
44. Complaints regarding breaches of customer data losses and privacy	0.00	0.00	0.00	0.00
45. Fines for non-compliance with laws concerning provision and use of products	0.00	0.00	0.00	0.00

Legend: \* denoted as the five most disclosed items (on average) in social disclosure.

In regard to labour practices sub-category, 'benefit provided for full-time employees' is the most communicated item in the annual reports (95.44%) followed by 'training for employee' (65.96%), 'health and safety topics stated' (48.77%), 'total workforce' (35.44%) and 'skills management programs' (31.93%). In addition, the descriptive findings suggest that Indian TA firms completely fail to communicate a number of items pertaining 'migrant workers', 'employees collective bargain

agreement', 'musculoskeletal disease', and 'ratio of basic salary of men to women'. The other 'labour practices' items are disclosed less than 20%. Findings of this thesis further indicate that 'human rights' sub-category is the least disclosed among social disclosure sub-categories. The most disclosed item, 'right to exercise freedom of association', is only disclosed at about 2%. This finding seems to be aligned with the non-disclosure on 'employees collective bargain agreement'. In addition, other crucial issues in regard to 'human rights' such as child labour and forced labour are communicated very sparsely in the annual reports. As regard to the 'society' sub-category, 'impacts of operations on communities' is the most disclosed item (72.63%) followed by 'priorities in community investment strategy' (14.39%). The other items in 'society' sub-category are communicated less than 3%. Pertaining to the 'product responsibility' sub-category, 'customer satisfaction' is the most commonly disclosed information (40.70%). The other items in this sub-category (except for 'health safety impacts of products' item disclosed at 1.40%) are completely not communicated by Indian TA firms.

Table 5.6, ANOVA test shows that there is a statistically significant difference ( $p = 0.003$ ) in the overall social disclosure index (SEDIs) between 2010 and 2012. As summarised in Table 5.7, the analysis of Post hoc Tukey by year between SEDIs reveals that SEDIs in the 2012 year is statistically significantly higher than SEDIs in the 2010 year. However, there is no statistically significant difference in mean of social information disclosed between each individual year such as 2010 and 2011 and between 2011 and 2012.

**Table 5.6 ANOVA: SEDI and its Four Sub-Categories by Year**

Disclosure Practice	Year	N	Mean	F	Sig.
Social disclosure (overall)	2010	95	.0895	6.141	.003*
	2011	95	.1059		
	2012	95	.1178		
	Pooled	285	.1044		
Labour practices and decent work	2010	95	.1727	4.012	.019**
	2011	95	.1913		
	2012	95	.2160		
	Pooled	285	.1933		
Human rights	2010	95	.0046	.411	.663
	2011	95	.0023		
	2012	95	.0046		
	Pooled	285	.0038		
Society	2010	95	.0888	1.459	.278
	2011	95	.1010		
	2012	95	.1063		
	Pooled	285	.0987		
Product responsibility	2010	95	.0280	7.932	.000*
	2011	95	.0537		
	2012	95	.0584		
	Pooled	285	.0467		

Legend: \* significant at 1% level and \*\* significant at 5% level.

A similar finding is also found for ‘labour practices and decent work’ sub-category ( $p = 0.019$ ). The analysis of Post hoc Tukey in Table 5.7 reveals that companies provide statistically significant more extensive ‘labour practices and decent work’ information in their 2012 annual reports as compared to the 2010 annual reports. However, there is no statistically significant difference in mean disclosure of ‘labour practices and decent work’ information between each set of consecutive years. ANOVA tests further indicate that there is significant difference ( $p = 0.000$ ) in the communication of ‘product responsibility’. Post hoc Tukey analysis in Table 5.7 reveals that companies provide statistically significantly more extensive ‘product responsibility’ information in their 2012 annual reports as compared to their 2011 and 2010 annual reports. Furthermore, the communication of ‘product responsibility’ information in the 2011 annual reports is higher than that in 2010 annual reports. Finally, the ANOVA results highlight that there is no statistically significantly different in mean disclosure of ‘human rights’ and ‘society’ sub-categories across the three year period.

**Table 5.7 Post Hoc Tukey Analysis of SEDIs: Four Sub-Categories by Year**

Year	Year	Social disclosure	Labour practices and decent work	Human rights	Society	Product responsibility
2010	2011	.109	.448	.712	.477	.005*
	2012	.002*	.014**	1.000	.220	.001*
2011	2010	.109	.448	.712	.477	.005*
	2012	.306	.242	.712	.870	.837
2012	2010	.002*	.014**	1.000	.220	.001*
	2011	.306	.242	.712	.870	.837

Legend: \* significant at 1% level and \*\* significant at 5% level.

### 5.2.2 Characteristics of Environmental Disclosures

Figure 5.3 presents the mean disclosure of the five sub-categories of environmental information. There is a slight increase in SEDIE for each sub-category over the sample period.

**Figure 5.3 SEDIE by Sub-Categories**

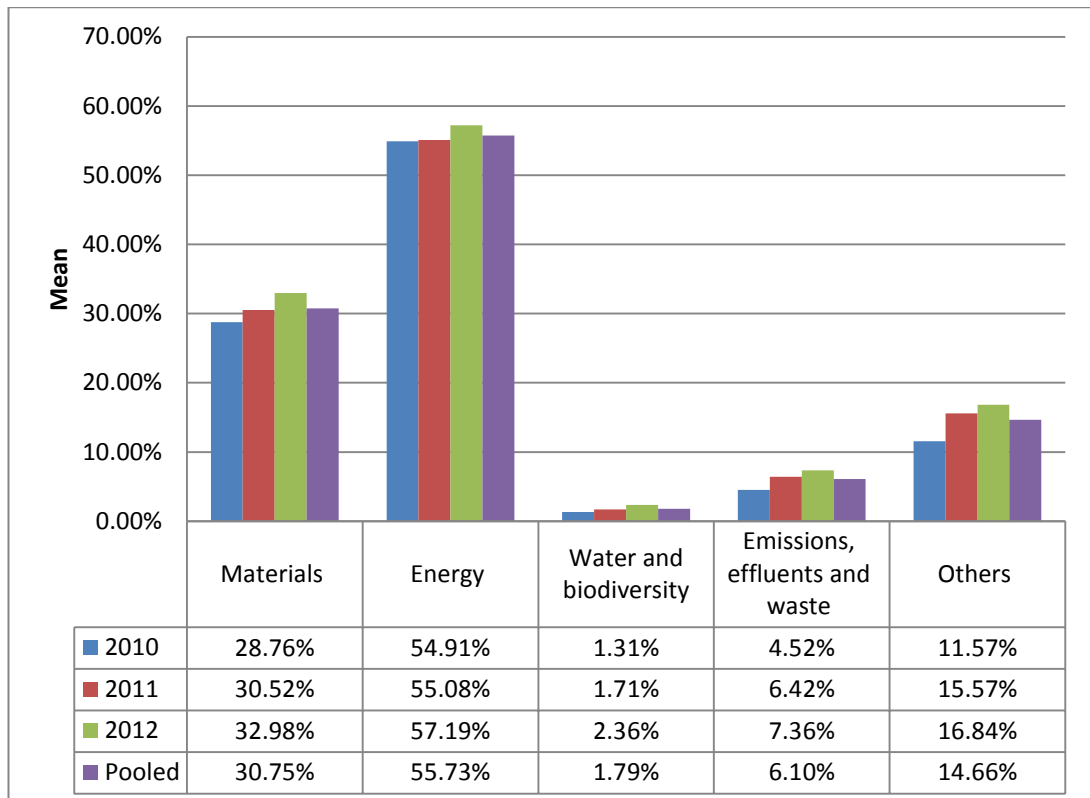




Figure 5.3 reveals that the ‘energy’ sub-category has the highest level of disclosures ranging from 54.91% in 2010, 55.08% in 2011, to 57.19% in 2012 with an overall mean disclosure of 55.73%. The environmental sub-categories that are not as extensively disclosed are the ‘emissions, effluents and waste’ and ‘water and biodiversity’ sub-categories. The sub-category ‘emissions, effluents and waste’ disclosure levels range from a mean of 4.52% in 2010, 6.42% in 2011 to 7.36% in 2012 with an overall mean disclosure level of 6.10%. The sub-category ‘water and biodiversity’ is far less extensively disclosed with an overall mean less than 2% and a range from 1.31% in 2010, 1.71% in 2011, and 2.36% in 2012.

As detailed in Table 5.8, the environmental disclosure index (SEDIe) comprises 32 items. Table 5.8 highlights that on average, the five most disclosed items of SEDIe are ‘indirect energy consumption’ (93.33%), ‘materials used’ (86.32%), ‘direct energy consumption’ (84.56%), ‘initiatives to mitigate environmental impacts’ (71.58%), and ‘initiatives to provide energy efficient or renewable energy’ (69.82%). Additional analysis of key SEDIe’s items is discussed in Section 7.5 of Chapter 7.

**Table 5.8 Environmental Disclosure Index (SEDIe) (%)**

	Average	2010	2011	2012
<b>Environmental Disclosure (32 items)</b>	<b>17.98</b>	<b>16.54</b>	<b>18.06</b>	<b>19.34</b>
<i>Materials (3 items)</i>	<i>30.75</i>	<i>28.76</i>	<i>30.52</i>	<i>32.98</i>
1. Materials used	86.32*	83.16	86.32	89.47
2. Recycled input materials	3.51	3.16	2.11	5.26
3. Environmentally preferable materials used	2.46	0.00	3.16	4.21
<i>Energy (6 items)</i>	<i>55.73</i>	<i>54.91</i>	<i>55.08</i>	<i>57.19</i>
4. Indirect energy consumption	93.33*	91.58	93.68	94.74
5. Direct energy consumption	84.56*	78.95	87.37	87.37
6. Initiatives and results to provide energy efficient or renewable energy	69.82*	45.26	80.00	84.21
7. Energy saved	65.96	61.05	67.37	69.47
8. Initiatives to reduce indirect energy consumption	19.30	52.63	1.05	4.21
9. Energy consumed from renewable sources	1.40	0.00	1.05	3.16
<i>Water and biodiversity (8 items)</i>	<i>1.79</i>	<i>1.31</i>	<i>1.71</i>	<i>2.36</i>
10. Water recycled and reused	10.88	5.26	11.58	15.79
11. Total water consumption by source	3.51	5.26	2.11	3.16
12. Water sources affected by consumption of water	0.00	0.00	0.00	0.00

13. Lands in protected areas and areas of high biodiversity value	0.00	0.00	0.00	0.00
14. Impacts of activities, products and services on biodiversity	0.00	0.00	0.00	0.00
15. Habitats protected or restored	0.00	0.00	0.00	0.00
16. Strategies, actions, and plans for managing impacts on biodiversity	0.00	0.00	0.00	0.00
17. Species with habitants in areas affected by operations	0.00	0.00	0.00	0.00
<i>Emissions, effluents and waste (10 items)</i>	<i>6.10</i>	<i>4.52</i>	<i>6.42</i>	<i>7.36</i>
18. Weight of waste by types and disposal method	41.75	24.21	48.42	52.63
19. Initiatives to reduce greenhouse gas emissions and reduction achieved	7.72	8.42	6.32	8.42
20. Weight of transported, imported, exported, or treated hazardous waste	4.91	3.16	6.32	5.26
21. Water discharge by quality and destination	4.21	5.26	2.11	5.26
22. Direct and indirect greenhouse gas emissions	0.70	1.05	0.00	1.05
23. Emission of ozone-depleting substances	0.70	1.05	0.00	1.05
24. NO, SO, and other significant air emissions	0.70	1.05	1.05	0.00
25. Other relevant indirect greenhouse gas emission	0.35	1.05	0.00	0.00
26. Significant spills	0.00	0.00	0.00	0.00
27. Water biodiversity affected by discharges of water and run off	0.00	0.00	0.00	0.00
<i>Others (5 items)</i>	<i>14.66</i>	<i>11.57</i>	<i>15.57</i>	<i>16.84</i>
28. Initiatives to mitigate environmental impacts	71.58*	56.84	75.79	82.11
29. Products sold and their packaging materials that are reclaimed	1.05	0.00	2.11	1.05
30. Environmental impacts of transporting products and workforce members	0.35	1.05	0.00	0.00
31. Total environmental expenditures and investment	0.35	0.00	0.00	1.05
32. Fines and sanctions for non-compliance with environmental laws and regulations	0.00	0.00	0.00	0.00

Legend: \* denoted as the five most disclosed items (on average) in environmental disclosure.

In regard to the ‘material’ sub-category, ‘material used’ (86.32%) is the most disclosed information. For the ‘energy’ sub-category, four out of six items are disclosed at more than 65% with ‘direct and indirect energy consumptions’ the most released information by Indian textile and apparel (TA) firms. Items covering ‘initiatives to reduce indirect energy consumption’ and ‘energy consumed from renewable sources’ are the less communicated information being under 20%. Pertaining to the ‘water and biodiversity’ sub-category, 75% items (6 items) is completely missing from the Indian TA firms annual reports. The only items

disclosed are ‘water recycled and reused’ (10.88%) and ‘total water consumption’ (3.51%). As for the sub-category relating to ‘emissions, effluents and waste’, ‘weight of waste by types and disposal method’ is the most disclosed item (41.75%). The remaining items in this sub-category are communicated less than 10% whereas items related to ‘significant spills’ and ‘water biodiversity affected’ are never disclosed. Related to the ‘others’ sub-category, no items (except for ‘initiatives to mitigate environmental impacts’ which is communicated at 71.58%) in this sub-category disclosed more than 2%.

Table 5.9 presents the results of ANOVA for environmental disclosure and its five sub-categories. ANOVA test indicates that there is statistically significant difference ( $p = 0.024$ ) in environmental disclosure practices over the three year sample period.

**Table 5.9 ANOVA: SEDIE and its Five Sub-Categories by Year**

Disclosure Practice	Year	n	Mean	F	Sig.
Environmental disclosure (overall)	2010	95	.1654	3.799	.024**
	2011	95	.1806		
	2012	95	.1934		
	Pooled	285	.1798		
Materials	2010	95	.2876	1.942	.145
	2011	95	.3052		
	2012	95	.3298		
	Pooled	285	.3075		
Energy	2010	95	.5491	.395	.637
	2011	95	.5508		
	2012	95	.5719		
	Pooled	285	.5573		
Water and biodiversity	2010	95	.0131	1.037	.369
	2011	95	.0171		
	2012	95	.0236		
	Pooled	285	.0179		
Emissions, effluents and waste	2010	95	.0452	2.988	.052***
	2011	95	.0642		
	2012	95	.0736		
	Pooled	285	.0610		
Others	2010	95	.1157	9.005	.000*
	2011	95	.1557		
	2012	95	.1684		
	Pooled	285	.1466		

Legend: \* significant at 1% level, \*\* significant at 5% level and \*\*\* significant at 10% level.

An analysis of Post hoc Tukey reveals that SEDIE in 2012 is statistically significantly higher than SEDIE in 2010 (Table 5.10). However, there is no statistically significant difference in mean environmental disclosures between 2010 and 2011 and between 2011 and 2012.

**Table 5.10 Post Hoc Tukey Analysis of SEDIE: Five Sub-Categories by Year**

Year	Year	SEDIE	Materials	Energy	Water and biodiversity	Emissions, effluents and waste	Others
2010	2011	.297	.693	.998	.854	.247	.006*
	2012	.017**	.124	.704	.329	.045**	.000*
2011	2010	.297	.693	.998	.854	.247	.006*
	2012	.417	.488	.742	.647	.703	.593
2012	2010	.017**	.124	.704	.329	.045**	.000*
	2011	.417	.488	.742	.647	.703	.593

Legend: \* significant at 1% level and \*\* significant at 5% level.

The ANOVA test also shows that there is a marginally statistically significant difference ( $p = 0.052$ ) in the ‘emissions, effluents and waste’ sub-category disclosure over the sample period (Table 5.9). The Post hoc Tukey analysis provided in Table 5.10 shows evidence that companies disclose more ‘emissions, effluents and waste’ information in their 2012 annual reports as compared to their 2010 annual reports. However, there is no statistically significant difference in mean disclosures between 2010 and 2011, and between 2011 and 2012. In regard to the ‘others’ sub-category<sup>12</sup>, ANOVA tests highlights that there is a significant difference ( $p = 0.000$ ) in the disclosure of that information. A Post hoc Tukey analysis summarised in Table 5.10 suggests that companies disclose more information belonging to the ‘other’ sub-category in their 2012 annual reports compared to their 2011 and 2010 annual reports. The disclosure of ‘others’ information in the 2011 annual reports is significantly higher than that in the 2010 annual reports. The results of ANOVA tests indicate that there is no statistically significant difference in mean disclosure of

<sup>12</sup> The ‘Others’ environmental sub-category consists of five items. These are ‘initiatives to mitigate environmental impacts’, ‘products sold that are reclaimed’, ‘fines and sanctions for non-compliance with environmental laws and regulations’, ‘environmental impacts of transporting products and workforce members’, and ‘environmental expenditures and investment’.

'materials', 'energy' and 'water and biodiversity' information between consecutive years.

### **5.3 Characteristics of the Predictor Variables**

This section provides an overview of the descriptive characteristics of the predictor variables, namely firm size, brand development, board independence, ownership concentration, audit committee independence, CEO duality, profitability and award obtained. The first four variables are the independent variables and the latter four are the control variables. The characteristics of predictor variables are detailed into separate sub-sections describing the characteristics of continuous and categorical variables.

#### **5.3.1 Characteristics of Continuous Variables**

Table 5.11 summaries the descriptive statistics of the four continuous predictor variables, namely firm size, board independence, ownership concentration and profitability. The first three are independent variables and the fourth is a control variable. As presented in Table 5.11 (Panel D), the overall mean of firm size measured by total assets is 8,792 million Rupees (approximately 147 million U.S. dollars). The average firm size increases over the sample period ranging from 7,080 million Rupees in 2010 (Panel A), 9,085 million Rupees in 2011 (Panel B), and 10,210 million Rupees in 2012 (Panel C). The median values are far lower than the mean scores across the three year period. There are also wide ranges in the minimum and maximum scores on total assets over this three year period indicating that total assets are positively skewed. Consequently, consistent with many other studies, total asset values are transformed into the natural logarithm of total assets. Transformed total assets values have mean scores ranging between 9.38 and 9.47 and median scores ranging between 9.33 and 9.48 across the three year sample period.

**Table 5.11 Descriptive Statistics of Continuous Variables: 2010, 2011, 2012, and Pooled**

<b>Panel A 2010 (n = 95)</b>	<b>Mean</b>	<b>Median</b>	<b>Standard Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
FSIZE (log)	9.38	9.33	0.65	7.70	11.06
FSIZE (total assets, in million Rupees)	7,080	2,179	14,246	50.561	116,328
BIND (%)	54.35	50.00	9.46	33.33	80.00
OWN (%)	54.84	54.85	14.71	12.96	85.63
PROFIT (%)	2.35	1.61	5.46	-13.25	21.31
<b>Panel B 2011 (n = 95)</b>	<b>Mean</b>	<b>Median</b>	<b>Standard Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
FSIZE (log)	9.46	9.47	0.68	7.68	11.15
FSIZE (total assets, in million Rupees)	9,085	2,961	18,556	48.753	142,675
BIND (%)	54.69	50.00	9.60	25.00	83.33
OWN (%)	54.72	54.85	15.29	12.96	85.64
PROFIT (%)	2.86	3.50	6.00	-22.07	18.36
<b>Panel C 2012 (n = 95)</b>	<b>Mean</b>	<b>Median</b>	<b>Standard Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
FSIZE (log)	9.47	9.48	0.71	7.68	11.26
FSIZE (total assets, in million Rupees)	10,210	3,028	22,724	48.937	182,384
BIND (%)	53.76	50.00	8.60	33.33	81.82
OWN (%)	56.11	56.44	14.94	14.78	93.15
PROFIT (%)	0.02	1.51	7.89	-27.27	24.22
<b>Panel D Pooled (n = 285)</b>	<b>Mean</b>	<b>Median</b>	<b>Standard Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
FSIZE (log)	9.42	9.43	0.68	7.68	11.26
FSIZE (total assets, in million Rupees)	8,792	2,696	18,894	48.753	182,384
BIND (%)	54.27	50.00	9.20	25.00	83.33
OWN (%)	55.23	54.99	14.94	12.96	93.15
PROFIT (%)	1.74	2.10	6.63	-27.27	24.22

As revealed in Table 5.11, board independence, measured by the proportion of independent non-executive board members to the total number of board members, is relatively stable at 54.35% in 2010 (Panel A), 54.69% in 2011 (Panel B), and 53.76% in 2012 (Panel C) with an overall mean of 54.27% and range of 25.00% to 83.33% (Panel D). The Securities and Exchange Board of India (SEBI) requires all listed companies in India to have independent non-executive board members with boards comprising at least 30% independence in the case where the chairman of the board is a non-executive director and 50% in the case where the chairman is an executive director. Although one company (i.e. Pasupati Spinning & Weaving Mills

Ltd) had a board composition below 30% in 2011, Indian TA firms largely comply with these SEBI regulations.

The average level of ownership concentration, measured by the proportion of ordinary shares owned by promoters, has been relatively steady over the sample period. Consistent with many other Asian countries (e.g. Indonesia, Malaysia, Thailand, Hong Kong and Singapore), ownership concentration in the sample Indian firms is highly concentrated often dominated by family business networks. Ownership concentration ranges from 54.84% in 2010 (Panel A), 54.72% in 2011 (Panel B), and 56.11% in 2012 (Panel C) with the overall mean of 55.23% and a range of 12.96% to 93.15% (Panel D). A concentrated ownership structure may lead to ineffective implementation of good corporate governance mechanisms (Heugens, Essen, and Oosterhout 2009). Table 5.11 reveals similar values between mean and median scores of ownership concentration, suggesting normality of distributions.

Profitability values, measured by net income (net loss) divided by total assets (ROA), indicate that the profit levels of Indian TA firms are low during this period. A possible reason for this observation is that major overseas buyers (e.g. USA and European countries) may have not fully recovered from the global financial crisis. On average, the profitability of companies range from 2.35% in 2010 (Panel A), 2.86% in 2011 (Panel B), to 0.02% in 2012 (Panel C) with an overall mean of 1.74% (Panel D). There are relatively moderate differences between mean scores (ranging between 0.02% and 2.86%) and median scores (ranging between 1.51% and 3.50%) indicating that the profitability values are normally distributed.

Table 5.12 presents the results of ANOVA tests by year for firm size, board independence, ownership concentration and profitability. The results indicate that there are no significant statistical difference in means of firm size ( $p = 0.514$ ), board independence ( $p = 0.781$ ), and ownership concentration ( $p = 0.778$ ) from 2010 to 2012. However, the ANOVA test reveals that the means of profitability are statistically significantly ( $p = 0.007$ ) different over the three year period.

**Table 5.12 ANOVA: Predictor Continuous Variables of SEDI by Year**

Predictor Variables	Year	N	Mean	F	Sig.
Firm Size (in million Rupees)	2010	95	7,080	.667	.514
	2011	95	9,085		
	2012	95	10,210		
	Pooled	285	8,792		
Board Independence	2010	95	.5435	.248	.781
	2011	95	.5469		
	2012	95	.5376		
	Pooled	285	.5427		
Ownership Concentration	2010	95	.5484	.251	.778
	2011	95	.5472		
	2012	95	.5611		
	Pooled	285	.5523		
Profitability	2010	95	.0235	5.057	.007*
	2011	95	.0286		
	2012	95	.0002		
	Pooled	285	.0174		

Legend: \* significant at 1% level.

Furthermore, a Post hoc Tukey analysis in Table 5.13 provides evidence that profitability of companies in 2012 is statistically significantly lower than profitability in 2010 and 2011. There is no statistically significant difference in mean profitability between 2010 and 2011.

**Table 5.13 Post Hoc Tukey Analysis: Predictor Continuous Variables by Year**

Year	Year	Firm Size	Board Independence	Ownership Concentration	Profitability
2010	2011	.746	.965	.998	.852
	2012	.490	.898	.829	.040**
2011	2010	.746	.965	.998	.852
	2012	.912	.766	.798	.009*
2012	2010	.490	.898	.829	.040**
	2011	.912	.766	.798	.009*

Legend: \* significant at 1% level and \*\* significant at 5% level.

### 5.3.2 Characteristics of Categorical Variables

Table 5.14 summaries the descriptive statistics of the categorical variables: brand development, audit committee independence, CEO duality and award obtained. The first variable is an independent variable whereas the last three are control variables for this thesis.



**Table 5.14 Characteristics of Categorical Variables: 2010, 2011, 2012, and Average**

Variable	Measurement	Average (%)	2010 (%)	2011 (%)	2012 (%)
Brand development	1 = Supplier of branded TA products	24	21	25	26
	0 = Not a supplier of branded TA products	76	79	75	74
Audit committee independence	1 = Have independent audit committee	66	63	66	67
	0 = No independent audit committee	34	37	34	33
CEO duality	1 = CEO is chairperson	54	50	56	56
	0 = CEO is not chairperson	46	50	44	44
Award obtained	1 = Have internationally recognised award	25	23	24	27
	0 = Not have internationally recognised award	75	77	76	73

Legend: number of firms is 95 for each year.

As shown in Table 5.14, 24% of Indian textile and apparel (TA) listed companies supply TA products to well-known international brand-name companies (e.g. Levi's, Benetton, Rip Curl, Guess, Mark & Spencer, Puma, Calvin Klein, etc.) and to reputable wide-ranging stores (e.g. Wall-mart, IKEA, Carrefour and Wesfarmers). The supply of branded TA products increases slightly ranging from 21% in 2010, 25% in 2011, and 26% in 2012. The remaining 76% of sample companies do not supply their TA products to international brand-name entities.

The Securities and Exchange Board of India (SEBI) provides regulation for Indian listed companies stating they need to have at least two-thirds of audit committee members as independent non-executive directors. Thus, a company is considered to have an independent audit committee if it has audit committee members consisting of more than two-thirds of independent non-executive directors and is scored as 1 if this criterion is met, and 0 if equal or below that threshold. Table 5.14 indicates that on average 66% of sample companies have largely independent audit committee structures ranging from 63% in 2010, 66% in 2011, and 67% in 2012.

CEO duality refers to a condition when a board member serves as both the chief executive officer (CEO) and chairperson of the board in a firm (Ho and Wong 2001; Al-Shammari and Al-Sultan 2010; Ienciu 2012). Indian TA companies

typically have dual CEO-chairman members serving on boards (54%). The number of sample companies with a dual CEO-chairman structure has increased from 50% in 2010, to 56% in 2011 and 2012. Sarkar (2009) notes the substantial growing trend on the board of Indian corporations having promoters that also serve as chairmen. This finding signifies that concentrated promoter ownership in the Indian TA companies may facilitate the development of dual CEO-chairman structures as such a structure may serve as a conduit to achieve the business objectives and strategies of these promoters.

Most Indian TA firms (75%) do not have internationally recognised awards based on International Organization for Standardization (ISO) for *quality management systems* (ISO 9001), *environmental management systems* (ISO 14001), *social accountability standard* (SA 8000), *occupational health and safety management system* (OHSAS 18000) and *operational quality assurance certificate for textile and clothing manufacturers* (Oeko-Tex®). However, as highlighted in Table 5.14, there are an increasing number of companies obtaining an international award, ranging from 23% in 2010, 24% in 2011, to 27% in 2012 with the average of 25% over the three year period.

### **5.3.3 Additional Univariate Analysis for Categorical Variables**

Univariate analysis is conducted to test whether any statistically differences in means of categorical variables exist for SEDI, SEDIs and SEDIE. The findings of the t-test analysis are summarised for SEDI (see Tables 5.15 to 5.18), SEDIs (see Tables 5.19 to 5.22), and SEDIE (see Tables 5.23 to 5.26).

To assess if statistically differences in mean disclosures exist for firms with and without branded TA products between consecutive years, t-test are performed. Results are summarised in Table 5.15 and reveal that the 69 firm-year companies that supply branded TA products provide more social and environmental information in their annual reports compared to the 216 firm-year companies which do not have branded products.

The means of SEDI for the sample companies that supply branded TA products are increasing over time ranging from 15.77% in 2010, 17.64% in 2011, and 19.48% in 2012 with the overall mean of 17.76%. The overall mean of SEDI for companies that do not supply branded TA products is consistently lower ranging from 11.13% in 2010, 12.36% in 2011, to 13.30% in 2012. There are statistically significant differences in the extent of SEDI between branded product and non-branded product firms over time ( $p$ -value = 0.000).

**Table 5.15 Brand Development T-Test for SEDI: 2010, 2011, 2012, and Pooled Data**

Brand Development	n	SEDI	Standard Deviation	T-value	Sig.
2010 (n = 95)					
Supplier of branded TA products	20	.1577	.0599	3.672	.000*
Not a supplier of branded TA products	75	.1113	.0474		
2011 (n = 95)					
Supplier of branded TA products	24	.1764	.0520	4.937	.000*
Not a supplier of branded TA products	71	.1236	.0427		
2012 (n = 95)					
Supplier of branded TA products	25	.1948	.0493	5.417	.000*
Not a supplier of branded TA products	70	.1330	.0488		
Pooled data (n = 285)					
Supplier of branded TA products	69	.1776	.0548	8.149	.000*
Not a supplier of branded TA products	216	.1224	.0470		

Legend: \* significant at 1% level

As presented in Table 5.16, there is also an increasing trend in regard to the communication of social and environmental information by both for sample companies that are deemed to have an independent audit committee (187 firm-year) compared to the remaining companies (98 firm-year) that do not have an independent audit committee. The mean SEDI for sample companies with an independent audit committee ranges from 13.18% in 2010, 14.61% in 2011, to 15.68 in 2012 with an overall mean SEDI of 14.52%. The mean SEDI of companies that are considered not to have an independent audit committee spans from 10.27% in 2010, 11.89% in 2011, and 13.36% in 2012, with an overall SEDI mean of 11.78%. The t-test results confirm that companies with independent audit committees significantly (*p*-value ranging from 0.000 to 0.057) disclose more social and environmental information in their annual reports over the three year sample period compared to those that do not have an independent audit committee.

**Table 5.16 Audit Committee Independence T-Test for SEDI: 2010, 2011, 2012, and Pooled Data**

Audit Committee Independence	n	SEDI	Standard Deviation	T-value	Sig.
2010 (n =95)					
Have independent audit committee	60	.1318	.0575	2.630	.010*
No independent audit committee	35	.1027	.0402		
2011 (n = 95)					
Have independent audit committee	63	.1461	.0501	2.553	.012**
No independent audit committee	32	.1189	.0470		
2012 (n = 95)					
Have independent audit committee	64	.1568	.0599	1.927	.057***
No independent audit committee	31	.1336	.0429		
Pooled data (n = 285)					
Have independent audit committee	187	.1452	.0566	4.465	.000*
No independent audit committee	98	.1178	.0448		

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level.

Table 5.17 indicates that companies with a dual CEO structure (154 firm-year observations) disclose statistically significantly less social and environmental information than their counterparts. The mean of SEDI for the sample companies with CEO duality is 10.84% in 2010, 12.44% in 2011, and 13.30% in 2012 with an overall mean SEDI mean of 12.25%. The means of SEDI for companies with separate CEO and chairman range from 13.40% in 2010, 15.27% in 2011, and 16.94% in 2012 with an overall mean SEDI mean of 15.13%. There are statistically significant differences in the extent of SEDI in 2010 ( $p$ -value = 0.019), 2011 ( $p$ -value = 0.006), 2012 ( $p$ -value = 0.001), and pooled data ( $p$ -value = 0.000).

**Table 5.17 CEO Duality T-Test for SEDI: 2010, 2011, 2012, and Pooled Data**

CEO Duality	n	SEDI	Standard Deviation	T-value	Sig.
2010 (n = 95)					
CEO is chairperson	48	.1084	.0501	-2.381	.019**
CEO is not chairperson	47	.1340	.0471		
2011 (n = 95)					
CEO is chairperson	53	.1244	.0497	-2.803	.006*
CEO is not chairperson	42	.1527	.0497		
2012 (n = 95)					
CEO is chairperson	53	.1330	.0536	-3.294	.001*
CEO is not chairperson	42	.1694	.0524		
Pooled data (n = 285)					
CEO is chairperson	154	.1225	.0506	-4.619	.000*
CEO is not chairperson	131	.1513	.0546		

Legend: \* significant at 1% level and \*\* significant at 5% level.

Table 5.18 provides mean SEDI for companies (71 firm-year) which were given awards (ranging between 15.58% and 19.03%) and companies (214 firm-year) which are not given awards (ranging between 11.06% and 13.38%). Independent sample t-test between those two groups for equality of means indicates that there are statistically significant ( $p$ -value = 0.000) differences in the extent of SEDI in 2010, 2011, 2012, and pooled data. Indian TA companies that obtain internationally recognised awards consistently provide higher SED in their annual reports.

**Table 5.18 Award Obtained T-Test for SEDI: 2010, 2011, 2012, and Pooled Data**

Award Obtained	n	SEDI	Standard Deviation	T-value	Sig.
2010 (n = 95)					
Have internationally recognised award	22	.1558	.0618	3.700	.000*
Not have internationally recognised award	73	.1106	.0462		
2011 (n = 95)					
Have internationally recognised award	23	.1739	.0550	4.398	.000*
Not have internationally recognised award	72	.1251	.0431		
2012 (n = 95)					
Have internationally recognised award	26	.1903	.0508	4.906	.000*
Not have internationally recognised award	69	.1338	.0497		
Pooled data (n = 285)					
Have internationally recognised award	71	.1743	.0568	6.865	.000*
Not have internationally recognised award	214	.1230	.0418		

Legend: \* significant at 1% level.

The following two sub-sections provide more detailed breakdown and analysis of the social and then the environmental categories.

### 5.3.3.1 Mean Differences in Social Disclosure Practices

Table 5.19 displays different means between companies that supply branded TA products (mean ranging between 13.00% and 16.97%) and those which do not have branded products (mean ranging lower between 7.88% and 9.93%) in terms of

social disclosure (SEDs) practices. The t-test for equality of means indicates that there are statistically significant differences in the extent of SEDIs over the three year period and for pooled data ( $p = 0.000$ ). Companies that supply internationally recognised branded TA products consistently provide higher level of social disclosures in their annual reports.

**Table 5.19 Brand Development T-Test for SEDIs: 2010, 2011, 2012, and Pooled Data**

Brand Development	n	SEDIs	Standard Deviation	T-value	Sig.
2010 (n = 95)					
Supplier of branded TA products	20	.1300	.0511	3.672	.000*
Not a supplier of branded TA products	75	.0788	.0446		
2011 (n = 95)					
Supplier of branded TA products	24	.1490	.0565	4.937	.000*
Not a supplier of branded TA products	71	.0913	.0453		
2012 (n = 95)					
Supplier of branded TA products	25	.1697	.0532	5.417	.000*
Not a supplier of branded TA products	70	.0993	.0546		
Pooled data (n = 285)					
Supplier of branded TA products	69	.1510	.0554	8.149	.000*
Not a supplier of branded TA products	216	.0896	.0488		

Legend: \* significant at 1% level.

As presented in Table 5.20, there is an increasing trend in regard to the communication of social information by Indian textile and apparel (TA) listed companies both for sample companies having an independent audit committee (mean ranging between 9.48% and 12.43%) and the those that do not have an independent audit committee (mean ranging between 8.06% and 10.46%). T-test results indicate that companies with an independent audit committee statistically significantly disclose (*p*-value ranging from 0.004 to 0.099) more social information in their annual reports over the three year period compared to those without independent audit committees.

**Table 5.20 Audit Committee Independence T-Test for SEDIs: 2010, 2011, 2012, and Pooled Data**

<b>Audit Committee Independence</b>	<b>n</b>	<b>SEDIs</b>	<b>Standard Deviation</b>	<b>T-value</b>	<b>Sig.</b>
2010					
Have independent audit committee	60	.0948	.0547	1.329	.099***
No independent audit committee	35	.0806	.0410		
2011					
Have independent audit committee	63	.1125	.0569	1.667	.089***
No independent audit committee	32	.0930	.0455		
2012					
Have independent audit committee	64	.1243	.0683	1.653	.070***
No independent audit committee	31	.1046	.0459		
Pooled data					
Have independent audit committee	187	.1108	.0614	2.915	.004*
No independent audit committee	98	.0922	.0447		

Legend: \* significant at 1% level, \* significant at 5% level and \*\*\* significant at 10% level.



In regard to social disclosure (SEDs), Table 5.21 shows that companies practicing CEO duality consistently communicate less social information in their annual reports over time (mean ranging from 10.84% in 2010, 9.35% in 2011, 10.02% in 2012, and 9.17% for pooled data) compared to those that have a more independent leadership structure (mean ranging from 13.40% in 2010, 12.16% in 2011, 14.02% in 2012, and 11.94% for pooled data). There are statistically significant differences between those two groups on the extent of SEDIs in 2010 ( $p$ -value = 0.077), 2011 ( $p$ -value = 0.011), 2012 ( $p$ -value = 0.002), and pooled data ( $p$ -value = 0.000).

**Table 5.21 CEO Duality T-Test for SEDIs: 2010, 2011, 2012, and Pooled Data**

CEO Duality	N	SEDIs	Standard Deviation	T-value	Sig.
2010 (n = 95)					
CEO is chairperson	48	.1084	.0453	-1.787	.077***
CEO is not chairperson	47	.1340	.0584		
2011 (n = 95)					
CEO is chairperson	53	.0935	.0551	-2,589	.011**
CEO is not chairperson	42	.1216	.0493		
2012 (n = 95)					
CEO is chairperson	53	.1002	.0588	-3.261	.002*
CEO is not chairperson	42	.1402	.0600		
Pooled data (n = 285)					
CEO is chairperson	154	.0917	.0536	-4.207	.000*
CEO is not chairperson	131	.1194	.0571		

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level.

Table 5.22 presents the differences in means of social disclosure index (SEDIs) between companies which obtain internationally recognised awards (ranging from 10.90% in 2010, 13.81% in 2011, 15.64% in 2012, and 13.58% for pooled data) and those which do not obtain awards (ranging from 8.37% in 2010, 9.56% in 2011, 10.33% in 2012, and 9.40% for pooled data). Indian TA companies that obtain internationally recognised awards consistently communicate higher social information in their annual reports over the three year sample period.

**Table 5.22 Award Obtained T-Test for SEDIs 2010, 2011, 2012, and Pooled Data**

Award Obtained	n	SEDIs	Standard Deviation	T-value	Sig.
2010 (n = 95)					
Have internationally recognised award	22	.1090	.0635	2.110	.038**
Not have internationally recognised award	73	.0837	.0445		
2011 (n = 95)					
Have internationally recognised award	23	.1381	.0645	2.922	.007*
Not have internationally recognised award	72	.0956	.0465		
2012 (n = 95)					
Have internationally recognised award	26	.1564	.0570	3.976	.000*
Not have internationally recognised award	69	.1033	.0582		
Pooled data (n = 285)					
Have internationally recognised award	71	.1358	.0637	5.020	.000*
Not have internationally recognised award	214	.0940	.0504		

Legend: \* significant at 1% level and \*\* significant at 5% level.

Univariate analysis shows that Indian TA firms with brand involvement, independent audit committees, split CEO arrangement and award certification fundamentally communicate more social-based information in their annual reports.

### 5.3.3.2 Mean Differences in Environmental Disclosure Practices

As shown in Table 5.23, there is an increasing trend in regard to the communication of environmental information by companies both for sample companies actively involved with producing international brands (mean ranging from 19.69% in 2010, 21.48% in 2011, 23% in 2012, and 21.51% for pooled data) and those which do not produce international brands (mean ranging from 15.71% in 2010, 16.90% in 2011, 18.03% in 2012, and 16.85% for pooled data). Indian TA firms supplying internationally recognised branded TA products statistically significantly disclose more environmental information in their annual reports.

**Table 5.23 Brand Development T-Test for SEDIe: 2010, 2011, 2012, and Pooled Data**

Brand Development	n	SEDIe	Standard Deviation	T-value	Sig.
2010 (n = 95)					
Supplier of branded TA products	20	.1969	.0907	2.077	.041**
Not a supplier of branded TA products	75	.1571	.0719		
2011 (n = 95)					
Supplier of branded TA products	24	.2148	.0640	3.260	.002*
Not a supplier of branded TA products	71	.1690	.0579		
2012 (n = 95)					
Supplier of branded TA products	25	.2300	.0698	3.231	.002*
Not a supplier of branded TA products	70	.1803	.0645		
Pooled data (n = 285)					
Supplier of branded TA products	69	.2151	.0747	4.960	.000*
Not a supplier of branded TA products	216	.1685	.0656		

Legend: \* significant at 1% level and \*\* significant at 5% level.

Table 5.24 displays the SEDIE means between companies with an independent audit committee (ranging from 18.38% in 2010, 19.34% in 2011, 20.26% in 2012, and 19.35% for pooled data) and those that do not have an independent audit committee (ranging from 13.39% in 2010, 15.53% in 2011, 17.44% in 2012, and 15.37% for pooled data). Indian TA firms that have an independent audit committee communicate more extensive environmental disclosures in their annual reports.

**Table 5.24 Audit Committee Independence T-Test for SEDIE: 2010, 2011, 2012, and Pooled Data**

<b>Audit Committee Independence</b>	<b>n</b>	<b>SEDIE</b>	<b>Standard Deviation</b>	<b>T-value</b>	<b>Sig.</b>
2010 (n = 95)					
Have independent audit committee	60	.1838	.0791	3.173	.002*
No independent audit committee	35	.1339	.0641		
2011 (n = 95)					
Have independent audit committee	63	.1934	.0569	2.924	.004*
No independent audit committee	32	.1553	.0661		
2012 (n = 95)					
Have independent audit committee	64	.2026	.0704	1.892	.062***
No independent audit committee	31	.1744	.0634		
Pooled data (n = 285)					
Have independent audit committee	187	.1935	.0693	4.681	.000*
No independent audit committee	98	.1537	.0660		

Legend: \* significant at 1% level and \*\*\* significant at 10% level.

Table 5.25 presents the differences of means of environmental disclosure (SEDiE) between companies with a dual CEO structure (ranging from 14.78% in 2010, 16.80% in 2011, 17.95% in 2012, and 16.58% for pooled data) and those which do not have a dual structure (ranging from 18.35% in 2010, 19.64% in 2011, 20.48% in 2012, and 19.63% for pooled data). There are statistically significant differences in the extent of SEDiE over time. Indian TA companies characterized by CEO duality consistently provide less environmental information in their annual reports.

**Table 5.25 CEO Duality T-Test for SEDiE: 2010, 2011, 2012, and Pooled Data**

CEO Duality	n	SEDiE	Standard Deviation	T-value	Sig.
2010 (n = 95)					
CEO is chairperson	48	.1478	.0699	-2.297	.024**
CEO is not chairperson	47	.1835	.0812		
2011 (n = 95)					
CEO is chairperson	53	.1680	.0598	-1.925	.057***
CEO is not chairperson	42	.1964	.0629		
2012 (n = 95)					
CEO is chairperson	53	.1795	.0656	-2.244	.027**
CEO is not chairperson	42	.2048	.0722		
Pooled data (n = 285)					
CEO is chairperson	154	.1658	.0663	-3.716	.000*
CEO is not chairperson	131	.1963	.0722		

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level.

As summarised in Table 5.26, there is an increasing trend in regard to the communication of environmental information by companies that obtain internationally recognised awards (mean ranging from 22.16% in 2010, 22.42% in 2011, 23.80% in 2012, and 22.84% for pooled data) and for those without awards (mean ranging from 14.85% in 2010, 16.66% in 2011, 17.66% in 2012, and 16.37% for pooled data). Indian TA companies with awards statistically significant communicate more environmental information in their annual reports over time ( $p$ -value = 0.000).

**Table 5.26 Award Obtained T-Test for SEDIE 2010, 2011, 2012, and Pooled Data**

Award Obtained	n	SEDIE	Standard Deviation	T-value	Sig.
2010 (n = 95)					
Have internationally recognised award	22	.2216	.0758	4.207	.000*
Not have internationally recognised award	73	.1485	.0700		
2011 (n = 95)					
Have internationally recognised award	23	.2242	.0554	4.161	.000*
Not have internationally recognised award	72	.1666	.0583		
2012 (n = 95)					
Have internationally recognised award	26	.2380	.0599	4.177	.000*
Not have internationally recognised award	69	.1766	.0651		
Pooled data (n = 285)					
Have internationally recognised award	71	.2284	.0635	7.273	.000*
Not have internationally recognised award	214	.1637	.0654		

Legend: \* significant at 1% level.

Results of univariate analysis indicate that Indian TA firms with brand development, independent audit committees, separate leadership structure and award obtained essentially provide more environmental disclosure in their annual reports.

## 5.4 Summary

This chapter discusses the results of descriptive statistics and univariate analyses for the dependent, independent and control variables. The first research question of this thesis is ‘to what extent do Indian textile and apparel (TA) listed companies provide voluntary social and environmental disclosure in their annual reports?’ The analysis provided herein reveals that there is an increasing trend (ranging between 12.11% and 14.92%) in the communication of social and environmental information in the annual reports of Indian TA companies over the 2010-2012 period. However, in spite of such an upward trend, the results consistently highlight a low extent of SED communication over the three year period with an overall mean of social and environmental disclosure index (SEDI) of 13.57%. The analysis of SED sub-categories reveals that most Indian TA listed companies commonly communicate social information relating to ‘labour practices and decent work’ while disclosure of ‘human rights’ is virtually none-existent with overall means of 19.33% and <1%, respectively. In regard to the environmental disclosure sub-categories, the results show that ‘energy’ is the highest sub-category of information disclosed in the annual reports of companies over time with the overall mean of 55.73%. The lowest environmental disclosure sub-categories of information disclosed are ‘emissions, effluents and waste’ with an overall mean about 6% while ‘water and biodiversity’ is by far the least disclosed category with the overall mean less than 2%.

In regard to the fourth research question of this thesis: ‘does the extent of social disclosure differ from environmental disclosure?’, the results indicate that, on average, firms provide more environmental disclosures compared to social disclosures over the 2010-2012 period. The mean of social disclosure index (SEDI) ranges between 8.95% and 11.78% with the overall mean of 10.44% suggesting a low extent of social disclosure practices by Indian TA listed firms. Similar the results also indicate a low extent of environmental disclosure over the three year sample period. Yet environmental disclosures are consistently higher than their social counterparts. The mean of environmental disclosure index (SEDIe) ranges between 16.54% and 19.34% with the overall mean of 17.98%. The results of paired samples t-test provide evidence that Indian textile and apparel (TA) listed companies

statistically significant communicate more environmental information than social information on their annual reports over the three year period.

The next chapter reports the multivariate regression analysis in order to answer the second and third research questions of this thesis in regard to the hypothesised association between corporate characteristics (firm size, brand development, profitability, and award obtained) and corporate governance attributes (board independence, ownership concentration, audit committee independence and CEO duality) and the extent of social and environmental disclosure (SED).



# CHAPTER 6 : MULTIVARIATE STATISTICS

## 6.1 Introduction

Chapter 5 reported the descriptive statistics and univariate analyses of the dependent and predictor variables. Chapter 6 now reveals the results of inferential statistical analysis. Ordinary Least Square (OLS) regression analysis assists in finding answers relating to the second, third, and fourth research questions. To recap, the second research question thesis is: What is the relationship between corporate characteristics (i.e. firm size, brand development, profitability and award obtained) and the extent of social and environmental disclosure (SED) of Indian textile and apparel (TA) listed companies? The third research question covers: What is the relationship between corporate governance attributes (i.e. board independence, ownership concentration, audit committee independence and CEO duality) and the extent of SED of Indian TA listed companies? The univariate analysis noted in Chapter 5 provides evidence that Indian textile and apparel (TA) listed companies communicate more environmental information than social information on their annual reports. This chapter will also address the last part of fourth research question: What characteristics help explain these differences?

The remainder of this chapter is organised as follows: Section 6.2 presents the multivariate regression model to test the four hypotheses developed based on the legitimacy theory tenets as outlined in Chapter 3. Sections 6.3 and 6.4 report the correlation analysis and multiple regression results. This chapter also extends the discussion by providing additional multivariate analysis for social disclosure (SEDs) and environmental disclosure (SEDe). The final section provides a summary of key findings of this chapter.

## 6.2 Multivariate Regression Model

The base OLS regression model tests the association between firm size (FSIZE), brand development (BRAND), board independence (BIND) and ownership concentration (OWN) and SEDI controlling for audit committee independence

(ACIND), CEO duality (DUAL), profitability (PROFIT) and award obtained (AWARD). The use of OLS is consistent with the key past studies in this area. Time series analysis is not used because of data size and time period constraints. The following ordinary least squares (OLS) regression equation model is performed for each sample year to test the hypotheses:

$$SEDI_{it} = \beta_0 + \beta_1 FSIZE_{it} + \beta_2 BRAND_{it} + \beta_3 BIND_{it} + \beta_4 OWN_{it} + \beta_5 ACIND_{it} + \beta_6 DUAL_{it} + \beta_7 PROFIT_{it} + \beta_8 AWARD_{it} + \varepsilon_{it} \quad [1]$$

A pooled OLS regression model incorporates year effects. The estimate of pooled regression equation is as follows:

$$SEDI_{it} = \beta_0 + \beta_1 FSIZE_{it} + \beta_2 BRAND_{it} + \beta_3 BIND_{it} + \beta_4 OWN_{it} + \beta_5 ACIND_{it} + \beta_6 DUAL_{it} + \beta_7 PROFIT_{it} + \beta_8 AWARD_{it} + \beta_{9-11} YEAR_{it} + \varepsilon_{it} \quad [2]$$

where:

SEDI	=	Extent of social and environmental disclosure by company i in period t;
FSIZE	=	Natural log of total assets;
BRAND	=	Supplier of branded TA product (1 = yes, 0 = no);
BIND	=	Number of independent non-executive board members divided by total number of board members;
OWN	=	Promoter ownership;
ACIND	=	More than two-thirds of audit committee members is independent non-executive directors (1 = yes, 0 = no);
DUAL	=	Position of CEO and chairman occupied by same person (1 = yes, 0 = no);
PROFIT	=	Net income (net loss) divided by total assets (ROA);
AWARD	=	Award obtained (1 = yes, 0 = no);
YEAR	=	Dummy variable, coded 1 if the year falls within the specific year category (i.e. 2010, 2011 or 2012), otherwise 0;
$\varepsilon$	=	Error term.

### 6.3 Correlation Analysis and Model Validity

It is essential to assess the validity of the models before interpreting the regression results (Tabachnick and Fidell 2007). For instance, multicollinearity is considered to be a potential problem when performing multivariate analysis. This concept refers to the relationship amongst the independent variables. Multicollinearity is considered to be a serious problem in multiple regression

analysis if those variables are highly correlated with a bivariate correlation of 0.7 or higher (Tabachnick and Fidell 2007; Pallant 2011).

Table 6.1 provides the correlation matrix for all variables. In regards to the relationship between the predictor variables, the highest correlation coefficient is between brand development (BRAND) and award obtained (AWARD) in the 2010 year with a correlation coefficient of 0.390 (Panel A), 0.407 in 2011 (Panel B), and 0.437 in 2012 (Panel C), and for the pooled data, the correlation coefficient is only 0.413 (Panel D). As all coefficients are below 0.7, multicollinearity is not considered to be an issue (Tabachnick and Fidell 2007; Pallant 2011).

**Table 6.1 SEDI Pearson Correlation**

<b>Panel A (2010)</b>	<b>SEDI</b>	<b>FSIZE</b>	<b>BRAND</b>	<b>BIND</b>	<b>OWN</b>	<b>ACIND</b>	<b>DUAL</b>	<b>PROFIT</b>	<b>AWARD</b>
<b>SEDI</b>	1.000								
<b>FSIZE</b>	.652*	1.000							
<b>BRAND</b>	.356*	.365*	1.000						
<b>BIND</b>	-.107	-.145	-.052	1.000					
<b>OWN</b>	-.033	-.158	.058	0.83	1.000				
<b>ACIND</b>	.263 *	.158	.073	.349*	-.006	1.000			
<b>DUAL</b>	-.240**	-.187	.046	.209**	.011	-.145	1.000		
<b>PROFIT</b>	.147	-.017	.041	.176	.163	.073	.039	1.000	
<b>AWARD</b>	.358*	.308*	.390*	.024	-.014	.109	-.056	-.098	1.000

Legend: \* significant at 1% level and \*\* significant at 5% level.

**Table 6.1 (Continued)**

<b>Panel B (2011)</b>	<b>SEDI</b>	<b>FSIZE</b>	<b>BRAND</b>	<b>BIND</b>	<b>OWN</b>	<b>ACIND</b>	<b>DUAL</b>	<b>PROFIT</b>	<b>AWARD</b>
<b>SEDI</b>	1.000								
<b>FSIZE</b>	.747*	1.000							
<b>BRAND</b>	.456*	.366*	1.000						
<b>BIND</b>	-.061	-.080	.047	1.000					
<b>OWN</b>	-.027	-.157	.040	.148	1.000				
<b>ACIND</b>	.256**	.193	.158	.333*	-.033	1.000			
<b>DUAL</b>	-.279*	-.227**	-.019	.153	.051	-.141	1.000		
<b>PROFIT</b>	.287*	.105	.091	-.130	.127	.051	-.055	1.000	
<b>AWARD</b>	.415*	.256*	.407*	.181	.002	.039	.008	-.021	1.000

Legend: \* significant at 1% level and \*\* significant at 5% level.

**Table 6.1 (Continued)**

<b>Panel C (2012)</b>	<b>SEDI</b>	<b>FSIZE</b>	<b>BRAND</b>	<b>BIND</b>	<b>OWN</b>	<b>ACIND</b>	<b>DUAL</b>	<b>PROFIT</b>	<b>AWARD</b>
<b>SEDI</b>	1.000								
<b>FSIZE</b>	.701*	1.000							
<b>BRAND</b>	.490*	.360*	1.000						
<b>BIND</b>	.013	.081	.147	1.000					
<b>OWN</b>	-.054	-.100	.112	.005	1.000				
<b>ACIND</b>	.196	.087	.263**	.431*	-.061	1.000			
<b>DUAL</b>	-.323*	-.232**	.003	.140	.035	-.032	1.000		
<b>PROFIT</b>	.212*	.119	.163	.042	-.063	-.065	.070	1.000	
<b>AWARD</b>	.453*	.320*	.437*	.178	.012	.024	-.024	.047	1.000

Legend: \* significant at 1% level and \*\* significant at 5% level.

**Table 6.1 (Continued)**

<b>Panel D (Pooled)</b>	<b>SEDI</b>	<b>FSIZE</b>	<b>BRAND</b>	<b>BIND</b>	<b>OWN</b>	<b>ACIND</b>	<b>DUAL</b>	<b>PROFIT</b>	<b>AWARD</b>	<b>YEAR</b>
<b>SEDI</b>	1.000									
<b>FSIZE</b>	.694*	1.000								
<b>BRAND</b>	.436*	.365*	1.000							
<b>BIND</b>	-.056	-.049	.046	1.000						
<b>OWN</b>	-.030	-.136**	.071	.080	1.000					
<b>ACIND</b>	.240*	.147**	.168*	.367*	-.032	1.000				
<b>DUAL</b>	-.265*	-.212*	.012	.167*	.010	-.104	1.000			
<b>PROFIT</b>	.177*	.071	.100	.032	.100	.007	.019	1.000		
<b>AWARD</b>	.409*	.296*	.413*	.125**	.002	.058	-.022	.020	1.000	
<b>YEAR</b>	.212*	.055	.050	-.026	.035	.036	.043	-.147**	.040	1.000

Legend: \* significant at 1% level and \*\* significant at 5% level.

In Table 6.1 (Panels A-D), there is a positive and statistically highly significant correlation ( $p = 0.010$ ) between firm size (FSIZE) and SEDI for each of the 2010, 2011 and 2012 years and for pooled data. FSIZE typically has correlation coefficients about 0.7 for all years. The correlation between brand development (BRAND) and SEDI is statistically significant ( $p = 0.010$ ) for each year with correlation coefficient of 0.356 in 2010, 0.456 in 2012, 0.490 in 2012 and 0.436 for pooled data. The directionality of correlation coefficients is consistent for all years; there is a positive correlation between BRAND and SEDI. There is an insignificant correlation between board independence (BIND) and SEDI for each year and for pooled data. The directionality of correlations between BIND and SEDI is opposite to that hypothesised. Ownership concentration (OWN) is not significantly associated with SEDI over each of the three years and for pooled data. The directionality of correlation between OWN and SEDI is consistent with that hypothesised.

In regard to the correlation between control variables and SEDI, as summarised in Table 6.1 (Panels A-D), audit committee independence (ACIND) has a positive and statistically significant correlation ( $p \leq 0.050$ ) with SEDI for all years (except for 2012). Correlations between CEO duality (DUAL) and SEDI are negative and statistically significant ( $p \leq 0.050$ ) for all years and pooled data. There is a positive and statistically significant correlation ( $p = 0.010$ ) between profitability (PROFIT) and SEDI in 2011, 2012 and pooled data whereas no statistically significant correlation is found between those two variables in 2010. Award obtained (AWARD) has a positive and significantly high correlation ( $p = 0.010$ ) with the SEDI for all periods. For pooled data, there is a positive and statistically significant correlation ( $p = 0.010$ ) between year (YEAR) and SEDI.

Table 6.2 provides the results of normality test regressions to address another statistical problem. The normality test regression is conducted by assessing skewness and kurtosis ratios (statistic value divided by standard error value) of unstandardized residual. The ratios of both skewness and kurtosis are between -2 and +2 for all the periods studied. The results indicate that the data in 2010, 2011, 2012 and pooled data are normally distributed (Pallant 2011). Details of classical multiple regression assumption tests (i.e. normality, linearity, multicollinearity and homoscedasticity) are presented in Appendix C.



**Table 6.2 Normality Test Regressions: 2010, 2011, 2012 and Pooled Data**

	Skewness			Kurtosis		
	Statistic	Std. Error	Ratio	Statistic	Std. Error	Ratio
2010 (n = 95) Unstandardized residual	0.302	0.247	1.222	0.298	0.490	0.608
2011 (n = 95) Unstandardized residual	0.105	0.247	0.425	-0.295	0.490	-0.602
2012 (n = 95) Unstandardized residual	0.445	0.247	1.806	0.870	0.490	1.775
Pooled data (n = 285) Unstandardized residual	0.265	0.144	1.840	0.574	0.288	1.993

#### **6.4 Multiple Regression Results: Hypotheses Testing**

In order to gain valuable insights on the social and environmental disclosure (SED) practices by Indian textile and apparel (TA) listed companies, this study conducts OLS regression for each of the 2010, 2011, 2012 years and for the pooled data set (2010-2012). Table 6.3 summaries the multiple regression results designed to test the four hypotheses. Panel regressions avoid the potential problem of repeated measure bias.

**Table 6.3 SEDI Multiple Regression Analysis (2010, 2011, 2012, and Pooled)**

		2010			2011			2012			Pooled Data		
<b>Adjusted R<sup>2</sup></b>		.485			.672			.630			.625		
<b>F value</b>		12.082			25.109			20.985			53.575		
<b>F significance</b>		0.000*			0.000*			0.000*			0.000*		
<b>n</b>		95			95			95			285		
	<b>Predicted Sign</b>	<b>Coeff</b>	<b>T- stat</b>	<b>p-value</b>	<b>Coeff</b>	<b>T-stat</b>	<b>p-value</b>	<b>Coeff</b>	<b>T-stat</b>	<b>p-value</b>	<b>Coeff</b>	<b>T-stat</b>	<b>p-value</b>
<b>Intercept</b>		-.271	-3.550	.001	-.279	-5.119	.000	-.181	-2.987	.004	-.270	-7.479	.000
<b>FSIZE</b>	+	.520	6.064	.000*	.582	8.527	.000*	.501	6.938	.000*	.518	12.404	.000*
<b>BRAND</b>	+	.081	.942	.349	.111	1.622	.075***	.166	2.133	.036**	.117	2.737	.007*
<b>BIND</b>	+	-.101	-1.193	.236	-.065	-.961	.339	-.145	-2.000	.049**	-.095	-2.317	.021**
<b>OWN</b>	-	.029	.378	.706	.054	.877	.383	-.030	-.461	.646	.002	.592	.555
<b>ACIND</b>	+	.166	1.998	.049**	.115	1.727	.088***	.167	2.262	.026**	.146	3.582	.000*
<b>DUAL</b>	-	-.099	-1.247	.216	-.113	-1.815	.073***	-.187	-2.818	.006*	-.132	-3.429	.001*
<b>PROFIT</b>	+	.174	2.260	.026**	.196	3.161	.002*	.146	2.262	.026**	.162	4.328	.000*
<b>AWARD</b>	+	.163	1.963	.053***	.233	3.476	.001*	.232	3.173	.003*	.203	4.934	.000*
<b>YEAR</b>	+										.190	5.120	.000*

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level.

As presented in Table 6.3, all four regression models are highly significant ( $p$ -value = 0.000) suggesting that the models are robust. The explanatory power of all four models, as indicated by the value of adjusted  $R^2$ , ranges from 48.5% in 2010, 67.2% in 2011, 63.0% in 2012 and 62.5% for pooled sample data. This provides evidence that the models explain a substantial percentage of variation in the extent of SEDI. This explanatory power is higher when compared to the regression results of previous voluntary social and environmental disclosure studies in developing countries (e.g. Nurhayati et al. 2006; Khan 2010; Monteiro and Aibar-Guzmán 2010; Mukherjee et al. 2010; Mahadeo et al. 2011; Andrikopoulos and Krikilani 2013).

Hypothesis H1 states that there is a positive association between firm size and the extent of SEDI by Indian TA companies. Table 6.3 provides confirmatory evidence that there is a positive and statistically significant association between firm size and the extent of SEDI for each of the three years and for pooled data ( $p$ -value = 0.000). Hence, H1 is supported. This finding is largely consistent with previous voluntary disclosure practices (e.g. Meek et al. 1995; Hackston and Milne 1996; Williams 1999; Cormier and Gordon 2001; Cormier and Magnan 2003; Haniffa and Cooke 2005; Nurhayati et al. 2006; Braco and Rodrigues 2008; Das 2009; Hossain and Reaz 2007; Pahuja 2009; Reverte 2009; Khan 2010; Tower et al. 2011; Mahadeo et al. 2011; Chu et al. 2013). The finding of positive association between firm size and voluntary social and environmental disclosure supports legitimacy theory tenets. Larger firms generally provide more social (and environmental) disclosure as they gain more attention from various groups in society to provide such reporting and legitimise their business operations (Muttakin and Khan 2014). This is because larger firms have a perceived greater responsibility to release more voluntary information to their stakeholders (Cooke 1991) as they generally have significant impacts on the society (Hackston and Milne 1996). Another potential reason is that gathering and publishing information to the public may be a less costly process for the larger firms as they have better resources to support such actions (Pahuja 2009).

A positive association is proposed between brand development of textile and apparel (TA) products and the extent of SEDI by Indian TA companies (H2). All regression results except for the 2010 regression year are statistically significant ( $p$ -value < 0.100 for 2011,  $p$ -value < 0.050 for 2012 and  $p$ -value < 0.010 for pooled data). Therefore, there is sufficient overall evidence to conclude that there is a

positive and significant association between brand development and the extent of SEDI. H2 is supported. Corporations may conduct more social activities to develop and enhance their brand and consequently corporate image (Hoeffler and Keller 2002). For instance, a study on the determinant of corporate social disclosure in Bangladesh indicates that export-oriented firms particularly clothing manufacturer firms disclose more CSR information to allay any potential concerns of their foreign buyers (Muttakin and Khan 2014). These authors argue that such corporate reporting behaviour may help the firms in attaining their legitimacy.

Hypothesis H3 proposes a positive association between the board independence and the extent of SEDI by Indian TA companies. Interestingly, the results outlined in Table 6.3 indicate a consistent negative association between those two variables. Except for 2010 and 2011, the regression results reveal a negative and statistically significant association between those two variables ( $p$ -value  $< 0.050$  for 2012 and pooled data). Since the actual direction of the association between board independence and the extent of SEDI is opposite to the predicted direction, H3 is rejected. This finding is inconsistent with the legitimacy theory perspective that advocates a positive influence of board independence and the extent of corporate voluntary disclosure. However, the negative association between these two variables is similar to the finding of Haniffa and Cooke (2002) and Eng and Mak (2003). The most influential factor accounts for this inconsistent finding may be the fact that Indian textile and apparel (TA) firms typically have a dual leadership structure that may impede the effectiveness of independent board members to supervise the decisions made by the management including decision in communicating voluntary social and environmental information. Another potential reason for this finding may be the lack of mechanisms for ensuring the enforcement of guidelines by the SEBI in regard to the characteristics for independent directors of listed firms. The lack of such enforcement may detract from a supposedly independent board to act independently and effectively in monitoring the management.

Hypothesis H4 proposes a negative association between the extent of ownership concentration and the extent of SEDI by Indian TA companies. Results for all regression models indicate there is no statistically significant association between the extent of ownership concentration and the extent of SEDI ( $p$ -value  $> 0.050$ ). Consequently, H4 is rejected. Although this finding is not expected, it is in

line with previous voluntary disclosure studies (Eng and Mak 2003; Nurhayati et al. 2006; Reverte 2009; Said et al. 2009; Tagesson et al. 2009; Jindal and Kumar 2012). One potential reason behind such an insignificant association between ownership concentration and the extent of social and environmental disclosure is that concentrated family owners tend to less concern about public accountability and organisational legitimacy (Muttakin and Khan 2014).

The control variables (audit committee independence, CEO duality, profitability and award obtained) are generally significantly associated with SED. Table 6.3 reveals that except for CEO duality in the 2010 year, there is statistically significant association between all of the control variables and SED. Similar results are also found for the pooled data. All control variables including year are statistically associated ( $p$ -value  $\leq 0.010$ ) with the extent of SEDI.

## 6.5 Multiple Regression Results: Social and Environmental Categories

The two major categories of SED essentially cover two completely different aspects of business' activities reflecting on the disclosure of social and environmental information on the corporate annual reports. Therefore, exploring potential variation of predictors for each category is essential for gaining further insight on SED. This section presents the results of multiple regression for social disclosure (SEDs) and environmental disclosure (SEDe) separately in order to address the fourth research question in regard to factors that help in explaining the differences between those two themes.

### 6.5.1 Multiple Regression Results: SEDIs

In order to test the association between predictor variables and the extent social disclosure (measured as social disclosure index (SEDIs)), the following ordinary least squares (OLS) regression equation model is performed for each year:

$$SEDIs_{it} = \beta_0 + \beta_1 FSIZE_{it} + \beta_2 BRAND_{it} + \beta_3 BIND_{it} + \beta_4 OWN_{it} + \beta_5 ACIND_{it} + \beta_6 DUAL_{it} + \beta_7 PROFIT_{it} + \beta_8 AWARD_{it} + \varepsilon_{it} \quad [3]$$

A pooled OLS regression model incorporates year effects. The estimate of pooled regression equation is as follows:

$$\begin{aligned}
 \mathbf{SEDI}_{it} = & \beta_0 + \beta_1 \mathbf{FSIZE}_{it} + \beta_2 \mathbf{BRAND}_{it} + \beta_3 \mathbf{BIND}_{it} + \beta_4 \mathbf{OWN}_{it} + \beta_5 \mathbf{ACIND}_{it} \\
 & + \beta_6 \mathbf{DUAL}_{it} + \beta_7 \mathbf{PROFIT}_{it} + \beta_8 \mathbf{AWARD}_{it} + \beta_{9-11} \mathbf{YEAR}_{it} + \varepsilon_{it} \quad [4]
 \end{aligned}$$

where:

SEDI <sub>s</sub>	=	Extent of social disclosure by company i in period t;
FSIZE	=	Natural log of total assets;
BRAND	=	Supplier of branded TA product (1 = yes, 0 = no);
BIND	=	Number of independent non-executive board members divided by total number of board members;
OWN	=	Promoter ownership;
ACIND	=	More than two-thirds of audit committee members is independent non-executive directors (1 = yes, 0 = no);
DUAL	=	Position of CEO and chairman occupied by same person (1 = yes, 0 = no);
PROFIT	=	Net income (net loss) divided by total assets (ROA);
AWARD	=	Award obtained (1 = yes, 0 = no);
YEAR	=	Dummy variable, coded 1 if the year falls within the specific year category (i.e. 2010, 2011 or 2012), otherwise 0;
ε	=	Error term.

Table 6.4 (Panels A-D) presents a correlation matrix for social disclosure measured by the social disclosure index (SEDI<sub>s</sub>) and its predictor variables for each of the three years and for pooled data. The highest correlation coefficients of about 0.4 are consistently between brand development (BRAND) and award obtained (AWARD) for all years. These correlation coefficients are all below the benchmark score (i.e. 0.7). As a result, multicollinearity is not considered to be a problem for the regression model of SEDI<sub>s</sub> (Tabachnick and Fidell 2007; Pallant 2011).

**Table 6.4 SEDIs Pearson Correlation**

<b>Panel A (2010)</b>	<b>SEDIs</b>	<b>FSIZE</b>	<b>BRAND</b>	<b>BIND</b>	<b>OWN</b>	<b>ACIND</b>	<b>DUAL</b>	<b>PROFIT</b>	<b>AWARD</b>
<b>SEDIs</b>	1.000								
<b>FSIZE</b>	.559*	1.000							
<b>BRAND</b>	.417*	.365*	1.000						
<b>BIND</b>	-.094	-.145	-.052	1.000					
<b>OWN</b>	-.038	-.158	.058	.083	1.000				
<b>ACIND</b>	.137	.158	.073	.349*	-.006	1.000			
<b>DUAL</b>	-.182	-.187	.046	.209**	.011	-.145	1.000		
<b>PROFIT</b>	.239**	-.017	.041	.173	.163	.073	.039	1.000	
<b>AWARD</b>	.214**	.308*	.390*	.024	-.014	.109	-.056	-.098	1.000

Legend: \* significant at 1% level and \*\* significant at 5% level.

**Table 6.4 (Continued)**

<b>Panel B (2011)</b>	<b>SEDI</b> s	<b>FSIZE</b>	<b>BRAND</b>	<b>BIND</b>	<b>OWN</b>	<b>ACIND</b>	<b>DUAL</b>	<b>PROFIT</b>	<b>AWARD</b>
<b>SEDI</b> s	1.000								
<b>FSIZE</b>	.702*	1.000							
<b>BRAND</b>	.464*	.366*	1.000						
<b>BIND</b>	-.018	-.080	.047	1.000					
<b>OWN</b>	-.060	-.157	.040	.148	1.000				
<b>ACIND</b>	.170	.193	.158	.333*	-.033	1.000			
<b>DUAL</b>	-.259**	-.227**	-.019	.153	.051	-.141	1.000		
<b>PROFIT</b>	.252**	.105	.091	-.130	.127	.051	-.055	1.000	
<b>AWARD</b>	.337*	.256**	.407*	.181	.002	.039	.008	-.021	1.000

Legend: \* significant at 1% level and \*\* significant at 5% level.



**Table 6.4 (Continued)**

<b>Panel C (2012)</b>	<b>SEDI</b> s	<b>F</b> SIZE	<b>B</b> RAND	<b>B</b> IND	<b>O</b> WN	<b>A</b> CIND	<b>D</b> UAL	<b>P</b> ROFIT	<b>A</b> WARD
<b>SEDI</b> s	1.000								
<b>F</b> SIZE	.592*	1.000							
<b>B</b> RAND	.500*	.360*	1.000						
<b>B</b> IND	.055	.081	.147	1.000					
<b>O</b> WN	-.061	-.100	.112	.005	1.000				
<b>A</b> CIND	.148	.087	.263**	.431*	-.061	1.000			
<b>D</b> UAL	-.320*	-.232**	.003	.140	-.035	-.032	1.000		
<b>P</b> ROFIT	.287*	.119	.163	.042	.063	-.065	.070	1.000	
<b>A</b> WARD	.381*	.320*	.437*	.178	.012	.024	-.024	.047	1.000

Legend: \* significant at 1% level and \*\* significant at 5% level.

**Table 6.4 (Continued)**

<b>Panel D (Pooled)</b>	<b>SEDI</b> s	<b>F</b> SIZE	<b>B</b> RAND	<b>B</b> IND	<b>O</b> WN	<b>A</b> CIND	<b>D</b> UAL	<b>P</b> ROFIT	<b>A</b> WARD	<b>Y</b> EAR
<b>SEDI</b> s	1.000									
<b>F</b> SIZE	.615*	1.000								
<b>B</b> RAND	.463*	.365*	1.000							
<b>B</b> IND	-.020	-.049	.046	1.000						
<b>O</b> WN	-.046	-.136**	.071	.080	1.000					
<b>A</b> CIND	.155*	.147**	.168*	.367*	-.032	1.000				
<b>D</b> UAL	-.243*	-.212*	.012	.167*	.010	-.104	1.000			
<b>P</b> ROFIT	.227*	.071	.100	.032	.100	.007	.019	1.000		
<b>A</b> WARD	.318*	.296*	.413*	.125**	.002	.058	-.022	-.020	1.000	
<b>Y</b> EAR	.203*	.055	.050	-.026	.035	.036	.043	-.143**	.040	1.000

Legend: \* significant at 1% level and \*\* significant at 5% level.

The results of the correlation matrix for SEDI are similar to the results for SEDI. Firm size (FSIZE) and brand development (BRAND) are positively and significantly correlated ( $p = 0.010$ ) with SEDI. Consistent with the results for SEDI, ownership concentration (OWN) and board independence (BIND) are also not significantly correlated with SEDI. There is a positive and statistically significant correlation between profitability (PROFIT) and SEDI for all years. Award obtained (AWARD) is also found to be positively and significantly correlated with SEDI for all years. For pooled data, year (YEAR) and SEDI is also found to be positively and highly significantly correlated ( $p = 0.010$ ). The difference between the results for SEDI (see Table 6.1) and SEDI (see Table 6.4) relate to the correlation between SEDI and audit committee independence (ACIND), and CEO duality (DUAL). Unlike the results for SEDI that provide consistent correlation for all years, there is a positive and statistically significant correlation between ACIND and SEDI for pooled data whereas no correlations between these variables for each year are non-significant. CEO duality (DUAL) is negatively and statistically significantly correlated with SEDI for all years (except in 2010).

As summarised in Table 6.5, all four regression models are significant ( $p$ -value = 0.000). The explanatory power (adjusted  $R^2$ ) of all four models ranges between 38.4% and 55.9%. Although still considered relatively high for explaining the variation in voluntary disclosure, the model that uses SEDI as the dependent variable has somewhat lower explanatory power than the model that uses the overall SEDI measure as the dependent variable (ranging between 48.5% and 67.2%). Multiple regression results (see Table 6.5) indicate that there is positive and statistically significant ( $p < 0.010$ ) association between firm size (FSIZE) and brand development (BRAND) and SEDI for all years and pooled data. Larger Indian textile and apparel (TA) listed firms consistently communicate more social information in their annual reports than the smaller ones. Similarly, firms having arrangement as suppliers of branded textile and apparel (TA) products also provide more social information than those which do not have such arrangement. Board independence (BIND) and ownership concentration (OWN) are not predictors for SEDI. The findings for SEDI are resemble to the main SEDI findings.

In regards to the control variables, the results of multiple regression models using SEDI (see Table 6.5) are similar as compared to the results of models using

SEDI (see Table 6.3). FSIZE and BRAND found to be significant predictors SEDIs whereas BIND and OWN have insignificant influence to social communication practices of Indian TA firms. Except for the 2010 year, all control variables are significant predictors of SED. The results of multiple regression models using SEDIs indicate that profitability (PROFIT) and CEO duality (DUAL) consistently predict SEDIs for each year. Audit committee independence (ACIND) and award obtained (AWARD) are not significant predictors for SEDIs for the 2010, 2011 and 2012 years. In regards to the pooled data, similar findings to the model using SEDI are also found. All control variables (except for ACIND) are significant predictors for extent of SEDIs whereas all control variables including year are statistically significantly associated with the extent of SEDI. Overall, the findings for social disclosure (SEDs) are very similar to those for social and environmental disclosure (SED).

**Table 6.5 SEDI's Multiple Regression Analysis (2010, 2011, 2012, and Pooled)**

		2010			2011			2012			Pooled Data		
<b>Adjusted R<sup>2</sup></b>		.384			.559			.513			.522		
<b>F value</b>		8.323			15.864			13.367			35.393		
<b>F significance</b>		0.000*			0.000*			0.000*			0.000*		
<b>n</b>		95			95			95			285		
	<b>Predicted Sign</b>	<b>Coeff</b>	<b>T- stat</b>	<b>p-value</b>	<b>Coeff</b>	<b>T-stat</b>	<b>p-value</b>	<b>Coeff</b>	<b>T-stat</b>	<b>p-value</b>	<b>Coeff</b>	<b>T-stat</b>	<b>p-value</b>
<b>Intercept</b>		-.218	-2.782	.007	-.336	-4.935	.000	-.149	-1.910	.059	-.266	-6.256	.000
<b>FSIZE</b>	+	.438	4.667	.000*	.560	7.072	.000*	.356	4.305	.000*	.436	9.235	.000*
<b>BRAND</b>	+	.248	2.651	.010*	.196	2.460	.016**	.274	3.083	.003*	.241	4.985	.000*
<b>BIND</b>	+	-.049	-.521	.604	.047	.593	.555	-.039	-.473	.637	.001	.024	.981
<b>OWN</b>	-	-.019	-.223	.824	-.003	-.048	.962	-.076	-1.030	.306	-.030	-.699	.485
<b>ACIND</b>	+	.033	.359	.720	-.016	-.207	.837	.061	.715	.477	.019	.423	.673
<b>DUAL</b>	-	-.106	-1.226	.223	-.129	-1.785	.078***	-.246	-3.221	.002*	-.162	-3.717	.000*
<b>PROFIT</b>	+	.249	2.961	.004*	.178	2.513	.014**	.221	2.979	.004*	.208	4.932	.000*
<b>AWARD</b>	+	-.002	-.021	.983	.111	1.426	.157	.137	1.639	.105	.081	1.743	.082***
<b>YEAR</b>	+										.201	4.814	.000*

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level.

### 6.5.2 Multiple Regression Results: SEDIE

The following ordinary least squares (OLS) regression equation model is performed for each year to additionally test the association between the predictor variables and the extent of environmental disclosure (measured as environmental disclosure index (SEDIE)):

$$SEDIE_{it} = \beta_0 + \beta_1 FSIZE_{it} + \beta_2 BRAND_{it} + \beta_3 BIND_{it} + \beta_4 OWN_{it} + \beta_5 ACIND_{it} + \beta_6 DUAL_{it} + \beta_7 PROFIT_{it} + \beta_8 AWARD_{it} + \varepsilon_{it} \quad [5]$$

A pooled OLS regression model incorporates year effects. The estimate of pooled regression equation is as follows:

$$SEDIE_{it} = \beta_0 + \beta_1 FSIZE_{it} + \beta_2 BRAND_{it} + \beta_3 BIND_{it} + \beta_4 OWN_{it} + \beta_5 ACIND_{it} + \beta_6 DUAL_{it} + \beta_7 PROFIT_{it} + \beta_8 AWARD_{it} + \beta_{9-11} YEAR_{it} + \varepsilon_{it} \quad [6]$$

where:

SEDIE	=	Extent of environmental disclosure by company i in period t;
FSIZE	=	Natural log of total assets;
BRAND	=	Supplier of branded TA product (1 = yes, 0 = no);
BIND	=	Number of independent non-executive board members divided by total number of board members;
OWN	=	Promoter ownership;
ACIND	=	More than two-thirds of audit committee members is independent non-executive directors (1 = yes, 0 = no);
DUAL	=	Position of CEO and chairman occupied by same person (1 = yes, 0 = no);
PROFIT	=	Net income (net loss) divided by total assets (ROA);
AWARD	=	Award obtained (1 = yes, 0 = no);
YEAR	=	Dummy variable, coded 1 if the year falls within the specific year category (i.e. 2010, 2011 or 2012), otherwise 0
$\varepsilon$	=	Error term.

Table 6.6 provides the correlation matrix of the environmental disclosure index (SEDIE) and potential explanatory variables for 2010 (Panel A), 2011 (Panel B), 2012 (Panel C) and pooled data (Panel D). As summarised in Table 6.6, similar to the results of correlation matrix for SEDI (see Table 6.1) and SEDIs (see Table 6.4), the highest correlation coefficients are consistently between brand development (BRAND) and award obtained (AWARD). The highest correlation coefficient of 0.437 is in the 2012 year which is below the threshold score for multicollinearity

issues (i.e. 0.7). Therefore, multicollinearity is not deemed to be a concern in the regression model for SEDiE (Tabachnick and Fidell 2007; Pallant 2011).

**Table 6.6 SEDIE Pearson Correlation**

<b>Panel A (2010)</b>	<b>SEDIE</b>	<b>FSIZE</b>	<b>BRAND</b>	<b>BIND</b>	<b>OWN</b>	<b>ACIND</b>	<b>DUAL</b>	<b>PROFIT</b>	<b>AWARD</b>
<b>SEDIE</b>	1.000								
<b>FSIZE</b>	.572*	1.000							
<b>BRAND</b>	.211**	.365*	1.000						
<b>BIND</b>	-.092	-.145	-.052	1.000					
<b>OWN</b>	-.020	-.158	.058	.083	1.000				
<b>ACIND</b>	.313*	.158*	.073	.349*	-.006	1.000			
<b>DUAL</b>	-.232**	-.187	.046	.209**	.011	-.145	1.000		
<b>PROFIT</b>	.027	-.017	.041	.176	.163	.073	.039	1.000	
<b>AWARD</b>	.400*	.308*	.390*	.024	-.014	.109	-.056	-.098	1.000

Legend: \* significant at 1% level and \*\* significant at 5% level.



**Table 6.6 (Continued)**

<b>Panel B (2011)</b>	<b>SEDIe</b>	<b>FSIZE</b>	<b>BRAND</b>	<b>BIND</b>	<b>OWN</b>	<b>ACIND</b>	<b>DUAL</b>	<b>PROFIT</b>	<b>AWARD</b>
<b>SEDIe</b>	1.000								
<b>FSIZE</b>	.597*	1.000							
<b>BRAND</b>	.320*	.366*	1.000						
<b>BIND</b>	-.096	-.080	.047	1.000					
<b>OWN</b>	.020	-.157	.040	.148	1.000				
<b>ACIND</b>	.290*	.193	.158	.333*	-.033	1.000			
<b>DUAL</b>	-.227**	-.227**	-.019	.153	.051	-.141	1.000		
<b>PROFIT</b>	.250**	.105	.091	-.130	.127	.051	-.055	1.000	
<b>AWARD</b>	.396*	.256**	.407*	.181	.002	.039	.008	-.021	1.000

Legend: \* significant at 1% level and \*\* significant at 5% level.

**Table 6.6 (Continued)**

<b>Panel C (2012)</b>	<b>SEDIe</b>	<b>FSIZE</b>	<b>BRAND</b>	<b>BIND</b>	<b>OWN</b>	<b>ACIND</b>	<b>DUAL</b>	<b>PROFIT</b>	<b>AWARD</b>
<b>SEDIe</b>	1.000								
<b>FSIZE</b>	.611*	1.000							
<b>BRAND</b>	.318*	.360*	1.000						
<b>BIND</b>	-.044	.081	.147	1.000					
<b>OWN</b>	-.027	-.100	.112	.005	1.000				
<b>ACIND</b>	.193	.087	.263**	.432*	-.061	1.000			
<b>DUAL</b>	-.222**	-.232**	.003	.140	-.035	-.032	1.000		
<b>PROFIT</b>	.048	.119	.163	.042	.063	-.065	.070	1.000	
<b>AWARD</b>	.397*	.320*	.437*	.178	.012	.024	-.024	.047	1.000

Legend: \* significant at 1% level and \*\* significant at 5% level.

**Table 6.6 (Continued)**

<b>Panel D (Pooled)</b>	<b>SEDIe</b>	<b>FSIZE</b>	<b>BRAND</b>	<b>BIND</b>	<b>OWN</b>	<b>ACIND</b>	<b>DUAL</b>	<b>PROFIT</b>	<b>AWARD</b>	<b>YEAR</b>
<b>SEDIe</b>	1.000									
<b>FSIZE</b>	.590*	1.000								
<b>BRAND</b>	.283*	.365*	1.000							
<b>BIND</b>	-.081	-.049	.046	1.000						
<b>OWN</b>	-.004	-.136**	.071	.080	1.000					
<b>ACIND</b>	.268*	.147**	.168*	.367*	-.032	1.000				
<b>DUAL</b>	-.216*	-.212*	.012	.167*	.010	-.104	1.000			
<b>PROFIT</b>	.070	.071	.100	.032	.100	.007	.019	1.000		
<b>AWARD</b>	.397*	.296*	.413*	.125**	.002	.058	-.022	-.020	1.000	
<b>YEAR</b>	.162*	.055	.050	-.026	.035	.036	.043	-.143**	.040	1.000

Legend: \* significant at 1% level and \*\* significant at 5% level.

As summarised in Table 6.6, the results of the correlation matrix for SEDIE is similar to the results for SEDI (see Table 6.1) and SEDIs (see Table 6.4). Firm size (FSIZE) is positively and significantly correlated ( $p = 0.010$ ) with SEDIE with correlation coefficients above 0.5 for all years. The correlation between brand development (BRAND) and SEDIE is statistically significant ( $p \leq 0.050$ ) for each year and pooled data. Board independence (BIND) is not correlated with SEDIE. There is no significant correlation between ownership concentration (OWN) and SEDIE for all years and pooled data. The results of correlation matrix between control variables and SEDIE is quite different compared to the results for SEDI and SEDIs. There is a negative and statistically significant correlation ( $p = 0.050$ ) between CEO duality (DUAL) and SEDIE for all periods. Award obtained (AWARD) is found to be positively and significantly correlated ( $p < 0.010$ ) with SEDIE for all periods. Audit committee independence (ACIND) is positively and statistically significantly correlated ( $p < 0.010$ ) with SEDIE for all period (except for 2012). There is no significant correlation between profitability (PROFIT) and SEDIE for all periods (except for 2011). For pooled data, consistent with the results for SEDI and SEDIs, year (YEAR) and SEDIE is also found to be positively and significantly correlated ( $p < 0.010$ ).

Table 6.7 provides the multiple regression results for extent of environmental disclosure index (SEDIE). All four regression models for SEDIE are highly significant ( $p$ -value = 0.000). The explanatory power (adjusted  $R^2$ ) of all four models is ranges between 40.9% and 48.7%. The SEDIE' explanatory power is slightly higher than the explanatory power for SEDIs (ranging between 38.4% and 55.9%) but lower than the explanatory power for SEDI (ranging between 48.5% and 67.2%). Compared to previous environmental disclosure studies, the SEDIE's explanatory power in this thesis is higher (e.g. Nurhayati et al. 2006 (20.60%); Monteiro and Aibar-Guzmán 2010 (25.70%); Mukherjee et al. 2010 (33.50%); Andrikopoulos and Krikiani 2013 (27%)).

Unlike the findings relating to the multiple regression analysis for SEDI (see Table 6.3) and SEDIs (see Table 6.5), the regression results for SEDIE are quite different. As summarised in Table 6.7, firm size (FSIZE) is again the strongest predictor not only for SEDI and SEDIs but also for SEDIE ( $p$ -value = 0.000) for each of the three years and for pooled data. This finding provides support to the extant

literature in voluntary environmental disclosure studies (e.g. Choi 1999; Nurhayati et al. 2006; Monteiro and Aibar-Guzmán 2010; Suttipun and Stanton 2012; Andrikopoulos and Kriklani 2013; Nurhayati et al. 2014b). The other explanatory variables: brand development (BRAND), board independence (BIND) and ownership concentration (OWN) are not significant predictors for SEDIE (except for the pooled data). BIND is considered as non-significant predictor because of incorrect predictive sign. Such insignificant association between board independence, ownership concentration and environmental disclosure is contradictory to Kathyayini, Tilt, and Lester (2012) but in line with Nurhayati et al. (2006). With regards to the control variables, the results provide evidence that there is a positive and statistically significant association between audit committee independence (ACIND) and award obtained (AWARD) and SEDIE for each year and for pooled data. However, CEO duality (DUAL) is not a significant predictor of SEDIE whereas profitability (PROFIT) explains the variation on SEDIE only for 2011. The insignificant influence of profitability on SEDIE is also documented in previous environmental disclosure studies (e.g. Mukherjee et al. 2010; Monteiro and Aibar-Guzmán 2010; Suttipun and Stanton 2012). Similar to the multiple regression results for social and environmental disclosure (SED) and social disclosure (SEDs), year (YEAR) is found to be a strong predictor ( $p$ -value of 0.000) for environmental disclosure (SEDe).

**Table 6.7 SEDIe Multiple Regression Analysis (2010, 2011, 2012, and Pooled)**

		2010			2011			2012			Pooled Data		
<b>Adjusted R<sup>2</sup></b>		.409			.487			.441			.474		
<b>F value</b>		9.125			12.132			10.261			29.399		
<b>F significance</b>		0.000*			0.000*			0.000*			0.000*		
<b>n</b>		95			95			95			285		
	<b>Predicted Sign</b>	<b>Coeff</b>	<b>T- stat</b>	<b>p-value</b>	<b>Coeff</b>	<b>T-stat</b>	<b>p-value</b>	<b>Coeff</b>	<b>T-stat</b>	<b>p-value</b>	<b>Coeff</b>	<b>T-stat</b>	<b>p-value</b>
<b>Intercept</b>		-.344	-2.905	.005	-.200	-2.371	.020	-.228	-2.462	.016	-.274	-4.941	.000
<b>FSIZE</b>	+	.464	5.044	.000*	.448	5.252	.000*	.521	5.873	.000*	.466	9.424	.000*
<b>BRAND</b>	+	-.093	-1.013	.314	-.023	-.263	.793	-.026	-.277	.783	-.056	-1.101	.272
<b>BIND</b>	+	-.124	-1.363	.176	-.184	-2.164	.033**	-.231	-2.600	.011**	-.177	-3.648	.000*
<b>OWN</b>	-	.065	.791	.431	.109	1.416	.160	.039	.493	.624	.074	1.679	.094***
<b>ACIND</b>	+	.246	2.765	.007*	.243	2.919	.004*	.248	2.729	.008*	.248	5.145	.000*
<b>DUAL</b>	-	-.067	-.789	.432	-.062	-.801	.425	-.053	-.643	.522	-.061	-1.348	.179
<b>PROFIT</b>	+	.061	.741	.461	.158	2.071	.041**	.004	.049	.961	.064	1.444	.150
<b>AWARD</b>	+	.273	3.062	.003*	.318	3.790	.000*	.276	3.073	.003*	.284	5.832	.000*
<b>YEAR</b>	+										.123	2.810	.005*

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level. Hypotheses testing significance (p-value) < .05 level is applied.

## 6.6 Summary

This chapter reports the results of multiple regression analysis that incorporate firm-level characteristics (i.e. firm size and brand development) and corporate governance attributes (i.e. board independence and ownership concentration). The results of main regression model (Table 6.3) provide strong evidence that firm-level characteristics are significant determinants of SED. The hypotheses H1 and H2 are supported. However, based on the statistical analysis hypotheses H3 and H4 are rejected. In regards to the control variables, all of the variables (i.e. audit committee independence, CEO duality, profitability and award obtained) are statistically significant determinants of SED.

This chapter also presents the results of multiple regression models for the two main themes of SED, namely social disclosure (SEDs) and environmental disclosure (SEDe) to determine if the independent variables are more significant predictors of one particular category of disclosures. Table 6.5 provides evidence of a positive and statistically significant association between firm size and brand development and the extent of SEDIs for all years. On the other hand, board independence and ownership concentration are not significant predictors of SEDIs. All control variables (except audit committee independence) are predictors for SEDIs, similar to that for models using SED. The results of multiple regression analysis based on models using SED<sub>Ie</sub> show different results. Although firm size is still the strongest predictor of the extent of SED<sub>Ie</sub>, the other explanatory variables namely brand development, board independence and ownership concentration are not significant predictors of SED<sub>Ie</sub>. In regards to the control variables, audit committee independence, award obtained and year are found to be significant predictors of SED<sub>Ie</sub> whereas CEO duality and profitability are not significant predictors of SED<sub>Ie</sub>.

This thesis conducts sensitivity and additional analyses to provide robustness checks for the main regression model. Chapter 7 presents the findings of the analyses that supplements the results of the main analysis presented in this chapter. The final chapter, Chapter 8, concludes this thesis with a summary of the key findings, implications and suggestions for the future research.

# CHAPTER 7 : SENSITIVITY AND ADDITIONAL ANALYSES

## 7.1 Introduction

Chapter 5 reported the descriptive statistics and univariate analyses and Chapter 6 revealed the results of multivariate statistical analysis of the dependent and predictor variables. Chapters 5 and 6 discuss the pattern of social and environmental disclosure (SED) practices in the annual reports of Indian textile and apparel (TA) listed firms and the association between the extent of SED and firm characteristics and corporate governance attributes over the three year period. Chapter 7 provides sensitivity tests of the main regression analysis (see Table 6.3). This chapter also undertakes additional analysis to gain further insights into Indian TA corporate social and environmental disclosure practices. This chapter is organised as follows:

### (a) Sensitivity tests

Section 7.2 presents the sensitivity test of the dependent variable (i.e. SEDI). Sub-section 7.2.1 uses an equally weighted items technique between SEDI's two major categories (social theme and environmental theme) as alternative measures of the dependent variable. Sub-section 7.2.2 provides sensitivity analysis by now measuring the dependent variable using 73 items (instead of 77 items) and using nine categories (instead of an index comprising 77 items). Section 7.3 then offers a sensitivity test of the independent variables by using alternative measure of those variables to examine whether the main findings remain robust.

### (b) Additional analyses

Section 7.4 provides additional analyses to offer insights on the association between predictor variables and the nine major sub-categories of SEDI. Section 7.5 investigates the potential determinants of selected key individual SEDI items using logistic regression analysis to enhance the understanding of SEDI practices of Indian TA listed firms. Section 7.6 reports propensity score matching test and lagged analysis to address the potential issues of a self-selection bias and endogeneity.



(c) Finally, Section 7.7 summaries insights derived from the sensitivity tests and additional analyses.

## **7.2 Sensitivity Tests of Dependent Variable**

This thesis conducts sensitivity tests of the dependent variable to ensure validity of measurement of the dependent variable used in the main regression models. The following sub-sections report the extent to which the results of the main regression models (see Table 6.3) are sensitive to different measurement specifications of the dependent variable. The dependent variable is re-measured using equally weighted categories (sub-section 7.2.1). This thesis also explores another possible alternative measurement technique by reducing the number of items used in calculating the index of the dependent variable as presented in sub-section 7.2.2.

### **7.2.1 Alternative Measure Using Equally Weighted Categories Technique**

The SED index (SEDI) includes a social dimension (four sub-categories consisting of 45 items) and an environmental dimension (five sub-categories consisting of 32 items). This thesis re-measures the dependent variable by using an equally weighted categories technique to negate the possible influence of unequal number of categories between the social dimension and environmental dimension on the main regression findings. This study originally measures the disclosure score for each firm by calculating the total SEDI score awarded to the firm divided by the maximum number of social and environmental disclosure items (i.e. 77 items). As part of sensitivity analysis, the disclosure score is recalculated for each firm by multiplying the social dimension, comprising four sub-categories, by 12.5% (25% multiplied by 50%) and by multiplying the environmental dimension, comprising five sub-categories, by 10% (20% multiplied by 50%). This procedure generates an equal-weighted (between social and environmental themes) index.

The results of equally weighted items technique is summarised in Table 7.1. Under this alternate measurement, the extent of social and environmental disclosure (SED) by Indian textile and apparel listed firms increased over time ranging from 11.20% in 2010, 12.54% in 2011, and 13.52% in 2012 with an overall mean of

12.42%. This finding highlights slightly lower but a reasonably similar SED pattern compared to the finding of the original measurement that ranges from 12.11% to 14.92% (see Table 5.1).

All four regression models in this sensitivity analysis are significant ( $p$ -value = 0.000). The explanatory power (adjusted  $R^2$ ) of all four models ranges from 48.7% in 2010, 65.7% in 2011, 63.9% in 2012 and 61.7% for pooled sample data. The explanatory power of the models using equally weighted categories technique as the alternative measure is similar to the main regression models presented in Table 6.3 which ranging between 48.5% and 67.2%.

As summarised in Table 7.1, the multiple regression results show that there is a positive and statistically significant ( $p = 0.000$ ) association between firm size (FSIZE) and SEDI for each year of the study period. This finding is consistent with the main regression results provided in Table 6.3. Similar results from this sensitivity analysis are also found for board independence (BIND) and ownership concentration (OWN) when compared to the main regression model results. Table 7.1 provides evidence of a consistent negative association between BIND and SEDI. No significant association is found between OWN and SEDI for each of the years within the study period. The only difference between this analysis and the main regression analysis is brand development (BRAND). Unlike the results found from the main regression models that provides evidence of a positive and statistically significant association between BRAND and SEDI (except for 2010 regression year), the results from this sensitivity analysis indicates that there is a positive and statistically significant association between these variables for the 2012 year only. In regards to the control variables, similar results are found between the results from this sensitivity test and the main regression model results. The only difference lies in CEO duality (DUAL) in the 2011 year where it is found to be insignificantly associated with SEDI in the sensitivity analysis.

**Table 7.1 SEDI Multiple Regression Results Using Equally Weighted Categories Technique**

		2010 (SEDI = 11.20%)			2011 (SEDI = 12.54%)			2012 (SEDI = 13.52%)			Pooled Data (SEDI = 12.42%)		
<b>Adjusted R<sup>2</sup></b>		.487			.657			.639			.617		
<b>F value</b>		12.168			23.540			21.788			51.928		
<b>F significance</b>		0.000*			0.000*			0.000*			0.000*		
<b>n</b>		95			95			95			285		
	Predicted Sign	Coeff	T- stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value
<b>Intercept</b>		-.268	-3.804	.000	-.227	-4.787	.000	-.157	-3.119	.002	-.236	-7.455	.000
<b>FSIZE</b>	+	.531	6.195	.000*	.583	8.356	.000*	.530	7.441	.000*	.037	12.586	.000*
<b>BRAND</b>	+	.028	.323	.747	.065	.922	.359	.135	1.765	.081***	.008	1.624	.106
<b>BIND</b>	+	-.089	-1.050	.297	-.098	-1.419	.160	-.172	-2.411	.018**	-.059	-2.757	.006*
<b>OWN</b>	-	.056	.730	.467	.083	1.314	.192	-.020	-.313	.755	.014	1.153	.250
<b>ACIND</b>	+	.184	2.225	.029**	.149	2.193	.031**	.189	2.581	.012**	.017	4.251	.000*
<b>DUAL</b>	-	-.081	-1.025	.308	-.102	-1.599	.113	-.148	-2.250	.027**	-.010	-2.762	.006*
<b>PROFIT</b>	+	.154	2.003	.048**	.196	3.147	.002*	.144	2.259	.026**	.112	4.172	.000*
<b>AWARD</b>	+	.206	2.483	.015**	.243	3.540	.001*	.247	3.429	.001*	.025	5.439	.000*
<b>YEAR</b>	+										.010	4.700	.000*

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level.

## 7.2.2 Modified Dependent Variable

In the main regression models, the dependent variable is measured as a disclosure index (i.e. SEDI) consisting of 77 items adopted from the Global Reporting Initiative's apparel and footwear sector index released in 2008. In order to further test the sensitivity of the findings in the main regression results, this study reduces the number of items used in calculating the dependent variable.

First, instead of using the 77 items, this study reduces the dependent variable to 73 items excluding the four highest mean disclosure items.<sup>13</sup> From the descriptive statistics of all 77 items presented in Table 5.5 and Table 5.8, it is apparent that four items have means in excess of 80% for each year (except year 2010 for 'direct energy consumption'). These four items are 'benefits provided for full-time employees' ranging from 92.63% to 97.89%, 'material used' ranging from 83.16% to 89.47%, 'direct energy consumption' ranging from 78.95% to 87.37%, and 'indirect energy consumption' ranging from 91.58% to 94.74%. In order to reduce the potential bias these items have on the dependent variable due to the high mean disclosure of these four items, this study excludes them to form a modified dependent variable. Table 7.2 summaries the findings of this sensitivity analysis by reducing the items used in measuring the dependent variable to 73 items. Using a modified dependent variable comprising 73 items, the extent of social and environmental disclosure ranges from 8.03% in 2010, 9.47% in 2011, and 10.54% in 2012 with overall mean of 9.34%. This finding indicates that overall the mean averages for each year and pooled data are substantially lower under such an approach.

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<sup>13</sup> Alternate modified dependent variable measurement by reducing the dependent variable to 49 items by removing all the non-disclosure (0%) items of social (19 items, see Table 5.5) and environmental disclosures (9 items, see Table 5.8) is also conducted. As expected, under this alternate approach, the results shows that the extent of social and environmental disclosure is considerably higher ranging from 19.03% in 2010, 21.52% in 2011, and 23.24% in 2012 with an overall mean of 21.26%. All four models are significant ( $p$ -value = 0.000) with slightly higher explanatory power (adjusted  $R^2$ ) ranges between 48.5% and 67.8% than the main regression models. The results of multiple regression analysis reveal a positive and statistically significant association between firm size and brand development (except for 2011) and the extent of SEDI for all years. On the other hand, board independence and ownership concentration are not significant determinants of SED. All control variables are predictors SED. These findings are very similar to the main regression models strengthening the robustness of the dependent variable measurement.

As presented in Table 7.2, the results of multiple regression analysis show that all four regression models are significant ( $p$ -value = 0.000). The explanatory power (adjusted  $R^2$ ) of all four models ranges between 47.4% and 65.5%. The explanatory power of this sensitivity analysis is slightly lower than the explanatory power for the main regression models (ranging between 48.5% and 67.2%). Overall, the results of multiple regression analysis from this sensitivity test are similar to that of the main regression analysis (see Table 6.3). There is positive and statistically significant ( $p = 0.000$ ) association between firm size (FSIZE) and SEDI for all years. Brand development (BRAND) is found to be positively and significantly ( $p$ -value = 0.076 for 2011,  $p$ -value = 0.018 for 2012 and  $p$ -value = 0.002 for pooled data) associated with SEDI for all years (except for year 2010). Board independence (BIND) and ownership concentration (OWN) are consistently not significant predictors of SEDI. Similar findings for the control variables are found in sensitivity tests (except for audit committee independence for year 2010 and 2011 and profitability in year 2012).

**Table 7.2 SEDI Multiple Regression Analysis with Items Reduced to 73 Items (2010, 2011, 2012, and Pooled)**

		2010 (SEDI = 8.03%)			2011 (SEDI = 9.47%)			2012 (SEDI = 10.54%)			Pooled Data (SEDI = 9.34%)		
<b>Adjusted R<sup>2</sup></b>		.474			.632			.655			.616		
<b>F value</b>		11.573			21.174			23.294			51.658		
<b>F significance</b>		0.000*			0.000*			0.000*			0.000*		
<b>n</b>		95			95			95			285		
	Predicted Sign	Coeff	T- stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value
<b>Intercept</b>		-.292	-3.850	.000	-.303	-5.362	.000	-.267	-4.645	.000	-.310	-8.717	.000
<b>FSIZE</b>	+	.514	5.922	.000*	.564	7.802	.000*	.544	7.806	.000*	.527	12.482	.000*
<b>BRAND</b>	+	.102	1.175	.243	.131	1.794	.076***	.181	2.412	.018**	.138	3.201	.002*
<b>BIND</b>	+	-.095	-1.109	.271	-.040	-.556	.580	-.146	-2.082	.040**	-.084	-2.029	.043**
<b>OWN</b>	-	-.009	-.117	.907	.046	.698	.487	.046	.744	.459	.034	.895	.372
<b>ACIND</b>	+	.120	1.425	.158	.094	1.340	.184	.157	2.194	.031**	.119	2.896	.004*
<b>DUAL</b>	-	-.092	-1.153	.252	-.126	-1.907	.060***	-.152	-2.370	.020**	-.124	-3.183	.002*
<b>PROFIT</b>	+	.172	2.207	.030**	.168	2.597	.011**	.102	1.640	.105	.135	3.569	.000*
<b>AWARD</b>	+	.171	2.034	.045**	.221	3.112	.003*	.223	3.171	.002*	.198	4.761	.000*
<b>YEAR</b>	+										.167	4.451	.000*

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level. A total of 77 items for calculating SEDI is reduced to 73 items.

Second, this thesis re-measures the dependent variable (i.e. SEDI) by way of the main nine sub-categories that comprise the SEDI. More specifically, the social dimension is classified by the Global Reporting Initiative (GRI) into four sub-categories: 'labour practices and decent work' (17 items), 'human rights' (9 items), 'society' (10 items) and 'product responsibility' (9 items). The environmental category is further grouped into five sub-categories: 'materials' (3 items), 'energy' (6 items), 'water and biodiversity' (8 items), emissions, effluents and waste' (10 items) and 'others' (5 items). For this sensitivity test, the disclosure score for each firm is calculated by divided the total SEDI score awarded for each category divided by the total number of items in that category. For instance, a firm will be scored against (i.e. disclosed) 'labour practices and decent work' sub-category if the firm disclosed at least one of the 17 items in that sub-category. As expected, the overall mean averages for each year and for pooled data are much higher under the nine sub-categories measure approach. The extent of social and environmental disclosure is ranging from 54.85% in 2010, 61.87% in 2011, and 64.09% in 2012 with overall mean of 60.27%. This finding clearly shows that number of items included in the disclosure index may influence the extent of the disclosure.

As presented in Table 7.3, the regression results show that all four regression models are significant ( $p$ -value = 0.000). The adjusted  $R^2$  of all four models suggest that the models explain approximately between 35.3% and 51.1% of the variation in SEDI. These adjusted  $R^2$  are lower compared to those values obtained in the main regression models (adjusted  $R^2$  range between 48.5% and 67.2%). These multiple regression results are similar to that of the main model results presented in Table 6.3. Firm size (FSIZE) is found to be positively and significantly ( $p = 0.000$ ) associated with SEDI for all year. There is a positive and statistically significant association between brand development (BRAND) and SEDI for the 2011 year ( $p$ -value < 0.050) and for pooled data ( $p$ -value < 0.010). The other explanatory variables, board independence (BIND) and ownership concentration (OWN), are not significant predictors of SEDI. In regard to the control variables, profitability consistently and significantly predicts SEDI for all years and for pooled data. The other control variables are variably significant with some differences noted between this sensitivity analysis and main model results in Table 6.3. Audit committee independence and CEO duality have no significance association with SEDI for all

years ( $p > 0.100$ ). Moreover, there is no significant association between award obtained and SEDI for all years (except for year 2012).

In summary, a series of sensitivity tests that incorporate alternative measurement specifications of the dependent variable indicate that results are very similar to that of the main model results. This provides support for the validity of the dependent variable as a suitable construct to measure extent of social and environmental disclosure (SED). As expected, firm size is a significant predictor of SED for all years. Further, brand development is significantly positively associated with SED in the annual reports of Indian textile and apparel (TA) firms. No significant relationship is found between board independence, and ownership concentration and SED. In regard to the control variables (audit committee independence, CEO duality, profitability, award obtained and year) significant results are also found as shown in Table 6.3.



**Table 7.3 SEDI Multiple Regression Results with Items Reduced to 9 Items (2010, 2011, 2012, and Pooled)**

		2010 (SEDI = 54.85%)			2011 (SEDI = 61.87%)			2012 (SEDI = 64.09%)			Pooled Data (SEDI = 60.27%)		
		Coeff	T- stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value
<b>Adjusted R<sup>2</sup></b>		.353			.471			.511			.491		
<b>F value</b>		7.414			11.479			13.294			31.437		
<b>F significance</b>		0.000*			0.000*			0.000*			0.000*		
<b>n</b>		95			95			95			285		
	Predicted Sign	Coeff	T- stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value
<b>Intercept</b>		-.787	-2.779	.007	-.609	-2.629	.010	-.608	-2.779	.007	-.764	-5.574	.000
<b>FSIZE</b>	+	.505	5.252	.000*	.507	5.851	.000*	.552	6.657	.000*	.510	10.487	.000*
<b>BRAND</b>	+	.093	.975	.332	.200	2.289	.025**	.137	1.535	.128	.138	2.763	.006*
<b>BIND</b>	+	-.081	-.844	.401	-.048	-.560	.577	-.069	-.828	.410	-.054	-1.122	.263
<b>OWN</b>	-	.100	1.166	.247	.061	.776	.440	-.003	-.040	.968	.053	1.212	.226
<b>ACIND</b>	+	.141	1.517	.133	.062	.738	.462	.077	.901	.370	.089	1.880	.061***
<b>DUAL</b>	-	.016	.185	.853	-.058	-.735	.464	-.053	-.695	.489	-.032	-.717	.474
<b>PROFIT</b>	+	.191	2.221	.029**	.161	2.081	.040**	.156	2.101	.039**	.171	3.923	.000*
<b>AWARD</b>	+	.058	.618	.538	.107	1.252	.214	.158	1.882	.063**	.103	2.150	.032**
<b>YEAR</b>	+										.193	4.476	.000*

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level. For the Table 7.3 analysis, a total of 77 items for calculating SEDI is reduced to 9 items representing the main nine sub-categories that comprise the SEDI.

### **7.3 Sensitivity Tests of Independent Variables**

Sensitivity tests of independent variables (i.e. firm size, brand development, board independence and ownership concentration) are conducted to address the validity of measurement of these variables used in the main regression models. Firm size (FSIZE) that was originally measured as the natural logarithm of total assets is now measured as the natural logarithm of total sales. The overall mean of firm size measured by total sales is 6,798 million Rupees (approximately 114 million U.S. dollars). The average firm size increases over the sample period ranging from 5,442 million Rupees in 2010, 6,993 million Rupees in 2011, and 7,959 million Rupees in 2012. Transformed total sales values have logged mean scores ranging between 9.19 and 9.29 across the three year sample period. This thesis treats a firm to have brand development (BRAND) if it discloses in the annual report that it is a supplier of an internationally recognised brand of textile and apparel (TA) products.

In this sensitivity test, a firm is considered to have BRAND if it discloses an internally developed (domestic) brand and/or has an arrangement or contract with a supplier of an internationally recognised brand stores. As expected, this alternative measurement of BRAND results in higher figures ranging from 37% (21%) in 2010, 43% (25%) in 2011, and 46% (26%) in 2012 with an overall 42% (24%) of Indian TA firms acknowledging domestic and/or internationally recognised brands. Figures in parentheses represent the original measurement of BRAND.

This thesis originally measures board independence (BIND) as the ratio of independent non-executive directors to total number of directors on the board. BIND is re-measured by categorical coding (i.e. 1 if the proportion of independent non-executive directors on the board is more than 50% and 0 if otherwise). Using the new measurement, 40% of Indian TA firms have the proportion of independent non-executive directors on the board more than 50%. The number of sample firms with more independent board is 39% in 2010 and 2012 with a peak of 43% in 2011. Originally, ownership concentration (OWN) is measured by promoter ownership as this type of ownership structure is prevalent in Indian TA firms. This sensitivity test uses the proportion of shares owned by shareholders holding more than 5% shares as the alternate measurement for OWN. Under this alternative measurement, the ownership concentration shows lower figures range from 50.30% (54.84%) in 2010,

49.92% (54.72%) in 2011, and 52.17% (56.11%) in with the overall mean of 50.80% (55.23%) and a range of 5.88% (12.96%) to 91.47% (93.15%). Figures in parentheses indicate the original measurement of ownership concentration.

Table 7.4 summaries the statistical findings when using alternative specifications of the independent variables. The four regression models are significant ( $p$ -value = 0.000) and have slightly lower explanatory power (ranging between 40.8% and 59.6%) than the explanatory power of the main regression models (ranging between 48.5% and 67.2%). Again, firm size (FSIZE) is found to be consistently a significant predictor ( $p$ -value = 0.000) of SEDI for all years and pooled data. Brand development (BRAND) is positively and statistically significantly associated with SEDI for 2011 year ( $p$ -value < 0.050) and for pooled data ( $p$ -value < 0.010)<sup>14</sup>. Board independence is not a significant predictor of SEDI for all years. Interestingly, the revised measure of ownership concentration is now a significantly associated ( $p$ -value < 0.100) with SEDI for all years and for pooled data ( $p$ -value < 0.010), a result that differs from the main model findings. In regard to the control variables, variably significant results are noted, some of which differ from the main model results (see Table 6.3) (except for pooled data). CEO duality and award obtained influence SEDI for all years. However, contrary to the main Table 6.3, audit committee independence is not a predictor for SEDI for year 2010 and 2011. Moreover, there is no relationship between profitability and SEDI in year 2010 and 2012.

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<sup>14</sup> However, this thesis suggests different results when the measurement for BRAND is modified as domestic brand. The regression analysis indicates very similar results with the main regression model except for the domestic brand. The domestic brand is not a predictor for SEDI. This finding highlights the importance of international brand in influencing the corporate social and environmental communication of Indian TA firms.

**Table 7.4 SEDI Multiple Regression Analysis Using Alternate Measurement for Independent Variables**

		2010 (SEDI = 12.11%)			2011 (SEDI = 13.69%)			2012 (SEDI = 14.92%)			Pooled Data (SEDI = 13.57%)		
<b>Adjusted R<sup>2</sup></b>		.408			.596			.591			.569		
<b>F value</b>		12.082			18.344			17.949			42.581		
<b>F significance</b>		0.000*			0.000*			0.000*			0.000*		
<b>n</b>		95			95			95			285		
	Predicted Sign	Coeff	T- stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value
<b>Intercept</b>		-.069	-1.500	.137	-.072	-2.070	.041	-.066	-1.702	.092	-.094	-4.137	.000
<b>FSIZE</b>	+	.435	4.572	.000*	.491	6.280	.000*	.486	6.236	.000*	.456	9.919	.000*
<b>BRAND</b>	+	.121	1.351	.180	.166	2.267	.026**	.096	1.192	.237	.129	2.881	.004*
<b>BIND</b>	+	-.056	.613	.542	.000	.000	1.000	-.121	-1.634	.106	-.015	-.346	.729
<b>OWN</b>	-	-.146	-1.799	.075***	-.116	-1.751	.083***	-.126	-1.895	.061***	-.123	-3.116	.002*
<b>ACIND</b>	+	.043	.468	.641	.061	.831	.408	.161	2.155	.034**	.083	1.901	.058***
<b>DUAL</b>	-	-.146	-1.705	.092***	-.128	-1.819	.072***	-.170	-2.419	.018**	-.137	-3.321	.001*
<b>PROFIT</b>	+	.065	.784	.435	.122	1.770	.080***	.084	1.182	.240	.088	2.142	.033**
<b>AWARD</b>	+	.192	2.226	.029**	.252	3.495	.001*	.275	3.623	.000*	.227	5.279	.000*
<b>YEAR</b>	+										.195	4.887	.000*

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level.

Using a pooled data set, further sensitivity analysis is conducted to clarify the inconsistent finding in regard to ownership concentration. In Model 1, the only variable that is alternatively measured is firm size (natural logarithm of total sales). In Model 2, brand development is remeasured with a broader specification covering not only international brands but also domestic (local) brands. All other variables remain with their original measurement basis. In Model 3, the only variable that is alternatively measured is board independence (categorical measurement; 1 if the proportion of independent non-executive directors on the board is more than 50% and 0 if otherwise as the alternate measurement for board independence) whereas in Model 4 ownership concentration is alternatively measured as the proportion of shares owned by shareholders holding more than 5% shares. Table 7.5 summarizes the findings of this additional analysis on ownership concentration. The results for the independent variables suggest a similar pattern to the main model results in Table 6.3. There is no significant association between ownership concentration and SEDI regardless of the independent variable measurement.

In summary, the results from the sensitivity tests for the independent variables add support to the main findings discussed in Chapter 6. Firm size remains the strongest predictor of SEDI. When alternate (broader) measurement specifications are used for brand development covering not only international brand but also including domestic brands, the significance of this variable in influencing SEDI is reduced. This finding suggests that international exposure of firms by acting as suppliers of international brand-name stores seems to be encouraging those firms' to communicate more social and environmental information in their annual reports. Consistently, board independence is not a significant predictor of SEDI. In regard to ownership concentration (OWN), it appears that measurement specification influences the relationship between that variable and SEDI. In regard to the control variables, different results from the main Table 6.3 are highlighted (except for the pooled data).

**Table 7.5 Multiple Regression Results Using Alternate Measurement for Independent Variables**

		Model 1			Model 2			Model 3			Model 4		
<b>Adjusted R<sup>2</sup></b>		.573			.618			.619			.626		
<b>F value</b>		43.411			52.002			52.299			53.877		
<b>F significance</b>		0.000*			0.000*			0.000*			0.000*		
<b>n</b>		285			285			285			285		
	Predicted Sign	Coeff	T- stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value
<b>Intercept</b>		-.080	-3.001	.003	-.279	-7.623	.000	-.300	-8.863	.000	-.248	-6.817	.000
<b>FSIZE</b>	+	.457	10.102	.000*	.529	12.345	.000*	.524	12.472	.000*	.502	11.882	.000*
<b>BRAND</b>	+	.181	4.073	.000*	.064	1.487	.138	.123	2.857	.005*	.122	2.876	.004*
<b>BIND</b>	+	-.073	-1.653	.099***	-.099	-2.386	.018**	-.043	-1.057	.292	-.091	-2.234	.026**
<b>OWN</b>	-	-.055	-1.403	.162	.030	.792	.429	.019	.514	.608	-.044	-1.157	.248
<b>ACIND</b>	+	.100	2.258	.025**	.153	3.698	.000*	.123	3.055	.002*	.144	3.558	.000*
<b>DUAL</b>	-	-.128	-3.101	.002*	-.122	-3.156	.002*	-.145	-3.764	.000*	-.139	-3.594	.000*
<b>PROFIT</b>	+	.107	2.629	.009*	.159	4.154	.000*	.156	4.141	.000*	.164	4.413	.000*
<b>AWARD</b>	+	.206	4.672	.000*	.228	5.700	.000*	.195	4.702	.000*	.202	4.927	.000*
<b>YEAR</b>	+	.193	4.884	.000*	.187	5.002	.000*	.192	5.162	.000*	.194	5.238	.000*

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level. **Model 1** uses natural logarithm of total sales as the alternate measurement for firm size. **Model 2** uses brand involvement (domestic and/or international brand) as the alternate measurement for international brand. **Model 3** uses categorical measurement for board independence, 1 if the proportion of independent non-executive directors on the board is more than 50% and 0 if otherwise as the alternate measurement for board independence. **Model 4** uses the proportion of shares owned by shareholders holding more than 5% shares as the alternate measurement for ownership concentration.

## 7.4 Additional Analysis of Major Sub-Categories of SEDI

This section reports the results of additional multiple regression analysis where the SED is devolved into nine sub-categories comprising four sub-categories of social disclosure (SEDs) and five sub-categories of environmental disclosure (SEDe). The four SEDs's sub categories include 'labour practices', 'human rights', 'society' and 'product responsibility' issues whereas five SEDe's sub categories include 'materials', 'energy', 'water and biodiversity', 'emissions, effluents and waste' and 'others'. The pooled regression equation for each sub-category is estimated as follows:

$$\text{SubSEDI}_{it} = \beta_0 + \beta_1 \text{FSIZE}_{it} + \beta_2 \text{BRAND}_{it} + \beta_3 \text{BIND}_{it} + \beta_4 \text{OWN}_{it} + \beta_5 \text{ACIND}_{it} + \beta_6 \text{DUAL}_{it} + \beta_7 \text{PROFIT}_{it} + \beta_8 \text{AWARD}_{it} + \beta_{9-11} \text{YEAR}_{it} + \varepsilon_{it} \quad [7]$$

where:

SubSEDI = Extent of labour practices, or human rights, or society, or product responsibility, or materials, or energy, or water and biodiversity, or emissions, effluents and waste, or others disclosure by company i in period t;

FSIZE = Natural log of total assets;

BRAND = Supplier of branded TA product (1 = yes, 0 = no);

BIND = Number of independent non-executive board members divided by total number of board members;

OWN = Promoter ownership;

ACIND = More than two-thirds of audit committee members is independent non-executive directors (1 = yes, 0 = no);

DUAL = Position of CEO and chairman occupied by same person (1 = yes, 0 = no);

PROFIT = Net income (net loss) divided by total assets (ROA);

AWARD = Award obtained (1 = yes, 0 = no);

YEAR = Dummy variable, coded 1 if the year falls within the specific year category (i.e. 2010, 2011 or 2012), otherwise 0

$\beta_0$  = Intercept;

$\beta_{1-11}$  = Estimated coefficient for each item; and

$\varepsilon$  = Error term.

The results of this analysis are discussed in the following sub-sections. Sub-section 7.4.1 reports the findings for social disclosure's four sub-categories whereas sub-section 7.4.2 discusses the findings for environmental disclosure's five sub-categories.

#### 7.4.1 Multiple Regression Results: Four Sub-Categories of SEDIs

The 'labour practices and decent work' sub-category consists of seventeen items (see the list of these items in Table 5.5). As highlighted in Figure 5.2, 'labour practices and decent work' is the most disclosed sub-category in the SEDs (19.33%). Similar low finding on labour disclosure (17.70%) by Indonesian listed firms is noted in Cahaya, Porter, Tower, and Brown (2012). The authors argue that firms may conceal unfavourable labour information to keep their image and reputation intact. Finding that 'labour practices' is the most popular sub-categories disclosed is in line with previous studies (e.g. Braco and Rodrigues 2008; Khan 2010; Islam and Deegan 2010; Faisal, Tower, and Rusmin 2012). This might be because textile and apparel (TA) industry is one of the most labour intensive sectors and labour is recognised as one of the most important inputs to the production process. Literature suggests that labour is a vital resource of a firm as it determines the competitive advantage and subsequently the performance of the company (Khan and Khan 2010; Dominguez 2011). Externally communicated of such information may help the firms in addressing pressure from customers (Khan and Khan 2010), combating tension between firms and their stakeholders (Abeysekera 2006) and building the firms' positive image and reputation (Dominguez 2011; Faisal et al. 2012). Such preconditions may help firms particularly those in socially and environmentally sensitive industries such as TA industry to better justify their activities in order to secure their legitimacy. Therefore, Indian TA firms have incentives to provide more information pertaining to labour related issues in their annual reports.

Table 7.6 indicates that the model for 'labour practices' disclosure is significant ( $p$ -value = 0.000). The adjusted  $R^2$  suggests that the model explain about 37.8% of the variation in labour practices disclosure. The multiple regression results for 'labour practices' disclosure are essentially consistent with those in the main Table 6.3. Table 7.6 reports that firm size (FSIZE) is positively and significantly associated ( $p = 0.010$ ) with 'labour practices' disclosure. This finding provides support for previous studies (e.g. Cahaya et al. 2012; Domínguez 2012) that larger firms disclose more labour practices information in their annual reports. Indian TA firms that act as suppliers of branded textile and apparel (TA) stores (BRAND) release more labour related information than those which do not have such an arrangement. The other independent variables namely board independence (BIND)



and ownership concentration (OWN) are not the predictors for 'labour practices' disclosure. Cahaya et al. (2012) indicate that there is no significant association between board independence and 'labour practices' disclosure by Indonesian listed firms. The authors argue that the lack of effective supervision by the independent board may account for this insignificant association. In regard to the control variables, CEO duality, profitability and year influence the 'labour practices' disclosure. The finding on the positive association between corporate profitability and the extent of 'labour practices' disclosure is in line with legitimacy theory perspective but contrary to the finding of Domínguez (2012), Faisal et al. (2012) and Athanasios, Antonios, and Despina (2013).

'Human rights' sub-category comprises nine items (see Table 5.5). Textile and apparel (TA) is a labour intensive industry that supposedly is more proactive on human rights issues. Therefore, firms on this industry are expected to communicate more 'human rights' information in their annual reports. However, as presented in Figure 5.2, 'human rights' is the least disclose SEDIs' sub-category by Indian TA firms with the average for 'human rights' disclosure at below 1%. Empirical results in Table 7.6 show that there are no statistical relationships between brand development (BRAND) and ownership concentration (OWN) and 'human rights' disclosure. This is almost certainly due to the lack of variance of these variables between TA entities. Although firm size (FSIZE), board independence (BIND) and award obtained are positively and moderately associated with the 'human rights' disclosure ( $p < 0.100$ ), the regression results indicate that the model is not significant ( $p$ -value = 0.150) with a very low explanatory power (adjusted  $R^2$  is about 1%). It is important to acknowledge that the overall model as shown by the F statistics is not significant. Therefore, it can be argued that there are no clear determinants for 'human rights' disclosure as there is virtually no disclosure.

As listed in Table 5.5, the 'society' sub-category consists of ten items. The descriptive statistics shown in Figure 5.2 indicates a low extent of 'society' disclosure with the average figure of about 10%. Table 7.6 indicates that the regression model for 'society' sub-category is highly significant ( $p$ -value = 0.000) suggesting that the model is robust. The explanatory power (adjusted  $R^2$ ) of the model is 33.9%. Firm size (FSIZE) and brand development (BRAND) are positively and significantly associated ( $p = 0.000$ ) with 'society' disclosure. These findings are

consistent with the findings on the main Table 6.3. Interestingly, unlike the finding on the main Table 6.3, board independence (BIND) is positively and statistically associated with 'society' disclosure at a moderate level ( $p = 0.064$ ). This finding suggests that more independent non-executive directors on the board encourages Indian TA firms to communicate more society-oriented information. Moreover, the results report that there is no relationship between ownership concentration (OWN) and 'society' disclosure. Profitability and year control variables are positively and significantly associated with the propensity of 'society' disclosure ( $p < 0.050$ )

There are nine indicators for the 'product responsibility' sub-category (see Table 5.5). The average of 'product responsibility' information is disclosed at a low level of below 5%. The regression results show that the model is robust ( $p$ -value = 0.000) with the explanatory power (adjusted  $R^2$ ) of 34.4%. Table 7.6 summarises that there is positive and statistically significant association between firm size (FSIZE) and brand development (BRAND) and 'product responsibility' disclosure ( $p < 0.010$ ). These findings are consistent with the empirical evidence in the main Table 6.3 indicating that these two variables are the strongest predictors for 'product responsibility' disclosure. Board independence (BIND) is not a predictor for 'product responsibility' disclosure. Consistent with the other social disclosure's sub-categories, ownership concentration (OWN) is not a predictor for 'product responsibility' disclosure. Among the five control variables, profitability, award obtained and year influence the firms in communicating 'product responsibility' related information.

In summary, except for the 'human right' sub-category, all other regression models for the SEDI's sub-categories are significant with the explanatory power above 30% for each category suggesting that the models have an acceptable level of explaining the variation in 'labour practices', 'society' and 'product responsibility' disclosures. Consistent with the finding in the main Table 6.3, firm size and brand development are positively and significantly associated with the disclosure of all social disclosure's sub-categories (except for 'human rights'). These findings suggest that larger firms and firms with international brand-name supplier arrangement communicate more 'labour practices', 'society' and 'product responsibility' related information in their annual reports than their counterparts. Ownership concentration is not a predictor for all of the SEDI's sub categories disclosure. A contradicting

result of the main Table 6.3 is found for board independence. Except for ‘labour practices’ and ‘product responsibility’ disclosures, there is a positive and moderately significant association between board independence and ‘human rights’ and ‘society’ disclosures. Control variables display mixed but largely consistent influences in this additional analysis.

**Table 7.6 Multiple Regression Results: Four SEDIs Sub-Categories**

		Labour Practices and Decent Work (SEDI = 19.33%)			Human Rights (SEDI = 0.39%)			Society (SEDI = 9.87%)			Product Responsibility (SEDI = 4.67%)		
<b>Adjusted R<sup>2</sup></b>		.378			.015			.339			.344		
<b>F value</b>		20.173			1.494			17.165			17.564		
<b>F significance</b>		0.000*			0.150			0.000*			0.000*		
<b>n</b>		285			285			285			285		
	Predicted Sign	Coeff	T- stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value
<b>Intercept</b>		-.336	-3.687	.000	-.039	-1.761	.079	-.359	-5.649	.000	-.258	-5.079	.000
<b>FSIZE</b>	+	.362	6.734	.000*	.117	1.733	.084***	.374	6.750	.000*	.329	5.953	.000*
<b>BRAND</b>	+	.183	3.331	.001*	-.007	-.100	.921	.271	4.785	.000*	.177	3.136	.002*
<b>BIND</b>	+	-.064	-1.209	.228	.114	1.726	.086***	.101	1.861	.064***	.046	.844	.399
<b>OWN</b>	-	-.035	-.727	.468	-.036	-.597	.551	.059	1.190	.235	-.081	-1.631	.104
<b>ACIND</b>	+	.042	.803	.423	-.090	-1.363	.174	-.041	-.764	.445	.040	.739	.460
<b>DUAL</b>	-	-.191	-3.851	.000*	-.016	-.258	.797	-.040	-.788	.431	-.065	-1.273	.204
<b>PROFIT</b>	+	.158	3.292	.001*	.002	.025	.980	.197	3.971	.000*	.193	3.912	.000*
<b>AWARD</b>	+	.077	1.453	.147	.114	1.703	.090***	-.017	-.307	.759	.113	2.072	.039**
<b>YEAR</b>	+	.163	3.408	.001*	-.002	-.036	.971	.097	1.976	.049**	.216	4.409	.000*

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level.

#### 7.4.2 Multiple Regression Results: Five Sub-Categories of SEDiE

As presented in Figure 5.3, 'energy' is the most disclosed SEDiE's sub-category with the average for energy information communicated is 55.73%. This might be because the nature of the TA industry that can be classified as an energy intensive industry encourages firms to focus more and voluntarily disclose more energy related information in their annual reports. The 'energy' sub-category consists of six items (see Table 5.8). The regression results summarised in Table 7.7 suggest that the model is significant ( $p = 0.000$ ) with the explanatory power of about 26%. The results indicate that larger firms communicate more energy information in their annual reports than their counterparts ( $p = 0.000$ ). In regard to the other independent variables, there are statistically significant association between these variables and 'energy' disclosure. However, since the actual signs have opposite direction with the predicted sign, brand development (BRAND), board independence (BIND) and ownership concentration (OWN) are not theory-based predictors for 'energy' disclosure. Audit committee independence and award obtained control variables are positively and significantly associated with 'energy' disclosure ( $p = 0.000$ ).

The 'materials used' sub-category consists of only three items (see Table 5.8). This sub-category of information is disclosed on average at 30.75% (see Figure 5.3). Table 7.7 indicates that the model is significant ( $p = 0.000$ ) with an adjusted  $R^2$  about 20%. Similar to the results of the main Table 6.3, there is positive and statistically significant association between firm size ( $p = 0.000$ ) and brand development ( $p = 0.063$ ) and 'materials used' disclosure. Board independence and ownership concentration are not predictors for 'materials used' disclosure. In regard to the control variables, CEO duality, award obtained and year influence the firms in disclosing 'materials used' related information.

There are eight items in 'water and biodiversity' sub-category (see Table 5.8). As graphed in Figure 5.3, this sub-category is disclosed the least among the five SEDiE's sub-categories at below 2%. This finding indicates that Indian TA firms do not regard such crucial environmental issue as their top priority and do not communicate such information in the annual reports. The results of multiple regression in Table 7.7 show that the model is significant ( $p = 0.000$ ). The adjusted  $R^2$  of this model is 14.7% being the lowest explanatory power figure among the other

models of SEDiE's sub-categories. Among the four independent variables, firm size (FSIZE) is the only variable that is positively and statistically significantly associated with 'water and biodiversity' disclosure ( $p = 0.000$ ). Moreover, award obtained and audit committee independence are the only control variables that influence the disclosure of 'water and biodiversity' related information. Although significantly associated with 'water and biodiversity' disclosure ( $p = 0.049$ ), board independence (BIND) is not the theory-based predictor of such disclosure since the actual sign of the association is opposite than the predicted sign.

'Emissions, effluents and waste' sub-category is the second least communicated information in the annual reports with the average disclosure at about 6%. This sub-category consists of ten items. Such a very low extent of disclosure essentially contradicts expectations since firms in TA industry use large amounts of fossil fuels. In addition, they have extensive water and chemical usage in their production processes and thus require the firms to manage them efficiently through, for instance, proper waste management to minimise the adverse impacts on the society and natural environment. Although the firms may have emissions, effluents and waste management facilities in their plants, they do not seem to regard the communication of such related information as an important issue to be disclosed in their annual reports. Table 7.7 indicates that the model is significant ( $p = 0.000$ ) with an adjusted  $R^2$  of 25.6%. The regression results suggest that larger firms communicate more 'emissions, effluents and waste' related information in their annual reports than their counterparts ( $p = 0.000$ ). Although statistically significant ( $p = 0.049$ ), board independence (BIND) is not a theory-based determinant for 'emissions, effluents and waste' disclosure since the sign of such association contradicts expectation. Brand development (BRAND) and ownership concentration (OWN) are also not predictors for 'emissions, effluents and waste' disclosure. Moreover, audit committee independence, award obtained and year are positively and significantly associated with this type of disclosure.

The 'others' sub-category is disclosed on average at 14.66% (see Figure 5.3). This sub-category comprises five items that cover firms' 'initiatives to mitigate environmental impacts', 'product sold and packaging materials that are reclaimed', 'fines and sanctions for non-compliance with environmental laws and regulations', 'environmental impacts of transporting products and workforce members', and

‘environmental expenditures and investment’. As summarised in Table 5.8, among those five items in the ‘others’ sub-category, ‘initiatives to mitigate environmental impacts’ is the most disclosed one (on average about 72%). Table 7.7 reports that among the four independent variables, firm size (FSIZE) is the only variable that is significantly and positively associated with the extent of ‘others’ disclosure. Brand development (BRAND), board independence (BIND) and ownership concentration (OWN) are not determinants of such disclosure. All control variables (except award obtained) influence ‘others’ sub-category disclosure.

In summary, all five models in the SEDIE’s sub-categories are robust with explanatory power above 20% (except for ‘water and biodiversity’ sub-category). Firm size (FSIZE) is consistently the strongest predictor for environmental disclosure’s sub-categories disclosure. This finding aligns with the finding in the main Table 6.3. Larger firms disclose more ‘materials used’, ‘energy’, ‘water and biodiversity’, ‘emissions, effluents and waste’ and ‘others’ related information. The other independent variables are not predictors for such disclosures (except for ‘materials used’ disclosure). A different pattern is noted for ‘materials used’ disclosure. Brand development (BRAND) and ownership concentration (OWN) explain the variation of this ‘materials used’ disclosure. Control variables seem to differently influence the propensity of the disclosure of environmental disclosure’s sub-categories.

**Table 7.7 Multiple Regression Results: Five SEDIE Sub-Categories**

		Materials Used (SEDI = 30.75%)			Energy (SEDI = 55.73%)			Water and Biodiversity (SEDI = 1.79%)			Emissions, Effluents and Waste (SEDI = 6.10%)			Others (SEDI = 14.66%)		
Adjusted R <sup>2</sup>		.201			.261			.147			.256			.265		
F value		8.946			12.141			6.443			11.831			12.350		
F significance		0.000*			0.000*			0.000*			0.000*			0.000*		
n		285			285			285			285			285		
	Predicted Sign	Coeff	T- stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value
Intercept		-.344	-2.397	.017	-.301	-1.648	.100	-.170	-3.334	.001	-.302	-3.938	.000	-.312	-3.662	.000
FSIZE	+	.260	4.270	.000*	.322	5.490	.000*	.308	4.885	.000*	.335	5.700	.000*	.346	5.915	.000*
BRAND	+	.116	1.864	.063***	-.196	-3.272	.001*	.018	.275	.783	.023	.380	.704	.060	.996	.320
BIND	+	.011	.177	.859	-.177	-3.086	.002*	-.121	-1.962	.051***	-.114	-1.976	.049**	-.115	-2.014	.045**
OWN	-	.091	1.658	.098***	.140	2.660	.008*	-.073	-1.294	.197	-.037	-.702	.483	.051	.980	.328
ACIND	+	.058	.969	.333	.251	4.395	.000*	.120	1.950	.052***	.173	3.022	.003*	.106	1.850	.065***
DUAL	-	-.106	-1.879	.061***	-.025	-.455	.649	.045	.767	.444	-.047	-.867	.386	-.093	-1.721	.086***
PROFIT	+	.081	1.478	.141	.038	.729	.467	-.026	-.462	.645	.009	.180	.857	.145	2.766	.006*
AWARD	+	.148	2.462	.014**	.314	5.434	.000*	.104	1.669	.096***	.184	3.165	.002*	.031	.543	.587
YEAR	+	.101	1.872	.062***	.015	.291	.771	.052	.932	.352	.110	2.108	.036**	.227	4.388	.000*

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level.



## 7.5 Additional Analysis of Key Individual SEDI Items

This thesis conducts additional analysis on selected SEDI items to gain further insight into the most commonly communicated social and environmental information by Indian TA firms. To examine the potential association between a set of predictor variables used in the main pooled regression model and these selected items, a logistic regression analysis is performed. Logistic regression is used when the dependent variable is a categorical variable whereas the predictor variables are continuous variables and/or categorical variables (Pallant 2011).

The individual SEDI items are selected on the basis of their average disclosure score. Among a list of 77 items of SEDI, the five top disclosed items in each of SEDI's two major themes are selected. The five most disclosed items for the social theme (see Table 5.5) are 'benefit provided for full-time employees', 'impacts of operations on communities', 'training for employees', 'health and safety topic stated' and 'customer satisfaction'. In regard to the environmental theme, the five most communicated items in the annual reports (see Table 5.8) are 'indirect energy consumption', 'materials used', 'direct energy consumption', 'incentives to mitigate environmental impacts', and 'initiatives to provide energy efficient or renewable energy'. The results of logistic regression on these most commonly disclosed items are presented in Table 7.8 for selected items in the social theme and Table 7.9 for selected items in the environmental theme.

Table 7.8 summarizes the logistic regression results for the five most disclosed SEDIs' items. The disclosure of 'benefit provided for full-time employees' (disclosed at about 95%) is only significantly associated with firm size ( $p = 0.005$ ). This finding suggests that larger firms tend to communicate more information in regard to 'benefit provided for full-time employees' than their counterparts. Interestingly, the other predictor variables have no influence on the disclosure of 'benefit provided for full-time employees' related information.

As presented in Table 7.8, the item 'impacts of operations on communities' which is disclosed at a 72.63% level is positively and significantly associated with firm size ( $p = 0.001$ ) and brand development ( $p = 0.004$ ). These findings suggest that larger firms and those that have an arrangement as suppliers for internationally reputable brand stores communicate more information on 'impacts of operations on

communities' than their counterparts. Both factors may be caused by higher public visibility. Therefore, such firms tend to provide more information in regard to their impacts on the communities in order to perhaps justify their operations. On the other hand, board independence (BIND) and ownership concentration (OWN) are not predictors for the disclosure of 'impacts of operations on communities'. In regard to the control variables, profitability ( $p = 0.000$ ) and year ( $p = 0.001$ ) are found to be positively and significantly associated with the disclosure of 'impacts of operations on communities'.

The extent of 'training for employees' disclosure is about 66%. As presented in Table 7.8, this item disclosure is positively and statistically influenced by firm size ( $p = 0.000$ ). This finding suggests that larger firms communicate more 'training for employees' in their annual reports than the smaller firms. There are no significant relationships between this item disclosure and the other independent variables (brand development, board independence and ownership concentration). In terms of the control variables, audit committee independence and year are not predictors for 'training for employees' disclosure. On the other hand, profitability and award obtained are positively and moderately associated with 'training for employees' disclosure ( $p < 0.100$ ). There is a negative association between CEO duality and 'training for employees' disclosure ( $p = 0.004$ ) suggesting that firms having less independence with the chairman of the board being the same person as the CEO in a firm communicate less 'training for employees' information.

Table 5.5 shows that 'health and safety' information is communicated at 48.77%. The results summarised in Table 7.8 indicate that firm size, brand development, audit committee independence, CEO duality, profitability and award obtained influence the disclosure of 'health and safety' information. The directional of the associations between predictor variables and dependent variable (reflected by the coefficients of regression) further reveal that firms having the position of CEO and chairman occupied by same person tends to disclose less 'health and safety' information whereas larger firms, firms having an arrangement as suppliers of world renowned brand stores, more profitable firms, and firms obtaining awards tend to disclose more information than their counterparts. Contrary to the expectation, firms having independent audit committees communicate less of this information.

As shown in Table 7.8, 'customer satisfaction' item (disclosed at about 40%) is positively and significantly associated with firm size ( $p = 0.000$ ), brand development ( $p = 0.012$ ), profitability ( $p = 0.001$ ) and year ( $p = 0.004$ ). These findings imply that larger firms, firms with arrangement as suppliers of international brand-name stores, and firms having better financial performance have a tendency to communicate more 'customer satisfaction' information in their annual reports. Moreover, firms tend to disclose more 'customer satisfaction' information in more recent years. Increasing competition in TA industry may encourage TA firms to disclose more information on this item. The firms may strive to build an image as customer oriented entities to the society to attract new prospective buyers as well as to retain their existing customers.

**Table 7.8 SEDIs Logistic Regression Results for Five Most Disclosed Items**

		<b>Benefits provided for full-time employees (SEDI = 95.44%)</b>		<b>Impacts of operations on community (SEDI = 72.63%)</b>		<b>Training for employees (SEDI = 65.96%)</b>		<b>Health and safety (SEDI = 48.77%)</b>		<b>Customer satisfaction (SEDI = 40.70%)</b>	
	<b>Predicted Sign</b>	<b>Coeff</b>	<b>p-value</b>	<b>Coeff</b>	<b>p-value</b>	<b>Coeff</b>	<b>p-value</b>	<b>Coeff</b>	<b>p-value</b>	<b>Coeff</b>	<b>p-value</b>
<b>Intercept</b>		-13.276	.022	-10.130	.000	-6.220	.013	-9.470	.000	-16.695	.000
<b>FSIZE</b>	+	1.544	.005*	.917	.001*	.832	.000*	1.027	.000*	1.544	.000*
<b>BRAND</b>	+	-.912	.284	1.582	.004*	-.030	.939	.618	.096***	.992	.012**
<b>BIND</b>	+	2.042	.606	1.979	.328	-2.099	.205	-.727	.671	1.669	.378
<b>OWN</b>	-	.398	.845	1.263	.226	.841	.377	.661	.491	-1.399	.201
<b>ACIND</b>	+	.223	.768	-.499	.161	-.217	.503	-.671	.039**	.374	.293
<b>DUAL</b>	-	1.021	.144	.105	.750	-.860	.004*	-.937	.001*	-.450	.158
<b>PROFIT</b>	+	9.444	.035**	9.489	.000*	4.079	.053***	5.380	.016**	8.676	.001*
<b>AWARD</b>	+	-.795	.293	-.432	.306	.681	.076***	.752	.032**	.607	.105
<b>YEAR</b>	+	.473	.483	1.310	.001*	.128	.699	.239	.473	1.095	.004*

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level. Five high disclosure social items are individually treated as the dependent variable in this logistic regression.

Table 5.8 in Chapter 5 reveals that ‘indirect energy consumption’ is the most disclosed item among 32 items in the environmental category (disclosed at 93.33%). Global Reporting Initiative (GRI 2000, 4) defines indirect energy as “energy produced outside the reporting organization’s organizational boundary that is consumed to supply energy for the organization’s intermediate energy needs”. For instance, energy consumed for repackaging raw materials and energy consumed for heating and cooling administrative buildings are the example of indirect energy consumed in TA firms. As shown in Table 7.9, there are three variables that potentially explain the variation in the disclosure of ‘indirect energy consumption’. More specifically, larger firms tend to provide this information more than the smaller ones ( $p = 0.069$ ). Firms with better financial performance engage in more disclosure on ‘indirect energy consumption’ related information ( $p = 0.000$ ). Firms having duality leadership structure are less likely to communicate this information more than firms that have different individuals occupying the CEO and chairman of the board roles ( $p = 0.069$ ).

The extent of disclosure of ‘materials used’ information is 86.32% (see Table 5.8 in Chapter 5). The only variable that influences the ‘materials used’ disclosure is firm size ( $p = 0.000$ ). Larger firms communicate this information more than the smaller ones.

Direct energy refers to “forms of energy that enter to the reporting organization’s operational boundaries” (GRI 2000, 3). Electricity and fuel consumption for producing TA products is an example of direct energy consumption. In regard to ‘direct energy consumption’ information (disclosed at 84.56%), none of the independent variables predict the disclosure of such information ( $p > 0.100$ ). On the other hand, Table 7.9 reports that firms having independent audit committees tend to disclose more ‘direct energy consumption’ information than those which not having independent audit committees ( $p = 0.071$ ). Moreover, firms obtaining renown awards such as ISO 14001 and SA 8000 engage in more ‘direct energy consumption’ disclosure ( $p = 0.017$ ).

Indian TA firms disclose ‘incentives to mitigate environmental impacts’ related information at 71.58%. Table 7.9 suggests that firm size ( $p = 0.000$ ), profitability ( $p = 0.014$ ) and year ( $p = 0.006$ ) influence the disclosure of this information. These findings imply that larger and more profitable firms communicate

more ‘incentives to mitigate environmental impacts’ related information than their counterparts. Moreover, there is a tendency that firms providing this information more each year within the three year sample period.

Table 5.8 in Chapter 5 indicates that ‘initiatives to provide energy efficient or renewable energy’ is disclosed at 69.82%. As summarised in Table 7.9, firms size ( $p = 0.001$ ), audit committee independence ( $p = 0.004$ ), profitability ( $p = 0.093$ ), award obtained ( $p = 0.035$ ) and year ( $p = 0.000$ ) potentially influence the disclosure of ‘initiatives to provide energy efficient or renewable energy’ information in positive direction. Brand development ( $p = 0.091$ ) and ownership concentration ( $p = 0.038$ ) are also found to be statistically associated with such disclosure. However since the direction of these two variables are opposite to the predicted sign; brand development (BRAND) and ownership (OWN) concentration are not considered as theory-driven determinants of this type of information.

In summary, the logistic regression results provide evidence that there are different determinants for each of the most popular SED’s items. However, firm size is the strongest predictor for all of five most commonly disclosed items in social theme. The finding on the significant influence of firm size on the disclosure of these five most popular social disclosure’s items is aligned with legitimacy theory perspective. Larger firms tend to receive more attention from various groups in society (Muttakin and Khan 2014). Therefore, larger firms strive to satisfy the expectation of their influential stakeholders such as government and customers (particularly foreign buyers) by communicating these five most disclosed items (i.e. ‘benefits for full-time employees’, ‘impacts of operations on community’, ‘training for employees’, ‘health and safety’ and ‘customer satisfaction’). Such a communication strategy may help the firms to negate any potential legitimacy problems that may arise. The results of logistic regression indicate no association between board independence as well as ownership concentration and the disclosure of all selected items in these social themes. These findings suggest that corporate governance elements seem to exert little influence<sup>15</sup> on these selected items. Brand

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<sup>15</sup> The logistics regression results indicate that there is negative and significant association between CEO duality (a control variable) and the disclosure of ‘training for employees’ and ‘health and safety’. Firms having a dual leadership structure with the same person occupying as both chairperson of the board and CEO positions provide less communication on these two selected items.

development only influences the disclosure of 'impact of operation on community', 'health and safety topic covered' and 'customer satisfaction' related information. This finding indicates that Indian textile and apparel (TA) firms may emphasise the disclosure of these selected items perhaps to address the concerns of their existing or potential renowned foreign buyers. The disclosure on these three items may have greater external impact on such foreign buyers to keep or decide to outsource TA products from emerging countries. Control variables have mixed influences on these five most communicated social disclosure's items.

Second, in regard to environmental themes, firm size influences the firms in communicating all of five selected items in environmental theme (except for 'direct energy consumption'). Larger firms particularly those in the sensitive TA industry may receive more pressure from the society to clearly communicate their operations that potentially harms the natural environment. As a reaction of such pressure in justifying their business operations, larger firms release more information on 'indirect energy consumption', 'material used', 'initiatives to mitigate environmental impacts' and 'initiatives to provide energy efficient or renewable energy'. The insignificant statistical association between firm size and the disclosure of 'direct energy consumption' is perhaps because no matter the size of the firms, they disclose 'direct energy consumption' as this type of energy consumption is easier to measure than the indirect one. Interestingly, the other independent variables (brand development, board independence and ownership concentration) are not the predictors of any of these most disclosed items in the environmental theme. The finding that brand development is not the determinant of these selected environmental disclosure's items may indicate Indian TA firms affiliated with international brand-name companies do not attach as much importance on environmental issues to be communicated in the annual reports. This might be because information on social issues attracts more interest from foreign buyers than environmental issues. Similar to the logistic regression results for social disclosure's items, corporate governance attributes have little influence on the disclosure of the selected environmental disclosure's items. Control variables have mixed influences on these selected items.

**Table 7.9 SEDIe Logistic Regression Results for Five Most Disclosed Items**

		Indirect Energy consumption (SEDI = 93.33%)		Materials used (SEDI = 86.32%)		Direct energy consumption (SEDI = 84.56%)		Initiatives to mitigate environmental impacts (SEDI = 71.58%)		Initiatives to provide energy-efficient or renewable energy (SEDI = 69.82%)	
	Predicted Sign	Coeff	p-value	Coeff	p-value	Coeff	p-value	Coeff	p-value	Coeff	p-value
<b>Intercept</b>		-3.229	.551	-12,010	.001	-2.025	.504	-14.062	.000	-10.425	.000
<b>FSIZE</b>	+	.846	.069***	1.334	.000*	.419	.145	1.537	.000*	.915	.001*
<b>BRAND</b>	+	-.320	.721	.757	.348	-.713	.147	.516	.309	-.736	.091***
<b>BIND</b>	+	-2.682	.447	-1.245	.622	-2.273	.280	-2.405	.209	-.876	.635
<b>OWN</b>	-	-1,023	.568	2.435	.053***	.561	.625	1.727	.119	2.172	.038**
<b>ACIND</b>	+	1.045	.108	.695	.118	.727	.071***	.408	.261	1.008	.004*
<b>DUAL</b>	-	-1.347	.069***	.145	.735	-.318	.408	-.487	.157	.195	.553
<b>PROFIT</b>	+	13.303	.000*	4.678	.108	2.099	.421	5.868	.014**	3.951	.093***
<b>AWARD</b>	+	1.610	.156	.351	.566	1.442	.017**	.450	.317	.903	.035**
<b>YEAR</b>	+	.449	.475	.601	.711	.616	.137	1.028	.006*	1.755	.000*

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level. Five high disclosure environmental items are individually treated as the dependent variable in this logistic regression.



## 7.6 Endogeneity Issues

The regression analysis discussed in Chapter 6 assumes that the independent variables are exogeneously determined (Taylor 2008). However, board independence (BIND) seems to be potentially driven by endogenous factors that potentially limit the regression analysis since the estimators of the regression models are invalid when the endogenous explanatory variables present. In selecting board structure, a board may consider appointing directors with certain levels of independence based on the complexities, governance and regulations faced by the firm. As highlighted in prior research, board appointment is determined by a number of factors (e.g. and Weisbach 1998; Linck, Netter, and Yang 2008). For instance, large firms are more likely to appointed directors that are independent to comply with new governance regulation. Firms with complex operating, financial and monitoring structures tend to appoint independent directors who have a range of expertise. Firms with poor economic performance tend to have more board independence. In other words, the extent of board independence may be driven by endogeneous factors that may not be necessarily associated with SED. As such, the main regression analysis may be misspecified and resulting in biased coefficient estimates. This thesis addresses these potential endogeneity issues by including a number of control variables such as CEO duality and firm profitability in the regression models. In addition, this thesis also performs propensity score matching test and lagged analysis to further deal with these issues.

This thesis conducts a propensity score matching analysis as a robustness check of the main regression results reported in Table 6.3. Following previous studies (e.g. Lennox, Francis and Wang 2012; Hoi, Wu and Zhang 2013; Taylor and Richardson 2014), this thesis undertakes the analysis in two steps. First, BIND is re-measured as a dummy variable. The variable is scored 1 if the proportion of independent non-executive directors on the board above the median of 50% and is scored 0 if otherwise. Then, a logistic regression model is run for BIND for each year. The explanatory variables used in the logistic regression include firm size, brand development and ownership concentration as well as control variables (i.e. audit committee independence, CEO duality, profitability and award obtained). The predicted estimates from this logistic regression are used as the propensity scores for

each firm-year observation. Second, ‘one-to-one’ matched pairs were established based on the propensity score of both the treatment (i.e. BIND > median) and non-treatment (i.e. BIND < median) groups. In a majority of the cases, the propensity scores are matched to two decimal places. This procedure creates a set of matched pair of firm-year consisting of an effectively match 220 firm-year observations for BIND. Although their observable characteristics are similar, their BIND variable is dissimilar. After matching of these variables, any difference in the outcome of interest (i.e. SED) can be attributed to the differences in BIND rather than to the differences in the other variables.

Table 7.10 presents the regression results based on the matched pairs samples. The model is significant ( $p$ -value = 0.000) with the predictive power (adjusted  $R^2$ ) of about 63%. Along with all control variables, firm size, brand development and board independence influence the SED. Overall, the results indicate consistent findings with the main Table 6.3. Therefore, it can be argued that the matching analysis tends to show that the regression results are attributable to systematic differences in BIND rather than to differences in the other characteristics.

**Table 7.10 Multiple Regression Results: Propensity Matching Analysis**

		Pooled Data		
<b>Adjusted R<sup>2</sup></b>		.629		
<b>F value</b>		47.426		
<b>F significance</b>		.000*		
<b>N</b>		220		
	<b>Predicted Sign</b>	<b>Coeff</b>	<b>T- stat</b>	<b>p-value</b>
<b>Intercept</b>		-.286	-6.430	.000
<b>FSIZE</b>	+	.559	11.525	.000*
<b>BRAND</b>	+	.116	2.319	.021**
<b>BIND</b>	+	-.091	-2.127	.035**
<b>OWN</b>	-	.052	1.202	.231
<b>ACIND</b>	+	.122	2.682	.008*
<b>DUAL</b>	-	-.120	-2.741	.007*
<b>PROFIT</b>	+	.147	3.504	.001*
<b>AWARD</b>	+	.207	4.388	.000*

Legend: \* significant at 1% level and \*\* significant at 5% level.

Another possible technique to address potential endogeneity issues is lagged analysis (e.g. Barros, Boubaker, and Hamrouni 2013) since one variable may influence another variable with a time lag. In other words, the predictor variables in previous year may also endogenously influence the dependent variable in the current year. This thesis performs lagged analysis in three regression models. In the first model, predictor variables in year 2010 are regressed with SEDI 2011. The association between predictor variables in year 2011 and SEDI 2012 is estimated in Model 2. In Model 3, the association between the predictor variables are derived from year 2010 and the dependent variable is SEDI 2012.

As summarised in Table 7.11, multiple regression results of lagged analysis show that all of regression models are significant ( $p$ -value = 0.000) and have explanatory power ranging between 56.4% and 65.1%. When comparing the results of the main regression Table 6.3 and the lagged analysis in Table 7.11, the direction of the association between predictor variables and SEDI are consistent for all models. In regard to the independent variables, in the main regression for year 2011, BRAND moderately influences SEDI whereas no significant association between these two variables is evidenced in Model 1 (see Table 7.11). When comparing the results of Model 2 and Model 3 in regard to the main regression year 2012 (see Table 6.3), more robust findings are evidenced for Model 2. More specific analysis for BIND reveals that BIND negatively influences SEDI in Model 1 and Model 3. However, there is no relationship between these two variables in Model 2 although the direction of the relationship is consistently negative. One possible explanation for this inconsistent BIND finding is possibly derived from the insignificance of BIND in year 2011 in determining SEDI 2011 (see Table 6.3). Then, when BIND in year 2011 is used to predict SEDI 2012 (as in Model 2), similar finding is documented.

In summary, propensity score matching test and lagged analysis are performed to address potential endogeneity issues. Overall, the results of these analyses indicate similar findings to the main Table 6.3. Therefore, endogeneity is not deemed a concern in determining the association between the predictor variables (particularly board independence) and social and environmental disclosure (SED).

**Table 7.11 SEDI Multiple Regression: Lagged Analysis**

		Model 1			Model 2			Model 3		
<b>Adjusted R<sup>2</sup></b>		.651			.584			.564		
<b>F value</b>		22.940			17.493			16.216		
<b>F significance</b>		0.000*			0.000*			0.000*		
<b>n</b>		95			95			95		
	Predicted Sign	Coeff	T- stat	p-value	Coeff	T-stat	p-value	Coeff	T-stat	p-value
<b>Intercept</b>		-.267	-4.505	.000	-.238	-3.509	.001	-.230	-3.145	.002
<b>FSIZE</b>	+	.569	8.049	.000*	.505	6.578	.000*	.505	6.392	.000*
<b>BRAND</b>	+	.087	1.240	.218	.196	2.530	.013**	.139	1.770	.080***
<b>BIND</b>	+	-.162	-2.315	.023**	-.074	-.963	.338	-.211	-2.692	.009*
<b>OWN</b>	-	-.093	-1.478	.143	-.024	-1.347	.130	-.093	-1.315	.192
<b>ACIND</b>	+	.188	2.749	.007*	.098	1.317	.191	.207	2.716	.008*
<b>DUAL</b>	-	-.082	-1.253	.214	-.158	-2.257	.027**	-.093	-1.272	.207
<b>PROFIT</b>	+	.158	2.497	.014**	.164	2.389	.019**	.190	2.682	.009*
<b>AWARD</b>	+	.244	3.564	.001*	.159	2.109	.038**	.150	1.964	.053***

Legend: \* significant at 1% level, \*\* significant at 5% level, and \*\*\* significant at 10% level. **Model 1:** predictor variables year 2010 and SEDI year 2011. **Model 2:** predictor variables year 2011 and SEDI year 2012. **Model 3:** predictor variables year 2010 and SEDI year 2012.

## **7.7 Summary**

This chapter offers sensitivity and additional analyses to gain further insight on the extent of social and environmental disclosure (SED) practices of Indian textile and apparel (TA) firms. This thesis conducts sensitivity analysis by changing the measurement of the independent variables and the dependent variable. The regression results of this analysis indicate similar findings to the main Table 6.3. The measurement constructs used in this thesis seem robust. Firm size is consistently the strongest predictor for SED for all years and pooled data. Board independence and ownership concentration are not the predictors for SED. In regard to brand development, the results suggest that the power of this variable in influencing SED seems to be weakened when broader measurement is used (not only covering international brands but also including domestic brands). This finding suggests that international exposure (being suppliers of international brand-name stores) seems to encourage the firms to release more social and environmental information in their annual reports.

This chapter also provides extra insights by conducting additional analysis on SED's major sub-categories and logistic analysis on the fifth most commonly disclosed items each for social and environmental themes. Furthermore, to address a concern on endogeneity issues, this chapter performs propensity score matching and lagged analyses. The results of social disclosure's sub-categories indicate similar findings to the main regression Table 6.3 (except for 'human rights'). Empirical evidence from logistic regression results suggests that there are at times different determinants for each of selected SED's items. However, firm size remains the strongest predictor for all of the most commonly disclosed items (except for 'direct energy consumption'). Overall, endogeneity is not considered to be a significant issue that may adversely bias the regression models used in this thesis.

The final Chapter 8 summarises the key findings of this thesis. Implications of the conclusions derived from the previous three chapters on descriptive, multivariate and additional analyses are offered and related to the theoretical perspective.

## **CHAPTER 8: DISCUSSION AND CONCLUSIONS**

### **8.1 Introduction**

Chapters 5, 6 and 7 report the descriptive statistics, univariate, multivariate, sensitivity and additional analyses concerning the extent of social and environmental disclosure (SED) practices of Indian textile and apparel (TA) firms and their predictors based on legitimacy theory tenets. This chapter first provides a summary of key findings of these analyses and then discusses the implications, contributions, and limitations of these findings. This chapter then advances future research ideas. Finally, this chapter provides concluding remarks.

### **8.2 Summary of Key Findings**

The objective of this thesis is to investigate the extent of corporate social and environmental disclosure of Indian listed companies in the textile and apparel (TA) industry for the 2010, 2011, and 2012 financial years. The sole focus on TA industry highlights the importance of this industry in the economic development of India and generally in emerging economies. The final 95 sample firms are randomly selected from the Bombay Stock Exchange (BSE) resulting in a total of 285 firm-year observations.

The investigation of SED and its two major categories: social disclosure (SEDs) and environmental disclosure (SEDe) are based on GRI's (2008) performance indicators for social and environmental information that are most relevant and applicable for the TA industry. The unweighted disclosure index consists of a total of 77 items that further broken down into a social disclosure index (SEDI<sub>s</sub>) comprising 45 items and the environmental disclosure index (SEDI<sub>e</sub>) listing 32 items. Table 8.1 summarises the key findings relating to the research questions.

**Table 8.1 Summary of Research Questions and Findings**

Research Questions	Findings	Relevant Section
1. To what extent do Indian TA listed firms provide voluntary social and environmental disclosure (SED) in their annual reports?	The results indicate a low extent of SED over the three year period with an overall mean of 13.57%. The extent of such communication has increased slowly over time ranging from 12.11% in 2010, 13.69% in 2011, and 14.92% in 2012.	Table 5.1 Section 5.2 (Chapter 5)
2. What is the relationship between corporate characteristics and the extent of social and environmental disclosure (SED) of Indian textile and apparel (TA) listed firms?	The results of multiple regression analysis provide evidence that all corporate characteristics variables are significant predictors of the extent of SED. There are positively and statistically significant associations between firm size, brand development, profitability, award obtained and the extent of SED for each year (except for brand development in the 2010 year) and for pooled data. These findings are consistent with legitimacy theory concepts.	Table 6.3 Section 6.4 (Chapter 6)
3. What is the relationship between corporate governance variables and the extent of social and environmental disclosure (SED) of Indian textile and apparel (TA) listed firms?	Overall, corporate governance variables have very little influence on SED practices across the years. Multiple regression analysis shows that audit committee independence and CEO duality are significant determinants of the extent of SED for each year (except for CEO duality in the 2010 year) and for pooled data. Audit committee independence is positively and significantly associated with the extent of SED. CEO duality is negatively and significantly associated with the extent of SED. Board independence and ownership concentration are not significant predictors of the extent of SED. These findings are not consistent with legitimacy theory concepts.	Table 6.3 Section 6.4 (Chapter 6)
4. Does the level of social disclosure differ from	The extent of both social and environmental disclosures by Indian textile and apparel (TA) firms remain	Table 5.4 Section 5.2 (Chapter 5)

<p>environmental disclosure?</p>	<p>low throughout the sample years and for pooled data. The mean social disclosure index (SEDIs) ranges from 8.95% in 2010, 10.59% in 2011, and 11.78% in 2012 with an overall mean of 10.44%. In comparison, the mean environmental disclosure index (SEDIe) is higher ranging from 16.54% in 2010, 18.06% in 2011, and 19.34% in 2012 with an overall mean of 17.98%. The results of paired sample t-tests provide evidence that Indian TA firms statistically and significantly communicate more environmental information than social information in their annual reports for each year and for pooled data.</p>	
<p>If so, what characteristics help explain these differences?</p>	<p>The results of multiple regression analyses indicate that brand development, audit committee independence, CEO duality, profitability and award obtained are the key variables that account for the difference in extent of SEDs and SEDe in annual reports. These variables have mixed influences on SEDs and SEDe as follows:</p> <ul style="list-style-type: none"> <li>▪ Audit committee independence and award obtained (except for pooled data) are not the predictors of the extent of SEDs for each year and pooled data. On the other hand, brand development, CEO duality and profitability determine the extent of SEDs for each year (except for CEO duality in 2010 regression year) and pooled data.</li> <li>▪ Contrary to the findings for SEDs, brand development, CEO duality and profitability are not significant determinants of the extent of SEDe for each year (except for profitability in 2011 year) and for pooled data. However, audit committee independence and award obtained explain the variability of</li> </ul>	<p>Table 6.5 for SEDIs and Table 6.7 for SEDIe Section 6.5 (Chapter 6)</p>



	SEDe practices for each year and for pooled data.	
	The other predictor variables (i.e. firm size, board independence and ownership concentration) have a similar influence on both SEDs and SEDe practices. These findings are similar to the results of SED.	

Using legitimacy theory, projected insights on prime drivers of social and environmental disclosure are offered. Based on this theory, this study incorporates firm characteristics (firm size, brand development, profitability and award obtained) and corporate governance attributes (board independence, ownership concentration, audit committee independence and CEO duality) as the key predictors of social and environmental communication. The incorporation of corporate governance attributes is an essential analytical component as such mechanisms potentially influence management behaviour in voluntarily disclosing social and environmental information in annual reports. Table 8.2 summarises the results of hypotheses testing.

**Table 8.2 Summary of Hypotheses Testing Results**

<b>Variables</b>	<b>Hypotheses</b>	<b>Results</b>
Firm Size	H1: All else being equal, there is a positive association between firm size and the extent of social and environmental disclosure by Indian textile and apparel firms.	Accepted
Brand Development	H2: All else being equal, there is a positive association between brand development of TA products and the extent of social and environmental disclosure by Indian textile and apparel firms.	Accepted
Board Independence	H3: All else being equal, there is a positive association between the board independence and the extent of social and environmental disclosure by Indian textile and apparel firms.	Rejected

Ownership Concentration	H4: All else being equal, there is a negative association between the extent of ownership concentration and the extent of social and environmental disclosure by Indian textile and apparel firms.	Rejected
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Source: Table 6.3 Section 6.4 of Chapter 6.

The main model results (see Table 8.2) are robust to a battery of sensitivity tests (see Chapter 7). A series of sensitivity tests incorporating alternative measurement specification of the dependent variable indicate that results (see Tables 7.1, 7.2 and 7.3 of Chapter 7) are similar to that of the main model results (see Table 6.3 of Chapter 6). These findings provide clear support for the validity of the dependent variable as a suitable construct to measure the extent of SED. As expected, firm size is a significant predictor of SED for all years and for pooled data. Further, brand development is significantly positively associated with SED in the annual reports of Indian textile and apparel (TA) firms. No significant relationship is found between board independence, and ownership concentration and SED. However, in regard to the control variables (audit committee independence, CEO duality, profitability and award obtained) variably significant results are found when compared to the main model findings in Table 6.3.

Furthermore, sensitivity analysis of independent variables using alternative measurement of these variables adds support to the validity of the main findings. Firm size (alternatively measured by natural logarithm of total sales) remains the strongest predictor of SED. When a broader alternative measurement specification is used for brand development incorporating not only international brands but also domestic brands, the significance of this variable in influencing SED is reduced. This finding suggests that international exposure may better encourage Indian TA firms to disclose more social and environmental information in their annual reports. Consistently, board independence is not a significant predictor of SED. In regard to ownership concentration, it appears that the measurement specification influences the relationship between this variable and SED. The control variables are variably significant determinants of SED. Overall, corporate governance variables have little influence on SED practices by Indian TA firms.

Legitimacy theory tenets are supported for the corporate characteristics (H1 and H2); however, they are not supported for the corporate governance variables (H3 and H4). These findings reinforce ongoing concerns in the Indian context about the efficacy of corporate governance mechanism (Jindal and Kumar 2012; Kumar and Singh 2013; Nurhayati et al. 2014a, b).

### **8.2.1 Extent of SED over Sample Periods**

This study finds that the extent of social and environmental disclosure by Indian textile and apparel (TA) firms whilst low in all years increased marginally over time ranging from 12.11% in 2010, 13.69% in 2011, and 14.92% in 2012. The increase in SED practices over time may be interpreted as a response of firm management seeking to address the higher expectations of stakeholders (Gunawan and Hermawan 2012). It is crucial for firms operating in socially and environmentally sensitive industries such as the textile and apparel (TA) industry to respond to an increasing awareness of stakeholders in order to secure societal legitimacy. Another reason for this result could be the recent development of CSR regulations in India following the amendment of the *Company Act of 1956* clause 135 in 2013 that requires Indian firms to allocate at least 2% of their average net profits in previous three years on CSR activities (Kansal, Joshi, and Batra 2014). According to this Act that governs the CSR practices in India; Indian firms are subject to CSR provisions if they report a turnover of at least 10 billion Rupee (approximately USD 160 million) or a net worth of at least 5 billion Rupee (approximately USD 80 million) or a net profit of at least 50 million Rupee (approximately USD 800.000) (PwC India 2013; Sawhney et al. 2014). This new regulation may significantly influence CSR reporting practices in India as the Government may introduce such a new regulation before its implementation. As argued by Haji (2012), the increasing disclosure of voluntary social and environmental information is a likely response of corporations to recent changes in the business environment in a particular country.

Overall, results indicate a consistently low extent of SED over the three year period with overall mean of social and environmental disclosure index (SEDI) of

13.57% and minimum and maximum SEDI of 1.30% and 33.77%, respectively. These results are consistent with that documented in other emerging economies (e.g. Belal 2000; Cahaya, Porter, and Brown 2006; Nurhayati et al. 2006; Gunawan 2007; Said, Zainuddin, and Haron 2009; Sobhani, Amran, and Zainuddin 2009; Al-Shammari and Al-Sultan 2010; Khan 2010; Othman and Ameer 2010; Said et al. 2011; Cahaya et al. 2012; Djajadikerta and Trireksani 2012; Ienciu 2012; Bowrin 2013; Khan et al. 2013; Kansal et al. 2014). The finding of such a low extent of SED in emerging economies is possibly caused by the lack of reporting regulations relating to social and environmental issues and the lack of qualified accountants in introducing such issues into the reporting system (Abu Shiraz 1998 cited in Ismail and Ibrahim 2008).

Although, previous SED studies reported similar finding on the low extent of such disclosure practices; it is difficult to make direct comparisons with these studies due to different measurement techniques used in virtually every study (e.g. content analysis versus disclosure index), disclosure media used (e.g. annual reports versus web sites) and number of disclosure themes addressed. Some studies solely address particular social issues (e.g. labour practices or human resources disclosure) or environmental concern, whilst others take a far broader approach. Furthermore, although the measurement technique and themes addressed are similar, a completely direct comparison on the extent of social and environmental disclosure is rarely possible. This is because of the vastly different items incorporated (or omitted) in determining the dependent variable (in this thesis it is SED index) exists among these studies. Table 8.3 summaries the findings of recent previous studies on the extent of SED.

**Table 8.3 Summary of the Findings on the Extent of SED**

<b>Study</b>	<b>Country</b>	<b>Number of Items Included</b>	<b>Findings (Mean Averages)</b>
This thesis	India	77 items	13.57%
Khan (2010)	Bangladesh	60 items	34.06%
Said et al. (2011)	Malaysia	86 items	8.69%
Haji (2012)	Malaysia	23 items	17.51% (in 2006) 31.24% (in 2009)

Bowrin (2013)	Caribbean countries (Barbados, Jamaica, Trinidad and Tobago)	43 items	33.70%
Khan et al. (2013)	Bangladesh	20 items	22.30%
Sharif and Rashid (2014)	Pakistan	60 items	47.07%

There are a number of possible reasons that may explain the overall low extent of SED (13.57%) by Indian TA firms over the sample periods. First, in the Indian business context, the promoters are viewed as an essential part as “Indian firms being more family (or promoters) run business” (Jindal and Kumar 2012, 234). The promoters may actively manage the firms’ businesses and may have direct access to the source and disclosure of information thus further disclosure is not needed. Furthermore, although the promoters probably have sufficient information on social and environmental affairs, they may in general not consider social and environmental information as critical elements of the business that need to be externally communicated. Therefore, the promoters may not encourage such information on social and environmental issues be extensively communicated in firms’ annual reports. However, the finding of this thesis reveals that ownership concentration is not significant predictor for SED by Indian TA firms.

Second, the overall ineffectiveness of corporate governance structures of Indian TA firms may lead to lower voluntary disclosure practices. This is because board of directors and the committees including the audit committee may not effectively exercise their role in directing and supervising disclosure decisions made by firms’ management. This may lead to lower level of voluntary information communicated in annual reports. Emerging economies, including India, are largely characterised as having weak legal systems and concentrated ownership structure leading to ineffective implementation of corporate governance mechanisms (Sarkar and Sarkar 2012). Furthermore, Rosser (2003) point out problems with the implementation and enforcement of corporate governance reform in such regions. Corporate governance reforms are remarkably similar across countries as the emerging economies tend to adopt such practices from

developed nations (Berglöf and Claessens 2004). However, Berglöf and Claessens (2004) point out that the practices of such reforms significantly differ between these two regions due to the lack of enforcement in emerging economies. In India, the lack of rewards and incentives provided may also contribute to the low extent of SED communication. As argued by Priyadarshini and Gupta (2003), the absence of economic incentives for corporations in regard to the compliance with environmental regulations contributes to poor environmental reporting in India. Similarly, Andrikopoulos and Kriklani (2013) suggest that the regulators in Denmark may need to introduce incentives to encourage more extensive environmental disclosure in that country.

Third, cultural factors may also contribute to the low extent of voluntary disclosure. Iskandar and Pourjalali (2000) argue that such factors influence the characteristics of accounting practices of a country. As discussed in sub-section 2.3.1.1 of Chapter 2, using Gray's concept (1988) to link Hofstede's cultural dimensions particularly 'power distance' and accounting values, the characteristics of accounting values in India can be described as having low 'professionalism', high 'uniformity', low 'conservatism', and high 'secrecy'. These characteristics arguably influence the accounting practices in India in that they may lead to lower voluntary disclosures in general and lower levels of disclosure of social and environmental information specifically.

Fourth, engagements in charity and philanthropy activities are still prevalent on CSR practices by Indian firms (Chahoud et al. 2007). However, the corporate engagement in social and environmental activities "may not necessarily translate into the disclosure of those activities" (Muttakin and Khan 2014, 173). Belal and Cooper (2011) indicate inherent problems in communicating such charitable activities information as it may raise questions from the shareholders asking justification on such activities and may attract more external parties demanding donations from the firms. As such, although the firms do conduct some social and environmental charitable activities, they may reluctant to disclose these activities.

### **8.2.2 Extent of SEDs and SEDe over the Sample Periods**

Further analysis on SED's major categories reveals increasing practices (albeit slowly) for both the social and environmental disclosure categories. This may reflect the increasing public awareness and more effort taken by Indian TA firms to communicate social and environmental information over time. In addition, the results indicate that Indian TA firms communicate more environmental information than social information in their annual reports over the sample period. As evidenced in Figure 5.1, the mean social disclosure index (SEDIs) ranges from 8.95% in 2010, 10.59% in 2011, and 11.78% in 2012 with an overall mean of 10.44% suggesting a low extent of social disclosure practices. In comparison, the mean of environmental disclosure index (SEDe) is higher ranging from 16.54% in 2010, 18.06% in 2011, and 19.34% in 2012 with an overall mean of 17.98%.

A higher level of environmental information than the social information disclosed in annual reports may be partially due to cultural and religious factors unique to Indian society that relate to deep-rooted linkages between dissidents and their concern and appreciation for conservation and the use of natural resources (Banwari 1992 cited in Pastakia 2002). Another possible explanation is the nature of the TA industry. Firms operating in more environmentally sensitive industries, including the textile and apparel (TA) industry, tend to provide more environmental information than firms operating in less environmentally sensitive industries possibly to secure their legitimacy status. As argued by Kuo and Chen (2013) communicating such information may significantly improve perceived legitimacy of firms operating in environmentally sensitive industries.

The analysis of social disclosure sub-categories reveals that most Indian TA listed companies commonly communicate social information relating to 'labour practices and decent work' while disclosure of 'human rights' is virtually non-existent with overall means of 19.33% and less than 1%, respectively. The finding that firms communicate 'labour practices and decent work' related information aligns with the results found in previous studies (e.g. Belal 2001; Braco and Rodrigues 2008; Khan 2010; Islam and Deegan 2010; Faisal et al. 2012; Gunawan and Hermawan 2012). This finding may indicate that Indian TA firms place increasing importance in communicating labour practices related information. One possible reason for 'labour

practices and decent work' being the most popular social disclosure sub-categories is that labour practices related information particularly for the TA industry in emerging economies may attract considerable interest of stakeholders including government agencies, media, labour unions and foreign buyers. Tension amongst stakeholders arguably poses a threat to the legitimacy of TA firms. Therefore, disclosing more labour related information may be a strategy technique used by Indian TA firms to alleviate such tension in order to secure societal legitimacy.

In regard to the labour practices sub-category, 'benefits provided for full-time employees' is the most communicated item in the annual reports (95.44%) followed by 'training for employee' (65.96%) and 'health and safety topics covered or stated' (48.77%). Similar findings are also reported by Sandhu and Kapoor (2010) in their examination of 93 Indian firms from various industries. Although textile and apparel (TA) firms are frequently criticised as having high probability of accidents (Yperen 2006), Indian TA firms communicate a very low extent of 'injury and fatalities' information (8.07%). Firm management seem to be reluctant to communicate information that may harm their image. An unfavourable image in the eyes of the stakeholders may pose a threat to firms' legitimacy. In addition, the descriptive findings suggest that Indian TA firms almost completely fail to communicate a number of items pertaining to 'migrant workers', 'employees collective bargain agreement', 'musculoskeletal disease', and 'ratio of basic salary of men to women'.

The finding that firms provide negligible disclosure of the nine 'human rights' items (less than 1%) may indicate that Indian TA firms do not take such crucial issues seriously and thus fail to communicate such important information adequately in the annual reports. Crucial issues in regard to 'human rights' such as child labour and forced labour are communicated very sparsely in the Indian annual reports. For instance, Sutlej Textiles and Industries Limited is the only company that disclosed piecemeal information on child labour employment in its 2010 annual report. The firm acknowledged that such a sensitive issue may pose a threat for the firm to compete globally because Western countries as the major export destinations conform to International Labour Organization (ILO) guidelines. The finding on low disclosure of child labour issues is in line with Sandhu and Kapoor (2010). These authors highlight



that only six (6.45%) Indian firms disclosed their policy on child labour. None of the sample firms release 'force or compulsory labour' information. These findings may suggest that Indian TA firms do not consider that disclosing information on 'human rights' issues such as freedom of association, formally facilitate such rights, and forced and child labour as beneficial factors for the firms. It is possible that the firms tend to only communicate good or positive information in order to possibly avoid undesirable media exposure. Negative media publicity for instance on child labour and forced labour issues may be very detrimental to the image and reputation of the firms that may severely influence the legitimacy status of these firms. Belal and Cooper (2011) state that 'fear of negative publicity' and 'lack of legal requirement' may account for the absence of child labour disclosure by Bangladeshi firms.

In regard to the 'society' sub-category, 'impacts of operations on communities' is the most disclosed item (72.63%). This finding suggests that Indian textile and apparel (TA) firms tend to communicate information about their charitable activities to the community as such activities may help the firms to justify their existence in order to gain support from the community. The activities include donations to temples, providing public health facilities and services, sponsoring social and religious events, sponsoring educational programs, providing scholarships, and conducting blood donation programs. This figure is followed by 'priorities in community investment strategy' (14.39%). Indian TA firms tend to prioritise their donations or conduct charity events to the community surrounding their TA plants such as programs for women empowerment, youth education, and public health. The other eight items in the 'society' sub-category, including important issues concerning corruption, political-links, monopoly practices and sanctions are all virtually not communicated (3% or less).

Pertaining to the 'product responsibility' sub-category, 'customer satisfaction' is the most commonly disclosed information (40.70%). This finding suggests that Indian TA firms value customer satisfaction. This might be because customers are perceived as one of the most important stakeholders of TA firms that might influence the legitimacy of the firms to continually operate; consequently, efforts are made to minimise customer dissatisfaction. The other eight items in this sub-category are virtually not communicated by Indian TA firms. Again, the non-disclosure on items such as 'incident

of non-compliance regulations and codes' in regard to 'product responsibility, 'complaints regarding breaches of customer data losses and privacy', and 'fines for non-compliance with laws concerning provision and use of products' may relate to negative reputation effects. Negative information may be unfavourably perceived by the stakeholders that potentially create legitimacy threats for firms.

In regard to the environmental disclosure sub-categories, the results shows that 'energy' is the highest sub-category of information disclosed in the annual reports over time with an overall mean of 55.73%. The lowest environmental disclosure sub-categories of information disclosed are 'emissions, effluents and waste' with overall mean about 6% while 'water and biodiversity' is by far the least disclosed category with the overall mean less than 2%. One possible explanation for 'energy' as the most disclosed category is probably because the TA industry is an energy intensive sector and the ongoing energy shortage is one of the main issues in India and is highly politically visible (Ministry of Textiles, GOI 2012b). Therefore, communicating such information particularly the consumption of direct and indirect energy extensively in the annual reports (more than 80%) may help firms to justify the high level of energy consumption. Ironically, the least extensive disclosure on 'water and biodiversity' and 'emissions, effluents and waste' may suggest that Indian TA firms do not take such crucial issues as a top priority. The finding of very limited disclosure on biodiversity issues is in line with that of such disclosures in previous studies (e.g. Liempd and Busch 2013; Rimel and Jonäll 2013). For instance, Liempd and Busch (2013) conclude that Danish firms provide poor disclosure on biodiversity issues by ignoring the measurement and reporting of firms' negative impacts on eco-system and biodiversity. Rimel and Jonäll (2013) argue that infrequency of interaction with pressure groups may account for such a low level of biodiversity reporting. Another reason may be 'water and biodiversity' and 'emissions, effluents and waste' issues are not of great concern for the economically-focussed stakeholders. Therefore, Indian TA firms do not demonstrate their best in addressing and reporting such issues as the firms may feel secure with their existing level of legitimacy.

## **8.2.3 Determinants of SED**

### **8.2.3.1 Firm Size**

This research finds that firm size is the strongest predictor of SED. Table 6.3 provides evidence that there is a positive and statistically significant association between firm size and the extent of SED for each of the three years and for pooled data. Hence, H1 is supported. This finding provides support for legitimacy theory tenets.

The influence of firm size on the extent of corporate voluntary disclosure has been well documented in the mainstream extant literature (e.g. Meek et al. 1995; Hackston and Milne 1996; Choi 1999; Williams 1999; Cormier and Gordon 2001; Cormier and Magnan 2003; Haniffa and Cooke 2005; Cormier et al. 2005; Nurhayati et al. 2006; Braco and Rodrigues 2008; Das 2009; Hossain and Reaz 2007; Pahuja 2009; Reverte 2009; Khan 2010; Tower et al. 2011; Mahadeo et al. 2011; Bayoud et al. 2012b; Ienciu 2012; Chu et al. 2013; Nurhayati et al. 2014a). Larger Indian TA firms communicate more social and environmental information possibly to legitimate their business activities. This might be because they are more subject to public scrutiny than the smaller firms. As argued by Muttakin and Khan (2014), larger corporations receive more attention from diverse groups in society to provide voluntary disclosure and legitimise their business activities. Therefore, larger firms tend to release more social and environmental information voluntarily in the annual reports to satisfy their wider stakeholders.

Larger firms have a perceived greater responsibility to provide more voluntary information to their stakeholders such as employees, customers, suppliers, government and society as a whole (Cooke 1991) due to their considerable impact on society (Hackston and Milne 1996). In addition, gathering and disseminating information to the public are less costly processes for larger firms as they have better resources to support such processes (Pahuja 2009). As such, larger firms have an easier ability to release more information on social and environmental issues in their annual reports to perhaps demonstrate that they are socially responsible and environmentally conscious entities. Building such images can be perceived as a crucial license for firms to legitimise their business operations particularly for firms that potentially have adverse impacts on

society and the natural environment, including textile and apparel (TA) firms. Literature suggests that CSR reporting can be a useful legitimating tool to counter criticism (Hanlon 2008) and to enhance the relationship with the society (Deegan 2002).

### **8.2.3.2 Brand Development**

There is sufficient overall evidence to conclude that there is a positive and significant association between brand development and the extent of SED. Indian TA firms with an arrangement as suppliers for internationally recognised brands communicate more social and environmental information in their annual reports for all years (except for the 2010 regression year) and for pooled data. Therefore, H2 is supported.

Brand-name companies likely gain far more media attention (Fraser and Fraser 2008). A number of prior studies (e.g. Brown and Deegan 1998; Cormier and Magnan 2003; Cormier et al. 2005; Reverte 2009; Michelin 2011; Cahaya 2011) highlight the influence of media exposure on the extent of voluntary disclosure. Consistent with legitimacy theory tenets, media attention can influence corporate disclosure practices as a result of creating greater public awareness. Firms with branded TA products are likely to use disclosure as a mean to minimise scrutiny from the public. Such firms are highly visible compared to those firms without branded TA products. Increased social and environmental disclosure also advertises and promotes the brand-name to stakeholders including customers, investors, creditors and employees. Furthermore, communicating more social and environmental information by Indian firms with branded TA products may diminish any negative media publicity on sensitive issues such as forced and child labour issues, poor working condition, human rights abuses and environmental incidents. This is because the image to be socially and environmentally responsible seems to be an essential issue to be addressed to preserve their legitimacy as providers of international brand quality. Consequently, Indian firms with branded TA products communicate more voluntary social and environmental information in their annual reports.

Corporations may conduct more social (and environmental) activities (and voluntarily communicate on such activities) to develop and enhance their brand and

corporate image (Hoeffler and Keller 2002, Sandhu and Kapoor 2010). International brand-name firms may impose their values in regard to social and environmental accounting on their overseas suppliers to maintain their well-established image. Islam and Deegan (2010) argue that such firms may not only create changes in the practices of their suppliers, but they may also make disclosures to demonstrate that they respond to the concerns of the global community. This is because inconsistent values and subsequently actions between global brand organisations and their suppliers may result in adverse criticisms for both parties (Polonsky and Jevons 2009) that may damage brand reputation. In addition, improved brand reputation has an embedded link with good corporate citizenship and corporate social responsibility initiatives (Sagar and Singla 2004). Indian TA firms with branded TA products may strive to be seen as legitimate entities in the eyes of their affiliated brand-name firms. Therefore, they may provide more social and environmental information in their annual reports as a response to the increasing pressure from their affiliated brand-name firms. This is because failure to address the concern of their international buyers may result in the loss of supply contracts. Yperen (2006) points out that buyers with international brand-name reputation are one of the major drivers of firms' considering their CSR practices. Muttakin and Khan (2014) indicate that export-oriented clothing firms in Bangladesh disclose more CSR information to allay any potential concerns of their foreign buyers because such voluntary communication may help the firms to attain their legitimacy.

### **8.2.3.3 Board Independence**

Hypothesis H3, that proposes a positive association between the board independence and the extent of SED by Indian TA companies, is rejected. The regression results (see Table 6.3) indicate a negative and statistically significant association between board independence and the extent of SED (except for 2010 and 2011). However, since the actual direction of the association between those two variables is opposite to the predicted direction; board independence is not a significant predictor of SED in annual reports from a legitimacy theory perspective. Although contrary to the expectation of legitimacy theory tenets, this finding is similar to those of

Ho and Wong (2001), Haniffa and Cooke (2002), Eng and Mak (2003), Nurhayati et al. (2006), Hossain and Reaz (2007), Said et al. 2009, Al-Shammari and Al-Sultan (2010), Haji (2012) and Bowrin (2013).

Indian TA firms largely comply with the Securities and Exchange Board of India (SEBI) regulation<sup>16</sup> by maintaining the proportion of independent non-executive board members to the total number of board members of 54.27% on average during the 2010-2012 period (see Table 5.11, Panel D). From a legitimacy theory perspective, a high percentage of independent non-executive directors on the board is expected to encourage management to disclose voluntary information more extensively. However, the results summarised in Table 6.3 consistently indicate a negative relationship between these two variables. In other words, a higher proportion of independent non-executive board members to the total number of board members is associated with lower social and environmental information communicated in the annual reports.

There are several possible reasons that may explain this finding. First, this finding probably stems from the fact that Indian TA firms typically have a dual leadership structure. Table 5.11 summarised that more than half of the sample have dual CEO-chairman members serving on boards. Such a dual leadership structure may impede the independence of board directors of Indian TA firms in directing the management to communicate more voluntary information in the annual reports. The independent board composition of 54.27% may indicate that Indian TA firms maintain such a figure merely to comply with SEBI regulations. Therefore, in practice, such independent board members may not fully supervise and direct the management decisions particularly the decision to voluntarily communicate social and environmental information in firms' annual reports.

Second, although the SEBI sets out a list of requirements for independent directors of listed firms, in reality, the lack of mechanisms set in place for ensuring the enforcement of such SED guidelines may diminish the ability of an independent board to

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<sup>16</sup> The Securities and Exchange Board of India (SEBI) requires all listed companies in India to have independent non-executive board members with boards comprising at least 30% independence in the case where the chairman of the board is a non-executive director and 50% in the case where the chairman is an executive director.

act effectively in monitoring management. Previous studies (e.g. Nurhayati et al. 2006; Tower et. al. 2011) argue that regulatory bodies should seek ways in ensuring that the independent directors are sufficiently independent to monitor and positively influence communication decisions, including the decision to report information on social and environmental issues. This is because, in case of Indian corporations, “many independent directors are still beholden to the firm’s CEO and that directors seem paralysed in the presence of powerful CEOs” (Morck 2004 cited in Sarkar 2009, 579).

Third, another possible explanation could be derived from the improper selection of Indian TA firms’ board directors. This may lead to the ineffective roles of the board in directing management to provide more social and environmental information. The dominant presence of family business groups in India (Reed 2002; Chakrabarti, et al. 2008; Bhaumik et al. 2010) including Indian TA firms may further impede the effectiveness of good corporate governance mechanisms. With such a concentrated ownership structure, Indian TA firms may gain less legitimacy pressures in communicating social and environmental information. Furthermore, such family business firms may select board composition based on family and social connections rather than via professional competence and skills (Gollakota and Gupta 2006; Khan et al. 2013). Thus, non-executive directors may be appointed as a member of the board not necessarily because of their expertise and experience (Al-Shammari and Al-Sultan 2010). Consequently, independent board directors of Indian corporations seem to provide insufficient pressure on management in disclosing voluntary information (Hossain and Reaz 2007).

Fourth, culture may to some extent account for this finding. India is characterised as a high ‘power distance’ country that is more tolerant of inequality (Hofstede and Hofstede 2005). Indians may thus tend to avoid disagreements and may not openly criticise others (Kumar and Sethi 2006) particularly those who have higher hierarchic authority by age, caste, family status and gender (Amba-Rao, Petrick, Gupta, and Von der Embse 2000). As such, independent non-executive directors may not be independent enough in supervising the decisions (including the decision to communicate more voluntary information) made by the management that also represent the owners or the firm. Indian cultural characteristic of ‘power distance’ may also shape the accounting

practices of the country that are described as having a high level of 'secrecy'. These characteristics may restrict the disclosure of voluntary information. Therefore, although a higher degree of board independence may strengthen the public perception of corporate legitimacy (Nurhayati et al. 2006); such concentrated family ownership firms may be less concerned with the importance of board independence as the firms may not strive for public perception in attaining corporate legitimacy. These tenets may explain the ineffectiveness of independent board directors in directing and encouraging management to communicate more social and environmental information.

#### **8.2.3.4 Ownership Concentration**

The empirical evidence summarised in Table 6.3 fails to support H4 which states that there is a negative association between the extent of ownership concentration and the extent of SED by Indian TA firms. The results for all regression models indicate a negative but insignificant association between the extent of ownership concentration and the extent of SED. Consequently, H4 is rejected. This finding is consistent with several previous voluntary disclosure studies (see e.g. Eng and Mak 2003; Nurhayati et al. 2006; Reverte 2009; Said et al. 2009; Tagesson et al. 2009; Jindal and Kumar 2012).

There are a number of possible reasons for the insignificant association between ownership concentration of Indian TA firms and SED. First, promoter owners as the proxy of ownership concentration may not consider information other than mandatory as important enough to be disclosed in annual reports. Such major owners (55.23%, on average) may demand management to communicate and focus more on financial issues and the firm's future economic outlook to better justify and explain low profitability (ROA) figure of 1.74% on average during the 2010-2012 sample period (see Table 5.11, Panel D). Multiple regression results indicate that profitability positively and statistically influences SED for each year and in pooled data. In addition, as a response to such low profitability, Indian TA firms may tightened their budgets for conducting social and environmental activities on this period resulting in less information to be communicated in the annual reports.



Second, this relationship may signify strong ownership concentration of Indian TA firms. In concentrated ownership structures, owners and specifically promoters have great flexibility and ability to obtain SED corporate information internally. Hence, they may not attach high significance to reporting social and environmental information in their annual reports. In addition, the owners may perceive that the overall corporate legitimacy of the firm remains sufficiently secure despite not extensively communicating such information. Muttakin and Khan (2014) point out that concentrated family owners tend to less concern about public accountability and organisational legitimacy. Moreover, high ownership concentration firms may not perceive the need for as much external legitimisation as the company may not intend to extend the shareholder base (Nurhayati et al. 2014a).

Third, owners may find more effective mediums other than annual reports to communicate important information on social and environmental activities such as corporates' websites. This alternate medium may be more assessable, attractive, and reach a wider set of stakeholders particularly potential overseas buyers and foreign investors. Attracting foreign direct investment (FDI) particularly to the core industries including the TA industry recently has been viewed as an important vehicle for the development of the Indian economy (Ministry of Textiles, GOI 2012b). In other words, the medium of reporting may be changing (see the future research ideas section).

In summary, the multiple regression results indicate that firm size and brand development provide support for the legitimacy theory tenets. There is a positive and statistically significant association between firm size and the extent of SED for each of the three years and for pooled data. Indian TA firms with an arrangement as suppliers for internationally recognised brands communicate more social and environmental information in their annual reports for all years (except for the 2010 regression year) and for pooled data. Therefore, there is sufficient overall evidence to accept H1 and H2. However, the findings of this thesis indicate that board independence and ownership concentration fail to provide support for the legitimacy theory tenets. There is a negative and statistically significant association between board independence and the extent of SED (except for 2010 and 2011). Therefore, from a legitimacy theory lens, board independence is not a significant predictor of social and environmental disclosure by

Indian TA firms. The results for all main regression models indicate a negative but insignificant association between the extent of ownership concentration and the extent of SED. Hence, H3 and H4 are rejected.

### **8.2.3.5 Control Variables**

Control variables include audit committee independence, CEO duality, profitability and award obtained. Empirical results summarised in Table 6.3 reveal that there is statistically significant association between all of the control variables and SED (except for CEO duality in the 2010 year). Similar results are also found for the pooled data. All control variables including year are statistically associated with the extent of SED.

Two corporate governance control variables (i.e. audit committee independence and CEO duality) explain some of the variability of SED. Firms with an independent audit committee<sup>17</sup> communicate more social and environmental information. This finding is in line with Said et al. (2009) that reported a positive and statistically significant association between audit committee independence and the extent of CSR disclosure. A similar result is also documented by Ho and Wong (2001), Al-Shammari and Al-Sultan (2010) and Khan et al. (2013) who reported a positive and significant association between the existence of audit committee and voluntary disclosure. In line with Gul and Leung (2004), this research provides evidence that firms practicing CEO duality significantly disclose less social and environmental information in their annual reports. The presence of CEO duality may further result in the diminished involvement in social (and environmental) activities as well as the disclosure on such activities (Khan et al. 2013).

The control variables of profitability and award obtained both positively and significantly influence SED. Firms with higher profitability provide more social and environmental disclosure. This finding is consistent with previous studies on voluntary

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<sup>17</sup> This thesis measures audit committee independence as a dichotomous variable. A firm is coded as 1 (having independent audit committee) if more than two-thirds of audit committee members is independent non-executive directors and 0 if otherwise. This measurement is adopted from the SEBI regulation.

disclosure (e.g. Robert 1992; Cormier and Magnan 2003; Pahuja 2009; Khan 2010; Haji 2012). From a legitimacy perspective, higher profitability levels may increase the visibility of an entity leading to greater demand from society to communicate more voluntary information. This research further indicates that internationally recognised award obtained by an Indian textile and apparel (TA) firm positively influences SED. This finding is in line with the Sumiani, Haslinda, and Lehman (2007) study which shows the influence of ISO 14001 certification in voluntary environmental disclosure. Another study conducted by Jaikumar, Karpagam, and Thiyagarajan (2013) reported that Indian firms with ISO 14000 certification demonstrate better environmental performance than the uncertified firms. It can be argued that firms with better environmental performance following receipt of such certifications tend to also have better environmental disclosure. In export-oriented sectors, including the TA industry, having such internationally recognised awards may strengthen the competitive advantage of firms particularly in regard to social responsibility and environmental protection. Overseas buyers particularly from developed nations may consider such awards as a prerequisite to better ensure their concern on these particular interests is more likely to be fulfilled as they may not directly engage with their textile and apparel suppliers on an active basis. Previous studies (e.g. Bhuiyan and Alam 2004; Qi et al. 2013) highlight that one of corporate motivations in obtaining such international awards could be their foreign customers. In addition, by obtaining such international awards, Indian TA firms may strengthen their image as socially and environmentally responsible entities. In accordance with the tenets of legitimacy theory, this image is arguably important for firms in TA industry which potentially have adverse impacts on society and the natural environment.

#### **8.2.4 Determinants of SEDs and SEDe**

In regards to social disclosure (SEDs) and environmental disclosure (SEDe), the results of multiple regression analysis again provide evidence that firm size is the strongest predictor for such disclosures. Furthermore, board independence and

ownership concentration are again not the predictors for these two SED's categories. These findings are consistent with the main regression models of SED.

As summarised in Table 6.5, the results indicate a positive and statistically significant association between firm size and brand development and the extent of SEDs social-based disclosures for all years and for pooled data. Board independence and ownership concentration are not significant predictors of SEDs. All control variables (except audit committee independence) are significant predictors of SEDs, similar to that for models using the overall SED measure. The broad similarity between the findings for SED and SEDs might be because the practices of both disclosures relatively remain stable over the study period as noted in Figure 5.1.

The mean SEDe environmentally-based disclosures demonstrate a higher rate of increase over the study period. Brand development (proxy of international exposure), CEO duality and profitability have no significant influence on SEDe. Internationally recognised brand-name firms as buyers of Indian TA products may place far more importance on social issues particularly 'labour practices and decent work' related information (Nurhayati et al. 2014c) than the environmental data to be communicated by their suppliers. One potential reason could be increasing media exposure and more pressure exerted by non-government organisations (NGOs) may influence the level of reporting on major social concerns (e.g. such as human rights abuses, child labour, a poor health and safety record for workers and unacceptable working conditions) especially in regards to the TA industry particularly in emerging economies (Islam and Deegan 2008, 2010), including India.

### **8.3 Implications**

Overall, the findings of this research have several key implications, including regulation adherence, test and support for legitimacy theory, reinforcement of concerns about the efficacy of governance structure both domestically and internationally.

### **8.3.1 Regulation Adherence**

This research extends the existing literature by providing longitudinal empirical evidence on the low extent (13.57%, on average) of social and environmental information communicated by Indian textile and apparel (TA) firms. This finding is similarly documented in previous studies particularly in the emerging economies (e.g. Khan 2010; Said et al. 2011; Bowrin 2013; Khan et al. 2013). This implies that firms in the Indian TA industry may not seriously consider external communication (including social and environmental information) other than financial performance information as a top priority. As such, these crucial issues are often not substantially addressed and communicated in their annual reports. The finding on low extent on such voluntary disclosure may indicate the failure of Indian regulatory bodies such as Institute of Chartered Accountants of India (ICAI) and the Securities and Exchange of India (SEBI) in encouraging Indian listed firms to disclose more voluntary information in their annual reports.

This research offers empirical evidence in regard to corporate social and environmental disclosure (SED) practices that may assist regulatory bodies to introduce more focused and effective non-financial disclosure guidelines and regulations. The low extent of SED by Indian TA firms and the potential adverse impact of this sector to the country's social and natural environment have major implications for future development of social and environmental reporting standards for this sector. The Government of India (GOI) particularly the Ministry of Textile and Ministry of Environment and Forests may use this finding of lack of disclosure particularly on 'water and biodiversity' and 'emissions, effluents and waste' issues in developing future standards for TA industry and other environmental sensitive industries. Furthermore, such regulatory bodies may consider the almost virtually non-existence of 'human rights' disclosure in the annual reports as a signal for a much more stringent regulation on human rights practices (e.g. child labour, forced or compulsory labour and violation on human rights). This is because such practices in emerging economies have gained unwanted negative global attention and frequent criticism (Islam and Deegan 2008; 2010). In addition, the professional bodies in India may need to play a far stronger role.

From a legitimacy viewpoint, the ICAI<sup>18</sup> along with the SEBI may need to encourage greater disclosure on social and environment issues by the Indian corporations. These two regulatory bodies may consider the need for greater adoption of international benchmarks such as the GRI comprehensive checklist of SED used in this thesis to enhance the communication practices by Indian TA firms. Such disclosure may promote transparency and accountability of the corporations and greatly help them in enhancing corporate legitimate image on the eyes of their domestic and international stakeholders. Such initiatives by the Indian regulatory and professional bodies are arguably crucial for the long-term sustainability of the textile and apparel (TA) industry to win the global competition battle since such an export-oriented industry serves as one of the mainstays of the Indian economy.

### **8.3.2 Test of Legitimacy Theory**

The regression analysis shows that firm size, brand development, profitability, award obtained, audit committee independence, and CEO duality are statistically significant factors in explaining the variation in SED practices by Indian TA firms. Overall, this study provides a reasonable level of support for legitimacy theory. The findings on the significant and positive influence of brand development and award obtained on SED practices imply that such international exposures may put a higher level of pressure on Indian textile and apparel (TA) firms to communicate more social and environmental information as part of overall package to better address global concerns on such crucial issues. In particular, international brand-name firms may well be imposing their values and institutional norms on suppliers in emerging economies, including India more stringently. International certifications obtained such as ISO 14001, SA 8000, OHSAS 18000 and Oeko-Tex® may also encourage Indian TA firms to communicate more social and environmental information. Firms with branded TA products and those with international awards likely use disclosure as an important means to promote an image of them being forward thinking socially and environmentally

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<sup>18</sup> The ICAI seeks to play a vital role in the domain of financial reporting, standard setting, auditing, corporate governance, and fiscal policies (ICAI 2012b).

responsible entities for preserving their legitimacy status. The Indian Ministry of Textile could carefully note these findings and adopt initiatives to expand and encourage such a direction; they could provide greater incentives for TA firms to obtain these awards.

Similarly, in alignment with the legitimacy theory tenets, larger firms and firms with better economic performance provide more social and environmental disclosure (SED) in their annual reports. These findings imply that The GOI through its relevant regulatory bodies such as ICAI and SEBI may play a more significant role in encouraging TA firms to provide greater SED. In particular, the GOI may more encourage TA firms without such international exposure attributes, smaller and less profitable firms to provide greater SED by introducing economic incentives. The Indian government could grant higher tax deduction incentives for: donations provided to education and health services, activities in regards to the betterment of working condition, and environmentally friendly materials used, renewable energy targets and water recycling in the production processes. However, these economic incentives scheme would warrant the need for clear guidelines or regulations and further cost-benefit analysis.

### **8.3.3 Governance Structure**

There are mixed messages concerning the impact of corporate governance attributes upon social and environmental disclosure (SED) practices. Contrary to the expectation of legitimacy theory tenets, board independence and ownership concentration are not the predictors of such disclosure practices. The lack of influence of a more independent board in explaining the variation of SED practices leads to a suggestion for market regulators such as SEBI to not only provide better and stronger guidelines for implementing good corporate governance but also to create active and effective regulatory mechanisms for enforcing these guidelines. In particular, Sarkar (2009) argues that the regulators must ensure ‘truer’ board independence from the management and improve the board quality (proxy of existence of CEO duality, number of directorships and existence of controlling shareholders). In other words, “it is not board independence *per se* but rather board quality that is important for governance”

(Sarkar 2009, 585). This is crucial because the ownership structure of Indian textile and apparel (TA) firms is dominated by the presence of promoters representing family business groups that may impede the effectiveness of good corporate governance mechanisms. The findings imply that a mandatory requirement to have an independent non-executive chairman may serve as a positive influencing factor (Nurhayati et al. 2014b). As India better integrates into the global economy and seeks to actively attract more foreign investors, the credentials and status of independent directors become more essential for Indian corporations (Bose 2009), particularly firms operating in export-oriented industries such as the TA industry.

The findings also imply that Indian TA firms do use other corporate governance attributes in legitimising their business operations in order to gain support from the society. Audit committee independence and CEO duality do explain the variability of SED practices in these thesis findings. Firms with independent audit committees communicate more social and environmental information. This study provides evidence that firms practicing CEO duality significantly disclose less social and environmental information in their annual reports. This finding implies that the presence of CEO duality may discourage the involvement and disclosure on social and environmental activities. As the market regulator, the SEBI may use this finding to more strongly consider prohibiting CEO duality practices for Indian listed firms. In other words, the CEO and chairman of the board should be occupied by different individuals. Given the overall low extent of SED, far more emphasis needs to be placed on strengthening corporate governance attributes for Indian textile and apparel (TA) firms.

#### **8.3.4 International Implications**

This thesis reports that Indian textile and apparel (TA) firms communicated virtually no ‘human rights’ and ‘product responsibility’ information (see Table 5.5). In regard to these two sub-categories of social disclosure practices, Indian TA firms merely emphasise their concern for ‘customer satisfaction’ while neglecting many other important elements (e.g. ‘incidents of non-compliance with regulations and codes concerning health and safety impacts of products’, ‘complaints regarding breaches of



customer data losses and privacy’, ‘fines for non-compliance with laws concerning provision and use of products’, ‘right to exercise freedom of association’, ‘child labour’ and ‘forced or compulsory labour’). Similarly, pertaining to environmental disclosure practices, Indian TA firms release very limited disclosure on ‘emissions, effluents and waste’ and ‘water and biodiversity’ sub-categories (see Table 5.8). A number of indicators in these sub-categories (e.g. ‘significant spills’, ‘water sources affected by consumption of water’ and ‘impacts of activities on biodiversity’) are completely absent from communication in the annual reports. These findings suggest a noteworthy international implication particularly for foreign international brand-name firms sourcing their TA products from India. Potential concern may arise from such a lack or non-disclosure of critical information related to social or environmental activities and risks as it may lead to enquiry whether firms domiciled in India and their international brand-name affiliations have been transparent and accountable regarding their production and supply activities. Such international brand-name companies may be responsible for such breaches and face significant adverse publicity if negative social or environmental impacts or breaches of rules or regulations are found subsequent to the supply of these TA products. Significant negative media publicity may have unfavourable consequences on the reputation of these firms and their directors as well as their long-term financial performance.

The finding of Indian firms supplying TA products to international brand-name companies communicate more social and environmental information enhances the international implications of this thesis. This finding indicates that such international firms have been exerting pressure to their suppliers in emerging economies in aligning their values and norms with societal and environmental expectations. However, Indian TA firms still communicate low levels of social and environmental information, specifically with regard to ‘human rights’, ‘product responsibility’, ‘water and biodiversity’ and ‘emissions, effluents and waste’. This finding has implications for foreign international brand-name companies as this lack of reporting leads to ongoing uncertainty about issues such as the health and safety of products, impacts of activities on biodiversity, and the extent of compliance with regulations and codes.

This thesis concludes that board independence is not a significant predictor of SED in annual reports. This finding has implications for foreign international brand-name companies which outsource their products from Indian TA firms. Such foreign companies may not be able to rely on the independent board in ensuring their concerns on crucial social and environmental issues are adequately addressed and disclosed in the annual reports. The finding of positive influence of award obtained (e.g. ISO 14001 for environmental management system, SA 8000 for social accountability standard, and OHSAS 18000 for occupational health and safety management system) provides support on the importance of such internationally reputable independent assessors on SED practices. Consequently, foreign brand-name companies may consider imposing independent party costs for monitoring and evaluating the social and environmental impacts of their suppliers in emerging economies.

#### **8.4 Contributions**

The results of this research provide significant contributions to the literature in a number of ways. First, this thesis extends previous literature on corporate social and environmental disclosure (SED) in emerging economies by concentrating on the economically very important textile and apparel (TA) firms in India. There are very limited studies on SED practices in the TA industry particularly in emerging economies. This research offers a far more in-depth study as compared to existing studies (e.g. Islam and Deegan 2008, 2010) by longitudinally investigating a substantial data set of Indian TA firms. Using a positive (quantitative) approach, this study offers insights on the prime drivers of corporate social and environmental disclosure practices of Indian TA industry. Second, there is no known SED study focusing on the TA industry in India. Given the dearth of literature focusing on SED of the TA industry and the significance of this sector in potentially reducing climate change and greatly increasing the betterment of the society, this study well addresses the gap in the voluntary disclosure literature by closely examining SED with a sole focus on the TA industry. Third, this study provides a theoretical contribution by testing legitimacy theory in an emerging country context and in a potentially high polluting and socially-challenging industry

sector. Fourth, this thesis specifically offers insights into SED through the use of a comprehensive disclosure index. This disclosure index is adopted from the Global Reporting Initiative (GRI 2008) that is tailored and specifically applicable to the TA industry. The regulatory bodies may want to seriously consider adopting of such a comprehensive checklist in developing future guidelines for social and environmental reporting. Finally, this study contributes towards practice by delineating the relationship between firm corporate characteristics, governance structure and social and environmental disclosure (SED). This thesis highlights the influence of international exposures (brand development and award obtained) and the more roles played by corporate governance attributes on the SED communication practices.

## **8.5 Limitations**

Similar to past disclosure studies, this study has several limitations. First, this thesis focuses solely on the TA listed firms. The entire Indian TA industry does not merely consist of listed firms; there are also many smaller unlisted firms. However, obtaining unlisted firm annual reports in an Indian context is virtually impossible. Therefore, the findings of this thesis may not capture all variability of the SED practices; this limits the generalisation of the findings. Second, the reliance of this thesis on the annual reports may not capture a complete picture of corporate social and environmental disclosure (SED) practices. This is because many Indian textile and apparel (TA) publicly listed firms may outsource the TA products to small businesses and may not report such activities on their annual reports. Third, some items (e.g. ‘initiatives to prevent and reduce the occurrence of musculoskeletal diseases’, ‘suppliers and contractors undergone screening on human rights’, ‘emission of ozone-depleting substances’ and ‘lands owned or leased in protected areas and areas of high biodiversity value’) included in the formulation of SED index may not completely be applicable to the Indian TA firms as these items may not meet materiality requirements. Consequently, such items may be absently disclosed in the annual reports. Fourth, this thesis considers a finite number of predictors in investigating the association between

corporate characteristics and corporate governance factors leading to future research suggestions. Other possible predictors are discussed in Section 8.6.

## **8.6 Future Research**

This research offers suggestions for future social and disclosure (SED) research in a number of important areas. First, further research regarding the SED of firms within a supply chain from both emerging countries such as India as well as developed countries where the final products are sold is a noteworthy idea. Investigating particular institutional and governance factors may reveal insights on the nature and extent of social and environmental information disclosed by supply chain participants. A case study approach may also be useful in conjunction with empirical analysis to ascertain the nature of relations in this global context. Second, the societal implications of various social issues such as child labour and employment parameters cannot be over-emphasised. Specifically, further research regarding the determinants of reporting of these social issues could be explored in a wide variety of research paradigms. Third, future studies may explore other corporate governance elements such board gender diversity, board interlocks, board meetings and audit committee characteristics. A more detailed study on ownership structures (e.g. government ownership, managerial ownership and foreign ownership) may also reveal interesting SED patterns among different type of ownership structure. Fourth, future studies comparing Indian TA firms that supply TA products for international brand-name companies and those which do not may also reveal different disclosure practices and varying pressure points among those two groups. Fifth, assessing other mediums for examining voluntary disclosure such as corporate websites and stand-alone sustainability reporting or comparing these alternative mediums to annual reports may reveal noteworthy insights on different practices of corporate communication on social and environmental information. Another future research avenue, a comparison of SED practices among a wider group of environmental sensitive industries may also help in providing greater generalisations of the findings and insights into the predictors of SED practices. Finally, to enrich the quantitative findings of this thesis, future qualitative studies could be employed (such as

interviews or field studies with the corporate management) to explore the motivations behind such communication practices.

## **8.7 Concluding Remarks**

This research comprehensively explores social and environmental disclosure (SED) that longitudinally investigate the extent of SED practices of Indian textile and apparel (TA) listed firms. The finding of a low extent of SED over the three year period with overall mean of social and environmental disclosure index (SEDI) of 13.57% adds empirical evidence to the existing literature. This finding of low overall voluntary disclosure is largely consistent with the previous studies particularly in the emerging economies setting. This thesis offers concrete suggestions to the regulatory bodies in developing future social and environmental reporting standards. Despite the low extent of communication practices, this thesis notes a slow increase of SED over time ranging from 12.11% in 2010, 13.69% in 2011, and 14.92% in 2012. This finding may indicate at least some level of effort made by Indian TA firms to address the increasing awareness and pressure from domestic as well as the global community for better communication practices. According to legitimacy theory tenets, failing to address such concerns may result in incongruence with the expectations of the community and lead to legitimacy problems.

This research offers insights on prime drivers of SED practices. In light of legitimacy theory tenets, this thesis incorporates a blend of corporate characteristics and corporate governance attributes in seeking to explain such communication practices. The empirical evidence concludes that firm size, brand development, profitability, award obtained, audit committee independence, and CEO duality are statistically significant factors in explaining the variation of SED practices by Indian TA firms. However, this thesis highlights the concern that board independence and ownership concentration are not influencing predictors of such communication practices. These findings imply that the regulatory bodies may need to put far more emphasis to strengthen corporate governance attributes and enforcement of such mechanisms for Indian TA firms.

Overall, this thesis provides a reasonable level of support for the legitimacy theory tenets in explaining the SED practices of Indian TA firms.

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## APPENDIX A

### List of Sample Indian Textile and Apparel (TA) Listed Firms

Table A. 1 lists the final sample of 95 Indian textile and apparel (TA) firms listed in Bombay Stock Exchange (BSE) in alphabetical order<sup>19</sup>.

**Table B.1 List of Sample Firms**

No	Name of Company	BSE Script ID
1	AARVEE DENIMS & EXPORTS LTD.	AARVEED
2	ABHISHEK CORPORATION LIMITED	ABHICOR
3	ALOK INDUSTRIES LIMITED	ALOKIND
4	APM INDUSTRIES LIMITED	APMIN
5	ARROW TEXTILES LTD.	ARROWTEX
6	ARVIND LIMITED	ARVIND
7	AUNDE INDIA LIMITED	AUNDEIND
8	BANG OVERSEAS LIMITED	BANG
9	BANSWARA SYNTEX LTD	BANSWRAS
10	BHANDARI HOSIERY EXPORTS LTD.	BHANDHOS
11	BOMBAY DYEING & MANUFACTURING CO LTD	BOMBAYDY
12	BOMBAY RAYON FASHIONS LTD	BRFL
13	BSL LIMITED	BSL
14	CELEBRITY FASHIONS LIMITED	CELEBRITY
15	CENTURY ENKA LIMITED	CENTENKA
16	CENTURY TEXTILES & INDUSTRIES LIMITED	CENTURYTEX
17	CHESLIND TEXTILES LTD.	CHESLITE
18	CITYMAN LTD.	CITYMAN
19	DAMODAR THREADS LIMITED	DAMOTH
20	DEEPAK SOINNERS LTD.	DEEPAKSP
21	EASTERN SILK INDUSTRIES LIMITED	EASTSILK
22	EUROTEX INDUSTRIES & EXPORTS LTD	EUROTXIN
23	FILATEX INDIA LIMITED	FILATEX
24	GARDEN SILK MILLS LTD	GARDENSILK
25	GIVO LTD	GIVO

<sup>19</sup> There are five firms excluded from the final sample due to potential problem of outliers. These excluded firms are Maharaja Shree Umaid Mills Limited, Mudra Lifestyle Limited, Shreeyash Industries Limited, Spentex Industries Limited and SPL Industries Limited.

26	GOKAK TEXTILES LIMITED	GOKAKTEX
27	GOKALDAS EXPORTS LTD.	GOKALDAS
28	GTN TEXTILES LIMITED	GTNTEX
29	HARIA EXPORTS LTD.	HARIAEXP
30	HIMATSINGKA SEIDE LIMITED	HIMATSEIDE
31	INDO RAMA SYNTHETICS (I) LTD	INDORAMASYN
32	INDUS FILA LIMITED	INDUSFILA
33	JINDALCOTEX LIMITED	JINDALCOT
34	KARAN WOO-SIN LTD.	KARANWO
35	KEWAL KIRAN CLOTHING LTD.	KKCL
36	KG DENIM LTD.	KGDENIM
37	KITEX GARMENTS LTD.	KITEXTX
38	KPR MILL LIMITED	KPRMILL
39	LAMBODHARA TEXTILES LIMITED	LAMBODHARA
40	MANDHANA INDUSTRIES LIMITED	MANDHANA
41	MANGALAM VENTURES LTD.	MANGALVEN
42	MARAL OVERSEAS LIMITED	MARAL
43	MORARJEE TEXTILES LIMITED	MORARJEE
44	NAGREEKA EXPORTS LTD	NAGREEKA
45	NAHAR INDUSTRIAL ENTERPRISES LTD.	NAHARIND
46	NAHAR SPINNING MILLS LIMITED	NAHARSPG
47	PAGE INDUSTRIES LTD.	PAGEIND
48	PARAS PETROFILS LTD.	PARASPET
49	PASUPATI SPINNING & WEAVING MILLS LTD.	PASUSPG
50	PEARL GLOBAL INDUSTRIES	PGIL
51	PIONEER EMBROIDERIES LTD	PIONEERE
52	POLYGENTA TECHNOLOGIES LTD.	POLTC
53	PREMIER SYNTHETICS LIMITED	PREMSYN
54	PROVOGUE (INDIA) LTD.	PROVOGUE
55	RAHUL MERCHANDISING LTD.	RAHME
56	RAI SAHEB REKHCHAND MOHOTA	RAISHRCK
57	RAINBOW DENIM LTD.	RAINBOWDQ
58	RAJ RAYON INDUSTRIES LIMITED	RAJRAYON
59	RAJVIR INDUSTRIES LTD.	RAJVIR
60	RAYMOND LIMITED	RAYMOND
61	RICHA INDUSTRIES LIMITED	RICHAIND
62	RSWM LIMITED	RSWMLTD
63	RUBY MILLS LTD.	RUBY
64	RUPA COMPANY LTD.	RUPA
65	SAMTEX FASHIONS LTD.	SAMTEX

66	SANBLUE CORPORATION LTD.	SANBLUE
67	SANGAM (INDIA) LTD.	SANGAM
68	SARLA PERFORMANCE FIBERS LTD.	SARLAPERF
69	SEL MANUFACTURING COMPANY LIMITED	SELMCL
70	SHRI DINESH MILLS LIMITED	SHRIDINE
71	SHRI LAKSHMI COTSYN LTD.	SHLAKSHMI
72	SIYARAM SILK MILLS LTD.	SIYARAM
73	SOMA TEXTILES & INDUSTRIES LTD.	SOMATEX
74	SPENTA INTERNATIONAL LTD.	SPENTA
75	SPICE ISLANDS APPARELS LTD.	SPICEISL
76	SRI NACHAMMAI COTTON MILLS LTD.	SRINACHA
77	SUMEET INDUSTRIES LTD.	SUMEETIN
78	SUPERTEX INDUSTRIES LIMITED	SUPERTEX
79	SURAT TEXTILE MILLS LTD.	SURATEX
80	SURYALAKSHMI COTTON MILLS LTD.	SURYCOTM
81	SURYALATA SPINNING MILLS LTD.	SURYALA
82	SURYAVANSHI SPINNING MILLS LTD.	SURYVANSP
83	SUTLEJ TEXTILES AND INDUSTRIES LIMITED	SUTLEJTEX
84	T.T. LIMITED	TTL
85	TAMILNADU JAI BHARATH MILLS LTD.	TAMJAIM
86	TATIA GLOBAL VENNTURE LTD.	TATIAGLOB
87	UNIWORTH TEXTILES LTD.	UNIWSEC
88	VARDHMAN POLYTEX LTD.	VARDHMNPOLY
89	VARDHMAN TEXTILES LIMITED	VARDHTEXT
90	VENTURA TEXTILES LTD.	VENTURA
91	WELSPUN INDIA LIMITED	WELSPUNIND
92	WELSPUN SYNTEX LTD	WELSPSY
93	WINSOME TEXTILE INDUSTRIES LTD	WINSOMY
94	ZENITH EXPORTS LTD.	ZENIFIB
95	ZODIAC CLOTHING CO.LTD.	ZODIAC

## APPENDIX B

### List of the Global Reposting Initiative (GRI) for Social and Environmental Indicators

This thesis adopts the Global Reporting Initiative's world renown apparel and footwear sector supplement in a pilot version form which released in 2008 (GRI 2008) in determining social and environmental disclosure index (SEDI). The GRI performance indicators for social and environmental dimensions are presented in Table B.1 and B.2, respectively.

**Table B.1 Social Performance Indicators**

Aspect	GRI Code	Indicator GRI 2008
<b>Labour practices and decent work</b>		
Employment	LA1	Total workforce by employment type, employment contract, and region.
	LA2	Total number and rate of employee turnover by age group, gender, and region.
	LA3	Benefits provided to full-time employees that are not provided to temporary or part-time employees, by major operations.
	LA4	Percentage of foreign migrant workers as a portion of total workforce, broken down by region.
Labour/management relations	LA5	Percentage of employees covered by collective bargaining agreements.
	LA6	Minimum notice period(s) regarding operational changes, including whether is specified in collective agreements.
	LA7	Percentage of workplaces with independent trade union, broken down by workplaces with and without collective bargain agreement. Percentage of workplaces, in the absence of trade union, there are worker-management committees, broken down by country.
Occupational health and safety	LA8	Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advice on occupational health and safety programs.
	LA9	Rates of injury, occupational diseases, lost days, and

		absenteeism, and number of work-related fatalities by region.
	LA10	Initiatives and programs to respond to, reduce, and prevent and reduce the occurrence of musculoskeletal disorders.
	LA11	Education, training, counselling, prevention, and risk-control programs in place to assist workforce members, their families, or community members regarding serious diseases.
	LA12	Health and safety topics covered in formal agreement with trade unions.
Training and education	LA13	Average hours of training per year per employee by employee category.
	LA14	Programs for skills management and lifelong learning that support the continued employees and assist them in managing career endings.
	LA15	Percentage of employees receiving regular performance and career development reviews.
Diversity and equal opportunity	LA16	Composition of governance bodies and breakdown of employees per category according to gender, age group, minority group membership, and other indicators of diversity
	LA17	Ratio of basic salary of men to women by employee category.
<b>Human rights</b>		
Investment and procurement practices	HR1	Percentage of significant investment agreements that include human right clauses or that have undergone human rights screening.
	HR2	Percentage of significant suppliers and contractors that have undergone screening on human rights and actions taken.
	HR3	Total hours of employee training on policies and procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained.
Non-discrimination	HR4	Total number of incidents of discrimination and action taken.
Freedom of association and collective bargaining	HR5	Operations identified in which the right to exercise freedom of association and collective bargaining may be at significant risk, and action taken to support these rights.
Child labour	HR6	Operations identified as having significant risk for incidents of child labour, and measures taken to contribute to the elimination of child labour.
Forced and	HR7	Operations identified as having significant risk for



compulsory labour		incidents of forced or compulsory labour, and measures to contribute to the elimination of forced or compulsory labour.
Security practices	HR8	Security personnel trained for policies and procedures concerning human rights
Indigenous rights	HR9	Incident of violations involving rights of indigenous people and action taken
<b>Society</b>		
Community	SO1	Nature, scope, and effectiveness of any programs and practices that assess and manage the impacts of operations on communities, including entering, operating, and exiting.
	SO2	Priorities in community investment strategy
	SO3	Amount of investment in worker communities broken down by location.
Corruption	SO4	Percentage and total number of business units analysed for risks related corruption.
	SO5	Percentage of employees trained in organisation's anti-corruption policies and procedures.
	SO6	Actions taken in response to incident of corruption.
Public policy	SO7	Public policy positions and participation in public policy development and lobbying.
	SO8	Total value of financial and in-kind contributions to political parties, politicians, and related institutions by country.
Anti-competitive behaviour	SO9	Total number of legal actions for anti-competitive behaviour, anti-trust, and monopoly practices and their outcomes.
Compliance	SO10	Monetary value of significant fines and total number of non-monetary sanctions for non-compliance with laws and regulations.
<b>Product responsibility</b>		
Customer health and safety	PR1	Life cycle stages in which health and safety impacts products and services are assessed for improvement and percentage of significant products and services categories subject to such procedures.
	PR2	Total number of incidents of non-compliance with regulations and voluntary codes concerning health and safety impacts of products and services during their life cycle, by type of outcomes.
Product and service labelling	PR3	Type of product and service information required by procedures and percentage of significant products and services subject to such information requirements.
	PR4	Total number of incidents of non-compliance with

		regulations and voluntary codes concerning product and service information and labelling, by type of outcomes.
	PR5	Practices related to customer satisfaction, including results of surveys measuring customer satisfaction.
Marketing communications	PR6	Programs for adherence to laws, standards and voluntary codes related to marketing communications, including advertising, promotion, and sponsorship.
	PR7	Total number of incidents of non-compliance with regulations and voluntary codes concerning marketing communications, including advertising, promotion, and sponsorship by type of outcomes.
Customer privacy	PR8	Total number of substantial complaints regarding breaches of customer privacy and losses of customer data.
Compliance	PR9	Monetary value of significant fines for non-compliance with laws and regulations concerning the provision and use of products and services.

**Table B.2 Environmental Performance Indicators**

Aspect	GRI Code	Indicator
Materials	EN1	Material used by weight or volume.
	EN2	Percentage of materials used that are recycled input materials.
	EN3	List of environmentally preferable materials used in products.
Energy	EN4	Direct energy consumption by primary energy source.
	EN5	Indirect energy consumption by primary energy source.
	EN6	Amount of energy consumed and percentage of energy that is from renewable sources.
	EN7	Energy saved due to conservation and efficiency improvements.
	EN8	Initiatives to provide energy-efficient or renewable energy based products and services, and reduction in energy requirements as a result of these initiatives.
	EN9	Initiatives to reduce indirect energy consumption and reductions achieved.
Water	EN10	Total water withdrawal by source.

	EN11	Water sources significantly affected by withdrawal of water.
	EN12	Percentage and total volume of water recycled and reused.
Biodiversity	EN13	Location and size of land owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas.
	EN14	Description of significant impacts of activities, products, and services on biodiversity in protected areas and areas of high biodiversity value outside protected areas.
	EN15	Habitats protected or restored.
	EN16	Strategies, current actions, and future plans for managing impacts on biodiversity.
	EN17	Number of IUCN Rd List species and national conservation list species with habitats in areas affected by operations, by level of extinction risk.
Emissions, effluents, and waste	EN18	Total direct and indirect greenhouse gas emissions by weight
	EN19	Other relevant indirect greenhouse gas emission by weight.
	EN20	Initiatives to reduce greenhouse gas emissions and reductions achieved.
	EN21	Emission of ozone-depleting substances by weight.
	EN22	NO, SO, and other significant air emissions by type and weight.
	EN23	Total water discharge by quality and destination.
	EN24	Total weight of waste by types and disposal method.
	EN25	Total number and volume of significant spills.
	EN26	Weight of transported, imported, exported, or treated waste deemed hazardous under the terms of the Basel Convention Annex I, II, III, and VIII, and percentage of transported waste shipped internationally.
	EN27	Identity, size, protected status, and biodiversity value of water bodies and related habitats significantly affected by reporting organisation's discharges of water and runoff.
Products and services	EN28	Initiatives to mitigate environmental impacts of products and services, and extent of impact mitigation.
	EN29	Percentage of products sold and their packaging materials that are reclaimed by category.
Compliance	EN30	Monetary value of significant fines and total

		number of non-monetary sanctions for non-compliance with environmental laws and regulations.
Transport	EN31	Significant environmental impacts of transporting products and other goods and materials used for the organisation's operations, and transporting members of the workforce.
Overall	EN32	Total environmental expenditures and investments by type.

## APPENDIX C

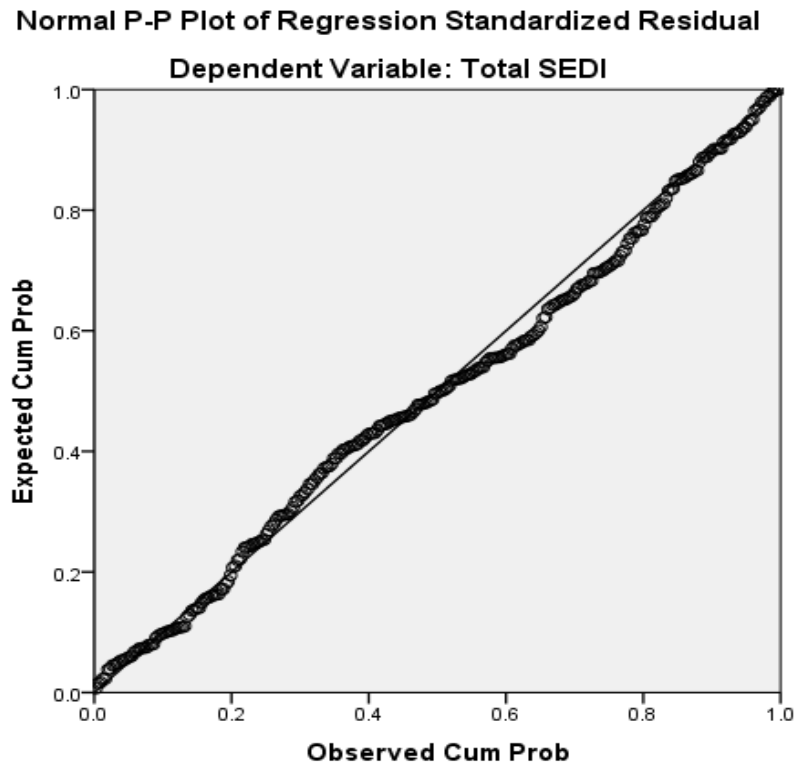
### Assumption Tests for Multiple Regression Analysis

There are a number of assumptions underpinning the use of multiple regression. The fundamental assumptions of multiple regression analysis are ratio of normality, linearity, multicollinearity, and homoscedasticity (Hair et al. 2006; Coakes, Steed, and Ong 2010; Pallant 2011). Checking these assumptions prior to statistical inference is an essential step in any multivariate analysis (Tabachnick and Fidell 2007; Hair et al. 2006). This thesis explores these assumptions based on the pooled data set.

#### 1. Normality

The most important assumption in multivariate analysis is normality (Hair et al. 2006). Normality refers to “the shape of data distribution for an individual metric variable and its correspondence to the normal distribution” (Hair et al. 2006, 79). In other words, normality assumption requires that standardised residuals must be normally distributed. According to Coakes et al. (2010), Kolmogorov-Smirnov test can be used to assess the normality of the data. If the significant level ( $p$ -value) is greater than 0.05, then normality is expected. The Kolmogorov-Smirnov statistic performed in this thesis indicates that the  $p$ -value is 0.095 which is greater than 0.05. Therefore, the normality assumption is met. In addition, inspecting ‘normal probability plot (P-P) of the regression standardised residual’ and ‘scatterplot’ can be used to check normality assumptions (Pallant 2011). If points lie in “a reasonably straight diagonal line from bottom left to top right”, this indicates that “no major deviations from normality” (Pallant 2011, 158). Therefore, as presented in Figure C.1, it can be concluded that normality assumption is met.

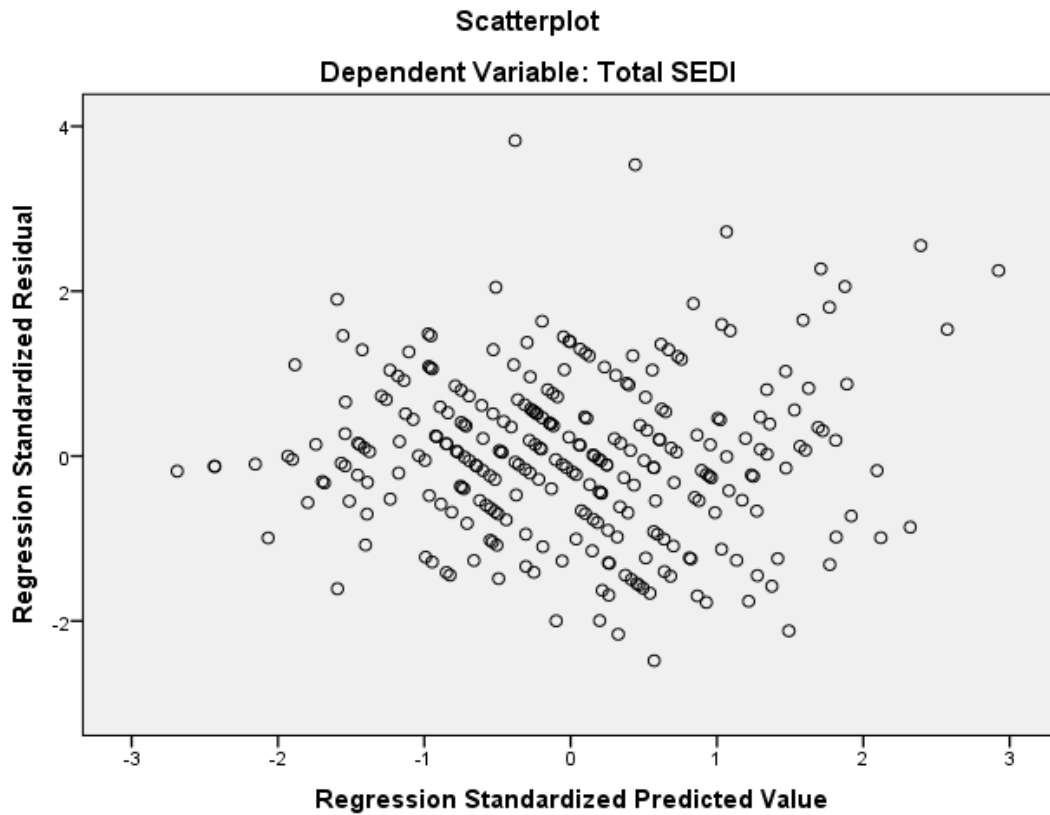
**Figure C.1 Normal P-P Plot Regression of SEDI**



## **2. Linearity**

Linearity reflects to the degree to which the change in the dependent variable is associated with the independent variable (Hair et al. 2006). Linearity assumes that the residuals have a linear relationship with the predicted dependent variable scores (Pallant 2011). Furthermore, the ‘scatterplot of the standardised residuals’ should be roughly distributed in a rectangular shape without a systematic pattern observed (Pallant 2011). As presented in Figure C.2, such a pattern suggests that the assumption of linearity is met as there is non-linear association between the residuals and the predicted values (Coakes et al. 2010).

**Figure C.2 Scatterplot of SEDI**



### **3. Multicollinearity**

Multicollinearity refers to “the degree to which any variable’s effect can be predicted or accounted for by the other variables in the analysis” Hair et al. (2006, 24). Multicollinearity problem exist if independent variables are highly correlated (Coakes et al. 2010; Tabachnick and Fidel 2007). One way to check multicollonearity problem is by assessing a correlation matrix as presented in Section 6.3 of Chapter 6. In addition, the tolerance value and the variance inflation faction (VIF) can also be used to detect the multicollinearity problem. According to Hair et al. (2006) and Coakes et al. (2010), the most commonly quoted cut-off points to examining such a problem is a tolerance value of .10 and the VIF value of 10. The tolerance value below 0.10 and the VIP greater than 10 indicate a potential multicollinearity problem between variables. As presented in Table C.1, the results indicate that none of the tolerance value and VIP value violates the

thresholds. Therefore, multicollinearity is not deemed a problem that potentially affecting the regression analysis.

**Table C.1 Tolerance and VIF Scores**

Variable	Tolerance	VIF
<b>Independent Variables</b>		
Firm Size (H1)	.757	1.321
Brand Development (H2)	.724	1.382
Board Independence (H3)	.788	1.268
Ownership Concentration (H4)	.941	1.062
<b>Control Variables</b>		
Audit Committee Independence	.795	1.258
CEO Duality	.891	1.122
Profitability	.947	1.056
Award Obtained	.780	1.283
Year	.963	1.038

#### **4. Homoscedasticity**

Homoscedasticity is an assumption that “dependent variable(s) exhibit equal levels of variance across the range of predictor variable(s)” (Hair et al. 2006, 83). Furthermore, homoscedasticity is desirable because there is no significant association between the residuals (absolute values) and the independent variables. According to Ghozali (2007), Glejser test can be used to test homoscedasticity. If the significance value ( $p$ -value) is higher than .05; then, homoscedasticity assumption is considered to be met. The result of Glejser test is presented in Table C.2.



**Table C.2 Glejser Test**

Variable	Significance to the Absolute Value of Residual
<b>Independent Variables</b>	
Firm Size (H1)	.000
Brand Development (H2)	.197
Board Independence (H3)	.462
Ownership Concentration (H4)	.081
<b>Control Variables</b>	
Audit Committee Independence	.513
CEO Duality	.499
Profitability	.767
Award Obtained	.689
Year	.093

The results suggest that all predictors variables (except firm size) are not significant at 0.05 level. The significance level of firm size ( $p$ -value = 0.000) indicates that this variable violates the homoscedasticity assumption. This finding is in line with Vu (2012). Furthermore, Faisal (2012) states that violation on this assumption in just itself is not deemed as a severe problem affecting the overall conclusion of a study. As argued by Tabachnick and Fidell (2007), the violation of homoscedasticity assumption does not affecting the results of regression analysis as long as the linearity assumption is met.

Overall, based on the tests of a number of classical assumptions of multiple regression including normality, linearity, multicollinearity and homoscedasticity, the results indicate that such assumptions are deemed to be met. However, it is noted that the homoscedasticity assumption is not fully met.