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Sustainability reporting practices of Chinese listed companies

Supervisor

Ch. Prof. Michela Cordazzo

Co-supervisor

Ch.mo Prof. Franco Gatti

Graduand

Vania Chiozzini

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To my family,

For having always supported me in my educational career

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List of Abbreviations

API American Petroleum Institute

CASS Chinese Academy of Social Sciences

CERES Coalition for Environmentally Responsible Economies

CGEs Central Government Enterprises

CO_2 Carbon Dioxide

CSA Corporate Sustainability Assessment

CSAs Critical Sustainability Aspects

CSOEs Central State-owned Enterprises

CSR Corporate Social Responsibility

DJSI Dow Jones Sustainability Index

EID Environmental Information Disclosure

ESG Environmental, Social and Governance

GDP Gross Domestic Product

GHG Greenhouse Gas

GPI Gender Parity Index

GRI Global Reporting Initiative

IC Intellectual Capital

IIRC International Integrated Reporting Committee

IOGP International Association of Oil & Gas Producers

IPIECA Global Oil and Gas Industry Association for Environmental and Social Issues

ISO International Organization for Standardization

Ltd Limited Liability Company

NGOs Non-governmental organisations

OECD Organisation for Economic Co-operation and Development

PRC People's Republic of China

SASAC State-owned Assets Supervision and Administration Commission of the State Council

SEDI Social and Environmental Disclosure Index

SEHK Hong Kong Stock Exchange

SEPA China State Environmental Protection Administration

SOEs State-owned Enterprises

SSE Shanghai Stock Exchange

SZSE Shenzhen Stock Exchange

UN United Nations

WBCSD World Business Council for Sustainable Development

WCED World Commission on Environment and Development

前言

中国是当今世界上最新兴的经济体之一。事实上，过去 30 年来，中国的经济增长速度是空前的。自 1978 年改革开放和经济改革以来，中国已跃然成为了世界第二大经济体。但是，其极为迅速的发展造成了一些负面影响，造成了比较高的环境和社会成本。这些问题，如环境污染，雾霾，资源匮乏和社会责任问题已经引起了人们的普遍关注，它们被认为是中国未来面临的最大挑战，尤其是未来的人口问题（Zhu et al。，2013; Tsoi， 2010; Geng 和 Doberstein，2008）。中国的可持续观念与欧洲等西方国家的可持续观念不同。原因在于中国政府近年来才开始考虑环境保护，社会发展和社会福利等与可持续性相关的概念，而欧洲已经达到了比较高的可持续发展水平。例如，西方国家的公司采用国际公认的标准和准则作为编制其可持续发展报告的参考资料，例如全球报告倡议组织（GRI）的可持续发展方针。这些方针无疑是全球采用最多的标准化方针。另一个重要事实是，一项欧盟指令（欧洲议会和理事会的 2014/95/EU 指令）提出“2016 年 12 月 31 日之后，平均员工数达到 500 人以上的欧洲上市公司，务必在其财务年度的管理评论中纳入非财务报表”（Dienes，Sassen 和 Fischer，2016, p. 182）。

但是，中国的情况又是如何呢？就在几年前，中国政府察觉到国家经济快速增长的危害后，决定实行更为绿色的经济发展模式，并开始通过国家指导方针的发行鼓励企业披露非财务信息。其目的在于增进中国企业可持续发展的绩效及全球声誉。因此，越来越多的中国企业多年来持续发布可持续发展报告。

为了将环境和社会管理与业务和企业战略联系起来，衡量可持续性绩效势在必行。除此之外，把对环境和人口影响的环境和社会信息与涉及企业经济绩效的财务数据纳入一体是至关重要的（Mook，2006; Schaltegger 和 Wagner，2006）。西方社会报告实践的发展始于 20 世纪 70 年代，当时的社交报告被添加到传统的

年度报告中。在20世纪80年代，年度报告又被环境报告所补充。在20世纪90年代，重点转向包容性企业社会责任（CSR）报告或者可持续发展报告（Dienes，Sassen和Fischer，2016）。

本研究的目的是评估被选作样本的中国上市公司的可持续发展报告实践以及可持续信息披露的质量。通过考察和分析这些可持续发展报告，可以衡量其信息披露的质量，重点是从叙述性到定量数据的信息披露进行调查。研究的前言部分介绍了中国本土的可持续发展概念。此外，它对西方国家和中国的可持续发展理念进行了比较。

从理论的角度来看，本研究对中国可持续发展报告的概念和实践提供了一个全面的概述。如前所述，自从2000年代中期以来，中国的可持续发展报告概念已经得到出乎意料的发展。特别是从2007年到2008年，以企业社会责任（CSR）或者可持续发展报告为参考而制定的国家指导原则和规定发布时，可持续发展实践开始进一步快速发展。

从实证的角度来看，本研究试图从制定可持续发展报告时所遵循的标准和方针的角度来理解中国可持续发展报告的质量，报告中信息披露的性质以及方针发出的要求与当地上市公司实际的信息披露之间的一致性。

因此，这项研究有两个中心目标。第一个目标是理解中国上市公司如何撰写可持续发展报告。其首要问题是了解当地上市公司在编制可持续发展报告时是否提及国际或者国内的准则，亦或两者皆有提及。第二个目标是调查中国上市公司非财务信息披露的质量。为了衡量可持续性信息披露的质量，有必要分析报告中披露信息的类型和性质。

这篇论文分为四章。第一章总结了本研究所参考的国际和国家标准和方针。作者首先研究了企业为组织自己的报告采用的参考文献清单，然后对报告进行初步分析，这些供参考的标准和方针才被最终选定。值得注意的是，在参考文献清单中，只有部分标准和方针被考虑。其原因在于无法获得特别是国家部分的有关标准和方针的信息。在研究之初，作者对各项方针进行了详细的审查，目的是全

面理解其不同的结构。其后，本章解释和比较了这些标准和方针。其中的国际方针部分由全球报告倡议组织（GRI G3 和 G4 版本），国际标准化组织（ISO 26000）和联合国全球契约（十项原则和 2030 年可持续发展议程）分别发布。除此之外，一份名为“油气工业自愿可持续发展报告指导方针”由三个国际协会联合发布：“全球石油和天然气行业环境和社会问题协会”，“美国石油协会和“国际石油和天然气生产商协会”。同时，被参考的国家方针由中华人民共和国国务院国有资产监督管理委员会（中央企业方针），中国社会科学院（中国社会科学院 - 社会责任 3.0 版本），上海证券交易所，深圳证券交易所和香港联交所分别发布。在对方针进行一般性和理论性的描述以后，这一章对它们的实际结构进行了分析。换言之，这一章详细地介绍有关可持续发展信息披露的不同主题领域，类别和项目。这样就可以评估企业在经济，环境和社会影响的表现。

第二章是关于可持续发展报告概念和实践的文献回顾。由于涉及这个题目的相关文献非常广泛，所以考虑的实证研究集中在中国的可持续发展报告。这一章分析了可持续发展很多不同的方面，特别是环境和社会报告，企业社会责任报告（CSR）和智力资本披露。基于报告作者所采用的不同文件作为研究的参考所造成的差异，这一章大体上分为三个主要部分。其中包括：仅采用年度报告，仅采用 CSR 或者可持续发展报告以及同时采用年度报告和 CSR 或者可持续发展报告的实证研究。在这些研究的分析过程中，这一章介绍了不同的样本选择，方法和结果。

第三章是论文的重点部分，因为它集中于实证分析。首先，它阐明了研究的总体方法。这一部分介绍了与本研究目的有关的两个主要研究议题。然后，它详细地解释了样本的选择，其中涉及 60 家在中国和国际证券交易所上市的中国公司。这些企业以前是从道琼斯（Dow Jones）可持续发展指数中挑选出来的，它们均发布不同类型的由中文和英文写就的可持续发展报告。每个公司只有一份报告被考虑和分析。特别是由于时间限制，本研究仅分析英文报告。在同一段落中，它说明了样本的主要特征，例如不同的股票市场，业务部门，报告的类型和发行

年份。因此，本章集中于框架的构建。实际上，这项研究需要两个框架，目的在于把国际方面与国家方面区分开来。他们都分为三个主要的信息分析的层次：主题领域，类别和项目。除此之外，它们还分为可持续性的经济，环境和社会方面。这些框架起源于上述方针的分析。在整个关于可持续发展报告中的非财务信息披露的分析过程中，每条方针中包含的类别和项目都被报告和调整到框架，以便创建每个报告内部要调查的项目清单。本章节的最后解释了信息披露的量度。它包括对所有报告内部各个项目的调查。目的是评估国内上市公司在自己报告中信息披露的整体质量。

第四章详细地介绍和讨论了前一章的实证分析结果。为了以分析的方式显示结果，其被分为两大部分：第一部分显示了方针分析的结果；第二部分表现了国际和国家框架分析的结果以及两个框架结果之间的比较。

最后为论文的结论部分，其目的在于对中国企业可持续发展责任形势获得一个全面的了解。基于本研究最开始时提出的问题，结论由此得出。此外，本论文为关于这个主题的进一步研究提供了一些建议并且对作者在研究过程中遇到的限制和障碍进行了论述。

Introduction

Nowadays, China is one of the most emerging economies all over the world. In fact, its economic growth has been developing at unprecedented rate over the past 30 years. As a result, since the openness to the external world and the economic reform in 1978, it has become the second largest economy in the world. However, its extremely rapid development has caused several negative impacts as well as high environmental and social costs. These problems, such as environmental pollution, smog, resource scarcities and social responsibility issues, have attracted the universal attention since they are considered the biggest challenges for the future of China, especially of its population (Zhu et al., 2013; Tsoi, 2010; Geng and Doberstein, 2008). The idea of sustainability in China is different from the idea of sustainability in western countries, such as Europe. The reason is that Chinese government has recently started to consider sustainability concepts like the environmental protection as well as the development and the well-being of society, while Europe had already reached a higher degree of sustainable development. As an example, companies in western countries employ internationally accepted standards and guidelines as references for the preparation of their sustainability reports, such as the Global Reporting Initiative (GRI) sustainability guidelines, which are unquestionably the most adopted standardised guidelines worldwide. Another important question is that the EU Directive (Directive 2014/95/EU of the European Parliament and of the Council) "obliges European listed companies with an average size of 500 employees to include a non – financial statement in their management commentary by financial years after 31/12/2016" (Dienes, Sassen and Fischer, 2016, p. 182).

However, what is the situation in China? Only a few years ago, after having perceived the hazardous consequences of the rapid economic growth of the country, the Chinese government decided to implement a greener economic pattern of development and started to encourage local enterprises to disclose non-financial information through the issue of the guidelines for local companies to enhance their sustainability performance as well as their global reputation. As a result, more and more Chinese companies have been publishing sustainability reports over the years.

Therefore, the measurement of the sustainability performance has been required with the aim of connecting environmental and social management with businesses and

corporate strategies. In addition to this, it is essential to integrate environmental and social information concerning the impacts on the environment and population with financial data referring to the economic performance of the enterprises (Mook 2006; Schaltegger and Wagner, 2006). The reporting practices' evolution started from the 1970s, when social reports were added to the traditional annual reports. Then, in the 1980s, the annual reports were complemented by environmental ones. Finally, in the 1990s, the focus shifted to inclusive Corporate Social Responsibility (CSR) reports or sustainability reports (Dienes, Sassen and Fischer, 2016).

The aim of this study is to evaluate the sustainability reporting practices of the Chinese listed companies selected for the sample as well as the quality of their sustainability disclosure. It is possible to measure the quality of their disclosure by considering and analysing their own sustainability reports, focusing on the investigation of the disclosed information in terms of either narrative statements or quantitative data. To start with, the introduction of this research presents the general Chinese concept of sustainability. It also makes a comparison between the idea of sustainability in western countries and in China.

From a theoretical point of view, this study provides a complete overview about the concept and practice of sustainability reporting in China. As previously stated, since the mid-2000s, the concept of sustainability reporting in China has been developing at an unexpected proportion. In particular, since 2007 and 2008, when the local guiding principles and regulations referring to CSR or sustainability reporting were issued, sustainability disclosure practice started to experience a further rapid growth.

From an empirical point of view, this study attempts to understand the quality of the sustainability reporting in China in terms of standards and guidelines followed by the local listed companies when preparing their sustainability reports, the nature of the information disclosed in the reports and the coherence between the requirements issued by the guidelines and the effective disclosure of information by the local listed companies.

Therefore, this study has two central objectives. The first objective is to understand how Chinese listed companies write their sustainability reports. In particular, the first question is to understand whether local listed companies refers to either international or national guidelines, or even both of them, during the preparation of their sustainability reports. The second objective is to investigate the quality of the non-financial information disclosure made by the local listed companies in China. In order to measure the quality of

the sustainability disclosure is necessary to analyse the type and nature of the information disclosed in the reports.

This work is organised into four chapters. The first chapter summarizes the international and national standards and guidelines considered for this research. The considered standards and guidelines were selected through a preliminary analysis of the reports, when the list of references used by the enterprises to organise their reports was prepared. From the list of the references, only some standards and guidelines were taken into account. The reason is that it was not possible to acquire the information about some standards and guidelines, particularly the local ones. At the very beginning of the study, the guidelines were examined in detail with the aim of obtaining a comprehensive understanding of their different structures. Then, these guidelines were explained and compared in the chapter. The international guidelines taken into consideration are those published by the Global Reporting Initiative (GRI G3 and G4 versions), the International Organization for Standardization (ISO 26000) and the United Nations Global Compact (the Ten Principles and the 2030 Agenda for Sustainable Development). In addition to this, the last international guideline is named the oil and gas industry guidance on voluntary sustainability reporting, released by the cooperation of three international associations: the "global oil and gas industry association for environmental and social issues", the "American Petroleum Institute" and "International Association of Oil & Gas Producers". At the same time, the national guidelines taken into consideration are those published by the State-owned Assets Supervision and Administration Commission of the State Council of the People's Republic of China (Guidelines on Central State-Owned Enterprises), the Chinese Academy of Social Sciences (CASS – CSR 3.0), the Stock Exchanges of Shanghai (SSE), Shenzhen (SZSE) and Hong Kong (SEHK). In the same chapter, after the general and theoretical description of the guidelines, their practical structures are analysed. In other words, the different subject areas, categories and single items involving the disclosure of the sustainability information are reported in detail. This way, it is possible to evaluate the performance of the enterprises in terms of their economic, environmental and social influences.

The second chapter is dedicated to the review of the literature concerning the concept and practice of sustainability reporting. Since the literature about this topic is extremely vast, the empirical studies taken into consideration focus on sustainability reporting in China. Several different aspects of sustainability are analysed, particularly environmental and social reporting, Corporate Social Responsibility reporting (CSR) and

intellectual capital disclosure. Generally, the chapter is organised into three main sections. This differentiation is based on the different documents adopted by the authors as references for their research. The empirical studies are divided into those considering only annual reports, those employing only CSR or sustainability reports and those adopting both annual and CSR or sustainability reports. During the analysis of these studies, the different sample selections, methodologies and findings are reported.

The third chapter represents the focus of this work because it concentrates on the empirical analysis. First of all, the overall approach to the research is clarified. Two main research questions related to the purposes of this study are presented in this section. Then, the sample selection is explained in detail. It involves 60 Chinese companies listed on both Chinese and international stock exchanges. The enterprises were formerly selected from the Dow Jones Sustainability Index and they publish different types of sustainability reports, both in Chinese and in English. Only one report for each company is considered and analysed. In particular, principally due to a lack of time, only the English versions of the reports are analysed for this research. In the same paragraph, the principal features characterising the sample are illustrated, such as the different stock markets, business sectors, types and years of issue of the reports. Consequently, the chapter concentrates on the construction of the framework. Actually, two frameworks are needed for this study. The reason is that it is essential to differentiate the international side from the national side. Both of them are organised into three main levels of analysis of information: subject areas, categories and items. In addition to this, they are divided into the economic, environmental and social dimensions of the sustainability. These frameworks take their origins from the analysis of the above-mentioned guidelines. The categories and items included in each guideline are reported and adjusted to the frameworks in order to create the lists of aspects to investigate inside each report, during the whole analysis concerning the disclosure of the non-financial information on the sustainability reports. Finally, the measurement of disclosure is explained. It involves the investigation of each different item inside all the reports with the aim of evaluating the overall quality of the disclosure made by the local listed companies in their own reports.

In the fourth chapter, the results from the empirical analysis conducted in the previous chapter are presented and discussed in detail. In order to show the results in an analytical way, they are organised into two major sections. The first one illustrates the results of the analysis of the guidelines. The second one shows the results of the analysis of the frameworks: firstly, the results of the framework on international guidelines;

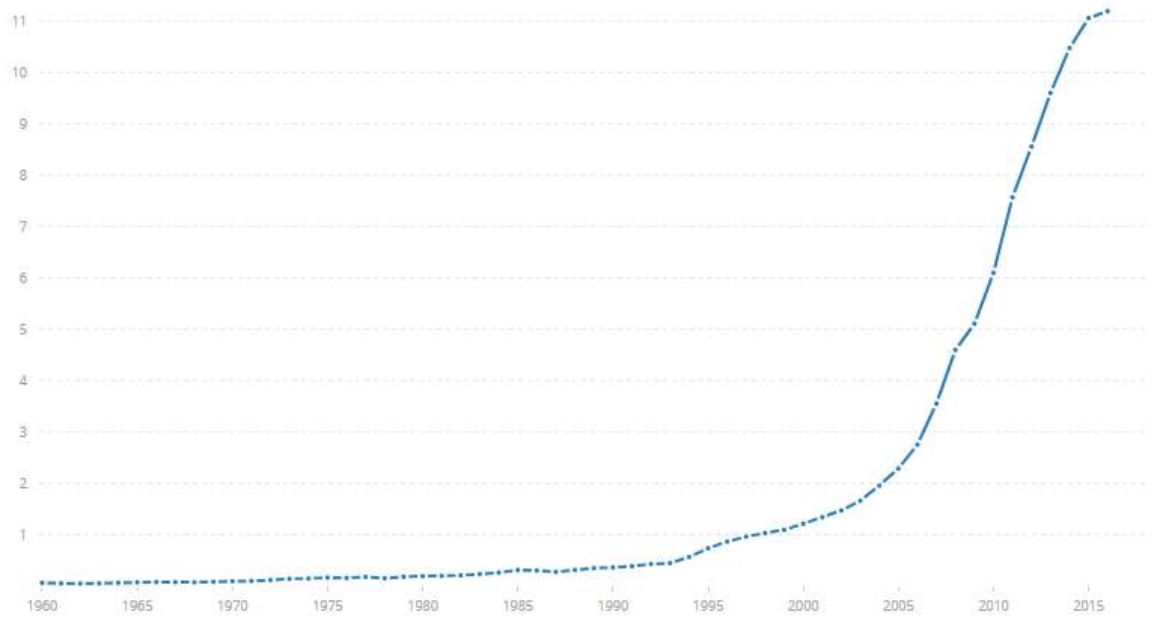
secondly, those of the framework on national guidelines; finally, a comparison between the results of both frameworks is provided.

In the end, conclusions are presented in order to obtain a complete understanding of the situation. They are based on the research questions formulated at the very beginning of this study. In addition, this study offers some suggestions for further studies concerning this topic and addresses the limitations and obstacles faced by the author while carrying the research.

CHAPTER 1: Standards and guidelines for sustainability reporting

Nowadays, China is one of the most emerging economies all over the world. Compared to the past, it experienced an extraordinary economic growth over the last 30 years. Since 1978, when the Open Door Policy[1] was implemented by Deng Xiaoping[2], China's overseas relationships have been growing faster and faster, leading to a great development of the Chinese political system as well as the economy of the whole country. As a result, Chinese gross domestic product (GDP) has been registering extraordinary rates of growth over the last thirty years. The evolution of the Chinese GDP is illustrated below, in Figure 1.1.

Figure 1.1: Chinese GDP (USD trillions) from 1973



Source: The World Bank (http://www.worldbank.org/)

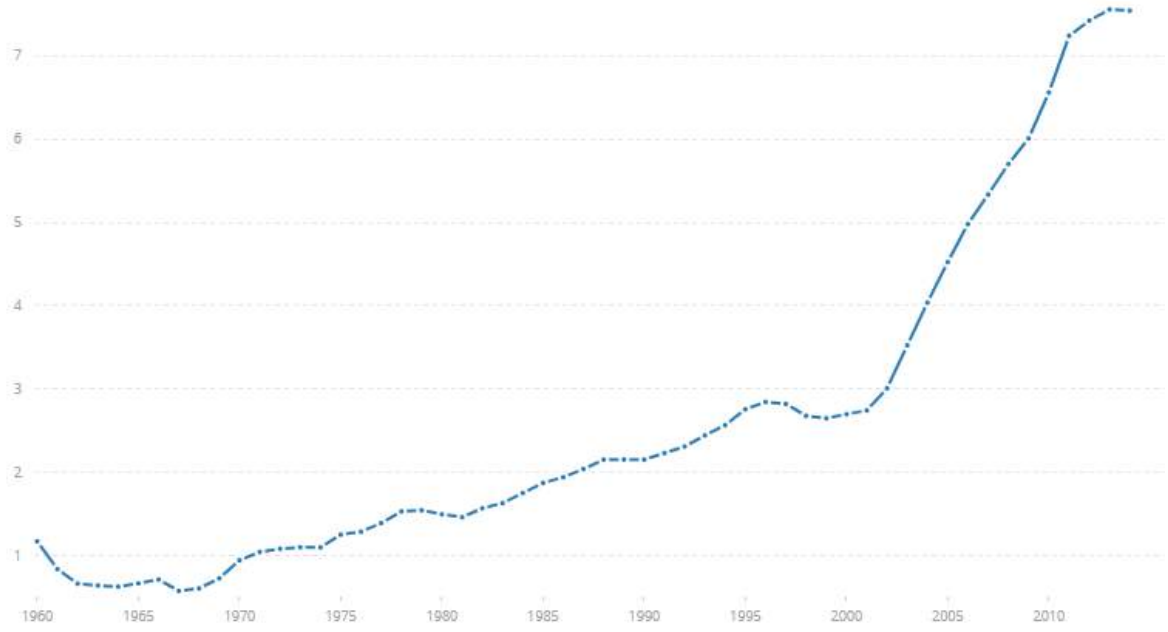
At the same time, China's huge economic progress caused numerous negative impacts, particularly on the environment, since pollution has been dramatically increasing

[1] The Open Door Policy is the economic policy initiated by Deng Xiaoping in 1978 to open up China to foreign businesses that wanted to invest in the country.

[2] Deng Xiaoping (1904 – 1997) became the most powerful leader in the People's Republic of China (PRC) in the 1970s. He served as the chairman of the Communist Party's Military Commission and was the chief architect of China's economic improvements during the 1980s (http://www.notablebiographies.com)

over the recent years, reaching extremely high levels and consequently affecting the whole population. In Figure 1.2, it is possible to observe the enormous and continuous increment of carbon dioxide (CO_2) emissions in China.

Figure 1.2: CO_2 emissions in China (metric tons per capita) from 1960



Source: The World Bank (http://www.worldbank.org/)

During that time, the economic growth has been the priority of the country and has not let any space to the necessities of the environment for three decades. Afterwards, the latest ecological emergencies have caused a rapid change in the previous trend, which has been directed to the new concept of "green economy". The Chinese government started to encourage the promotion of the corporate sustainable development and particularly support state-owned enterprises to fulfil social responsibilities. The idea of sustainability was reinforced by the Twelve Five-Year Plan[3], which was addressed to achieve the sustainable growth of the Chinese economy through the implementation of green strategies, environmental friendly and resource efficient policies in order to achieve the sustainable development in terms of the environment and society. As a result, the awareness of sustainability in China started to increase and spread out, putting its emphasis on the major issues related to climate change and carbon emissions and aiming at decreasing pollution as its ultimate purpose (Syntao, 2011).

[3] The Twelfth Five-Year Plan (2011 – 2015) was discussed during the fifth plenary session of the 17th Central Committee of the Communist Party of China.

"Sustainability reporting means to inform stakeholders during the reporting period with qualitative and quantitative information about the company's economic, environmental and social improvements and also effectiveness and efficiency activities which are integrated with the company's strategic elements" (Seyhani Koç and Vildan Durmaz, 2015, p. 161). Sustainability reporting originated from social reporting in the 1970s. Then, the focus shifted to environmental reporting in the 1980s and the first half of 1990s. After the concept of Triple Bottom Line[4], corporate social responsibility reporting became the most popular method applied by firms in order to disclose non-financial information. In particular, in order to precisely explain and reflect companies' performance in terms of economic, environmental and social aspects, in the second half of the 2000s, sustainability reporting replaced the previous type of reporting (I-Hsiang Lin, 2010). The trend of sustainability reporting has developed at an unprecedented rate in China, experiencing a rapid and continuous growth since 2006. According to the statistics, Chinese companies released over 700 sustainability reports in 2010 and the trend continued to rise strongly, reaching its record in 2014, when Chinese companies issued more than 2000 sustainability reports. In 2010, more than three quarters of the reports were published by Chinese listed companies, particularly those companies listed on the Shanghai Stock Exchange. This intensifying trend of sustainability reporting is projected to increase further in the next future (http://www.sustainabilityreport.cn).

The main reasons for companies to release sustainability reports are to gain reputation and consequently become able to compete in the global market. In addition to this, Chinese companies are also interested in developing trustworthy relationships with the government. Although the quantity of sustainability reports in China has strongly risen in recent years, the quality of these reports still needs to be improved. Chinese reports are not considered reliable enough. In fact, there is the evidence that Chinese companies do not provide stakeholders with satisfactory information about their performance, since they often do not disclose significant data about sustainability items, such as water, emissions, employees' health and safety, products and services' safety, etc. According to the study by Syntao, the main issues that need to be improved in the Chinese reporting procedures are listed below:

[4] Triple Bottom Line was coined by John Elkington in 1994. It is an accounting framework, which takes into consideration economic conditions as well as environmental features and social equity.

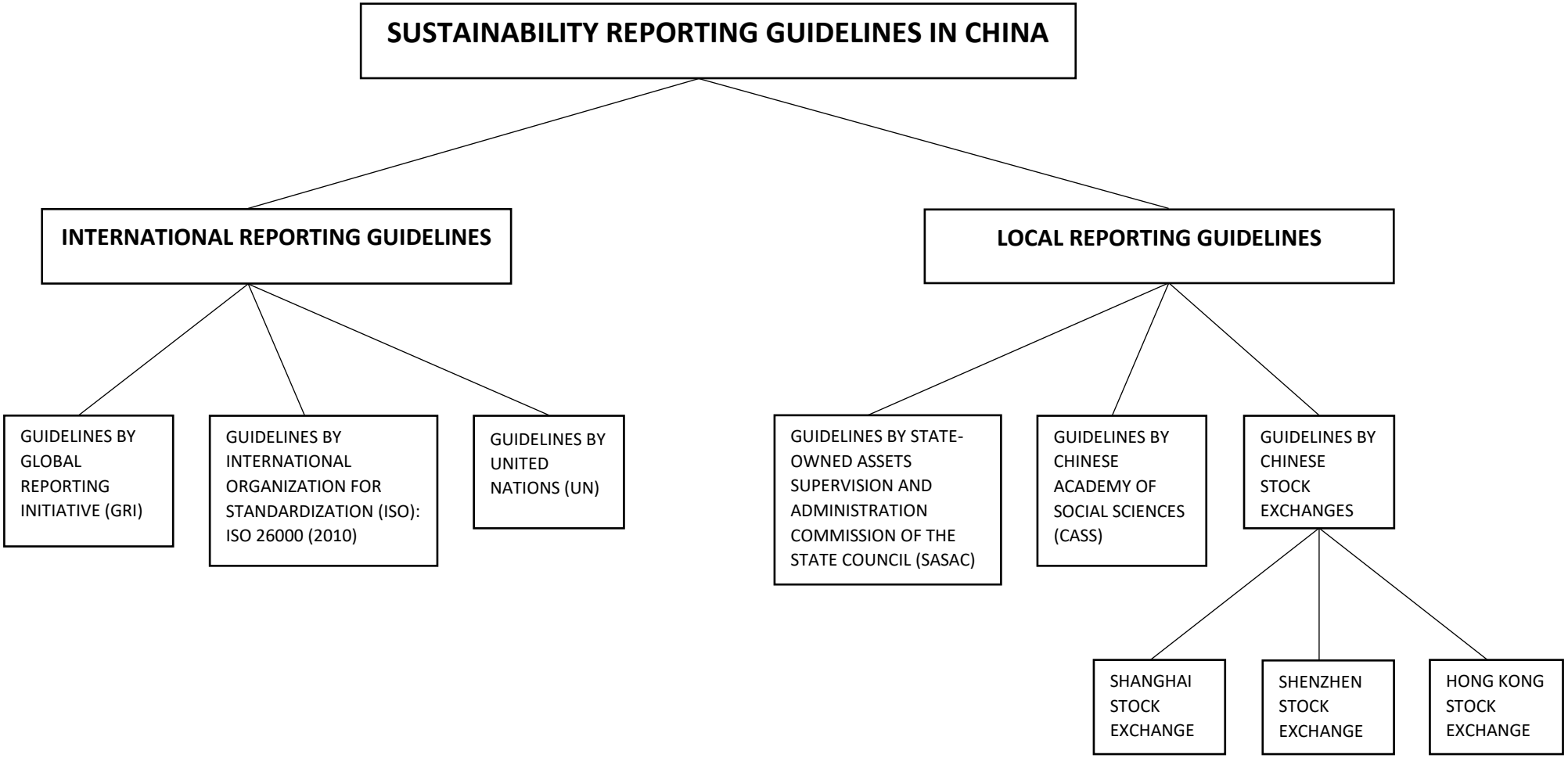
"Lack of fairly balanced information disclosure": several companies disclose their economic, environmental and social achievements but do not disclose their failures.

"Lack of quantitative information": there is the evidence that most reports contain qualitative rather than quantitative information. As a result, Chinese reports lack their credibility, since they do not provide stakeholders with effective data about their performance.

"Lack of information about corporate sustainability strategy": the disclosure of sustainability strategies implemented by the companies is often inadequate, since several companies do not provide their stakeholders with accurate information in terms of environment, society and governance (Syntao and Canadian International Development Agency – CIDA, 2011, pp. 10 – 11).

The analysis of the Chinese sustainability reports pointed out that most of the listed corporations in China refer to both national and international standards and guidelines during the preparation of their reports. To start with, figure 1.3 presents an overview of both the international and national standards and guidelines found in the analysed sample of the reports.

Figure 1.3: International and national reporting guidelines



Source: elaborated by the author

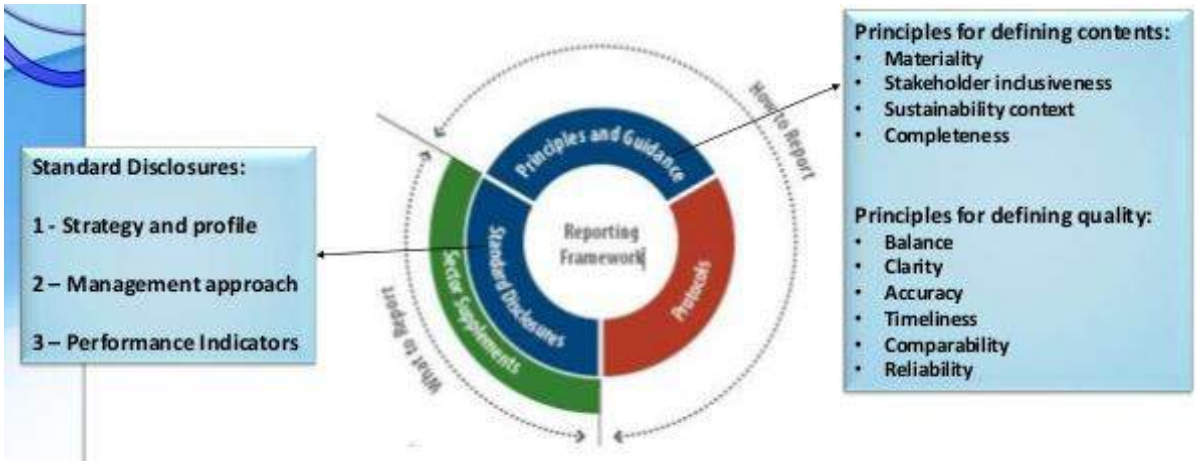
1.1 International reporting standards and guidelines

Broadly speaking, numerous different institutions are releasing sustainability reporting guidelines in order to provide companies with standards that are useful for the disclosure of their non-financial information. Increasingly, various governments are also publishing requirements for organizations to produce sustainability reports in a more efficient way. In general, sustainability reporting guidelines include two parts: the first one is dedicated to the general guidance while the second one to the indicator system. The general guidance describes how to use the guidelines in order to prepare sustainability reports. According to the study issued by Syntao, the mentioned features of the general guidance are the following: "purpose of the reporting guideline and values of corporate sustainability reporting; overall framework of the reporting guideline; principles of making a sustainability report" (generally divided into principles for defining reporting content and principles for defining report quality); reporting scope and boundary" (Syntao and Canadian International Development Agency – CIDA, 2011, p. 3). According to the preferences of the reports' prepares or users, companies can refer to indicator systems following either a triple bottom line approach, including economic, environmental and social issues or a ESG framework, containing environmental, social and governance issues. From the analysis of the sample, the sources that are mentioned in the reports as references for the disclosure are the following: GRI Sustainability Reporting Guidelines (G3 and G4 versions), GRI Financial Services Sector Supplement (FSSS) Guidelines, GRI Construction and Real Estate Sector Supplement (CRESS) Guidelines, GRI Electric Utilities Sector Supplement (EUSS) Guidelines, GRI Airport Operators Sector Supplement (AOSS) Guidelines, ISO 26000 Guidance on Social Responsibility, UN Global Compact Ten Principles, UN 2030 Agenda for Sustainable Development and Oil and Natural Gas Industry Guidance on Voluntary Sustainability Reporting. In practice, Global Reporting Initiative's guidelines represent the most widely used reporting framework for the preparation of sustainability reports all over the world.

1.1.1 GRI Sustainability Reporting Guidelines

The GRI (Global Reporting Initiative) was founded in Boston, in the USA. Firstly, the project was launched in 1997 by the CERES (Coalition for Environmentally Responsible Economies), a Boston-based non-profit organization. Because of the lack of universal agreed-on guidelines for companies' voluntary sustainability reports, the intention was to create a globally applicable reporting framework for sustainability reports. As a result, the main purpose of the GRI guidelines is "to improve corporate accountability by ensuring that all stakeholders – communities, environmentalists, labour, religious groups, shareholders, investment managers – have access to standardized, comparable, and consistent environmental information akin to corporate financial reporting" (CERES, 1997). Although many versions of the GRI have been issued over the years, the two principal versions are GRI Third Generation (G3) and GRI Fourth Generation (G4). The third generation guidelines were issued in October 2006. Then, a new version of the GRI guidelines, called G3.1 guidelines, was built on the previous one in 2011. The latter guidelines consisted of a variety of new indicators, aspects and disclosures of management approach, adjusted data requirements, revised content and new definitions. Finally, the most recent version is the fourth generation guidelines, issued in May 2013. In order to understand the structure of the guidelines, the GRI reporting framework is illustrated below, in Figure 1.4.

Figure 1.4: GRI Reporting Framework



Source: Global Reporting Initiative, G4 Sustainability Reporting Guidelines – Reporting Principles and Standard Disclosures

A comparison between the two principal versions of the GRI is essential. The first part of both guidelines presents the Reporting Principles, divided into Principles for Defining Report Content and Principles for Defining Report Quality.

Regarding the first type of principles, four categories are presented in the guidelines:

Stakeholder Inclusiveness: "The organization should identify its stakeholders, and explain how it has responded to their reasonable expectations and interests" (Global Reporting Initiative, 2015, p. 16). These days, stakeholders are progressively controlling organizations' activities and their impacts on the environment and society. The so-called stakeholders are individuals or entities who have internal as well as external relationships with the company, such as employees, customers, investors, local communities, regulators, non-governmental organizations, etc. Having personal interests in the company, these subjects are able to influence its decisions. In fact, one of the major reasons why companies decide to publish sustainability reports is to provide stakeholders with the precise and accurate information they need in order to gain a positive reputation.

Sustainability Context: "The report should present the organization's performance in the wider context of sustainability" (Global Reporting Initiative, 2015, p. 17). In other words, companies should relate their performance to a specific context at local, regional or global level. Reporting only information, without explaining how the company contributes to the development of the economy, environment and society, represents a failure to respond to this definite principle.

Materiality: "The report should cover aspects that reflect the organization's significant economic, environmental and social impacts or substantively influence the assessments and decisions of stakeholders" (Global Reporting Initiative, 2015, p. 17). Obviously, companies should report information reflecting their performances and impacts on the economy, environment and society. The concept of materiality expresses the necessity of presenting important issues on the reports.

Completeness: "The report should include coverage of material aspects and their boundaries, sufficient to reflect significant economic, environmental and social impacts and to enable stakeholders to assess the organization's performance in the reporting period" (Global Reporting Initiative, 2015, p.17). The term completeness refers both to the information in terms of scope, boundary and time, and to the quality of the disclosure that should be reasonable and appropriate.

Regarding the second type of principles, six categories are presented in the guidelines:

Balance: “The report should reflect positive and negative aspects of the organization’s performance to enable a reasoned assessment of overall performance” (Global Reporting Initiative, 2015, p.17). The whole content of the report should reflect the performance of the company and should not omit negative impacts or consequences on the economy, environment or society in order to obtain a complete view of the actions of the organization.

Comparability: “The organization should select, compile and report information consistently. The reported information should be presented in a manner that enables stakeholders to analyse changes in the organization’s performance over time, and that could support analysis relative to their organizations” (Global Reporting Initiative, 2015, p. 18). This principle is an essential requirement for the analysis of the reports made by stakeholders. They should compare the company’s current and past performance as well as various objectives over time. It could be also possible to make comparisons with other organizations’ performance.

Accuracy: “The reported information should be sufficiently accurate and detailed for stakeholders to assess the organization’s performance” (Global Reporting Initiative, 2015, p. 18). There are several different ways to report information, from qualitative responses to detailed quantitative measurements. The accuracy of the disclosure is determined according to its nature but also agreeing with the requirements of information’s users.

Timeliness: “The organization should report on a regular schedule so that information is available in time for stakeholders to make informed decisions” (Global Reporting Initiative, 2015, p. 18). The time is significant when reporting information since it enables stakeholders to completely understand and integrate it into their decisions.

Clarity: “The organization should make information available in a manner that is understandable and accessible to stakeholders using the report” (Global Reporting Initiative, 2015, p. 18). Clarity is a fundamental requirement for stakeholders who have to read, comprehend and use all the information contained in the report without efforts. Graphics and tables can help the company to report clearer data about its performance.

Reliability: “The organization should gather, record, compile, analyse and disclose information and processes used in the preparation of a report in a way that they can be subject to examination and that establishes the quality and materiality of the information”

(Global Reporting Initiative, 2015, p. 18). The content of the report should be truthful and in compliance with all the reporting principles. Documentation revised by prepares of sustainability reports as well as internal controls should be provided in order to support the data disclosed by the company.

The second part of the guidelines presents the Standard Disclosures, showing a difference between the third and the fourth version. In the GRI G3 guidelines, three types of Standard Disclosures are analysed: Strategy and Profile, Management Approach and Performance Indicators. By contrast, the GRI G4 guidelines illustrate a classification, which is more articulated compared to the previous one. It contains General Standard Disclosures and Specific Standard Disclosures. The first category is composed of Strategy and Analysis, Organizational Profile, Identified Material Aspects and Boundaries, Stakeholder Engagement, Report Profile, Governance and Ethics and Integrity. The second category is composed of Disclosures on Management Approach and Indicators. In particular, I would like to take into consideration the Performance Indicators, comparing the two guidelines. In both of them, performance indicators are presented into three main subject areas, namely Economic, Environmental and Social. In the third version of the guidelines, the economic area includes three performance indicators: Economic Performance, Market Presence and Indirect Economic Impacts. In the fourth version, the fourth indicator has been added to the category: Procurement Practise. Similarly, the environmental area in the GRI G3 guidelines contains ten performance indicators: Materials, Energy, Water, Biodiversity, Emissions, Effluents and Waste, Products and Services, Compliance, Transport and Overall while the same area in the GRI G4 guidelines contains two more indicators: Supplier Environmental Assessment and Environmental Grievance Mechanisms. The social area is divided into four sub-areas: Labour Practices and Decent Work, Human Rights, Society and Product Responsibility. In the third version of the guidelines, Labour Practices and Decent Work includes five performance indicators: Employment, Labour/Management Relations, Occupational Health and Safety, Training and Education, and Diversity and Equal Opportunity. In the fourth version, three indicators have been added to the category: Equal Remuneration for Women and Men, Supplier Assessment for Labour Practices and Labour Practices Grievance Mechanisms. Regarding Human Rights, the GRI G3 guidelines show seven performance indicators: Investment, Non-discrimination, Freedom of Association and Collective Bargaining, Child Labour, Forced or Compulsory Labour, Security Practices and Indigenous Rights. The GRI G4 guidelines show three more indicators: Assessment,

Supplier Human Rights Assessment and Human Rights Grievance Mechanisms. Regarding Society, in the third version of the guidelines, five performance indicators are analysed: Local Communities, Anti-corruption, Public Policy, Anti-competitive Behaviour and Compliance. In the fourth version, two indicators have been added: Supplier Assessment for Impact on Society and Grievance Mechanisms for Impacts on Society. Finally, regarding Product Responsibility, both guidelines present five performance indicators: Customer Health and Safety, Product and Service Labelling, Marketing Communications, Customer Privacy and Compliance.

In order to understand how companies apply the guidelines when preparing their sustainability reports, the Global Reporting Initiative published a section dedicated to the Application Levels, which are titled C, B and A. Each level corresponds to a certain coverage of the GRI reporting framework. For instance, Profile Disclosures must cover some specific criteria to match level C while a more extensive coverage is required for levels B and A. Then, Disclosures on Management Approach are not necessary for level C, but disclosures for each indicator category are required to match levels B and A. According to level C, companies should report a minimum of ten performance indicators, at least one from each different category (economic, environmental and social). Level B needs a minimum of 20 performance indicators to be reported and level A requires responses on each indicator, explaining the reasons for the potential omissions. When organizations use external assurance for their reports, a "plus" can be added to the three levels (C+, B+, and A+).

Furthermore, the GRI G4 guidelines present a section dedicated to the explanation of the so-called "In Accordance" criteria. It requires companies to prepare their sustainability reports in compliance with the guidelines, which offer two main options for reports' preparation: Core option and Comprehensive option. The main difference between the two options is that, according to the first one, the organization only discloses information relating to its economic, environmental and social performance, analysing the essential elements of the report, whereas the second one requires the organization to add extensive details to the disclosure, especially reporting the indicators related to each identified material aspect.

In the fourth version of the guidelines, reporting principles and standard disclosures are followed by the Implementation Manual, which is useful for the preparation of the sustainability reports by organizations, regardless of the size, sector or

location. Companies should consult the Implementation Manual when preparing and interpreting the information to be reported.

In addition to the two versions of the guidelines, GRI also published the sector-specific supplements to integrate the guidelines: Airport Operations, Construction and Real Estate, Electric Utilities and Financial Services. These supplements contain additional information and indicators related the company's specific sector of operations. They are useful for organizations that operate in the referring sectors, since they provide a complete guidance for the preparation of a clear report, easier for stakeholders to understand.

GRI is not the only international organization that published the guidelines for supporting the drafting of sustainability reports. The analysis of the main standards I found out by the examination of the reports is shown below.

1.1.2 ISO 26000 Guidance on Social Responsibility

The concepts of sustainability and corporate social responsibility have gained more and more importance during the last decades. One of the objectives of social responsibility is to contribute to sustainable development. For this reason, organizations around the world and their stakeholders are becoming increasingly aware of the need for adopting socially responsible behaviours and they are obtaining the benefits of implementing ethical and transparent policies and strategies. Moreover, now consumers prefer products and services coming from organizations that embrace economic, environmental and social choices. Those trends have recently led to the international organizations' interests in publishing standard and guidance, which aim to provide interested companies with principles, characteristics and benefits of social responsibility. Among the others, International Organization for Standardization (ISO) issued the ISO 26000 – Guidance on Social Responsibility in 2010. It is intended as a voluntary guidance; therefore, it does not contain the requirements that need to be implemented by companies. It allows companies to develop an integrated sustainability management system in order to conform to the features of social responsibility. ISO 26000 defines social responsibility as "responsibility of an organization for the impacts of its decisions and activities on society and the environment, through transparent and ethical behaviour that contributes to

sustainable development, including health and the welfare of society" (International Organization for Standardization, 2010, p. 2). This international standard offers a guide to all types of organizations (both operating in public and private sectors), regardless of the size (small, medium and large companies) and the location (both situated in developed and developing countries). Therefore, an organization that is moving toward sustainability needs to address economic, environmental and social responsibilities.

As in the case of the GRI guidelines, ISO 26000 includes seven principles of social responsibility.

Accountability: "An organization should be accountable for its impacts on society, the economy and the environment" (International Organization for Standardization, 2010, p. 10). It implies that companies are answerable to their decisions and activities, which somehow cause economic, environmental or social impacts.

Transparency: "An organization should be transparent in its decisions and activities that impact on society and the environment" (International Organization for Standardization, 2010, p. 10). It clarifies that companies should disclose clear, accurate and complete information as well as decisions and activities for which they are responsible.

Ethical Behaviour: "An organization should behave ethically" (International Organization for Standardization, 2010, p. 11). It means that companies' behaviour should respect three important values: honesty, equity and integrity.

Respect for stakeholder interests: "An organization should respect, consider and respond to the interests of its stakeholders" (International Organization for Standardization, 2010, p. 12). It is essential for companies to identify their stakeholders, recognize and consequently respond to their interests, since they are able to affect their activities significantly.

Respect for the Rule of Law: "An organization should accept that respect for the rule of law is mandatory" (International Organization for Standardization, 2010, p. 12). Companies should be aware of the fact that their operations and relationships must comply with all the applicable laws and regulations. It informs people within the organization to observe their obligations and implement measures.

Respect for International Norms of Behaviour: "An organization should respect international norms of behaviour, while adhering to the principle of respect for the rule of law" (International Organization for Standardization, 2010, p. 13). Companies should adopt respectable behaviours, in compliance with international norms while observing all the applicable laws and regulations.

Respect for Human Rights: “An organization should respect human rights and recognize both their importance and their universality” (International Organization for Standardization, 2010, p. 13). Companies should recognize and promote human rights that are presented in the International Bill of Human Rights.

Consequently, ISO 26000 applies those principles to seven Core Subjects that describe the main issues of social responsibility. They allows companies to translate the principles into effective socially responsible actions.

The first core subject is Organizational Governance. ISO 26000 defines Organizational Governance as “the system by which an organization makes and implements decisions in pursuit of its objectives” (International Organization for Standardization, 2010, p. 21). Companies striving to perform in a socially responsible manner should develop their organizational governance system in order to integrate social responsibility in their decision-making processes, activities and relationships, understanding their responsibilities for economic, environmental and social impacts and put into practice the above-mentioned principles of social responsibility while considering also the other core subjects.

The second core subject is Human Rights. As already reported during the interpretation of the principles, companies should recognize, respect, protect and fulfil human rights while adopting their strategies and implementing their actions. ISO 26000 describes human rights as “inherent, inalienable, universal, indivisible and interdependent” (International Organization for Standardization, 2010, p. 24). This section includes eight issues: Due Diligence, Human Rights Risk Situations, Avoidance of Complicity, Resolving Grievances, Discrimination and Vulnerable Groups, Civil and Political Rights, Economic, Social and Cultural Rights and Fundamental Principles and Rights at work.

The third core subject is Labour Practices. It is connected to all the procedures relating to the work performance, such as recruitment, training, skills development, transfer, relocation, promotion, working time management, remuneration of workers and so on. It also involves all the responsibilities of companies for their relationships with employees. This section includes five issues: Employment and Employment Relationships, Conditions of Work and Social Protection, Social Dialogue, Health and Safety at Work and Human Development and Training in the Workplace.

The fourth core subject is Environment. One of the main purpose of sustainability is the environmental protection in order not to damage the future generations. Companies’ negative impacts on the environment, such as the reduction of natural resources, pollution

and climate change represent crucial consequences of their actions. To reduce the damages on the environment, companies should take into consideration the direct as well as indirect influence of their decisions and activities. For instance, they should decrease their amount of greenhouse gas emissions or try not to overuse natural habitats, destroying not only several species but also the whole ecosystem. This section includes four issues: Prevention of pollution, Sustainable Resource Use, Climate Change Mitigation and Adaptation, Protection of the Environment and Biodiversity and Restoration of Natural Habitats.

The fifth core subject is Fair Operating Practices. In order to build legitimate and productive relationships among companies, behaving ethically and responsibly is crucial for each organization. In particular, companies should prevent corruption and, on the contrary, promote fair competition as fundamental strategy to deal ethically with their partners or even customers. This section includes five issues: Anti-corruption, Responsible Political Involvement, Fair Competition, Promoting Social Responsibility in the Value Chain and Respect for Property Rights.

The sixth core subject is Consumer Issues. It involves all the responsibilities of companies to customers and consumers, such as educating them to their own products and services, providing them with accurate, fair, transparent and helpful information, promoting their health and safety and protecting their privacy not declaring personal data. One central objective of companies is encouraging sustainable production and consumption, using resources and energies efficiently and providing access to basic products and services. This section includes seven issues: Fair Marketing, Factual and Unbiased Information and Fair Contractual, Protecting Consumers' Health and Safety, Sustainable Consumption, Consumer Service, Support and Complaint and Dispute Resolution, Consumer Data Protection and Privacy, Access to Essential Services and Education and Awareness.

Finally, the seventh core subject is Community Involvement and Development. Nowadays, organizations help the progress of the communities in which they operate, developing strong relationships and allowing them to reach higher levels of well-being. Companies respect communities in order to contribute to the final common purpose of sustainable development. This section includes seven issues: Community Involvement, Education and Culture, Employment Creation and Skills Development, Technology Development and Access, Wealth and Income Creation, Health and Social Investment.

In addition to the international organizations that published standards and guidelines for the preparation of sustainability reports, some global initiatives for sustainability have been developed recently.

1.1.3 UN Global Compact Ten Principles

United Nations (UN) Global Compact is "the world's largest corporate sustainability initiative" with 13000 corporate participants and other stakeholders over 170 countries. It has two main objectives: "Support companies to do business responsibly by aligning their strategies and operations with ten principles of human rights, labour, environment and anti-corruption" and "support companies to take strategic actions to advance broader societal goals, such as the UN Sustainable Development Goals, with an emphasis on collaboration and innovation" (https://www.unglobalcompact.org). The UN secretary-general Kofi Annan[5] declared the UN Global Compact on January 31, 1999. Afterwards, the official announcement of the UN Global Compact took place in New York on July 26, 2000. The Ten Principles represent one of the initiatives for the sustainability of organizations, pointed out by the United Nations. They allow companies to revise their own strategies and operations, adopting sustainable policies and socially responsible behaviours while reporting on their implementation. The UN Global Compact originally counted nine principles. Subsequently, Kofi Annan proclaimed the addition of the tenth principle against corruption during the first Global Compact Leaders' Summit on June 24, 2004 (http://www.icenecdev.org). The Ten Principles cover the areas of Human Rights, Labour, Environment and Anti-corruption. They were approved universally and originated from the following global agreements: the Universal Declaration of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development and the United Nations Convention Against Corruption (United Nations Global Compact, 2014). An explanation of the ten principles is specified below.

The first area covered by the principles is human rights. It contains two principles:

[5] International diplomat Kofi Annan of Ghana is the seventh secretary-general of the United Nations, the multinational organization created to, among other things, maintain world peace; he is the first black African to head that organization and was awarded the Nobel Prize (http://www.notablebiographies.com).

- "Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights"
- "Principle 2: Businesses should make sure that they are not complicit in human rights abuses"

Companies have significant impacts on people and communities when implementing their businesses. The aim of valuing and supporting human rights leads to the creation and development of a stable and productive work environment. Currently, many companies are achieving numerous business benefits from taking voluntary actions in order to assist social progress, such as employing people regardless of their ethics or cultures as well as people with disabilities. It is fundamental for companies to promote the equality among the whole population worldwide. In particular, this section deals with two main topics, regarding the values of women's employment and the rights of children. Companies are now facing with the issue of gender equality, which represents an inviolable human right. Employers should encourage the abolition of the differences between men and women, since the promotion of gender equality helps to expand the economic growth and improve the business performance of the companies. The other important issue is represented by the protection of human rights applied to children; companies should take actions in order to increase the well-being of children all over the world, succeeding in creating a global well-educated society.

The second area covered by the principles is labour. It contains four principles:

- "Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining"
- "Principle 4: Businesses should uphold the elimination of all forms of forced and compulsory labour"
- "Principle 5: Businesses should uphold the effective abolition of child labour"
- "Principle 6: Businesses should uphold the elimination of discrimination in respect of employment and occupation"

Employees' working conditions within companies have been representing a crucial issue for several years. Companies should promote labour standards during the implementation of their operations, such as offering decent working conditions and attaining appropriate levels of safety and health of all their workers. The main topics relating to this issue are child labour, forced labour, discrimination among workers and

the existence of dangerous workplaces where some specific industries are still operating now.

The third area covered by the principles is environment. It contains three principles:

- "Principle 7: Businesses should support a precautionary approach to environmental challenges"
- "Principle 8: Businesses should undertake initiatives to promote greater environmental responsibility"
- "Principle 9: Businesses should encourage the development and diffusion of environmentally friendly technologies"

Nowadays, in order to pursue the objective of a more sustainable future, companies are trying to find solutions to the most dangerous environmental challenges, such as climate change, global water and crisis, overuse of resources like energy, reduction of biodiversity and other issues relating to the agricultural system. Being responsible for the environment, companies need to define sustainable goals and improve strategies with the aim of actively addressing environmental issues. For instance, they should integrate carbon-pricing mechanisms into their corporate long-term policies, reduce their greenhouse gas emissions, respecting the agreed maximum limits and disclose their emissions using quantitative reliable data. Furthermore, each company should limit its use of resources, particularly water, which need to be shared equally and managed in a sustainable manner. Another vital issue is related to food and agriculture. The increasing growth of the global population is leading to the growing demand of food and resources. However, this trend has conversely caused the decline of the availability of natural capital and resources. Therefore, companies should implement practices relating to food security, health, nutrition and sustainable agriculture.

Finally, the fourth area covered by the principles is anti-corruption. It contains one principle:

- "Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery"

The corporate values of good governance and anti-corruption policies are essential pillars in the establishment of a sustainable and inclusive global economy. Fighting corruption is still a huge challenge now. Corruption within companies leads stakeholders and consumers to lose their trust in those companies. For this reason, organizations should integrate anti-corruption measures into their corporate strategy and implement them

within their spheres of influence, in order to protect the interests of their stakeholders while gaining reputation. Trustworthy companies apply public reporting as well as transparent and responsible business approaches (United Nations Global Compact, 2014, pp. 13 – 27).

The final part of the GRI G4 guidelines contain a table providing information about the connection between the UN Global Compact Ten Principles and the GRI guidelines. From the table, it is noticeable that each principle is associated with a subject area or an item of the guidelines published by GRI. The areas of the GRI G4 guidelines that refer to the ten principles are the following: all the aspects covered in the area of the human rights and the aspect of local communities (included in the category named society) for the first principle and all the aspects of the human rights' area again for the second one. The aspects of labour or management relations (included in the category named labour practices and decent work) and freedom of association and collective bargaining (included in the category of human rights) for the third principle. The aspect of forced and compulsory labour (included in the category of human rights) for the fourth principle and the aspect of child labour (included in the category of human rights) for the fifth one. All the aspects covered in the area of labour practices and decent work and the aspect of non-discrimination (included in the category of human rights) for the sixth principle. Finally, all the aspects covered in the environmental area for the seventh, eighth and ninth principles and the two aspects of anti-corruption and public policy (included in the category of society) for the tenth principle. (Global Reporting Initiative, 2015, p. 87, table 6).

In addition to the ten principles, UN Global Compact created a multi-year strategy with the aim of pursuing the sustainable development goals by 2030 while achieving a more sustainable future. Therefore, a plan of action called "Agenda 2030" was developed.

1.1.4 UN 2030 Agenda for Sustainable Development

All 193 Member States of the United Nations agreed to adopt the "Agenda 2030" plan in September 2015. The purpose of the plan is to reach 17 Sustainable Development Goals in order to address the most critical challenges worldwide, such as climate change, extreme poverty, inequality and injustice. It is essential that all nations come to the

agreement of working together to protect the planet and fulfil the goals discussed before. If they succeed in generating this new context of cooperation, no nation will be left behind. It will represent huge efforts for all businesses and societies, since they should dedicate their capacities in order to turn global objectives and ideas into tangible achievements. The 17 Sustainable Development Goals of the 2030 Agenda for Sustainable Development officially came into force on January 1, 2016. They are universal objectives, since they can be applicable in both developed and developing countries, aiming at the three dimensions of the sustainable development: balance economic growth among countries, promote social development and integration and protect the environment in a sustainable way (https://www.unglobalcompact.org).

In order to obtain an inclusive interpretation of the 17 Sustainable Development Goals, a practical guide to understand the possible implementation of the 2030 Agenda for Sustainable Development has been published for both organizations and stakeholders. A presentation of the referring goals are written below:

- "Goal 1: End poverty in all its forms everywhere"
- "Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture"
- "Goal 3: Ensure healthy lives and promote well-being for all at all ages"
- "Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all"
- "Goal 5: Achieve gender equality and empower all women and girls"
- "Goal 6: Ensure availability and sustainable management of water and sanitation for all"
- "Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all"
- "Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all"
- "Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation"
- "Goal 10: Reduce inequality within and among countries"
- "Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable"
- "Goal 12: Ensure sustainable consumption and production patterns"
- "Goal 13: Take urgent action to combat climate change and its impacts"

- "Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development"
- "Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss"
- "Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels"
- "Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development" (Sustainable Development Solutions Network, 2015, p. 6).

In other words, the 17 Sustainable Development Goals mainly focus on themes like extreme poverty, chronic hunger, gender inequality, lack of education, lack of health care's access and deprivation of clean water and sanitation. These issues are synthesized in the framework contained in the guide, which is composed of five key topics: people, planet, prosperity, peace and partnerships. Regarding people, the guide deals with the intentions of reducing extreme poverty, gender inequality, child and maternal mortality, encouraging the access to primary health care, basic infrastructure (including energy, water, sanitation and transport), promoting the access to primary school and to necessary food. Regarding planet, the main objectives are avoiding degradation, protecting terrestrial and marine ecosystems, reducing the use of natural resources and fighting global threats like air and water pollution, loss of biodiversity, deforestation and soil contamination. Regarding prosperity, central emphasis is assigned to the achievement of prosperous and fulfilling lives. Concerning peace, the main efforts are developing peaceful societies and preventing all forms of fear, abuse, exploitation, trafficking, war, torture and violence. Concerning partnerships, the guide is founded on the idea of including the participation of all countries, all organizations, all stakeholders and all people in an intensified global solidarity with the aim of satisfying the basic needs of the poorest and most vulnerable people.

Moreover, the guide for the implementation of the "Agenda 2030" includes a section that is dedicated to the indicators relating to each sustainable development goal. All the indicators are listed below respecting the accurate order of the goals:

- "Goal 1: Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population); Poverty headcount ratio at national poverty lines (% of population)"
- "Goal 2: Prevalence of undernourishment (% of population); Prevalence of obesity, BMI ≥ 30 (% of adult population); Cereal yield per hectare"
- "Goal 3: Mortality rate, under-5 (per 1,000 live births); Life expectancy at birth, total (years)"
- "Goal 4: Lower secondary completion rate (% of relevant age group); PISA score"
- "Goal 5: Proportion of seats held by women in national parliaments (%); School enrolment, secondary (gross), gender parity index (GPI)"
- "Goal 6: Improved water source (% of population with access), Water Stress Score"
- "Goal 7: Access to electricity (% of population); Alternative and nuclear energy (% of total energy use)"
- "Goal 8: Share of youth not in education, employment or training, total (% of youth population); Average annual per capita GDP over the past 5 years"
- "Goal 9: Mobile broadband subscriptions per 100 inhabitants; Research and development expenditure (% of GDP)"
- "Goal 10: Palma ratio; Gini Index"
- "Goal 11: Percentage of urban population living in slums or informal settlements; Mean annual concentration of PM2.5 in urban areas"
- "Goal 12: Municipal solid waste generation (kg per capita)"
- "Goal 13: CO_2 emissions per capita; Losses from natural disasters (% GNI)"
- "Goal 14: Share of marine areas that are protected; Fraction of fish stocks overexploited and collapsed (by exclusive economic zone)"
- "Goal 15: Red List Index; Annual change in forest area"
- "Goal 16: Homicides per 100,000 population; Corruption Perception Index"
- "Goal 17: For high-income and upper-middle-income countries: International concessional public finance, including official development assistance (% GNI); for low-income and lower-middle-income countries: Government revenues (% GNI); Subjective Wellbeing (average ladder score)" (Sustainable Development Solutions Network, 2015, p. 14, table 1).

They are useful for countries to understand their starting positions about sustainable development as well as for organizations to measure their current performance and estimate their future contributions to sustainable development. It is the same trend

followed by the Global Reporting Initiatives when publishing the key performance indicators composing the economic, environmental and social dimensions of the sustainability or by the ISO 26000 standard when presenting the core subjects of social responsibility.

Except for the initiatives for sustainability taken by the United Nations, another international guidance on voluntary sustainability reporting applied by Chinese listed companies is the one concerning the specific industry of oil and natural gas. The features of the oil and natural gas industry guidance are analysed below.

1.1.5 Oil and Natural Gas Industry Guidance on Voluntary Sustainability Reporting

The oil and gas industry guidance is a sector-specific assistance for companies that operate in the referring sector and decide to prepare sustainability reports. This guidance came out of the cooperation of three central associations: IPIECA (The global oil and gas industry association for environmental and social issues), API (The American Petroleum Institute) and IOGP (International Association of Oil & Gas Producers). They have been providing organizations with sector-specific guidance since 2005. The most recent version of the guidance, which is the third version, issued in 2015, is analysed. Similarly to the guidelines published by the GRI, the oil and gas industry guidance comprises three main sections concerning why report, how to report and what to report. These sections deal respectively with the benefits of disclosing non-financial information and preparing sustainability reports, the general principles of sustainability reporting and the issues (associated to their indicators) measuring the companies' performance in terms of sustainability dimensions. Sustainability reporting is not compulsory, but companies can gain numerous benefits from doing it. The main reasons are companies' reputation and reliability towards their stakeholders. Reliable companies are those disclosing trustworthy information and transparently reporting positive and negative impacts of their actions. Therefore, stakeholders can consider those companies to be reliable sources of information, consequently enhancing companies' reputation worldwide. Sustainability reporting for companies operating in the oil and gas industry is a way to inform stakeholders about their current as well as long-term strategies for addressing themes like

climate change and energy. Among the others, the guidance mentions four long-term benefits of sustainability reporting: Enhancing companies' business value, thanks to the investors who gain greater confidence in response to companies' disclosure of sustainability information; improving operations within companies, thanks to the intensifying employees' awareness of companies' sustainability values and performance indicators, useful for stakeholders to understand whether companies are able to manage all the specific issues relating to sustainability; strengthening relationships with local communities and government officials other than stakeholders; increasing customers and suppliers' trust and credibility about companies' products and services as well as their own brand (The global oil and gas industry association for environmental and social issues, The American Petroleum Institute and International Association of Oil & Gas Producers, 2015, p. 8).

The guidance also indicates the general principles of sustainability reporting, which provide companies with helpful information for organising the content of their sustainability reports while improving their quality. Five general reporting principles are reported in the guidance: Relevance, Transparency, Consistency, Completeness and Accuracy.

Relevance involves the disclosure of appropriate information, which should reflect the issues of sustainability that companies want to report and meet the needs of both internal and external stakeholders.

Transparency comprises the disclosures of clear, comprehensible, truthful and coherent information relating to sustainability as well as procedures used for the preparation of the reports and restrictions affecting companies in disclosing that information.

Consistency involves what is reported and how it is reported. Thanks to this principle, the reports' users are able to make internal and external comparisons: they can verify the development of the company's performance over the years but also compare various trends in the performance of different companies.

Completeness involves the disclosure of information, which should comply with the main objectives and limits of the report.

Accuracy requires that disclosed information is precise enough to allow reports' users to fully understand its meaning so that they can trust the company (The global oil and gas industry association for environmental and social issues, The American Petroleum Institute and International Association of Oil & Gas Producers, 2015, p. 12).

Comparing the above-listed principles with the reporting principles presented in the GRI guidelines (both the third and the fourth version), it can be seen that they have two principles in common. In the guidelines published by the GRI, completeness belongs to the principles for defining the content of the report while accuracy belongs to those for defining the quality of the report.

For the disclosure of sustainability information, the oil and gas industry guidance provides companies with three main areas of disclosure: Environmental issues, Health and Safety issues and Social and Economic issues. The environmental area is composed of the four following issues: Climate change and energy, Biodiversity and ecosystem services, Water and Local environmental impact. The health and safety area is composed of the three following issues: Workforce protection, Produce health, safety and environmental risks and Process safety and asset integrity. The social and economic area is composed of the five following issues: Community and society, Local content, Human rights, Business and transparency and Labour practices. As in the case of the other standards or guidelines, the oil and gas industry guidance associates each issue with performance indicators, with the aim of providing companies with appropriate means to measure their impacts on the main dimensions of sustainability (environment, society and economy) and consequently assess their overall performance. Regarding the environmental area, the organization's impact on climate change and energy can be evaluated by greenhouse gas emissions, energy use, alternative energy sources and flared gas. The impact on water can be assessed through fresh water and discharges to water while the local environmental impact can be measured by other air emissions, spills to the environment, waste and decommissioning. Regarding the health and safety area, the workforce protection can be verified by looking at workforce participation, workforce health and occupational injury and illness incidents. The product health, safety and the relating environmental risks can be tested by the product stewardship. Concerning the social and economic area, the organization's impact on community and society can be measured through local community impacts and engagement, indigenous people, involuntary resettlement and social investment. The issue of the local content is connected to the following indicators: local content practices, local hiring practices, local procurement and supplier development. The issue of human rights is related to indicators like human rights due diligence, human rights and suppliers, security and human rights. The organization's impact on business ethics and transparency can be evaluated through actions like preventing corruption, preventing corruption involving business partners, transparency of payments to host governments, public

advocacy and lobbing. Finally, the organization's impact on labour practices can be estimated looking at the workforce diversity and inclusion, workforce engagement, workforce training and development, non-retaliation and workforce grievance system (The global oil and gas industry association for environmental and social issues, The American Petroleum Institute and International Association of Oil & Gas Producers, 2015, p. 32).

After having described the international standards and guidelines declared in the analysed sample of the reports, the focus of this work shifts towards the analysis of the national standards and guidelines applied by the Chinese listed companies composing the sample.

1.2 National reporting standards and guidelines

In China, in contrast to what happens in Europe, companies are not provided with agreed and standardized domestic guidelines for the sustainability reporting, so that they have less possibilities to use guidance or reference materials for preparing their own sustainability reports following the appropriate procedures. At the same time, globally accepted guidelines are still not entirely suitable for Chinese companies, for the reasons stated at the very beginning of the chapter, where I explained why the quality of the Chinese reports still requires huge improvements because it lacks essential characteristics and strategies for a proper disclosure of information. Originally, from the analysis of the sample, the sources that are mentioned in the reports as references for the disclosure are the following: SASAC Guidelines to the Central State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities, CASS – CSR Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (versions 2.0 and 3.0), SSE Guidelines on Listed Companies' Environmental Information Disclosure, SZSE Social Responsibility Instructions to Listed Companies, SEHK Environmental, Social and Governance Reporting Guide, GB/T 36001-2015 Guidance on Social Responsibility Reporting, Opinions on Strengthening Corporate Social Responsibility of Banking Financial Institution and Guidelines on Corporate Social Responsibility of China Banking Financial Institutions. However, due to the impossibility to find available materials about some of the above-mentioned national sources, the

analysis must be reduced to the first five sources. To start with, the description of the SASAC Guidelines to Central State-owned Enterprises (CSOEs) Directly under the Central Government on Fulfilling Corporate Social Responsibilities is provided.

1.2.1 SASAC Guidelines to Central State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibilities

In China, one of the most influential stakeholders for companies is the government. The Chinese government has been recently trying to promote sustainable development among organizations. Since 2010, thanks to the progress of the Twelve Five Year Plan, China has been shifting its economic model toward a more resource efficient and environmentally friendly model. In addition to this, in order to achieve sustainable development at corporate level, the government's current policy is to encourage state-owned enterprises to fulfil social responsibilities. In January 2008, the State-owned Assets Supervision and Administration Commission of the State Council (国务院国有资产监督管理委员会, SASAC) of the People's Republic of China issued a document providing companies with requirements and issues for managing sustainability and achieving a corporate sustainable development in terms of social and environmental aspects' management by companies. The guidelines focus on eight principal issues: "legal compliance and integrity, sustainable profitability, product and service quality, resource efficiency and environmental protection, technology innovation, workforce safety, workers' rights and social welfare" (Syntao, 2011).

Four main parts compose the document issued by the SASAC. The first part includes the reasons why it is so important for companies to fulfil social responsibilities. Among the reasons, fulfilling corporate social responsibility is vital for Chinese enterprises since they need to balance economic growth and development, environmental safeguard, social progress and well-being. Moreover, Chinese enterprises need to integrate the key ideas and requirements of the corporate social responsibility into their culture, policies and operations with the aim of innovating their economic growth while improving their corporate quality and level of credibility through the introduction of values that enhance their image and brand and the accurate education of professional and qualified employees. Another reason for companies to fulfil corporate responsibilities is

for cooperating internationally, enhancing the image of China as a responsible and sustainable nation. The second part presents an introduction about the guidelines, the requirements and principles that the CSOEs should respect in order to promote the sustainable development. Two central requirements for CSOEs are increasing the awareness of corporate social responsibility and actively embedding it as part of their strategies and operations. Among the principles for CSOEs, they should incorporate CSR into their business strategies for internal and external growth and implement CSR in order to build advanced organizational systems while intensifying their competitiveness. Furthermore, in order to contribute to the society's well-being, CSOEs should guarantee their employees' health and safety, preserving their legal interests and sponsoring their career development. The third and fourth part include the main content of fulfilling CSR and the main measures to fulfil CSR.

After having analysed the contents of the document, following the criteria used in the international guidelines, the subject areas, categories and issues relating to CSR were created. As in the case of the international standards and guidelines explained above, three subject areas were found: Economic, Environmental and Social areas.

Firstly, there are four categories for the economic area: Business operation, Sustainable profits, Product and service quality, Independent innovation and technological advancement. For their business operation, CSOEs should undertake the following activities: comply with regulations and laws, public ethnics and commercial conventions and trade rules; fulfil tax obligation; undertake the interests of investors and creditors; protect intellectual property rights; keep business creditability; oppose improper competition; eradicate corruption in commercial activities. To obtain sustainable profits, CSOEs should improve corporate governance, advocate scientific and democratic decision-making, optimize development strategy, focus on and strengthen core business, reduce management layers, distribute resources in a reasonable way, minimize operational costs, strengthen risk precaution, increase investment profit ratio and enforce market competitiveness. To promote product and service quality, CSOEs should focus on the following items and activities: safety of products, quality of services, protect consumer interests, properly handle consumer complaints and suggestions and meet demand of consumers.

Secondly, there are two categories for the environmental area: Resource conservation and Environment protection. The significant issues relating to the resource conservation are the following: energy saving, emission reduction, upgrade of technology

and equipment, engagement in recycling economy, development of energy-conserving products and improvement of resource utilization efficiency. For the environment protection, CSOEs should invest in environment protection, rationalize production procedures, decrease pollutant emission, lower energy consumption and reduce pollution.

Finally, there are three categories for the social area: Safety of production, Legal rights of employees and Participation in social public welfare programs. The important issues relating to the safety of production are the following: prevention of serious safety accidents, emergency management system, safe and healthy working conditions and living environment and security of employees' health. In order to guarantee the legal rights of the employees, CSOEs should consider the following issues: respect of the employment contract, equal pay for equal work, equality of employees, implementation of employee representatives' convention system, promotion of corporate affairs, advancement of democratic management and consideration of employees' livelihood. For the participation in social public welfare programs, CSOEs should encourage employees to volunteer for social services, participate in community and social welfare program and provide financial, material and workforce support (http://www.sasac.gov.cn).

After having explained the SASAC Guidelines on CSOEs, the description of the Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS – CSR) is provided.

1.2.2 CASS – CSR Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises

The Chinese Academy of Social Sciences, (中国社会科学, CASS), established in May 1997, is "the premier academic organization and comprehensive research centre of the PRC in the fields of philosophy and social sciences" (http://cass.cssn.cn). It established the Corporate Social Responsibility Research Centre in February 2008. The Centre has been contributing to the development of CSR's concepts and practices in China through observations and researches. The CASS issued the first Guidelines on Corporate Social Responsibility Reporting for Chinese Enterprises (CASS – CSR 1.0) in December 2009. These guidelines represented a revolutionary progress in the field of sustainability reporting in China. Over the years, the first edition has been updated and consequently

the second one (CASS – CSR 2.0) and the third one (CASS – CSR 3.0) were published. In particular, the third version was developed in March 2012, thanks to the increasing demand in the number of reports and in the quality of the contents. Comparing CASS – CSR 3.0 with the two previous versions, it can be seen that the third version is more scientific and practical, expanding its focus to the complete assistance during the preparation of the reports and including an advanced "series of handbooks" for each industry. Moreover, it separates core indicators (applied by large and small companies) from extending indicators (optional for small companies) and underlines Chinese reporting peculiarities while observing the international criteria (Chinese Academy Social Science Research Centre for Corporate Social Responsibility and Global Reporting Initiative, 2014). Nowadays, Chinese reporting companies refer to CASS – CSR 3.0 when preparing their sustainability reports, since they are the second most frequently referenced reporting guidelines in China, after the GRI G4 sustainability reporting guidelines. The principal reason for Chinese companies to use the international guidelines issued by the GRI, instead of those issued by a local centre, is because they need to satisfy the needs of both national and international stakeholders. As a result, Chinese companies that only have relationships with local stakeholders can refer to CASS – CSR 3.0 when preparing their sustainability reports, because it is not necessary for them to reach international standards.

According to the guidelines, the objectives of CASS – CSR 3.0 are listed and explained below.

"Managing the value of the reports within their lifecycle": the guidelines should provide companies with practical procedures to identify material issues for their disclosure and satisfy the needs of their stakeholders in order to improve their overall sustainability performance.

"Providing a more practical guideline for CSR reporting": the guidelines have been updated in order to provide a more detailed and useful content.

"Integrating international and local standards": looking at the advanced indicators of CASS – CSR 3.0, it is noticeable that it has absorbed many features from other international standards and guidelines.

"Adapting to international CSR reporting standards such as GRI's Sustainability Reporting Guidelines": the Chinese guidelines have been trying to offer enterprises proper references for the disclosure of non-financial information. As a result, they need to reach the international sustainability reporting standards (Chinese Academy Social Science

Research Centre for Corporate Social Responsibility and Global Reporting Initiative, 2014, p. 4).

The explanation of the indicators included in the third version of the guidelines is necessary. From the analysed document, which compares the different categories and items of both CASS – CSR 3.0 and GRI G4, two main subject areas were found: Social area and Environmental area. The list of categories and items contained in both areas are reported below.

The social area includes four categories and numerous items for each category.

"Responsibility to Government: regulatory compliance system; compliance training; fight against commercial bribery and corruption; compliance audit performance; total tax payments; response to government policy; policy or measures ensuring employment and/or job creation; number of jobs created during reporting period.

Responsibility to Employees: coverage of employment contract; collective bargaining and coverage of collective contract; democratic management; percentage of unionized employees; number of employee complaints; employee privacy management; protection of rights and interests of part-time, temporary and outsourced workers; minimum wage and percentage of local minimum wage by place of business; coverage of social insurance; overtime pay; number of days of paid annual leave per capital per year; welfare system by nature of employment; percentage of female managers; percentage of ethnic minority employees or employees of other races; percentage or number of disabled employees; percentage of employee members on the occupational health and safety committee; occupational disease control policy; occupational safety and health training; additional cases of occupational disease and total number of occupational disease cases during reporting period; work-related injury prevention policy and measures; employee counselling policy/measures; coverage of health check-up and health records; provisions of equal health and safety protection to part-time, temporary and subcontractors' employees; career path; employee training system; employee training performance; investment in employee assistance; provisions of special protection to special groups; respecting employees' family responsibility and spare time and ensuring work-life balance; employee satisfaction; employee turnover rate.

Work Safety: work safety management system; emergency management mechanism; safety education and training; safety training performance; input in work safety; number of industrial accidents; employee fatalities.

Community Involvement: assessment of environmental and social impact on local communities; percentage of new construction projects with environmental and social impact assessment; process for community representative's involvement in project development or implementation; developing or supporting public-welfare projects in local community; local employment policy; percentage of local employees; percentage of local employees in senior management by principal place of business; local sourcing policy; corporate charity policy or main areas of charity; corporate non-profit foundation; overseas charity; total donation; company policy and measures supporting employee volunteerism; employee volunteerism performance."

(Chinese Academy Social Science Research Centre for Corporate Social Responsibility and Global Reporting Initiative, 2014, pp. 15 – 19)

Likewise, the environmental area includes four categories and several items for each of them.

"Green Operation: establishment of environmental management organization and policy; early warning and emergency response mechanism for environmental protection; participation in or sign-up to environmental organizations or initiatives; environmental impact assessment; total investment in environmental protection; environmental training and education; environmental training performance; environmental information disclosure; procedure for and frequency of communication with local communities on environmental impact and risks; green workplace initiatives; green workplace performance; energy conservation from reduced business trips; green buildings and points of sale.

Green Factory: establishment of energy management system; energy conservation policy and measures; total annual energy consumption; per unit output total energy consumption; company policy and measures for use of new energy, renewable energy or clean energy; consumption of new energy, renewable energy or clean energy; policy, measures or technology for emission reduction; exhaust gas emissions and reductions; policy, measures or technology for reducing effluent discharge; effluent volume and reductions; policy, measures or technology for reducing waste emissions; waste emission and reduction; policy and measures supporting recycling economy; recycling rate of renewable resources; water-saving business operations; annual fresh water consumption/per unit industrial value added fresh water; use of treated water; GHG gas emission reduction plan and results; GHG emissions and reductions.

Green Products: percentage of suppliers accredited to ISO 14000 environmental management system; measures to improve the environmental awareness and capabilities of suppliers; number and incidence of environmental penalties imposed on suppliers; support of development and distribution of green and low-carbon products; measures for reclamation of waste and obsolete products and their effectiveness; policy on reduced use and reclamation packaging materials.

Green Ecology: biodiversity conservation; protection of natural habitats, wetlands, forests, wildlife corridors and agricultural lands in construction projects; ecological rehabilitation and management; rate of ecological rehabilitation; environmental initiatives."

(Chinese Academy Social Science Research Centre for Corporate Social Responsibility and Global Reporting Initiative, 2014, pp. 19 – 23)

In addition to the two Chinese organizations SASAC and CASS, which issued national guidelines for local enterprises, also the two stock exchanges of Shanghai and Shenzhen in China motivated listed companies to develop their CSR performance and implement the specific procedures that need to be followed during the preparation of sustainability reports.

1.2.3 SSE Guidelines on Listed Companies' Environmental Information Disclosure

The Shanghai Stock Exchange (上海证券交易所, SSE) released the "Notice on Strengthening Listed Companies' Assumption of Social Responsibility", also called the "Shanghai CSR Notice", as well as the "Guidelines on Listed Companies' Environmental Information Disclosure" on May 14, 2008 (http://english.sse.com.cn). Both the notice and the guidelines aim at assisting listed companies to fulfil their social responsibilities, meet the needs of their stakeholders, evaluate their performance through the disclosure of the issues relating to sustainability and promote sustainable development in terms of economy, environment and society. According to the requirements of the Notice, all the companies listed on the SSE should increase their responsibility awareness, planning their own social responsibility strategies and disclosing their CSR's objectives and achievements (http://english.sse.com.cn).

When disclosing information related to their CSR performance, the companies listed on the SSE should comprise the following items: protection of employees' health and safety, quality control of products and services, promotion of the sustainable environment and ecosystem through the reduction of pollution and the conservation of energy and water. According to the Guidelines on Listed Companies' Environmental Information Disclosure, "companies included in the SSE Corporate Governance Index (240), companies listed on both domestic and overseas markets and financial companies" must disclose CSR practices (https://www.carrotsandsticks.net).

The guidelines also provide listed companies with a list of environmental information that they are required to disclose within their sustainability reports or even in separate reports. The items, given by the guidelines, which companies use for their disclosures, are the following: "environmental protection policy, annual environmental protection objective and effect; annual total energy consumption; environmental protection investment and environmental technology development status; emission/pollutant types, quantity, concentration and destination; construction of environmental protection equipment and operational status; production waste treatment, disposal and recycling status; environmental improvement agreement (signed voluntarily by the company) that the company has entered into with the Ministry of Environmental Protection; awards that the company has received from the Ministry of Environmental Protection; other information disclosed at the discretion of the company" (https://www.carrotsandsticks.net).

One of the reasons why the SSE motivates Chinese listed companies to consider and evaluate their sustainability performance as well as promote sustainable development is because they are able to guide other local enterprises in pursuing those objectives. In China, apart from the Shanghai Stock Exchange, the other one is the Shenzhen Stock Exchange.

1.2.4 SZSE Social Responsibility Instructions to Listed Companies

The Shenzhen Stock Exchange (深圳证券交易所, SZSE) issued the "Social Responsibility Instructions to Listed Companies" on September 25, 2006. It aims at encouraging companies listed on the SZSE to disclose their CSR performance in addition

to their financial performance. Social responsibility initiatives include the protection of the legal interests of their stakeholders, the reduction of pollution, the protection of the ecosystem and the promotion of the social development, health and safety. All these actions enable Chinese enterprises to be more and more aware of their influences on sustainability in order to reduce their potential negative impacts on the economy, environment and society.

The document issued by the SZSE is composed of thirty-eight articles, divided into eight chapters. The first chapter is dedicated to the general provisions. According to Article 5, the instructions advice companies to regularly evaluate their social responsibility performance and voluntarily disclose information related to their performance (http://www.szse.cn).

The second chapter focuses on the protection of the interests of shareholders and creditors. According to Article 7, shareholders should be treated fairly by enterprises and their rights, needs and interests should be protected because they are provided by laws and regulations.

The third chapter shifts the focus on the protection of the interests of the employees. In the Articles 13 to 19, it can be seen that the referring social aspects are the following: "improvement of employment systems, such as remuneration and incentives; respect for the dignity of the employees; promotion of harmonious and stable relationships between the employer and the employees; protection of the female employees; no abuses, such as corporal punishments, physical or mental intimidation and verbal humiliation; advancement of health and safety systems; education, training, encouragement and support of the employees; prevention of accidents; reduction of occupational hazards; respect for the principle of equal pay for equal work; no interference with religious beliefs of employees; no discrimination; support of the trade union in protecting employees' rights" (http://www.szse.cn).

The fourth chapter concentrates on the protection of the interests of suppliers, customers and consumers. In the Articles 20 to 26, other social aspects can be added to the above-listed ones: assurance of safe products and services; prevention of potential damages or defects; supervision and avoidance of possible commercial briberies; protection of suppliers and customers' personal information; offer of after sale services and management of suppliers and customers' complaints and suggestions.

The fifth chapter is dedicated to the environmental protection and sustainable development. In the Articles 27 to 31, it can be seen that the referring environmental

aspects are the following: “formulation of environmental protection systems and policies, which comply with the laws and regulations; reduction of the use of resources; reduction or avoidance of the waste generation; promotion of sustainable methods, such as recycling; appliance environmental-friendly, energy-saving and waste-reducing materials; minimization of the negative environmental impacts of the companies; increase of the awareness of the environmental protection among employees; reduction of pollutant emissions” (http://www.szse.cn).

Finally, the sixth, seventh and eighth chapters are about public relations and social welfare services, institutional building and information disclosure and supplementary provisions, respectively.

From the sample’s analysis, which is composed of Chinese listed companies’ sustainability reports, it is noticeable that most companies refer to the guidelines issued by the Hong Kong Stock Exchange (SEHK). Although Hong Kong is not really part of the People’s Republic of China, since it is an autonomous territory, considering and explaining the guidelines issued by its stock exchange is essential for this work purposes.

1.2.5 SEHK Environmental, Social and Governance Reporting Guide

Hong Kong is situated on the southern coast of Mainland China but is an autonomy region, officially called Hong Kong Special Administrative Region of the People’s Republic of China (中华人民和国香港特别行政区). In 2011, the wholly owned subsidiary of Hong Kong Exchanges and Clearing Limited (香港交易及结算所有限公司), that is the Stock Exchange of Hong Kong Limited (香港交易所, SEHK), published the “Environmental, Social and Governance Reporting Guide” (“ESG Guide”), which aims at encouraging the disclosure of ESG information, measuring the companies’ performance and improvement and meeting the needs of stakeholders through ESG reporting. Afterwards, in 2015, the SEHK issued the “Consultation Paper on Review of the Environmental, Social and Governance Reporting Guide”, which represents a review of the previous “ESG Guide”.

The first document lists the reasons for ESG Reporting: raising standards, benefits to business (such as trust and reputation, growth of responsible investment, employee motivation, risk management and management efficiency) international efforts and

governmental, non-governmental organisations (NGOs) and business associations' initiatives. In relation to the international efforts, the International Integrated Reporting Committee (IIRC) was founded in order to achieve "a concise, clear, comprehensive and comparable integrated reporting framework", which includes both financial and non-financial information (Hong Kong Exchanges and Clearing Limited, 2011, p. 11).

The second document adds the list of the Reporting Principles: Materiality, Quantitative, Balance, Consistency, Comparability, Reliability, Completeness and Clarity, Accuracy (Hong Kong Exchanges and Clearing Limited, 2015). Comparing the principles in the ESG Guide with those included in the GRI guidelines, it is noticeable that they have seven principles in common: Materiality and Completeness are listed among the principles for defining report content while Balance, Comparability, Accuracy, Clarity and Reliability are listed among the principles for defining report quality.

When preparing their sustainability reports, most companies refer to the Appendix 27 of the Environmental, Social and Governance Reporting Guide by the SEHK. It provides companies with two disclosure obligations: "comply or explain" provisions and recommended disclosures. Regarding the first one, companies are required to give reasons within their ESG reports for their choice of not reporting on the "comply or explain" provisions. Regarding the second one, companies are advised to report on the recommended disclosures contained in the guide, but it is not a requirement. The overall approach is based on the identification of relevant subject areas, aspects and indicators for ESG disclosure purposes. The Appendix 27 is structured into two ESG subject areas: the Environmental area and the Social area. Corporate Governance is excluded from the Appendix 27 since it is discussed separately in the Appendix 14 of the Main Board Listing Rules, called "Corporate Governance Code and Corporate Governance Report". Each subject area consists of different aspects, which are organised into General Disclosures and Key Performance Indicators (KPIs). Both are useful for the preparers of the reports, enabling them to evaluate the companies' performance in terms of their influences on the environment and society.

The environmental aspects are the following: Emissions, Use of Resources and Environment and Natural Resources. Each aspect is represented by several key performance indicators, which are listed below.

"Emissions: types of emissions and emissions data, greenhouse gas emissions in total (in tonnes) and intensity, total hazardous waste produced (in tonnes) and intensity, total non-hazardous waste produced (in tonnes) and intensity, description of measures to

mitigate emissions and results achieved, Description of how hazardous and non-hazardous wastes are handled, reduction initiatives and results achieved.

Use of resources: direct and/or indirect energy consumption by type and intensity, water consumption in total and intensity, description of energy use efficiency and initiatives and results achieved, description of water efficiency initiatives and results achieved and total packaging material used for finished products (in tonnes) and with reference to per unit produced.

Environment and natural resources: description of activities' impacts on the environment and natural resources and actions taken to manage them" (Hong Kong Exchanges and Clearing Limited, pp. 44 – 46).

The social area is divided into three categories: Employment and Labour Practices (whose social aspects are Employment, Health and Safety, Development and Training and Labour Standards), Operating Practices (whose social aspects are Supply Chain Management, Product Responsibility and Anti-corruption) and Community (whose single social aspect is community investment. Here, the key performance indicators related to the social aspects are part of the recommended disclosures.

"Employment or working conditions: total workforce by gender, employment type, age group and geographical region; employee turnover rate by gender, age group and geographical region.

Health and safety: number and rate of work-related fatalities; lost days due to work injury; description of occupational health and safety measures adopted, how they are implemented and monitored.

Development and training: percentage of employees trained by gender and employee category; average training hours completed per employee by gender and employee category.

Labour standards: description of measures to review employment practices to avoid child and forced labour; description of steps taken to eliminate child and forced labour when discovered.

Supply chain management: number of suppliers by geographical region; description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored.

Product responsibility: percentage of total products sold or shipped subject to recalls for safety and health reasons; number of products and service related complaints received and how they are dealt with; description of practices relating to observing and

protecting intellectual property rights; description of quality assurance process and recall procedures; description of consumer data protection and privacy policies, how they are implemented and monitored.

Anti-corruption: number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases; description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.

Community investment: focus areas of contribution (education, environmental concerns, labour needs, health, culture, sport); resources contributed (money or time) to the focus area" (Hong Kong Exchanges and Clearing Limited, pp. 47 – 52).

Comparing the ESG Reporting Guide by the SEHK with the G4 guidelines by the GRI, it can be seen that all the environmental and social aspects of the ESG Reporting Guide are associated with the relative aspects included in the GRI G4 guidelines. Concerning the environmental area, the relative aspects mentioned in the GRI G4 guidelines are the following: "Emissions", "Effluents and Waste", "Materials", "Energy", "Water", "Products and Services", "Transport" and "Biodiversity". Concerning the social area, the relative aspects are the following: "Market Presence", "Employment", "Diversity and Equal Opportunity", "Equal Remuneration for Women and Men" and "Non-discrimination"; "Occupational Health and Safety"; "Training and Education"; "Child Labour" and "Forced or Compulsory Labour"; "Supplier Environmental Assessment", "Supplier Assessment for Labour Practices", "Supplier Human Rights Assessment" and "Supplier Assessment for Impacts on Society"; "Customer Health and Safety", "Product and Service Labelling", "Marketing Communications" and "Customer Privacy"; "Anti-corruption"; "Local Communities" (Global Reporting Initiative, 2016, pp. 12 – 53).

To sum up, the first chapter is dedicated to the study and presentation of the international and national reporting standards and guidelines. It is noticeable that the Chinese reporting guidelines have been trying to reach the international standards in order to improve the quality of the sustainability reports published locally, consequently enhancing the image and reputation of the Chinese companies worldwide.

CHAPTER 2: Literature Review

2.1 Introduction

Quite recently, considerable attention has been paid to the importance as well as the influence of the concept of sustainability or sustainable development worldwide. The most recognized definition of sustainability was given by the World Commission on Environment and Development (WCED)[6], which published a report entitled "Our Common Future" in 1987. The document is known as the "Brundtland Report" since the name of the Commission's chairwoman is Gro Harlem Brundtland. According to the Brundtland Report, sustainability is defined as "the development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, p. 41). Moreover, it is essential to distinguish the differences between the concepts of sustainability and CSR, which are not the same. The definition of the latter is explained as follows. According to a report published by the World Business Council for Sustainable Development (WBCSD), "CSR is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large" (Lord Holme and Richard Watts, 2000, p. 8). Both the ideas of sustainability and CSR undertook different paths in western and eastern countries, such as China. In Europe and in the US, for instance, corporate sustainability takes its origins from the necessity to enhance the competitiveness among the companies, improving their images and promoting the respect for the communities and the environment where companies operate. Corporate sustainability is composed of three main elements: economic and ethics, social and environmental aspects. These aspects together are able to influence the overall performance and reputation of a company, which is essential for its stakeholders. In most western countries, sustainable initiatives have been taking for several years in order to meet the needs and requests of society and stakeholders, while promoting positive values among companies and increasing their reputation widely. Conversely, the development of

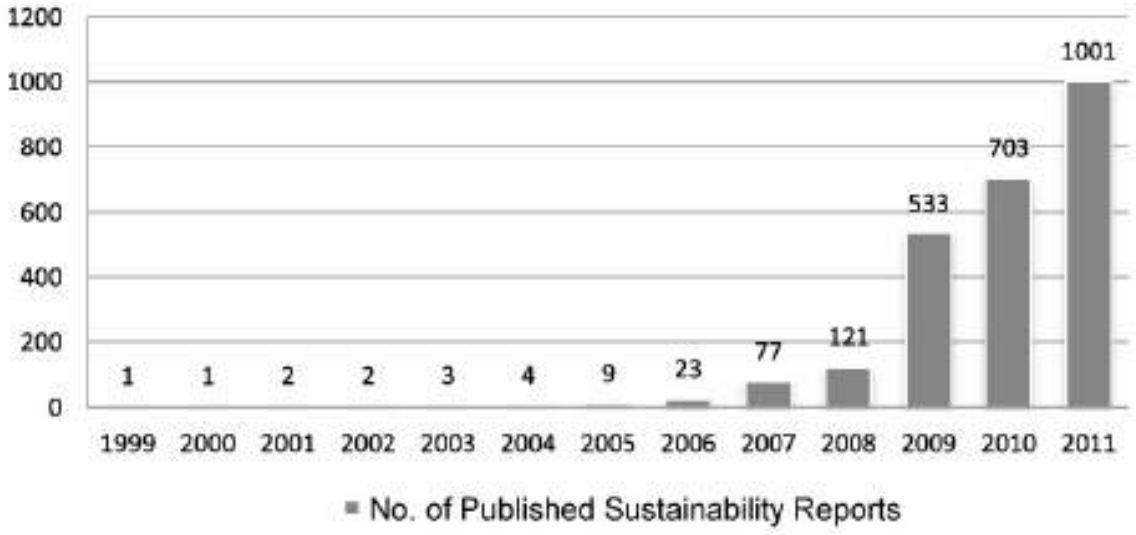
[6] The World Commission on Environment and Development, also known as "Brundtland Commission", was established in December 1983 with the aim of encouraging countries to pursue the global sustainable development together (http://www.encyclopedia.com).

the concepts of sustainability and CSR in China is much more recent. It has its origins in the foreign multinational companies, which operated in China. At the beginning, sustainable practices in China derived from global initiatives such as United Nations' Global Compact and guidelines issued by the Organisation for Economic Co-operation and Development (OECD). Later, the influence of the Chinese government played an important role in increasing the awareness of sustainability among Chinese companies and communities. In order to enable state-owned enterprises to compete with international enterprises in the global market, China started to adapt its practices to the international standards, accepted worldwide. In particular, the Twelve Five-Year Plan defined an innovative pattern of growth, emphasizing environmental protection and social progress as the priorities in pursuing the sustainable development of the country. In fact, the focus of the plan is the implementation of the so-called "green economy", which represents a model of sustainable economic growth that, at the same time, takes into consideration the companies' impacts on the environment and society. One of the objectives of the Twelve Five-Year Plan was to reduce the consumption of energy and limit pollution, fixing restrictions to the companies' emissions of pollutant substances. Meanwhile, the Communist Party became aware of the environmental crisis that people and companies were experiencing in China. For this reason, it has been trying to achieve the economic progress while promoting policies with the aim of lowering the levels of pollutant emissions. As a result, local enterprises became aware of their negative impacts on the environment and society. They started to understand the importance of the disclosure of both financial information related to their economic performance and non-financial information related to other aspects, considered for the evaluation of the overall performance of a company. It represents the emerging trend of sustainability reporting. The aim of the chapter is to understand the concept and practice of sustainability reporting in China from the analysis of both theoretical and empirical studies about the topic. Unfortunately, there are scarce materials available both in Chinese and in English concerning sources and practices of this quite innovative trend.

In 2010, China became the second largest economy all over the world after the US, since its GDP grew by 10.3%, surpassing the Japanese one. The enormous and continuous progress of the Chinese economy led the country to apply sustainability as focus of its policies. As mentioned above, China was able to transform its model of economic growth thanks to the implementation of the Twelve Five-Year Plan. From that moment, China started to apply sustainability strategies, such as saving resources and energies, reducing

GHG emissions, promoting low-carbon technologies and actively responding to the global climate changes. Therefore, the environmental challenges and pressures led local companies to integrate sustainability into their corporate structure and approach. In addition to this, society also required corporate sustainable actions as well as transparency of information. As a result, companies became more active in sustainability reporting (Syntao, 2011). Among the other explanations, the study by Syntao analysed a sample of reports and pointed out the main features that characterise the reports, providing several data about the reporting trend in China. It is necessary to report the most important and useful data. Firstly, the number of reports has been progressively increasing in China during the last years, with a growth rate of over 30% in 2011, as it can be seen below, in Figure 2.1.

Figure 2.1: Sustainability Reports Released by Companies in China from 1999 to 2011

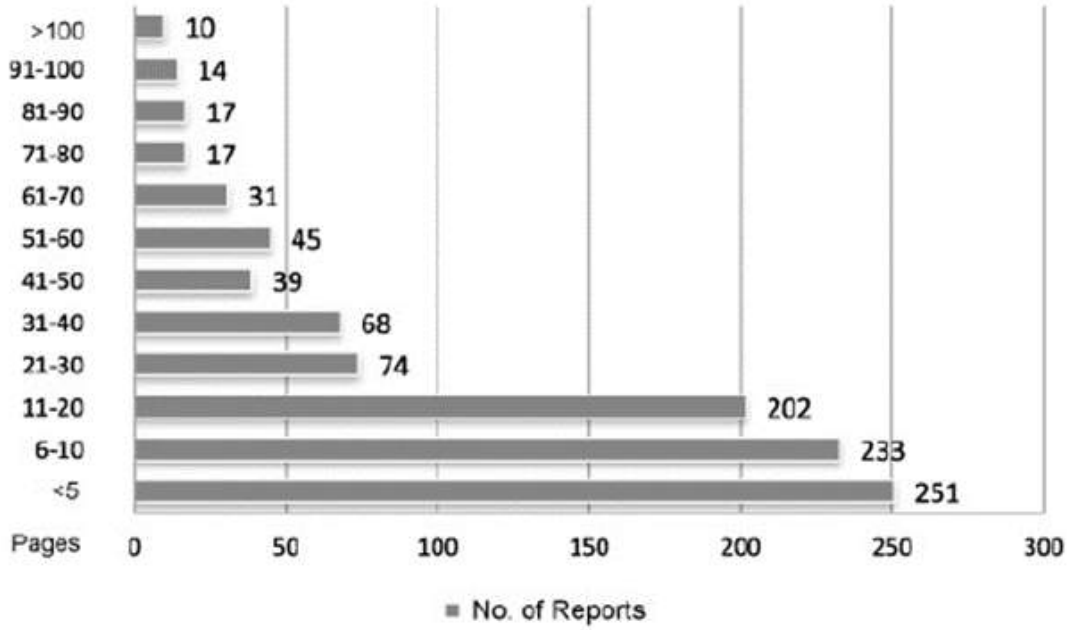


Source: Syntao, "A Journey to Discover Values. A Study of Sustainability Reporting in China", 2011

Secondly, from the analysis of the titles given to the reports, the study by Syntao found out that approximately 80% of the selected reports were titled "Social Responsibility Report" or "Corporate Social Responsibility Report" in 2011. In general, CSR reporting represents the dominant trend for the disclosure of sustainability information, thanks to the intensifying acceptance of CSR practices in China. Some companies used "Sustainable Development Report" and only few companies used "Environmental, Social and Governance Report". In the recent years, companies have started to use "Sustainability Report" as well. Another interesting feature is the length of

the reports. From the analysis of the selected Chinese reports, the study by Syntao found out that, in 2011, about 48% of the reports were no longer than ten pages, followed by the reports that were no longer than twenty pages. Figure 2.2 shows the length of the sustainability reports released by Chinese companies in 2011.

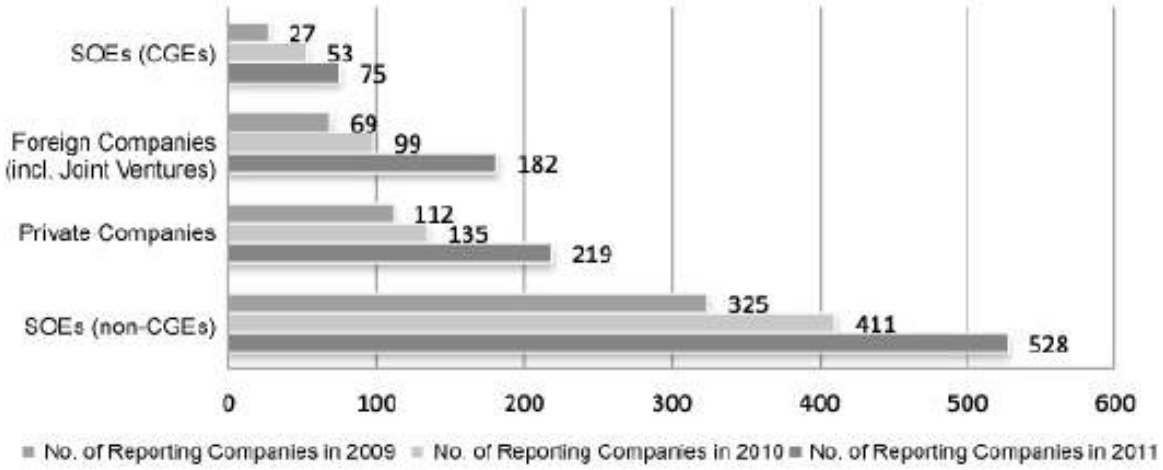
Figure 2.2: Length of Sustainability Reports Released by Companies in China in 2011



Source: Syntao, "A Journey to Discover Values. A Study of Sustainability Reporting in China", 2011

Comparing it with the previous years, it is noticeable that there was a higher number of reports that were no longer than five pages. For this reason, there is the evidence that the length of the reports has been growing over the years. One theory is that previous reports were shorter because they were originally enclosed to the financial reports issued by the companies annually. Later, companies started to issue independent sustainability reports, separated from their annual reports. Therefore, with the passing of time, Chinese reports are becoming longer and longer. Another analysis made by Syntao refers to the composition of the reporting companies in China. Firstly, SOEs represent the majority of the enterprises releasing sustainability reporting, accounting for around 60% of the total in 2011. It can be explained by the influence of the Chinese government particularly on SOEs. For instance, the notice published by SASAC in 2010 was an instruction for all the SOEs, including the Central Government Enterprises (CGEs), to release sustainability reports within three years. The graphical data related to the types of companies releasing sustainability reports in China are demonstrated below, in Figure 2.3.

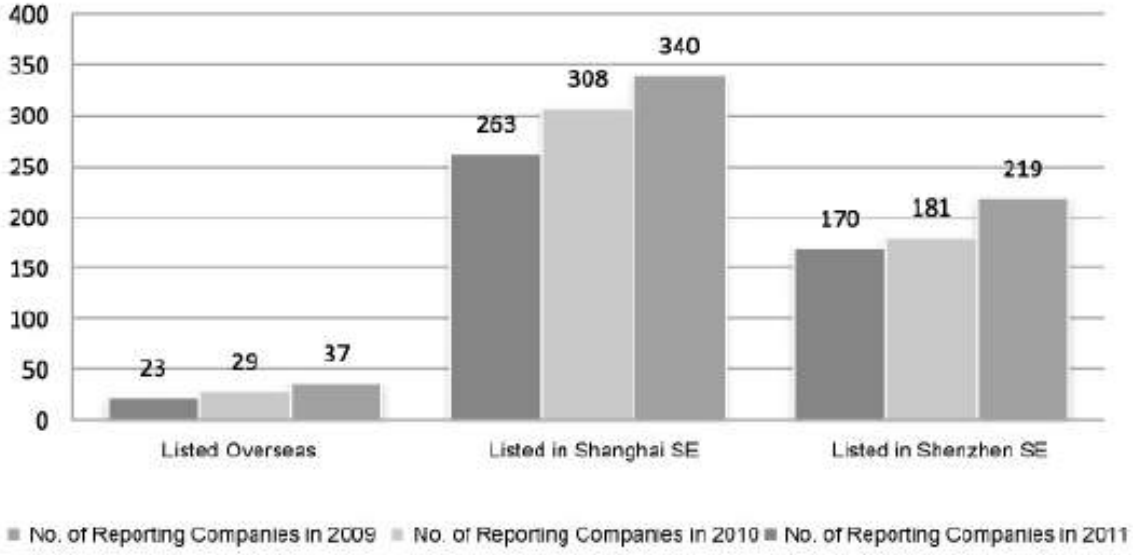
Figure 2.3: Composition of reporting companies in China from 2009 to 2011



Source: Syntao, "A Journey to Discover Values. A Study of Sustainability Reporting in China", 2011

According to the graph, it is noticeable that foreign companies operating in China, including joint ventures, issued a minor number of sustainability reports. Similarly, the total number of reports released by private companies was halve the total number of reports released by all the SOEs, comprising both CGEs and non-CGEs. Among all the reporting companies, the Chinese listed companies accounted for approximately 60% of the total in 2011. In general, the number of sustainability reports issued by listed companies has been increasing in China for the last decade. Figure 2.4 shows the total number of Chinese listed companies, which released sustainability reports from 2009 until 2011. The analysis made by Syntao took into consideration companies listed on the two local stock exchanges of Shanghai and Shenzhen as well as those listed on foreign stock exchanges.

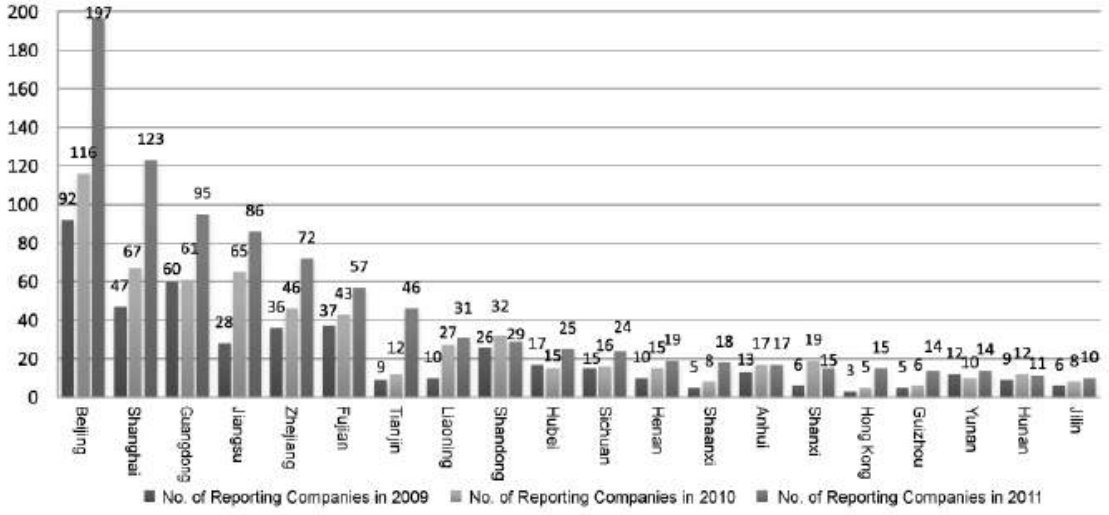
Figure 2.4: Composition of reporting listed companies in China from 2009 to 2011



Source: Syntao, "A Journey to Discover Values. A Study of Sustainability Reporting in China", 2011

From the graph, it is possible to observe that Chinese companies listed overseas issued an extremely limited number of sustainability reports, compared to those listed on both Shanghai and Shenzhen Stock Exchanges, which accounted for 54% and 34% of the total reporting listed companies, respectively, in the same period. Transferring the focus to the analysis of the reporting companies divided by region, the study by Syntao found out that those operating in Beijing, Shanghai and Guangdong accounted for 20%, 12% and 10% of the total reporting companies, respectively. Figure 2.5 clearly illustrates the figures about the distribution of reporting companies by region.

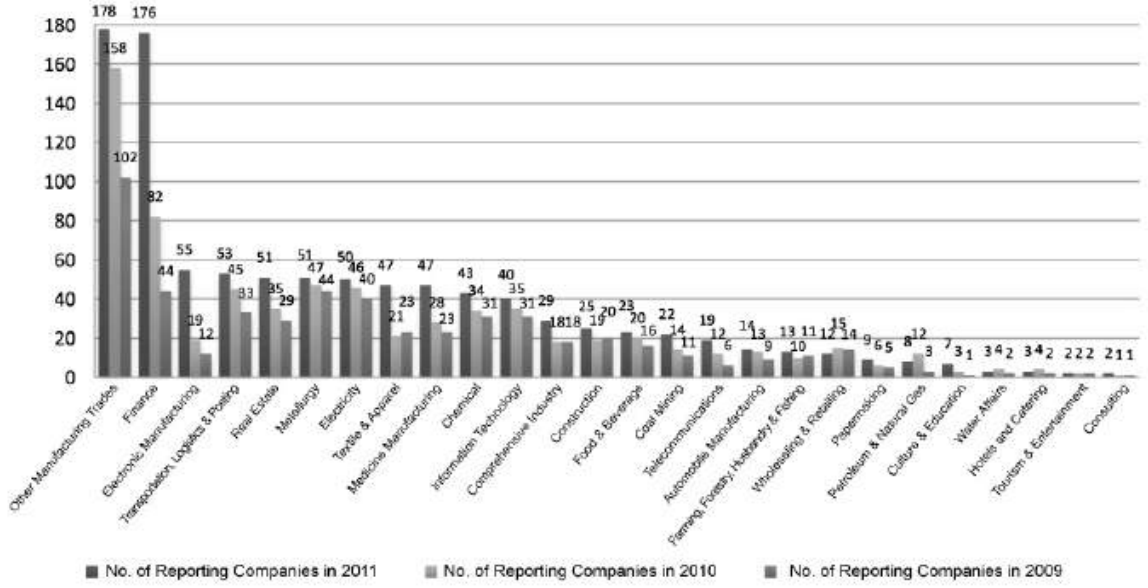
Figure 2.5: Regional distribution of reporting companies in 2011



Source: Syntao, "A Journey to Discover Values. A Study of Sustainability Reporting in China", 2011

According to the bar chart, there is the evidence that the major and most relevant cities are those where companies published the higher number of sustainability reports.

Figure 2.6: Composition of industry sectors of reporting companies in 2011



Source: Syntao, "A Journey to Discover Values. A Study of Sustainability Reporting in China", 2011

After having reported the main features characterising the sustainability reports in China during that specific period, the focus of the chapter deals with the analysis of empirical studies referring to the concept and practice of sustainability reporting in China.

2.2 Sustainability reporting in China: empirical approach

As previously explained, China's dual challenge is to develop its domestic economy while promoting the protection of the environment and the improvement of its society's well-being. Since the 1980s, the general concepts of sustainable development and sustainability have attracted particular attention. China has been implementing a series of sustainability-oriented policies for several years, especially regarding the environmental sustainability, with the aim of encouraging a synchronised progress among economy, environment and society. China is the largest developing country and its sustainability-oriented policies represented a real revolution in terms of realising a long-term advancement with the awareness of conducting a sustainable growth. Since 1992, Chinese government opted for sustainable development as the core strategy of the country

(Zhang and Wen, 2008). Despite the government's great efforts toward sustainability as well as the implementation of the sustainability-oriented policies, many environmental and social problems still exist in China, such as a high level of pollution and ecological degradation, which is considered extremely dangerous for the population's quality of life, hazardous working conditions and occupational diseases and injuries, especially in the mining industries (Chunguang Bai, 2015).

Since the English language literature about sustainability reporting in general terms is really extended, the literature review is concentrated only on the empirical aspects of the studies concerning China. Depending on the documents analysed in each research, these empirical studies can be divided into three different groups:

- Studies analysing the information disclosed in the annual reports issued by the selected companies because they do not provide sustainability reports.
- Studies focusing on the analysis of the information disclosed in the sustainability or CSR reports released by the enterprises selected for the sample. These works can be associated with this thesis since the documents taken into consideration for the examination are the following: sustainability, CSR, ESG, social responsibility and sustainable development reports.
- Studies concentrating on finding the information disclosed in both the annual reports and the sustainability or CSR reports published by the selected companies.

2.2.1 Annual reports' analysis

Recently, the studies focusing on the intellectual capital (IC) reporting have been increasing widely. These studies do not involve only China, but the entire world. To introduce the concept, the study by Lídia Oliveira and Lúcia Lima Rodrigues Russell Craig (2010) is an example of analyses that involves the investigation of voluntary disclosure of IC items in sustainability reports released by Portuguese companies. Likewise, the paper issued by Cinquini, Passetti, Tenucci and Frey (2012) analysed the content, frequency and quality of the voluntary disclosure of the IC, concentrating on the changes between the years 2005 and 2006, taking a sample composed of 37 sustainability reports published by Italian listed companies. Other studies dealt with IC reporting with

the aim of proving the disclosure's level of the IC items as well as the IC reporting quality (Guthrie and Petty, 2000; Emma Garcia-Meca, 2005; Guthrie, Petty and Ricceri, 2006; Striukova, Unerman and Guthrie, 2008). Furthermore, with regard to the method used for the research, content analysis can also be employed to understand IC reporting concept and practices (Guthrie et al., 2004).

Concerning China, there are three studies focusing on the analysis of the IC information disclosed in the annual reports. To start with, the paper by An Yi and Howard Davey (2010) focused its research on the IC disclosure, trying to evaluate its quality from the analysis of 49 annual reports published by companies having dual listed A and H shares in mainland China. The period and the sources of data are limited to one year, considering the annual reports released in 2006 by the selected companies. The problem related to the IC reporting is that "intellectual capital is difficult to capture and measure. There is no widely accepted accounting framework for IC disclosure around the world. Thus, the current status of IC disclosure throughout the world is limited and highly variable" (An Yi and Howard Davey, 2010, p. 327). Similar to other prior researches, the quality of the IC disclosure by mainland Chinese companies resulted not to be strong. Most reports gave priority to qualitative information rather than quantitative data. On the other hand, companies were aware of the importance of disclosing IC aspects in their reports. The reason is that there was an elevated number of items disclosed in each report. Therefore, even if the disclosure quality was not good enough, it is suggested from the results that companies were willing to communicate their information to an external audience. The study implemented the construction of the disclosure index as its methodology for the research. The disclosure index is defined as "a qualitative-based instrument designed to measure a series of items which, when scores for the items are aggregated, gives a surrogate score indicative of the level of disclosure in the specific context for which the index was devised" (Coy, 1995, p. 121). During the research, relying on other former studies, the authors built a framework composed of three main subject areas, including "internal capital", "external capital" and "human capital"; each of them comprised different IC items, for a total number of 21 items. In order to evaluate the quality of the IC items, the authors utilized a six-point scale (from 0 to 5), which was also previously applied by Firer and Williams (2002) and Shareef and Davey (2006). In the six-point scale, 0 was assigned for the non-disclosure of the item, 1 for the immaterial disclosure, 2 for the obscure disclosure with incomplete references, 3 for narrative disclosure, 4 for quantitative or monetary disclosure and 5 if narrative statements were

added to quantitative or monetary disclosure. After having collected the scores, they were reported in another scale, from 0 to 1, with the aim of simplifying the comparison among the different items and categories. Looking at the findings, it is noticeable that they were articulated into several classifications, such as "extent and quality of IC disclosure by attributes", "extent and quality of IC disclosure by reporting categories", "distribution of IC disclosure by annual report section" and "extent and quality of IC disclosure by companies". In particular, all the three different subject areas were analysed and discussed separately in the paper. As a result, each subject area showed its partial findings. Overall, the average number of items disclosed in the reports per company was 9.08 out of 16 IC items. Among the enterprises, two of them reported 14 items, whereas three of them reported only 5 items. Therefore, it is demonstrated that Chinese companies cannot currently boast a high level of IC disclosure in their reports (An Yi and Howard Davey, 2010). The findings were already predictable for the reason mentioned before in the paragraph, represented by the lack of a generally accepted model for quantifying IC information disclosure in China as well as around the world. As a result, IC reporting is imprecise. Furthermore, even if some companies disclose IC aspects in their reports, the quality of the disclosure is not good enough. As an example, it is clear that Chinese companies are not provided with an organized technique of IC reporting because the analysis found out that the disclosed information were distributed in various parts of the annual reports. As in the case of sustainability reporting, in the IC reporting there are some areas where companies have the opportunity to improve their IC disclosure. In this study, the authors specified that "in the future, all internal capital attributes other than "management processes" require significant improvement. As to external capital, the items for further improvement are "customer satisfaction", "distribution channels", "licensing agreements" and "market share", especially "licensing agreements". With respect to human capital, the disclosure of "education and training" and "work-related knowledge" need to be improved significantly" (An Yi and Howard Davey, 2010, p. 341).

This study is useful because it can help other researchers examine the extent of IC disclosure and make comparisons among the findings. More important, it is possible to apply the IC disclosure index to other developing countries other than China, for example India. Nevertheless, further works are needed in order to explore the IC reporting practices in mainland China.

Another study focusing on the evaluation of the IC disclosure extent and quality is the paper published by Liao, Low and Davey (2013), which is the first study comparing

the IC information disclosed in the annual reports published in different languages. In this case, the comparison was between English and Chinese annual reports issued by Chinese enterprises. It is also the first example of study employing various methods for the assessment and measurement of the IC disclosure quality. The sample was composed of 50 Chinese companies, which were dual listed on both Chinese mainland and Hong Kong stock exchanges. For this reason, the paper can be compared to this thesis, taking into consideration a sample of 60 Chinese companies listed on various stock markets, both national (mainland China) and international, such as the Hong Kong stock exchange. As previously mentioned, the authors adopted more than one methodology for their research purposes. Firstly, content analysis was used as primary research method in order to assess the 100 annual reports according to a five-point scale. Secondly, the IC disclosure index was employed to build the framework. As in the previous analysed study, the structure of the framework was developed by Sveiby (1997), who decided to create three main subject areas, named "internal capital", "external capital" and "human capital". Then, the same structure was applied to several further studies but it was obviously adjusted depending on the purpose of each different research. The IC items were different from the previous analysed study. In this case, instead of 21, 12 IC items were found by the authors. Finally, a five-point scale was used for the evaluation of the IC disclosure quality. The points of the scale, similar to those analysed in the previous study, were 0 (no information disclosed), 1 (narrative information disclosed), 2 (numerical information disclosed), 3 (monetary information disclosed) and 4 (both qualitative and quantitative information disclosed). For the measurement of the disclosure quality, it was necessary to calculate the weighted average score, because each company allocated different weights to every IC areas or items. The authors stated that "the use of weighted average score will provide a more accurate idea in comparing the disclosure quality of each sample company than a simple average score" (Likang Liao, Mary Low and Howard Davey, 2013, p. 664).

The methodology adopted by the authors was different from the previous analysed study because in this paper, three weighting methods were employed in order to evaluate the disclosure quality of each company and consequently have the possibility to make comparisons among the selected companies. The first method assigned a weight of each IC area depending on the number of IC items contained in each one. The second method relied on the methodology used by preceding studies, such as the analysed study by Yi and Davey (2010). Finally, the third method associated equal weight to all the different subject areas, without differentiating them. Comparing the findings with those of the prior

study, they both were articulated into various parts, such as the extent and quality of the IC disclosure by attributes, by categories and by companies. Overall, it is noticeable that the IC reporting concept and practice was strongly upgraded compared to the results coming from former researches (Xiao, 2008; Yi and Davey, 2010). The statement of the authors confirmed this theory: "The significant improvements from previous years' annual reports are found in the disclosure of R&D, partnership, stakeholder relationship, subsidiaries and employee satisfaction" (Likang Liao, Mary Low and Howard Davey, 2013, p. 671).

The interesting thing concerning the paper is the comparison between the English and Chinese versions of the annual reports. This way, it was possible to understand whether there were similarities and differences in the disclosure quality and practices. In this case, the vast majority of the enterprises composing the sample provided two separated versions of the annual reports, one in English and the other in Chinese. Among them, only two enterprises published the Chinese version together with the English translation in a single report. Looking at the results, there were many differences between the annual reports issued in Chinese and those translated in English. First of all, most Chinese annual reports were black and white, whereas their English versions used colours and pictures. Furthermore, English versions were much longer than the original Chinese reports, counting approximately 300 pages against 200 pages of the Chinese annual reports. Broadly, English versions provided a better IC disclosure in terms of development and quality. However, further improvements are still needed in the IC disclosure in China. Among the differences, Chinese versions disclosed more information about the internal capital, especially about infrastructure and subsidiaries, while English versions reported more information about the external capital, especially about goodwill and customers. These differences were probably caused by the different orientations towards the audience. For instance, the information disclosed in the Chinese annual reports were mainly for the Chinese investors, whereas those information reported in the English versions of the reports were generally for investors all over the world, who can speak English (Likang Liao, Mary Low and Howard Davey, 2013). This represents one of the reasons why Chinese enterprises started to provide stakeholders with the English versions of their reports. As a result, Chinese companies are able to meet the international standards and satisfy their stakeholders' expectations. Again, as for preceding researches, one of the findings was a positive relationship among the type of industries, the size of firms and the extent and quality level of the IC disclosure. A potential improvement concerning this

study is to explore the reasons causing the differences between the Chinese and English versions of the annual reports. It could be possible through a methodology involving a questionnaire, with the aim of asking directly for extra and more detailed responses. Future researchers highlighting the concept of IC disclosure of companies in China are extremely welcomed in order to encourage the preparers of the reports to improve their reporting practices.

Consequently, Yi, Davey, Eggleton and Wang (2015) published another study examining the extent and quality of IC disclosure in China. In addition to this, the research explored the disclosure practices of the local companies, trying to understand whether they are able to satisfy their stakeholders' requirements. The research employed a mixed methods approach, which combined qualitative and quantitative elements. Firstly, the final list of 20 IC attributes was completed relying on the former studies (Brennan, 2001; Guthrie and Petty, 2000; Striukova et al., 2008; Wong and Gardner, 2005; Yi and Davey, 2010) and after the consensus of twenty Chinese experts on IC. Then, in order to collect opinions about the importance of the IC attributes by the experts, a questionnaire survey and a five-point scale (from 1 to 5) were adopted as research methodologies. After having gathered the data, all the responses were summed and divided by the total number of the experts. Secondly, the IC developed index was employed as an instrument with the aim of analysing the annual reports covering one-year period and released by the selected companies creating the sample, which was composed of the top 100 A-share listed companies in China. Again, content analysis was implemented for this step of the research. Recently, this method has been using widely for the assessment of the IC disclosure in various contexts (April et al., 2003; Beattie and Thomson, 2007; Guthrie and Petty, 2000; Yi and Davey, 2010).

By contrast, comparing this paper with the other previous studies, it revealed positive results. The IC disclosure was higher in terms of both the extent and the quality. Overall, the level of IC disclosure in China was stronger than previous years because it reached a score of 0.72 out of 1.00 for all the enterprises composing the sample. Concerning the evaluation of the IC items, more than 90% of the firms obtained a score above 0.50. In particular, "management processes", "customers" and "employees" were the most highly disclosed aspects, whereas "research collaborations", "customer satisfaction/loyalty" and "intellectual property" were the least disclosed aspects. Furthermore, the gap between the information disclosed in the annual reports and the expectations of the stakeholders was extremely limited. Looking at the collected data, it

is noticeable that 75% of the disclosed information were consistent with or even exceeded the stakeholders' requests. Only five aspects were not disclosed and needed a future development (Yi An, Howard Davey, Ian R.C. Eggleton and Zhuquan Wang, 2015). As a result, there is the evidence that the disclosure performance by the Chinese enterprises have been growing over the years. However, this study presented some limitations. To start with, the enterprises did not publish a stand-alone IC report. By contrast, the IC related aspects were disclosed in the annual reports through their distribution in various sections of the reports. Moreover, during the disclosure of the items, qualitative statements rather than quantitative or monetary data were still preferred by the reports' prepares. One possible reason for this limitation was the lack of measurement approaches by Chinese firms for the assessment of the IC elements. Another limitation was the fact that the majority of the studies on IC reporting in China focused on the analysis of a restricted sample, only composed of large companies. In order to obtain a complete representation of the concept of IC disclosure in China, future researches need to integrate small- and medium-sized companies to their samples. This way, it will be possible to compare the disclosure extent and quality among firms having different sizes.

2.2.2 Sustainability or CSR reports' analysis

Several Chinese studies were dedicated to the analysis of the information disclosed on sustainability or CSR reports, released by local companies. Among these researches, the paper published by Du and Gray (2013) gave the emphasis to the social and environmental reporting and concentrated on the examination of the growing emergence of stand-alone social and environmental reports in China, trying to provide a reliable picture of this trend. The study reported the recommendation by the SZSE. As clearly enlightened in the first chapter, through this recommendation, all the companies listed on the SZSE were encouraged to fulfil social responsibility. The authors specified that "in 2006 the State Grid Corporation of China published what is probably the first stand-alone report published by a state-owned enterprise in China" (Yaning Du and Rob Gray, 2013, p. 106).

The selected sample was extremely large, composed of the top 500 Chinese enterprises in 2008. One reason of choosing the largest companies is that larger firms are

more likely to disclose non-financial information, as confirmed by many authors: “These companies are usually the largest companies in China. It is expected that they should report more IC information than those relatively small companies because of the advantage for resources and visibility” (Yi An, Howard Davey, Ian R.C. Eggleton and Zhuquan Wang, 2015, p. 182).

Then, a big sample rather than a small one was chosen because it is more reliable and is likely to offer a broader overview of the idea of social and environmental reporting in China. The analysed documents were stand-alone CSR reports over the period from 2008 to 2010. During the research, every company’s website was visited twice between 2008 and 2009 in order to find stand-alone social and environmental reports. In 2010, sixteen enterprises did not offer an accessible corporate website. Similar to the research system applied to this thesis, all the available reports were identified and downloaded. In the end, the final sample was composed of 484 companies’ reports, which were not only acquired by their own corporate websites, but also from other sources, such as SASAC website, Corporate Register, “China Sustainability Reporting Resource Centre” and other websites, found through the use of Chinese key-words (translated in English as follows: “CSR”, “sustainability”, “social citizen” and “environmental reports”). The results showed that 18% of the total number of the Chinese largest companies had produced at least one stand-alone social or environmental report by the end of 2010. In addition to this, it is noticeable that the non-financial reporting trend is likely to increase progressively in China. Looking at the figures, the number of non-financial reports has been rising each year, so there is the expectation that it may well grow further in the future.

As previously mentioned, researches on CSR have been growing for several years all over the world. The interesting thing is to understand CSR’s ideas and practices under different economic, social and cultural conditions. The research conducted by Gao (2011) had the aim of analysing the CSR reports of listed companies in China, which is considered the largest emerging market worldwide. The sample was composed of 81 CSR reports issued from January to October 2008 (referring to the previous year, 2007) by local companies listed on the Chinese stock exchanges (SSE and SZSE). As for other former papers, content analysis was applied for the examination of the reports. They were collected in three principal ways, which can be compared to the method of data collection employed in this thesis. Firstly, the totality of 844 and 761 listed companies were gathered from SSE and SZSE, respectively. Secondly, the following websites were used to check whether companies had prepared and consequently published CSR reports recently:

www.cninfo.com.cn, www.google.com and www.baidu.com. Finally, each company was emailed in order to acquire printed CSR reports. Through this method of data collection, the sample was completed and all the 81 reports were analysed to measure the overall CSR performance. However, among all the reports, only the so-called "stand-alone" CSR reports were adopted as a sample for the analysis of their structure. Again, the guidelines followed by the sampled companies during the preparation of their reports were taken into account. Thirty-four enterprises referred to the "Social Responsibility Guidance for Listed Companies" issued by SZSE. Only four enterprises adopted "The Guiding Advice on Fulfilling Social Responsibility by Central Enterprises" released by the SASAC in China. In addition to this, seven enterprises referred to the international reporting guidelines issued by the GRI and one of them to the "Global Compact" released by the United Nations. Like in this thesis, numerous companies followed more than one guideline, referring to both national and international ones during their reports' preparation. On the other hand, thirty-eight enterprises did not state explicitly their referring guidelines. The main results demonstrated that only around 5% of the local listed companies released their CSR reports in China and approximately 4.5% of them published separate reports, also called stand-alone reports. Moreover, less than 25% of the companies obtained the certification of SA 8000. There were limited companies acquiring the serial certifications of ISO 9000 and ISO 14000 and the certification of OHSAS 18001. Companies that chose to share their social responsibilities had different attitudes among each other. Sixty-four enterprises had a positive approach towards CSR disclosure, seventeen had a neutral approach and no enterprises had a negative approach. With the aim of having a complete overview of the CSR disclosure by local companies, some data coming from the study are presented below. Concerning social issues, Chinese listed companies mostly disclosed the following aspects: "scientific development view" (54 or 66.7 percent), "sustainable development of economy and society" (62 or 76.5 percent), "social stability and harmony" (67 or 82.7 percent), "community construction" (76 or 93.8 percent), "abiding by laws and rules" (73 or 90.1 percent), "credit or moral construction" (74 or 91.4 percent), "anti-commercial bribery" (49 or 60.5 percent), "safety in production" (43 or 53.1 percent); "energy saving and pollution reduction" (74 or 91.4 percent), "environmental protection" (76 or 93.8 percent) and "charities" (77 or 95.1 percent). Furthermore, other social aspects were addressed in the CSR reports by local firms, such as stakeholders, employees, suppliers and customers, society and so on. Concerning environmental issues, Chinese listed companies mostly disclosed the following aspects: "energy saving" (76.5 percent),

"environment policy" (75.3 percent) and "recycle economy" (75.3 percent). Focusing on companies' characteristics, it is noticeable that SOEs had higher inclination to disclose social issues because they are more politically sensitive and devoted to the Chinese Government. By contrast, non-SOEs performed better in addressing the stakeholders' interests. In the meantime, industrial firms also performed better than service firms in addressing the stakeholders' interests (Yongqiang Gao, 2011).

Overall, from the entire study, there is the evidence that the CSR reporting practice was still at an early stage of development in China at that time. Like the vast majority of prior researches, the study presented some limitations, mainly because of the sample. Focusing the research on a limited sample, it is not possible to generalize the results collected from the sampled companies to all the other local listed companies. Finally, it is possible that some sampled companies overstated their CSR performance since no third party had certified the great part of CSR reports published by those companies.

Another study concentrating on CSR reporting practice and quality is the paper published by Li, Zhang and Foo (2013). The sample was composed of 339 companies listed on the two Chinese stock markets: 253 of them listed on the SSE and 86 listed on the SZSE. Companies were all mandated to report on their social responsibility. A sample of 613 CSR reports released by the firms in the period from 2009 to 2010 and obtained from the websites of the two stock markets was analysed. To develop the model for the research, quality scores were assigned to the totality of 613 CSR reports composing the sample. Rankins CSR rating was adopted with the aim of determining the quality of CSR reports issued by the Chinese listed corporations. In other words, the system employed the expert scoring methodology with 100 points as the maximum obtainable score. As stated before by other researchers, there were industry-specific gaps in CSR reports. From this study, it can be seen that the finance and mining sectors provided reports with the highest quality of CSR disclosure. As for this thesis, to measure the overall CSR disclosure by the sampled companies, the calculation of minimum, maximum, mean, median values and standard deviation were calculated. The findings showed that there was a huge gap in terms of CSR reporting quality among the sampled companies. To understand in detail the situation, it is necessary to look at the three components of CSR, evaluated with the scoring methodology: socio-macro (30 points), content (50 points) and technology (20 points). For the three components, there were several divergences in terms of quality. The overall CSR score, which represented the quality of the CSR reports, was strongly and positively correlated with the corporate characteristics, such as corporate size

or market capitalization, shareholders' powers and financial advantage, implying the influence of bondholders or debtors. By contrast, CSR reporting practice and quality were not associated with corporate profitability and state-ownership. As stated by the authors: "this paper utilizes for the first time, in-depth and multi-faceted quality CSR scores (overall, segregated into macro-social, content and technology) for investigating CSR behaviour of listed corporations in China. The findings suggest financial characteristics size (market valuation), ownership (shareholders' concentration of powers) and corporate leverage are better predictors of CSR behaviour among listed corporations" (Yuanhui Li, Jie Zhang and Check-Teck Foo, 2013, p. 519).

Consequently, Carlos Noronha, Tiffany Cheng Han Leung and On Ieng Lei (2015) focused on CSR, analysing the situation of the Chinese railway companies after the Wenzhou train incident, which happened on July 23, 2011. The purpose of their study was to examine the corporate response to the accident, trying to understand whether the information disclosed by the selected companies was detailed and satisfactory in terms of stakeholders' requirements. Sustainability and CSR concepts have progressively become important issues, especially in the case of developing and emerging countries. Since China is covering a central role in the global economy, it has to pay attention to universal economic and social issues, being aware of the importance of sustainability and CSR aspects (Carlos Noronha, Tiffany Cheng Han Leung and On Ieng Lei, 2015). As a result, according to the statistics, there is the evidence that the total number of companies disclosing sustainability or CSR information has risen strongly from 58% in 2011 to 78% in 2013 (KPMG, 2013). One of the major reasons could be the issue of the guidelines by SZSE and SSE in 2006 and 2008, respectively, with the aim of providing companies with explications about the appropriate sustainability reporting practices. Despite companies have recently been disclosing more and more sustainability information, their reports are still considered at a "preliminary stage", mostly because of a deficiency in the quality, which is not respectable enough (Yongqiang Gao, 2011; Carlos Noronha, Tiffany Cheng Han Leung and On Ieng Lei, 2015). The sample was composed of five companies with the largest market value in the Chinese railway industry and connected to the so-called "7.23" incident. In this case, the principal documents used for the central research were 13 CSR reports and 2 sustainability reports for the period from 2009 to 2013, focusing particularly on 2011, when the accident occurred. In addition to this, 10 company websites, approximately 120 news and press releases as well as 30 Internet posting were taken into account, since they were related to the accident. For the research purpose, these documents

were examined in detail and through a qualitative way. The reports of the five selected companies used at least one set of reporting guidelines. The authors mentioned the use of CASS – CSR 2.0, which is part of the national guidelines used for this thesis as well, therefore studied and explained in the first chapter. Noronha, Leung and Lei stated that "although these reports were prepared in accordance with the stated guidelines, negative information regarding the "7.23" incident was seldom reported" (Carlos Noronha, Tiffany Cheng Han Leung and On Ieng Lei, 2015, p. 457).

According to the results coming from the study, there is the evidence that the quality of the corporate disclosure connected to the "7.23" incident was insufficient since the information disclosed was extremely low or almost inexistent. These findings confirmed that companies do not pay enough attention when preparing sustainability reports relying on sustainability reporting standards. Even if companies declared to follow CSR reporting guidelines, the disclosure was considered inadequate, especially to satisfy stakeholders' requests. This is an example of poor corporate response, which should make companies think about the methods for improving their sustainability reporting practices. The authors proved what is stated before, affirming that "companies tend to disclose only the honors and awards received rather than practical information. Many reports lack sufficiently convincing data and corresponding feedback, such as third-party evaluation and the opinion of stakeholders. Companies are also not willing to report negative information directly. Problems at the operational level are not disclosed, including the impact of significant adverse events, subsequent improvement measures and their effectiveness" (Carlos Noronha, Tiffany Cheng Han Leung and On Ieng Lei, 2015, p. 468).

Trying to justify the local companies' behaviour, the authors discussed the possibility that the guidelines released by the government could be unclear and unreliable, leading to a disclosure that did not provide enough practical information and quantitative data. The advice that was given by the authors is for the Chinese government to revise and improve the guidelines, which provide companies with the useful requirements to obtain a better disclosure of sustainability information. This study showed some limitations in terms of numbers and years because the analysed companies were only five, operating in just one sector, and the period taken into account only referred to the time around the incident in 2011. The above-analysed paper did not apply the same methodology of this thesis. In fact, the authors did not employ a detailed content analysis (Krippendorff, 1995) with the aim of identifying subject areas and items while measuring

the information disclosed in the reports through a framework based on that analysis. By contrast, they explained and used legitimacy, stakeholder and institutional theories for their research and enable future studies to apply these theories to developing countries as well, especially to China. Firstly, legitimacy theory is defined as the "congruence between the social values associated with or implied by organizational activities and the norms of acceptable behaviour in the larger social system of which they are part" (Dowling and Pfeffer, 1975, p. 122). Secondly, stakeholder theory is the most applied theory for conducting the researches in this context. According to Gray et al. (1996, p. 45): "The more important the stakeholder to the organization, the more effort will be exerted in managing the relationship. Information is a major element that can be employed by the organization to manage (or manipulate) the stakeholders in order to gain their support and approval, or to distract their opposition and disapproval."

Finally, institutional theory is often used to explicate existing organisational structures and demonstrate that particular reporting policies and practices can be employed because of the pressures from national and international stakeholders, who require specific and homogeneous practices. In addition to this, institutional theory is used to understand why there is a degree of correspondence among the institutional practices adopted by different organisations (Muhammad Azizul Islam and Craig Deegan, 2008).

Lastly, the most recent paper was published by Chang, Zuo, Zhao, Soebarto, Lu, Zillante and Gan (2018). It concentrated on the concept of sustainability in China. In particular, the main purpose of the paper was to examine both the attitude towards sustainability and the sustainability performance of its economic, environmental and social dimensions. In order to address the research, it was necessary to recognize the most and least important aspects for the enterprises in terms of sustainability disclosure, while assessing the quality of their performance. In addition to this, a classification of the enterprises according to their dimensions was made with the aim of testing whether there was a correlation between a positive attitude towards sustainability and a respectable sustainability performance. Moreover, the relationships of attitude and performance with the firm size was investigated in the study. To reproduce these connections, the use of some hypotheses was indispensable. The three hypotheses created by the authors are the following:

"H1. There is a positive relationship between construction firms' attitude towards sustainability and their sustainability performance. The construction firms which perceive sustainability is of higher importance have better sustainability performance." (Rui-Dong

Chang, Jian Zuo, Zhen-Yu Zhao, Veronica Soebarto, Yujie Lu, George Zillante and Xiao-Long Gan, 2018, p. 1442)

The first hypothesis supposed a correlation between attitude and relative performance. It took its origins from the fact that most companies did not consider sustainability as an important aspect for their actions; therefore, it was improbable that they were likely to pay a great attention to their sustainability performance when operating and disclosing their information.

"H2. There is a positive relationship between firm size and construction firms' attitude towards sustainability. Larger construction firms perceive sustainability more important than smaller firms." (Rui-Dong Chang, Jian Zuo, Zhen-Yu Zhao, Veronica Soebarto, Yujie Lu, George Zillante and Xiao-Long Gan, 2018, p. 1442)

The second hypothesis assumed another correlation between the companies' dimensions and their approaches to sustainability. It can be linked to the next hypothesis.

"H3. There is a positive relationship between firm size and the sustainability performance of construction firms in China. Larger construction firms perform better than smaller ones." (Rui-Dong Chang, Jian Zuo, Zhen-Yu Zhao, Veronica Soebarto, Yujie Lu, George Zillante and Xiao-Long Gan, 2018, p. 1443)

Likewise, the third hypothesis presumed the existence of a relationship between the companies' dimensions and their sustainability performance. Previously, other studies confirmed this theory. For instance, Guthrie, Petty and Ricceri stated that "it is generally expected that, due to resource and visibility factors, large companies are more likely to be active in the area of IC reporting" (James Guthrie, Richard Petty and Federica Ricceri, 2006, p. 258). Moreover, Li, Zhang and Foo specified that "the most significant factor for influencing the quality of CSR reporting is size" and "the larger size (corporate market value) corporation, the higher quality in their CSR disclosure than the smaller" (Yuanhui Li, Jie Zhang and Check-Teck Foo, 2013, p. 552). In the case of the analysed study, the authors adopted a four-level classification system based on the annual turnover, in order to distinguish their sample of enterprises. They were divided into small, medium, large and huge enterprises. By contrast, this thesis do not consider the size of the companies for the research purpose.

Compared to this thesis, the study developed a list of critical sustainability aspects (CSAs), with the aim of exploring the different concepts of sustainability perceived by the firms. The construction of this framework can be compared with this thesis, since it comes from the investigation of the guidelines applied by the enterprises. The analysed

guidelines include the Sustainability Reporting Framework released by the GRI, the Guideline on Corporate Social Responsibility Reporting for Chinese Enterprises released by the CASS and the Guide on Social Responsibility for Chinese International Contractors issued by the Chinese International Contractors Association (CHINCA, 2012). Among them, the first two sets of guideline are studied for this thesis and explained in the first chapter. From the analysis of the three guidelines, 24 CSAs were recognized and registered. Consequently, 5 CSAs were added to the list, which was finally composed of 29 CSAs, from the investigation of the three leading Chinese enterprises in the operating sector. The aim of this additional step was to examine how leaders in the industry addressed sustainability when following the relative guidelines. Content analysis was used for the construction of the framework, which was built through the implementation of sustainability reports.

Another method that has really been used by several authors as methodology for their studies is the questionnaire. Chang, Zuo, Zhao, Soebarto, Lu, Zillante and Gan (2018) employed this method after having identified the list of CSAs in order to obtain a complete understanding about the behaviours of the firms in relation to sustainability. The main section of the questionnaire collected the corporate responses about the selected CSAs, trying to understand whether they were important for the enterprises as well as the level or quality of their performance. Other previous studies applied Likert scales. In this case, a five-point Likert scale was utilized to measure both the attitude and the performance related to each aspect of sustainability (covering the economic, environmental and social dimensions), composing the framework: in the first case, from 1 if the aspect was "very unimportant" to 5 if it was "very important"; in the second case, from 1 if the aspect was "very bad" to 5 if it was "very good". The responses coming from the questionnaire were collected and analysed. In order to analyse the data, the relative importance value (RIV) and the relative performance value (RPV) were calculated for the evaluation of attitude and performance. It represented a different method to evaluate the information disclosed in the sustainability reports. "There is lack of studies investigating various dimensions of sustainability (e.g. economic, social and environmental) in construction firms of various sizes, not only in the context of China but also in other countries" (Rui-Dong Chang, Jian Zuo, Zhen-Yu Zhao, Veronica Soebarto, Yujie Lu, George Zillante and Xiao-Long Gan, 2018, p. 1447).

From the findings, there is the evidence that the economic aspects, compared to the environmental and social ones, obtained higher grades in the assessment of both the

attitude and the performance. In fact, the most important and best-performed aspects were "quality management" and "customer service", both included in the section of the economic items. On the contrary, the least important and worst performed aspects were "supporting community development" and "anti-corruption and fair competition", which were part of the social items in the framework. Regarding firms' attitude towards sustainability, it was linked to performance in a positive way. Regarding firms' size, it can be seen that larger enterprises tended to perform sustainability in a better way, compared to the small ones. By contrast, larger enterprises did not automatically identify sustainability issues more important than smaller ones do. "By identifying the most and least important, and best- and worst- performed sustainability aspects perceived by the Chinese construction enterprises of various scales, this study provides a reference for the government to allocate the resources to address the worst-performed sustainability aspects, such as green innovation and anti-corruption. Similarly, by referring to this study, construction enterprises of various scales could understand how their peers of similar, smaller or larger sizes in the industry perceive and perform on sustainability, thereby informing their decision-making of sustainability strategies" (Rui-Dong Chang, Jian Zuo, Zhen-Yu Zhao, Veronica Soebarto, Yujie Lu, George Zillante and Xiao-Long Gan, 2018, p. 1449).

2.2.3 Annual and sustainability or CSR reports' analysis

This section of the chapter is dedicated to the empirical studies including both financial and non-financial information. As a result, both annual reports and sustainability or CSR reports were part of the sample and analysed by the authors.

To start with, Liu and Anbumozhi (2009) published a paper focusing on the perception of Chinese listed companies about the concept and practice of environmental information disclosure (EID). The main purpose was to analyse, through the stakeholder theory, the determinant factors influencing the disclosure of environmental information. The authors stated that "stakeholder theory asserts that the organisation's continued existence requires the support of its stakeholders and their approval must be sought. The activities of the organisation shall be adjusted to gain that approval. EID could be seen as a kind of dialogue between the organisation and its stakeholders. The stakeholder –

organisation power relationship is not generic across entities" (Xianbing Liu and V. Anbumozhi, 2009, p. 594).

In this paper, the stakeholder theory was adopted to develop a comprehensive and integrative analytical framework for the examination of the factors determining the environmental disclosure by the Chinese listed companies, taking into account their characteristics. In particular, this research assumed that there is a strong relationship between the stakeholders of a company and its management; it is believed that the success of the firms depends on their stakeholders. For instance, if the stakeholders are interested in the environmental questions, the firm is likely to be more encouraged to disclose data referring to the environment. By contrast, the lack of stakeholder engagement is expected to result in a lower tendency to disclose information connected to the environment. To support this theory, a general hypothesis was developed by the authors: "The power of a firm's external stakeholder is associated with the firm's environmental disclosure level" (Xianbing Liu and V. Anbumozhi, 2009, p. 595).

For this research, the sample and the data were gathered in three stages. Firstly, a list of Chinese listed companies was downloaded from the information disclosure website (http://www.cninfo.com.cn) specified by China Securities Regulatory Commission (CSRC). Among them, every five companies, one was selected randomly as a representative candidate. The total number of sampled companies was 175. Secondly, basic information about the candidate companies were collected as data. Finally, the environmental-related facts revealed by the companies composing the sample were found through the investigation of annual reports, CSR or sustainability reports and even corporate websites whether they existed. The reason is that there was not a practical index to express the EID level of companies in China. In this study, the guidelines were studied and compared among each other. This methodology was applied in this thesis with the final aim of building the framework including the sustainability items to find in the reports. The analysed guidelines in this paper were the reporting guidelines issued by GRI, also used in this thesis, where they are analysed and explained in detail in the first chapter, and the 'Environmental Information Disclosure Measurement' issued by the China State Environmental Protection Administration (SEPA). As for this thesis, the guidelines were employed in order to obtain a list of items for the examination of the reports. At the beginning, 30 items covering five different aspects were selected from the analysis of the GRI guidelines while 9 items were chosen from the analysis of the notification issued by the SEPA. Consequently, 6 items were identified in order to assess the EID level of the

sampled companies. With the aim of measuring and evaluating the level of EID, a system known as "indexing" was implemented in the research. All the 6 environmental-related items were linked to a score: 1 was assigned to the non-disclosure of the item, 3 to a narrative disclosure and 5 to a complete and detailed narrative and quantitative disclosure. To make the calculation easier, the scores given to each company were converted into percentages. The findings illustrated that approximately 30% of the total sampled firms reported its own investments for environment and pollution control cost in 2006. Then, around 37% of them disclosed its efforts for environmental purposes, such as ISO 14001 certification and cleaner production auditing. On the other hand, they did not express data referring to their impacts on the environment like emission types, amount and destinations. This indicates that most Chinese enterprises are not likely to disclose their negative influences as well as hazardous data. Just 15% of the companies described its policies and intentions about the environment. This confirms that most enterprises in China are still not aware of the significance of the overall situation of the environment; therefore, they do not usually integrate environmental issues into their corporate strategy. Finally, those companies that opened no substantial environmental-related information to the public were nearly 40% of the total. According to the results coming from the research, there is the evidence that the sustainability disclosure extent, especially concerning the environmental aspects, was insufficient to meet both the international standards and the stakeholders' requirements. It can be said that EID in China is still oriented to satisfy the concerns of the central government.

Concentrating the research on a particular sector of analysis, there is a study examining the influence of the stakeholders on CSR disclosure by mining and minerals companies in China (Shidi Dong, Roger Burritt and Wei Qian, 2014). Like the previous paper, the whole research was based on the stakeholder theory. In each firm's context, society is characterized by shareholders, creditors, employees, suppliers and customers; they are known as "stakeholders". A stakeholder is defined as "any individual or group who can affect or is affected by the achievement of a firm's objectives" (R. Edward Freeman, 1984, p. 46). In other words, stakeholders are able to influence enterprises' decisions, actions and performance. Recently, in Western countries, there was a growing influence of different stakeholders on the companies' disclosure in the mining and minerals sector. Therefore, the main purpose of the paper was to investigate the importance of the stakeholders in the Chinese context. The sample was composed of 176 mining and minerals companies listed on the two Chinese stock markets (SSE and SZSE).

Again, both corporate annual and CSR reports were analysed. The period of analysis covered the years from 2007 until 2010, which was the period characterized by the intensification of CSR reporting practice by local firms in China. Meanwhile, China experienced the issue of numerous guidelines promoting sustainability practices by the government, industry associations and stock exchanges, promoting sustainability practices among local enterprises. The entire research relied on four hypotheses, concerning the stakeholder theory:

"Hypothesis 1. The level of CSR disclosures by Chinese mining companies is positively associated with the level of salience of international consumers.

Hypothesis 2. The level of CSR disclosures by Chinese mining companies is positively associated with the salience of mining industry associations.

Hypothesis 3. The level of CSR disclosures by Chinese mining companies is positively associated with the salience of local communities.

Hypothesis 4. The level of CSR disclosures by Chinese mining companies is positively associated with the salience of company employees." (Shidi Dong, Roger Burritt and Wei Qian, 2014, pp. 63 – 64)

The above-listed hypotheses identified the groups of salient stakeholders, which represented the basis of the entire analysis. This paper is another example of the adoption of content analysis for the disclosure's measurement. To build the reporting framework, two reporting guidelines were analysed: the GRI guidelines as international ones and the CASS – CSR 1.0 guidelines as national ones. As for this thesis, the two guidelines were compared and explained. Then, a disclosure index was developed, as in former studies, with the aim of determining the level of disclosure by the enterprises. The investigation relied on the existence and type of information disclosed in the reports. The method of assigning scores to the items was applied: 0 for non-disclosure, 1 for narrative disclosure, 2 for non-monetary disclosure, 3 for monetary disclosure. The final list comprised 14 items and 61 performance indicators. The findings were based on the hypotheses stated above and showed that there was a positive relationship between the importance of international consumers and the extent of CSR disclosure; therefore, international consumers started to be considered definitive stakeholders in CSR reporting. This proved the fact that the first hypothesis was supported. On the other hand, there were insignificant or even no associations between industry associations, local communities or firm employees and the disclosure level. These groups were not considered salient stakeholders for the CSR reporting by Chinese companies in the studied sector of mining and minerals.

As a result, the second, third and fourth hypotheses were not supported. This represented a serious gap between the Chinese context and the international standards, due to the lack of the above-mentioned stakeholders' engagement. As an example, employees are now considered legitimate and powerful stakeholders for firms in Western countries, whereas they have no power in contributing to corporate decision-making and reporting process in China. Another interesting result was the definition of the role covered by the Chinese central government, influencing local enterprises and exercising a strong and immediate pressure on corporate disclosure of non-financial information.

Lastly, another paper issued by Lu and Abeysekera (2014) investigated the stakeholders' influence on social and environmental disclosure practices by socially responsible Chinese listed companies. However, unlike previous researches both in Western and Chinese contexts, this study measured corporate social and environmental disclosure from the stakeholders' perspectives rather than the researchers' perspectives. This paper was based on two theories: legitimacy theory and stakeholder theory. Legitimacy theory tries to clarify the reason of disclosing environmental and social information by enterprises. The main difference between the two theories is that stakeholder theory focuses on the expectations of specific groups of interest while legitimacy theory deals with the expectations of the society in general (Yingjun Lu and Indra Abeysekera, 2014). Empirical examinations in this study consider the influence of four stakeholder groups (government, shareholder, creditor, and auditor) on corporate social and environmental disclosure. This research relied on other hypotheses related to the influence of the stakeholders. The hypotheses suggested the existence of positive or negative relationships between the environmental and social disclosure by local companies and the groups of stakeholders. All the hypotheses developed by the authors are listed below:

"Hypothesis 1. There is a positive association between government power and corporate social and environmental disclosure.

Hypothesis 2. There is a negative association between concentrated ownership and corporate social and environmental disclosure.

Hypothesis 3. There is an association between corporate financial leverage and corporate social and environmental disclosure.

Hypothesis 4. There is a positive association between financial audits by the Big Four and corporate social and environmental disclosure.

Hypothesis 5. There is a positive association between firm size and corporate social and environmental disclosure.

Hypothesis 6. There is a positive association between corporate profitability and corporate social and environmental disclosure.

Hypothesis 7. There is a positive association between industry classification and corporate social and environmental disclosure.

Hypothesis 8. There is a positive association between overseas listing and corporate social and environmental disclosure." (Yingjun Lu and Indra Abeysekera, 2014, pp. 428 – 429)

The sample was composed of the full 100 firms in the "2008 Chinese Stock-listed Firms' Social Responsibility Ranking List"[7]. Both annual and CSR reports were adopted with the aim of gathering data on corporate social and environmental disclosure. Then, a social and environmental disclosure index (SEDI) was built through the integration of the importance of reporting items and the preference of different disclosure types, both determined by stakeholders and the quantity of disclosure in annual reports and CSR reports. As for this thesis, the paper employed GRI Guidelines (G3.0 version) as references to analyse the annual and CSR reports of the sampled companies. Generally, the GRI reporting framework includes the overall context concerning the performance of the enterprises and several performance indicators, totally containing 121 disclosure items (Global Reporting Initiative, 2015). The characteristics of the GRI guidelines are described in detail in the first chapter of this work. When using stakeholder theory for research purposes, stakeholders are the focal point. Therefore, this study established a "stakeholder panel" including 12 stakeholder members in order to ask opinions on the significance of the reporting items. With the aim of collecting all the stakeholders' points of view about the level of importance of every single item, a questionnaire based on a rating scale from 0 to 4 was given to each of them. They were asked to choose among the following evaluation: "0 if item should not be disclosed, 1 if item should be disclosed but is of minor importance, 2 if item should be disclosed and is of intermediate importance, 3 if item should be disclosed and is very important, and 4 if item should be essentially disclosed" (Yingjun Lu and Indra Abeysekera, 2014, p. 431).

[7] "2008 Chinese Stock-listed Firms' Social Responsibility Ranking List": "The first CSR rating system in China, initiated by Southern Weekend (one of China's most popular newspapers), and co-investigated by the All-China Federation of Trade Unions, All-China Federation of Industry & Commerce, Peking University, Fudan University, and Nankai University." (Yingjun Lu and Indra Abeysekera, 2014)

After having calculated the SEDI, it is noticeable that there was a large variation in social and environmental disclosure among sample firms. As for this thesis, the paper calculated the minimum, maximum, median, mean value and standard deviation. Among all the results coming from the calculations, the following are underlined: the information related to Context items and Economic Performance items were the most disclosed, with mean values equal to 3924.23 and 3643.58, respectively. The data referring to the standard deviations of Environmental Performance items and Social Performance items (equal to 1397.93 and 1868.07, respectively) demonstrated that the variation in disclosure among all the sampled companies was relatively large. Furthermore, the minimum score of zero for Environmental Performance and Human Rights confirmed that there was a lack of disclosure concerning environmental performance and human rights' information by the local firms. Finally, the findings proved that corporate characteristics, such as firm size, profitability and industry classification, were all significant factors influencing corporate social and environmental disclosure. Overall, from the previous studies, it is demonstrated that the stakeholders' roles of affecting the disclosure of non-financial information mostly appeared to be weak in China at that moment. Table 2.1 illustrates the details about the empirical studies analysed in this chapter.

Table 2.1: Sustainability reporting in China: empirical approach

Sustainability reporting in China: empirical approach			
Author, year, title, review	Sample	Type of reports	Main results
Xianbing Liu, V. Anbumozhi (2009); "Determinant factors of corporate environmental information disclosure: An empirical study of Chinese listed companies"; Journal of Cleaner Production	One hundred and seventy-five Chinese listed companies.	Annual reports and sustainability or CSR reports	Among the sampled companies, 30% reported investments for environment and pollution control cost; 37% disclosed their efforts for environmental purposes; 15% described their policies and plans about the environment; 40% did not disclose environmental-related information. The environmental disclosure in China is still insufficient.
Yi An and Howard Davey (2010); "Intellectual capital disclosure in Chinese (mainland) companies"; Journal of Intellectual Capital	Forty-nine dual-listed A-share and H-share Chinese mainland companies in Chinese stock exchanges.	Annual reports	The average number of items disclosed in the reports per company was 9.08 out of 16 IC items. Among the enterprises, two of them reported 14 items, whereas three of them reported only 5 items. It is demonstrated that the current level of IC disclosure by mainland Chinese companies is not high.

Yongqiang Gao (2011); "CSR in an emerging country: a content analysis of CSR reports of listed companies"; Baltic Journal of Management	Eighty-one Chinese companies listed on SSE and SZSE.	Sustainability or CSR reports	It is demonstrated that 5% of the sampled companies released their CSR reports and around 4% of them published stand-alone CSR reports. Moreover, less than 25% of the companies obtained the certification of SA 8000. Overall, there is the evidence that the CSR reporting practice is still at an early stage of development in China.
Yuanhui Li, Jie Zhang, Check-Teck Foo (2013); "Towards a theory of social responsibility reporting: Empirical analysis of 613 CSR reports by listed corporations in China"; Chinese Management Studies	Three hundred and thirty-nine Chinese corporations listed on SZSE and SSE. Six hundred and thirteen CSR reports published by those companies.	Sustainability or CSR reports	The quality of CSR report was strongly and positively related with corporate financial characteristics, such as corporate size, shareholders' concentration of powers, corporate financial advantage (implying bondholders or debtors' influence). CSR reporting was associated neither with corporate profitability nor by state-ownership. In China, the presence of independent directors seemed to have negative influences. There were strong financial dimensions to being socially responsible: both investors (shareholders) and debt-providers (bondholders) of publicly listed companies were keenly emphasizing good CSR practices such as quality reporting.
Likang Liao, Mary Low and Howard Davey (2013); "Chinese and English language versions: intellectual capital disclosure"; Journal of Intellectual Capital	Fifty Chinese companies, which are dual-listed in both Chinese mainland and Hong Kong stock exchanges.	Annual reports	The IC disclosure extent and quality were strongly improved compared to the results coming from previous researches. Most companies provided two separated versions of annual reports. Chinese versions were black and white, English versions used colours and pictures. English versions were much longer than Chinese ones. Chinese versions disclosed most information about internal capital (infrastructure and subsidiaries), English versions about external capital (goodwill and customers). English versions provided a better IC disclosure.

Yaning Du and Rob Gray (2013); "The Emergence of Stand-Alone Social and Environmental Reporting in Mainland China: An Exploratory Research Note"; Social and Environmental Accountability Journal	The top 500 Chinese companies in 2008.	Sustainability or CSR reports	It is demonstrated that 18% of the total number of the Chinese largest companies had produced at least one stand-alone social or environmental report by the end of 2010. The number of non-financial reports has risen each year, so the non-financial reporting trend is likely to increase progressively in China in the next years.
Shidi Dong, Roger Burritt, Wei Qian (2014); "Salient stakeholders in corporate social responsibility reporting by Chinese mining and minerals companies"; Journal of Cleaner Production	One hundred and seventy-six mining and minerals companies listed on the SSE and SZSE in the four-year period from 2007 to 2010.	Annual reports and sustainability or CSR reports	The results were based on four hypotheses, concerning different groups of stakeholders that were likely to influence CSR reporting practices of local companies. It was proved that international consumers had a positive relationship with CSR disclosure while industry associations, local communities or firm employees had insignificant or even no associations with CSR disclosure.
Yingjun Lu, Indra Abeysekera (2014); "Stakeholders' power, corporate characteristics, and social and Environmental disclosure: evidence from China"; Journal of Cleaner Production	One hundred firms in the "2008 Chinese Stock-listed Firms' Social Responsibility Ranking List.	Annual reports and sustainability or CSR reports	The information related to Context items and Economic Performance items were the most disclosed. The variation in disclosure among all the sampled companies was relatively large. Some companies did not disclose information about environmental performance and human rights. Corporate characteristics, such as firm size, profitability and industry classification, were all significant factors influencing corporate social and environmental disclosure.
Yi An, Howard Davey, Ian R.C. Eggleton, Zhuquan Wang (2015); "Intellectual capital disclosure and the information gap: Evidence from China"; Advances in Accounting	The top 100 A-share listed companies in China.	Annual reports	The overall level of IC disclosure in China was stronger than the previous years. More than 90% of the firms scored above 0.50 and 75% of the IC related items disclosed in the reports satisfied or even exceeded the stakeholders' expectations.

Carlos Noronha, Tiffany Cheng Han Leung, On Ieng Lei (2015); "Corporate social responsibility disclosure in Chinese railway companies: Corporate response after a major train accident"; Sustainability Accounting, Management and Policy Journal	Five companies with the largest market value in the Chinese railway industry involved in the production of trains and railway systems connected to the "7.23" incident	Sustainability or CSR reports	The information disclosed in the reports connected to the "7.23" incident was very low or almost inexistent in the observed companies. For the companies stating that they followed sustainability or CSR reporting standards and guidelines, the disclosure appeared to be insufficient to reveal practical information and fulfil stakeholders' requests.
Rui-Dong Chang, Jian Zuo, Zhen-Yu Zhao, Veronica Soebarto, Yujie Lu, George Zillante, Xiao-Long Gan (2018); "Sustainability attitude and performance of construction enterprises: A China study"; Journal of Cleaner Production	Companies divided into four groups depending on their size: small, medium, large and huge companies. The total number is not specified.	Sustainability or CSR reports	The most important and best-performed aspects were "quality management" and "customer service" (economic aspects); the least important and worst performed aspects were "supporting community development" and "anti-corruption and fair competition" (social aspects); positive relation between attitude and performance; positive relation between firm size and performance.

Source: elaborated by the author.

CHAPTER 3: Methodology

3.1 Research approach

This study empirically evaluates the sustainability reporting practices implemented by Chinese listed companies, taking into consideration their sustainability reports, issued both in Chinese and in English. The focus of this study is to understand the methods followed by Chinese listed companies when preparing their sustainability reports. Firstly, it is important to understand what guidelines are used as references by the companies for their own reports. Furthermore, another interesting examination is referred to the whole analysis of the reports in order to be able to estimate the quality of the sustainability reporting practices applied by the companies as well as their overall performance in terms of economic, environmental and social dimensions of sustainability.

Principally, this study focuses on two research questions:

Q1: What are the guidelines considered and followed by Chinese listed companies when preparing their sustainability reports? Do Chinese listed companies refer to international standards and guidelines, national standards and guidelines or both of them?

Q2: How do Chinese listed companies disclose non-financial information? Do Chinese listed companies appropriately follow the guidelines when preparing sustainability reports? In other words, what is the level of suitability of the disclosed information in the reports compared to the items contained in the guidelines?

The first question focuses on the references considered and followed by local companies when preparing their sustainability reports. Initially, both the international and the national reporting standards and guidelines used as references by the selected companies for their reports were entirely studied and, consequently, explained in detail in the first chapter. Every guideline is composed of some major areas, such as economic, environmental and social areas; each area in turn is divided into minor categories, which comprise key items or performance indicators referring to the dimensions of sustainability. In particular, the specific items and indicators of sustainability included in each guideline were taken into account for both the theoretical work and the empirical analysis. These items and indicators represent the most efficient way to evaluate the overall performance

of a company in terms of sustainability. This issue is also related to the second question of the study, which is clarified below.

The second question aims at evaluating the quality of the disclosure made by the Chinese listed companies. In order to assess the quality of the sustainability disclosure, the focus is to investigate whether the selected enterprises appropriately refer to the guidelines that they decided to follow, disclosing all the items or indicators of sustainability in their reports. As compared to financial reporting, sustainability reporting is not compulsory. Therefore, enterprises have the possibility to disclose non-financial information. Since sustainability disclosure is not compulsory, often its quality is not good enough. The main purpose of this study is to measure the non-financial disclosure's quality of the reports in China, trying to understand the importance of sustainability reporting for local companies. The reason why it is important to examine the reports is that it is possible to find evidences about the type and nature of qualitative information and quantitative data that companies decide to disclose in their own reports but it is also possible to find a lack of sustainability information disclosure where actually it should be needed.

In order to answer these questions, it is necessary to implement an empirical approach, involving the analysis of the sustainability reports prepared and published by a selected sample, which is composed of 60 Chinese listed companies.

3.2 Sample selection

In this study, as mentioned before, a sample of 60 Chinese listed companies selected from the Dow Jones Sustainability Index (DJSI) was taken into consideration. To start with, a little introduction to the sources used for this study is necessary. The DJSI is a universally recognized index, launched in 1999 as a way to evaluate the sustainability performance of the companies all over the world. For this reason, it is organized into families of indices, which are named as follows: DJSI World, DJSI North America, DJSI Europe, DJSI Asia Pacific, DJSI Emerging Markets, DJSI Korea, DJSI Australia and DJSI Chile. Among the various families of indices, Chinese listed companies are integrated into

the DJSI Emerging Markets. The DJSI is now published and managed by RobecoSAM[8] with S&P Dow Jones Indices (http://www.sustainability-indices.com). Concerning RobecoSAM, over 3400 publicly traded companies are encouraged every year to take part in its Corporate Sustainability Assessment (CSA)[9]. During its evaluation, 2500 global companies by market capitalization are qualified and integrated into the DJSI World. In addition, further companies are incorporated into the families of region- and country-specific sustainability indices, such as the DJSI North America, Europe, Asia Pacific, Emerging Markets and so on (http://www.robecosam.com).

The DJSI's website was useful to find the first source of this research, which is an excel file published by RobecoSAM and called "DJSI Invited Universe 2017". This file makes a classification of all the worldwide listed companies referring to the previous year (listed companies as of 31/12/2016). From this source, it was possible to find all the Chinese listed companies included in the list. Looking at the document, the total number of listed companies in 2016 was 3538. Chinese listed companies were only 190, accounting for less than 6% of the total. Originally, these 190 Chinese listed companies were chosen as part of the work. This initial research started from each company's website. The objective was to explore all the websites in order to find the sustainability reports published by every company.

The criteria used for the selection of the companies are explained as follows:

1. Only those companies publishing on their websites the English versions of the original Chinese reports were taken into account. The reason is that, due to a lack of time and specific Chinese vocabulary, only the English versions of the reports were analysed.
2. Among the reports published on the companies' websites, only the most recent reports by year of issue were downloaded. Only one report for each company was selected.

After this research, it can be seen that among 190 Chinese listed companies, only 60 companies respected the first criterion used for the selection, accounting for over 30% of the total. As a result, a sample of 60 Chinese listed companies was selected thanks to

[8] RobecoSAM is an international investment company with the exclusive focus on sustainability investments. Founded in 1995, it is based in Zurich, Switzerland (http://www.robecosam.com).

[9] CSA is an annual evaluation of companies' sustainability practices made by RobecoSAM. Each year it is asked over 3,400 listed companies around the world from 80 to 120 industry-specific questions focusing on economic, environmental and social factors that are relevant to the companies' success, but that are under-researched in conventional financial analysis (http://www.robecosam.com).

the availability of both the Chinese and the English versions of the sustainability reports. Table 3.1 clearly demonstrates the criteria used for choosing the sample.

Table 3.1: Criteria used for the selection of the sample (Dow Jones Sustainability Index, 31/12/2016)

Total number of worldwide listed companies	3538
LESS	
Total number of non-Chinese listed companies	3348
SUBTOTAL	
Chinese listed companies	190
LESS	
Chinese listed companies that do not provide the English version of their sustainability reports	130
TOTAL	
Chinese listed companies that provide the English version of their sustainability reports	60

Source: elaborated by the author

At this point, it is essential to provide some information about the sample, regarding the stock exchanges where the Chinese companies are listed and the business sectors where they operate.

To start with, it can be seen that the selected Chinese companies are listed both on national stock exchanges, such as those of Shanghai and Shenzhen, and on international stock exchanges, such as those of Hong Kong, London, New York and Toronto. The sample of companies was selected regardless the stock exchanges where the companies are listed. Shanghai and Shenzhen represent the two main stock markets in mainland China while Hong Kong is considered as an international stock market. However, the vast majority of the Chinese companies is listed on the SEHK, followed by companies listed on the SSE. Several companies are listed on more than one stock exchange, until a maximum of three different stock exchanges. Table 1 of appendix A illustrates the list of stock exchanges where local companies are listed.

Concerning the companies' operating sectors, it can be seen that the selected sample of this study includes companies that operate in 19 different sectors. Again, the corporate sectors were not taken into account during the selection of the sample. Table 1

of appendix A shows the list of the different business sectors where the sampled companies operate.

To sum up, the sample is composed of 60 Chinese listed companies and was selected from the DJSI, particularly from the DJSI Emerging Markets because the enterprises in China belong to that family of indices. The sample was selected by searching for the availability of the sustainability reports published on those companies' websites. The sustainability reports were chosen considering the availability of their English versions and the year of issue. Therefore, the most recent English versions of the original reports published on the companies' websites were taken into account while picking the sample.

3.3 Framework construction

In this study, the focus is the construction of the framework, which represents the foundation of the whole analysis. For the data collection, a form of content analysis was employed as research method for this work. As mentioned in the second chapter, content analysis has been broadly implemented in CSR studies (Ernst and Ernst, 1976; Maxwell and Mason, 1976; Abbott and Monsen, 1979; Krippendorf, 1980; Guthrie and Mathews, 1985; Zeghal and Ahmed, 1990; Guthrie, Petty, Yongvanich and Ricceri, 2004; Bukh, Nielsen, Gormsen and Mouritsen, 2005; Pedrini, 2007; Striukova, Unerman and Guthrie, 2008; Lídia Oliveira and Lúcia Lima Rodrigues Russell Craig, 2010; Roca and Searcy, 2012). In particular, Abbott and Monsen gave a definition of content analysis, which is clarified as follows: "A technique for gathering data that consists of codifying qualitative information in anecdotal and literary form into categories in order to derive quantitative scales of varying levels of complexity" (Abbott and Monsen, 1979, p. 502).

In other words, it consists of organising information, both qualitative and quantitative, into pre-defined categories based on particular criteria, previously selected by the author, with the aim of developing models for the presentation of the information (Guthrie et al., 2004). As specified by various authors, this method of collecting data involves the systematic, objective and reliable analysis of the information (Guthrie et al., 2004; Krippendorff, 1980). It has been broadly applied in the context of non-financial information disclosure, especially in the researches dealing with the environmental and

social disclosures (Unerman, 2000; Islam and Deegan, 2010; De Villiers and Van Staden, 2006; Clarkson, Li, Richardson and Vasvari, 2008).

At the very beginning of the study, all the 60 reports were examined in order to find the guidelines used as references by the companies publishing the reports. After having found the different references, all the data were put into a table, developing a complete overview of all the potential standards and guidelines applied by local companies during the preparation of their sustainability reports. These standards and guidelines were divided into international and national ones. Looking at the collected data, it can be seen that 43 companies refer to both international and national standards and guidelines while 16 companies only refer to local standards and guidelines. On the other hand, one company only refers to the international GRI guidelines. Its name is Vipshop Holdings Ltd and it is only listed on the stock exchange of New York. Originally, as mentioned in the first chapter, five major international standards and guidelines and eight local standards and guidelines were found in the analysed reports and collected as data. However, because it was extremely difficult to acquire enough materials and information about the national ones, three of them were not considered at all, finally obtaining five local standards and guidelines, the same as for the international ones.

For the construction of the framework, it was essential to compare the different guidelines, finding common items with the aim of creating a list of aspects for the analysis of the reports in order to evaluate the sustainability performance of the selected companies. The method of collecting data after having analysed the referring guidelines has been adopted by different authors. For instance, Seyhani Koç and Vildan Durmaz (2015) aimed at finding out the indicators from the GRI guidelines in order to investigate the disclosure of sustainability issues referring to those indicators in the airports corporate sustainability reports. In this work, for ease of analysis, two frameworks were used as research focuses because they differentiate the international guidelines from the local ones. Each of them is organized into subject areas, categories and items. Both of them include the same three subject areas, named economic, environmental and social areas. The reason is that most guidelines, both international and national, follow a triple bottom line approach, which is a framework composed of the same three aspects. Originally, during the construction of the framework, all the items of all the analysed guidelines were taken into consideration and reported into a table, creating a broad list of aspects, useful for assessing the sustainability performance of every single enterprise. Consequently, all the items were adjusted and reduced in order to create the ultimate frameworks. As an example, many

items were repeated in more than one guideline, so they were removed from the list. This way, the data were collected and both frameworks were completed. In the end, the final frameworks were composed of 87 items for the international guidelines and 90 items for the national guidelines. In order to have a whole picture of the situation, the complete lists of all the items included in all the guidelines can be found in the first chapter. In that chapter, each guideline is analysed and every different structure for the measurement of the disclosure is reported in order to provide specific information about the aspects of sustainability for each set of guidelines. These aspects are beneficial to assist companies in understanding their impacts on sustainability. When preparing their reports, companies are encouraged to follow the list of items and indicators provided by the guidelines that they decided to take as examples. If enterprises write their reports following the list of items or indicators and reporting the relative data referring to their performance, they will be able to organize their reports in a schematic and efficient way, without omitting relevant information. Furthermore, this method enables the readers of the reports to understand and evaluate the sustainability performance of the firms clearly. Tables 1 and 2 of appendix B illustrate both the frameworks on international and national guidelines, respectively, highlighting all the categories and items contained in the three main subject areas.

3.4 Measurement of disclosure

After having described all the methods used for the research in order to compose the sample, collect the data and build the frameworks, it is essential to explain how it was possible to conduct the principal analysis about the sustainability reporting performance of the companies. Therefore, in order to measure the quality of the disclosure made by the selected Chinese listed companies, the method of giving a score to each different item was applied to the research for this analysis. As enlightened in the second chapter, this method has been extensively adopted by several authors in order to examine and quantify the disclosure quality of the reports published by the sampled companies of their researches. Various types of scale have been used by different authors over the years. One of the most common types of scale is the so-called “two-point scale”. It consists of assigning two possible scores to the items that need to be evaluated: 0 for the non-disclosure of the item;

1 for the disclosure of the item (Brennan, 2001; Williams, 2001; Bontis, 2003; Goh and Lim, 2004; Abeysekera and Guthrie, 2005; Lídia Oliveira and Lúcia Lima Rodrigues Russell Craig, 2010). This type of scale is also named "dichotomous scale" because there is the unique possibility of choosing between 0 for the non-disclosure and 1 for the disclosure (Inderpal Singh and J–L W. Mitchell Van der Zahn, 2008). Examples of scales involving more than two points, until the "six-point scale", are provided in the second chapter, during the analysis of the empirical studies about China in this context.

As formerly mentioned, it can be said that this work involves two different frameworks: the first one is on the international guidelines and the second one is on the national guidelines. The first one includes 87 sustainability items while the second one comprises 90 sustainability items. All the reports, published by all the sampled companies, were investigated in order to find the correspondence of the items composing the frameworks inside the reports. At this point, the criteria applied for assigning the scores are clarified as follows:

- "0" is assigned to those items that are not disclosed in the reports;
- "1" is assigned to those items that are disclosed in the reports.

In addition to this, it is necessary to specify that, since this work focuses on the different referring standards and guidelines followed by the local listed companies, the principal objective was to differentiate the sustainability disclosure by referring guidelines. In this case, some enterprises follow only one set of guidelines. However, other enterprises refer to two or more guidelines, which can be both international and national. The central differentiation is clarified as follows:

- 1 company refers only to the international guidelines;
- 16 companies refer only to the national guidelines;
- 43 companies refer both to the international and to the national guidelines.

Even the enterprises referring only to either the international or the national guidelines can follow more than one set of those guidelines. The maximum number of guidelines that each company can follow is 5, for both the frameworks. As a result, during the analysis and the measurement of the disclosure, each company needed to be divided

by referring guidelines. For the framework on international guidelines, the five potential guidelines for every company are the following: GRI guidelines, ISO 26000 guidelines, Oil and Gas Industry Guidance, UN Global Compact Ten Principles and UN 2030 Agenda. For the framework on national guidelines, the five potential guidelines for every company are the following: SASAC, CASS, SSE, SZSE and SEHK guidelines.

The following step was the effective analysis of the selected reports. Depending on the guidelines followed by the local companies during their reports' preparation, the research involved the investigation of the items included in the framework inside each report, with the aim of finding the relative descriptive information or quantitative data disclosed in the reports. The final purpose is the evaluation of the disclosure's quality, which was possible through the method of finding or not finding the information related to the items during the examination of each report. For instance, if a company refers to the international GRI guidelines during the preparation of its report, it should disclose the information referring to the items connected to the considered guidelines. As a result, the data referring to those items should be found inside the report during the examination. Therefore, depending on the guidelines followed by the enterprises during the preparation of the reports, the scores "0" and "1" were associated to each item of the two frameworks under the appropriate referring guideline. This method was applied independently for each sampled company.

The last important consideration is that, as mentioned above in the chapter, 43 enterprises publishing sustainability reports referred to both international and national standards. In this case, they were analysed twice and, consequently, the relative scores were reported in both frameworks. In particular, those reports enable us to understand whether Chinese listed companies decide to give priority to either international or national standards when preparing their reports. This way, it was possible to analyse the frameworks separately but it was also possible to compare both of them.

Finally, in order to measure the sustainability disclosure quality of the reports released by the observed companies, the following frequencies were calculated: minimum, maximum, mean, median and standard deviation. At the beginning of the procedure, they were calculated separately for each different subject area, for both frameworks. Then, the findings of the three subject areas were combined together with the aim of obtaining the concluding results of the analysis. The results of the calculations as well as the whole analysis of the reports are provided in the fourth and last chapter of this work.

CHAPTER 4: Empirical Results

Based on two research questions, this study aims at evaluating the sustainability reporting practices adopted by the Chinese listed companies selected for the sample, considering their sustainability reports. In order to answer the first research question, it is necessary to consider the guidelines followed by the local listed companies during the preparation of their reports.

4.1 Analysis of the guidelines

As formerly stated, it is demonstrated that 43 out of 60 sampled companies refer to both international and national guidelines. On the other hand, 16 companies only follow local guidelines and one company only follows international guidelines. The latter is named "Vipshop Holdings Limited" and it only refers to the GRI sustainability guidelines, which are the most adopted guidelines worldwide. In particular, among those enterprises only referring to the national guidelines, 15 out of 16 enterprises refer to the ESG Reporting Guide released by the SEHK. Concerning those companies referring to both international and national guidelines, it is proved that, with regard to the international side, all of them take the GRI as their first reference for the preparation of their reports. Over 20% of the sampled companies follow ISO 26000 while less than 20% of them follow the UN Global Compact Ten Principles. On the other hand, an unusual finding is that only one company refers to the UN 2030 Agenda; likewise, only one company, named "Petro China", refers to the "Oil and Gas Industry Guidance". The latter result can be easily explicated because that guidance is sector-specific; therefore, it is adopted by the enterprises operating in that definite business sector. Meanwhile, with regard to the national side, the most adopted guidelines are those issued by the SEHK. In fact, 52 out of 59 companies referring to the local guidelines follow the ESG Reporting Guide by the SEHK. Over 30% of the sampled companies employ the CSR guidelines issued by the CASS. Similarly, exactly 30% of them follow the guidelines published by the SSE. From table 2 of appendix A, it can be seen that 23 companies are listed on the SSE. However,

only 18 of them refer to the guidelines released by the SSE. On the contrary, an interesting observation is that the only two companies listed on the SZSE declare to implement the guidelines published by the SZSE. Therefore, only two companies adopt these guidelines. Finally, less than 20% of the sampled companies follow the Guidelines to the State-owned Enterprises Directly under the Central Government issued by the SASAC.

From the above results, it is confirmed that most Chinese listed companies refer to both national and international standards and guidelines. These findings disagree with another study, which demonstrated that Chinese enterprises have a tendency to adopt their own guidelines rather than the international ones. For instance, according to the author, only a small percentage of enterprises (8,6%) referred to the GRI guidelines at that time. By contrast, the most adopted guidelines (42%) were the "Social Responsibility Guidance for Listed Companies" issued by the SZSE (Yongqiang Gao, 2011). In particular, the last result provided by Gao does not agree with this study, as formerly enlightened and then illustrated in the table below. Table 4.1, in fact, shows the list of the guidelines employed by the enterprises, with the relative number and proportion of firms implementing those guidelines.

Table 4.1: Guidelines followed by the sampled companies

Guidelines	Number of companies (n=60)	Proportion (%)
GRI	44	73
ISO 26000	14	23
UN Global Compact Ten Principles	10	17
UN 2030 Agenda	1	2
Oil & Gas Industry Guidance	1	2
SASAC	11	18
CASS	19	32
SSE	18	30
SZSE	2	3
SEHK	52	87

Source: elaborated by the author

After having discussed the results of the analysis of both the international and national guidelines, another important consideration for this research is to take into account the different types of reports published by the local listed companies on their own websites. The introduction to the first chapter pointed out clarifications about the potential types of sustainability-related reports released by the enterprises.

In this study, the sampled companies published five different sustainability-related reports. The most common title is "CSR report", followed by "ESG report". Only 10 out of 60 companies opted for "sustainability report" as their own heading. Finally, only small proportions of enterprises published the so-called "social responsibility report" and "sustainable development report". Table 4.2 provides the details about the different types of reports published by the sampled companies, with the relative number and proportion of firms releasing them.

Table 4.2: Types of sustainability-related reports published by the sampled companies

Report Type	Number of companies (n=60)	Proportion (%)
Corporate Social Responsibility Report	24	40
Environmental, Social and Governance Report	20	33
Social Responsibility Report	4	7
Sustainability Report	10	17
Sustainable Development Report	2	3

Source: elaborated by the author

By contrast, another study focused only on one type of sustainability-related report because the authors affirmed that the examination of various types of reports in a single research runs the risk of the misinterpretation of the results (Dienes, Sassen and Fischer, 2016).

4.2 Analysis of the frameworks

The answer to the second research question involves the empirical analysis of the framework. As clarified in the previous chapter, which was dedicated to the methodology, this research adopted two frameworks: the international one and the national one. The results coming from the empirical analysis of the frameworks are discussed below.

4.2.1 Framework on international guidelines

As mentioned in the third chapter, the framework on international guidelines includes three subject areas: economic, environmental and social areas. They are organised in different categories as follows: the first one is divided into 4 categories, the second one into 11 categories and the third one into 7 categories. All of them count 87 items in total. Table 1 of appendix B illustrates all the details about the framework. As previously clarified, the list of items was produced through the investigation of the international guidelines, searching for the aspects and indicators related to the measurement of the sustainability performance. Among all the items, some of them only belong to one set of guidelines while others are repeated for more than one set of guidelines. The same is for the other framework. As a result, the list of items is presented as follows: 55 items for the GRI, 35 items for the ISO 26000, 27 items for the Oil and Gas Industry Guidance, 43 items for the UN Global Compact Ten Principles and 6 items for the UN 2030 Agenda. As stated at the end of the third chapter, the evaluation of the performance was possible through the descriptive statistical calculation of the following frequencies: minimum, maximum, mean, median and standard deviation. The results are developed separately for each subject area and category. They are presented and discussed below.

Firstly, the economic area includes 8 items. Among the data collected from the analysis of the guidelines, only the GRI provides the items for the economic area. Analysing the entire sample of companies, a minimum score of 0 suggests that some companies did not disclose any information about their economic performance. Likewise, the maximum score of 7 means that no company disclosed all the 8 items included in the

area. At the same time, mean and median values are quite low, equal to 2,2 and 2, respectively.

Secondly, the environmental area includes 36 items. A maximum score of 22 suggests that the sampled companies did not disclose several items. The mean value is nearly 8. In proportion, it is lower than the mean value referring to the economic area. This means that the environmental disclosure quality is extremely low and it is much lower than the economic disclosure quality. This last result agrees with another research affirming that the environmental information disclosed by the Chinese listed companies was scarce at that time. Therefore, it is suggested that the local enterprises tended not to disclose the environment-related information, except for few information with the aim of satisfying the requests of both government and stakeholders (Liu and Anbumozhi, 2009).

Thirdly, the social area includes 43 items. The minimum score is 3, relatively higher than those of the previous subject areas. The maximum score is not low, equal to 23. In fact, the mean and median values are also relatively high, nearly 12,5 and 12, respectively. Compared to the mean and median values of the environmental area, these last values are about 10% higher. This means that the social disclosure quality is stronger than the economic and environmental disclosure quality.

Finally, comparing the three subject areas, it can be seen that the variation in disclosure is higher for the environmental area, with a standard deviation of approximately 5,5 rather than for the economic and social areas, with standard deviations of around 2 and 2,9, respectively. These findings can be compared with those of the research made by Lu and Abeysekera (2014). The authors demonstrated that the disclosure quality of some specific aspects, such as environmental performance and human rights, was not high. It was proved through the calculation of the values cited before in this study. For instance, the minimum score referring to those aspects was equal to 0 and the standard deviations for the environmental and social performance were relatively high, confirming that there was a large variation in disclosure among the sampled companies (Lu and Abeysekera, 2014).

Observing the results referring to the totality of the three subject areas, it is noticeable that the overall disclosure quality is insufficient, with mean and median values equal to over 22 and 20, respectively. Moreover, the minimum and maximum values are equal to 6 and 41, respectively. Therefore, there is the evidence that the quantity of items disclosed per company is unquestionably small. Furthermore, the overall variation in the sustainability disclosure made by the sampled companies and considering the totality of

the items is quite large, with a standard deviation of almost 8. To obtain an overall representation of the empirical analysis, the results organised into the different subject areas and categories are illustrated in table 4.3 below.

Numerous other authors, such as Liu and Anbumozhi (2009), demonstrated the inadequate sustainability disclosure by the firms in China. It was affirmed that the CSR reporting practice implemented by the local listed companies was still at an early stage and the empirical studies about that topic had just started to develop, without getting great attention in China (Dong, Burritt and Qian, 2013). Another study concentrating on the IC disclosure proved that the level of the disclosure by mainland Chinese enterprises at that time was not high, with two-thirds of the sampled companies obtaining a low quality score. In addition to this, most of the reported IC items were not expressed in quantitative or monetary terms but in narrative ways (An and Davey, 2010). With regard to the last consideration, the analysed reports of this study present the same situation. In fact, it is demonstrated that the Chinese listed companies currently give priority to descriptive statements rather than numerical data. As an example, several firms did not disclose items such as "energy consumption", without reporting data referring to the intensity of the energy used during their operations. However, most of the enterprises included in the sample disclosed the item "energy consumption reduction", reporting their plans and strategies about the subject in a descriptive way. In general, the most disclosed items are the following: "Infrastructure investments and services" for the economic area, "energy consumption reduction" for the environmental area and "employees by gender, employment type, age group and geographical region" as well as "occupational health and safety" for the social area. On the other hand, the least disclosed items are the following: "Ratio of standard entry level wage by gender" for the economic area and "flared gas" for the environmental area, which is the only non-disclosed item of the area. Similarly, from the social area, it is possible to observe that the sampled companies did not disclose three items: "Responsible political involvement", "public advocacy and lobbying" and "product stewardship". Another research focusing on the IC disclosure by the Chinese enterprises listed the three most highly reported aspect as well as the three least reported ones (An, Davey, Eggleton and Wang, 2015).

Table 4.3: Results by subject area and category of the framework on international guidelines

Subject areas	Categories	Minimum	Maximum	Mean	Median	Standard deviation
A. Economic	1. Economic performance	0	3	0,8	1	0,8
	2. Market presence	0	2	0,4	0	0,5
	3. Indirect economic impacts	0	2	0,7	1	0,8
	4. Procurement practices	0	1	0,1	0	0,3
SUBTOTAL		0	7	2,2	2	2
B. Environmental	1. Materials	0	2	0,5	0	0,7
	2. Energy	0	3	1,9	2	0,7
	3. Water	0	3	0,8	1	0,9
	4. Biodiversity	0	3	0,4	0	0,7
	5. Pollution and climate change	0	4	1,7	2	1
	6. Effluents and waste	0	3	1,2	1	1,1
	7. Products and services	0	2	0,3	0	0,6
	8. Compliance	0	6	1	0	1,7
	9. Transport	0	1	0,2	0	0,4
	10. Supply chain management	0	2	0,1	0	0,4
	11. Environmental grievance system	0	1	0,1	0	0,2
SUBTOTAL		1	22	8,3	7	5,5
C. Social	1. Labour practices and decent work	2	13	8,5	9	2,2
	2. Society	0	2	0,8	1	0,4
	3. Fair operating practices	0	2	1,1	1	0,4
	4. Consumer issues	0	5	1,1	1	1,2
	5. Product responsibility	0	1	0,1	0	0,3
	6. Community involvement	0	4	0,5	0	1,1
	7. Local content	0	3	0,1	0	0,3
SUBTOTAL		3	23	12,4	12	2,9
TOTAL		6	41	22,2	20,5	7,8

Source: elaborated by the author

4.2.2 Framework on national guidelines

As mentioned in the third chapter, also the framework on national guidelines includes the same three subject areas: economic, environmental and social areas. Again, they are organised into the following categories: 4 for the first one, 6 for the second one and 7 for the third one. All of them count 90 items in total. Table 2 of appendix B shows all the details about the framework. As for the other framework, the list of items was produced through the investigation of the local guidelines, searching for the aspects and indicators related to the measurement of the sustainability performance. Therefore, the items belong to the following guidelines: 35 items to the SASAC, 49 to the CASS, 4 to the SSE, 12 to the SZSE and 17 to the SEHK. Again, the results are developed separately for each subject area and category. They are presented and discussed below.

Firstly, the economic area includes 23 items. The analysed guidelines published by the three stock exchanges of Shanghai, Shenzhen and Hong Kong do not provide economic aspects. Therefore, the items included in this first area are provided by the guidelines released by SASAC and CASS. In particular, SASAC provided 22 out of 23 items; at the same time, CASS provided only 4 items, among which 3 of them are the same for both the guidelines. Considering that only 11 and 19 out of 60 enterprises refer to these two guidelines during the preparation of their reports, the mean and median values differ greatly, compared to the same values of the other subject areas. The reason is the different number of items provided by the two guidelines, which leads to a large difference in the results. In fact, the mean is nearly 8 while the median is equal to 4. Then, a maximum score of 21 is not low but suggests that no company disclosed all the items.

Secondly, the environmental area includes 28 items. Among them, the guidelines issued by the SSE only provided environment-related items, included in this area. Here, the minimum score of 0 means that at least one company did not disclose any item. Then, the maximum score is 14. Compared to the economic area, this score is much lower. This suggests that the sampled companies did not disclose several environmental items. Again, the environmental performance of the Chinese listed companies is unsatisfactory. It is also demonstrated through the extremely low values of the mean and median, around 4,5 and 4, respectively. As a result, a significant question is that the environmental awareness should be heavily promoted in China. However, the Chinese enterprises will be likely to acquire a more positive attitude towards the disclosure of the environmental information

only if they experience an intensification in the stakeholders' requests related to their environmental behaviour (Liu and Anbumozhi, 2009).

Thirdly, the social area includes 39 items. As for the previous area, the minimum score is 0 and the maximum score is 20, which is particularly low. This suggests that, among the sampled companies, some of them did not disclose any item and others did not disclose numerous social items, because the maximum score is half of the total number of items in the area. One of the reasons is that the different guidelines do not provide the same number of items, as clarified above in the paragraph. In addition to this, the sampled companies do not refer to all the local guidelines. As a result, each company only reports the items contained in the guidelines followed during their reports' preparation. The values of mean and median are extremely low as well, about 7,7 and 7, respectively.

Finally, comparing the three different subject areas, it is noticeable that the variation in the disclosure of sustainability-related information is higher for the economic area, which presents a standard deviation of around 6,5 rather than the environmental and social areas, with lower standard deviations of just over 3 and 4, respectively. This suggests that the sampled enterprises have not acquired a regular method of disclosing their non-financial information yet. Likewise, other studies about the IC reporting affirmed that in mainland China there was not an established and generally accepted framework to measure the IC information disclosure by the local firms (Guthrie et al.,1999; Abeysekera and Guthrie, 2005; An and Davey, 2010).

As for the framework on international guidelines, it is useful to identify the most and least reported items in order to understand the level of importance given to the sustainability-related aspects by the sampled companies. Concerning the economic area, the most disclosed item is "anti-corruption" while the least disclosed one is "business creditability". Concerning the environmental area, the most reported item is "energy consumption by type" and the least reported one is "waste generation reduction or avoidance", which is the only under disclosed item in the area. This means that no report published by the enterprises of the sample referred to the topic of reducing or avoiding waste generation. In the social area, two items were never disclosed by the Chinese listed companies composing the sample: the first one is "percentage of disabled employees" and the second one is "overtime pay". By contrast, the most reported item is "employees by gender, employment type, age group and geographical region".

At the end of the framework, the results of the three subject areas are provided. It can be seen that the overall quality of the sustainability disclosure made by the local listed

companies in China needs significant improvements yet. It is demonstrated through the following findings: the maximum score of 37 implicates that several items are not reported by the sampled companies, regardless their referring guidelines. Likewise, the mean and median are equal to approximately 13 and 12,5, respectively. In general, the results characterising the overall sustainability performance of the Chinese listed companies, are undoubtedly insufficient to meet the international standards related to the sustainability reporting practices. In fact, considering that the sampled companies declared to follow certain sustainability or CSR reporting standards and guidelines, the disclosure appears inadequate to acquire concrete information and fulfil the stakeholders' requests (Noronha, Leung and Lei, 2015). In sum, it is verified that the sustainability-related reporting concept is still at an early stage of development in China, as formerly affirmed by other several authors (An and Davey, 2011; Gao, 2011; Dong, Burritt and Qian, 2013). However, even if the overall disclosure quality cannot be considered strong, at least there is the evidence that the local enterprises are interested in communicating their sustainability-related information to an external audience (Guthrie and Petty, 2000; Shareef and Davey, 2006). One of the reasons is that all the sampled companies publish their own stand-alone reports on their websites.

Another interesting observation is that the local enterprises are more likely to disclose honors and awards received as well as positive achievements from responsible activities during their operations rather than potential dangerous or harmful data regarding their business. In fact, it is proved that companies tend not to report negative information directly. In particular, the study investigating the corporate response of the Chinese railway companies to a train accident confirmed the lack of precision in the sustainability-related disclosure. In fact, although the analysed reports were prepared in accordance with specific guidelines, negative information regarding the incident was rarely reported. For instance, there were no detailed descriptions about the causes and consequences of the incident. The disclosure was very low or almost inexistent in the sampled companies. Many reports did not provide satisfactorily convincing data and corresponding feedback, opinions or evaluations by third parties and stakeholders. Difficulties, adverse events and negative impacts were not disclosed in the observed reports (Noronha, Leung and Lei, 2015). As a result, the absence of a quantitative expression of the sustainability-related items by the Chinese mainland enterprises are still at the phase of basically understanding the nature of the attributes rather than trying to quantify them, for example by assigning

monetary values to the items that can be used to measure the performance of the companies (Guthrie and Petty, 2000).

The results organised into subject areas and categories are illustrated in table 4.4 below. Overall, this study does not agree with another research affirming that the extent and quality of the sustainability-related disclosure by the Chinese mainland companies has progressively improved over the years (Liao, Low and Davey, 2013). The reasons for the disagreement are exposed and discussed above.

Table 4.4: Results by subject area and category of the framework on national guidelines

Subject areas	Categories	Minimum	Maximum	Mean	Median	Standard deviation
A. Economic	1. Business operation	1	6	3,5	3,5	1
	2. Sustainable profits	4	9	6,4	7	1,5
	3. Products and services quality	2	3	2,3	2	0,5
	4. Indipendent innovation and technological advancement	1	4	3,1	4	1,2
SUBTOTAL		1	21	7,9	4	6,5
B. Environmental	1. Use of resources	0	4	1,5	1	1,2
	2. Water	0	3	0,6	1	0,8
	3. Emissions	0	3	1,2	1	0,9
	4. Green operation	0	2	0,6	0	0,7
	5. Green products	0	3	0,2	0	0,6
	6. Green ecology	0	3	0,2	0	0,6
SUBTOTAL		0	14	4,5	4	3,3
C. Social	1. Employment	0	5	2,5	3	1,2
	2. Human rights	0	5	0,8	0	1,2
	3. Labour standards	0	4	1,1	1	0,7
	4. Development and training	0	2	0,9	1	0,8
	5. Supply chain management	0	1	0,2	0	0,4
	6. Product responsibility	0	3	0,8	0	1
	7. Community involvement	0	6	1,0	0	1,9
SUBTOTAL		0	20	7,7	7	4,1
TOTAL		1	37	13,2	12,5	9,5

Source: elaborated by the author

4.2.3 Comparison of the frameworks

This section is dedicated to the comparison between the two frameworks on international and national guidelines. Since 43 out of 60 enterprises composing the sample refer to both the international and the local standards and guidelines, their sustainability-related reports were analysed twice, using both frameworks. Thus, it is possible to make comparisons between the adoption of the international and local guidelines by the sampled companies. First of all, comparing the results of both frameworks, it is noticeable that, considering the international guidelines, the overall disclosure quality is slightly higher. The minimum scores are equal to 6 for the framework on international guidelines and 1 for the framework on national guidelines, whereas the maximum scores are equal to 41 and 37. This suggests that the local listed companies disclosed a higher number of items included in the international guidelines rather than those included in the national guidelines. In fact, the overall disclosure of items included in the framework on international guidelines is around 10% higher than the disclosure of items included in the framework on national guidelines. This is demonstrated by the mean and median, approximately 22 and 20,5 for the framework on international guidelines and about 13 and 12,5 for the framework on national guidelines. With regard to the differences in the disclosure of items, the overall variation in disclosure is higher in the case of the items included in the framework on national guidelines, which presents a higher standard deviation of around 9,5. By contrast, the standard deviation of the framework on international guidelines is approximately 7,8. This suggests that the international guidelines provide a better organisational method for companies to disclose the information. Therefore, the sampled companies offer a more homogeneous disclosure following the international guidelines rather than referring to the local ones.

Analysing the results of the three subject areas separately, it can be seen that on average, the disclosure of items included in the economic area of the framework on international guidelines is much lower as compared to the same area of the framework on national guidelines. On the contrary, concerning the environmental and social areas, there is the evidence that the proportion of the items disclosed in the framework on international guidelines is higher as compared to the framework on national guidelines. It means that the environmental as well as social performance of the sampled companies is more

appropriately reported by referring to the international guidelines rather than the local ones.

Concerning the list of items, some of them are the same in both frameworks and others are completely different. The economic areas of the two frameworks contain different categories and items. The local guidelines provide much more economic aspects than the international ones. The reason is that the national guidelines issued by the SASAC give priority to the economic performance rather than the environmental or social disclosure. Therefore, it is not possible to compare the economic areas of the frameworks because the items are different. By contrast, the environmental and social areas present many common items. The environmental areas include common aspects like the energy consumption, efficiency and conservation, the development of energy-conserving products and services, the water consumption and conservation, the types of emissions and their reduction. Meanwhile, the social areas share aspects like the characteristics of the workforce, the occupational health and safety, the human rights protection, non-discrimination, child and forced labour avoidance and anti-corruption. Among the common items, "employees by gender, employment type, age group and geographical region" is the most reported social item of both frameworks.

Among the analysed reports composing the sample, some of them provide the readers with practical tables illustrating the items and indicators included in the guidelines. This way, it is easier to find and verify the aspects disclosed by the companies in their reports. In this study, the tables illustrated in the reports mostly referred to the guidelines published by the GRI and, to a lesser extent, those released by the SEHK. Those firms declaring to follow the other guidelines did not provide any table summarizing the items and indicators in accordance with the referring guidelines. As a result, the most accurate guidelines are those issued by the GRI.

Based on the results, the current level of sustainability-related reporting by the Chinese listed companies is quite low. Overall, the sampled enterprises never disclosed more than half of the totality of the items that should be reported following the referring guidelines. Moreover, most reported items were still expressed in discursive rather than numerical or financial terms. This indicates that Chinese firms still lack methods to measure some elements characterising the sustainability performance. Only a small percentage of enterprises tended to use quantitative or monetary terms to quantify some attributes, especially those related to the energy and water consumption, amount of waste and emissions, percentage of employees by gender. This weakness suggests that

sustainability reporting practice in China need to be improved in the future. This outcome disagrees with another research focusing on the IC reporting practice and affirming that the current level of reporting in mainland China was quite high, with an overall disclosure equal to 0.72 (out of a maximum of 1.00). Furthermore, the findings showed that more than 90% of the enterprises scored above 0.50, and 75% of the items were consistent with or even exceeded the expectations of the stakeholders (An, Davey, Eggleton and Wang, 2015).

To sum up, it is possible to affirm that the vast majority of the Chinese listed companies (59 out of 60 companies) refer to the Chinese guidelines for the preparation of their own sustainability-related reports. Among those companies, a high percentage of them (43 out of 59 companies) does not only refer to the national guidelines but also to the international standards. After having discussed the results, it is demonstrated that the Chinese listed companies disclose the items included in the international guidelines in a more suitable and accurate way, compared to the aspects contained in the local guidelines.

CONCLUSIONS

In last three decades, the continued rapid growth in China, known as "China miracle", astonished the world (Zhengning Pu and Jiasha Fu, 2018). This study takes into consideration the current challenges of China. On the one hand, China needed to expand its economy further and further, learning from western developed countries. On the other hand, the country had to cope with its environmental and social issues while trying to reduce the existent gap between the eastern provinces and the poorer western provinces. In view of the weak institutional framework of China, the interest and stability of the state appear to be of paramount prominence. In order to deal with the situation, the Chinese government made the strategic decision to move from a conservation policy to a plan focusing on sustainable development (Zhang, 2001). At present, some achievements have been accomplished, but there is still a long way to go before the negative impacts on the environment and society can be reduced.

In addition, this study provides a platform of knowledge in order to understand the concept of sustainability as well as the practice of sustainability reporting in China while enlightening the economic, social and environmental dimensions of sustainability. As explained in the previous chapter, the empirical analysis of this research is based on the Elkington's (1997) approach of TBL, involving the three dimensions of sustainability, also included in some structures provided by the guidelines. For instance, the GRI guidelines follow this concept in order to provide companies with a practical and effective structure for the preparation of their sustainability-related reports. In fact, it is demonstrated that enterprises should consider their economic, environmental and social impacts on society in general and on stakeholders in particular.

The development of the concepts of sustainability, sustainable development and CSR in China is much more recent compared to evolution of those ideas in western countries. The higher pressure was applied by the Chinese government, which enhanced the local companies' awareness of sustainability, especially thanks to the official project involving the concept of "green economy", developed during the Twelve Five-Year Plan. In other words, the state is the most important stakeholder and therefore the most vital source of legitimacy for the subsistence of the state firms. In addition to this, the international and local stakeholders exercised a strong pressure since they required the disclosure of sustainability-related information by the local enterprises. Therefore, the environmental and social challenges as well as the pressures by the

government and stakeholders led local enterprises to integrate sustainability into their corporate structure and approach to operate. As China became a major player in the globalized economy today, the country began to embrace certain international practices and standards such as CSR disclosure and guidelines. Several companies in China often claim to follow these guidelines and their disclosure aspects.

With regard to the sustainability-related reporting practice in China, it started in 2006 and experienced a progressive growth over the years, with a particular increase in 2011. In general, the enterprises publish various types of reports. "CSR reports" represent the dominant trend for the sustainability information disclosure in China. The study by Syntao (2011), found that only few companies adopted "Environmental, Social and Governance reports". However, this study found that one third of the observed companies used that title for their reports. Moreover, the length of the sustainability-related reports has been increasing over the years. At the very beginning, they were not independent reports but the information were reported and integrated into the financial reports issued by every company on annual basis. Consequently, the enterprises started to issue stand-alone sustainability reports, which were separated from their annual reports. Since the Chinese government mainly influenced SOEs to disclose non-financial information, SOEs represent the majority of the enterprises releasing sustainability reports. In addition to this, 60% of all the reporting companies in China is represented by the local listed companies.

This research analysed empirical studies adopting annual reports and sustainability reports as references for their researches and concentrating on various themes related to the sustainability, such as the intellectual capital disclosure by the local companies in China, which was widely investigated by several authors. Most studies affirmed that the level of sustainability disclosure in China was still insufficient for satisfying the stakeholders' requests as well as the international standards of non-financial information disclosure (An Yi and Howard Davey, 2010; Yongqiang Gao, 2011). The reported information was scarce or almost inexistent and there was a lack of quantitative data in most reports (Carlos Noronha, Tiffany Cheng Han Leung, On Ieng Lei, 2015). In particular, the environmental reporting and disclosure in China needed the greatest improvements (Xianbing Liu, V. Anbumozhi, 2009).

The entire empirical analysis of this study is based on the standards and guidelines adopted by the Chinese listed companies for the preparation of their sustainability-related reports. In fact, the analysed standards and guidelines are those mentioned in the reports by the local listed companies. The differentiation between the international and the national guidelines is essential to investigate the possible different practices for the reporting and, subsequently,

make comparisons between them. Concerning the analysis of the guidelines, those published by the SEHK are the most adopted guidelines among the observed local listed companies. Furthermore, all the sampled companies referring to both the international and the national guidelines adopted the GRI sustainability guidelines. As a result, it is proved that the Chinese listed companies do not have the tendency to follow only their own local guidelines. By contrast, approximately 70% of them refer to the international guidelines together with the national ones.

According to the findings, the overall disclosure quality for both frameworks is quite low. The environmental areas of both frameworks present the lowest disclosure quality. The environmental area of the framework on international guidelines has also the highest standard deviation. This means that the current level of environmental disclosure by the Chinese listed companies is not sufficient and needs great improvements. The economic and social areas of the framework on international guidelines express a relatively high disclosure quality, whereas the social area of the framework on national guidelines shows a scarce disclosure quality.

Overall, it is proved that numerous enterprises in China still require to implement appropriate data systems for their sustainability-related reports. The totality of the sampled companies declared to follow specific guidelines during the preparation of their reports. However, the quality of the disclosure related to those guidelines was not sufficient to reveal practical information as well as fulfil stakeholders' requirements. In particular, the disclosed information related to the items originated from the analysis of the national guidelines is not reported in an accurate way. By contrast, the disclosed information related to the items originated from the analysis of the international guidelines is disclosed in a more detailed and well-organized manner. Therefore, it is demonstrated that the Chinese listed companies disclose the items comprised in the international guidelines in a more suitable and accurate way, compared to the aspects contained in the local guidelines.

The results suggest that the Chinese Government should take further steps at reviewing and improving the existent national guidelines and requirements with the aim of reflecting the sustainability reporting practices of local enterprises in a more appropriate and effective way.

According to the present circumstances, there is still a long journey for China before improvements in the environmental and social performance can be realized completely (Gao, 2011; Lin, 2010). Given the current institutional framework in China, the state is undoubtedly the decisive leader in trying to align the country with the other developed countries in terms of sustainability and its disclosure (Noronha, Leung and Lei, 2015).

To sum up, on the one hand, the sustainability reporting practice has been growing at unexpected rate in China. On the other hand, the local listed enterprises still require further improvements on their sustainability disclosure quality. As clarified in the analysis of the results, the reported information shows an extremely low level of suitability between the requirements included in the guidelines and the effective data disclosed in the reports.

This study has some limitations. Firstly, the analysed documents are represented by various types of sustainability-related reports. As stated during the research, the investigation of different types of reports in a single examination can lead to the misinterpretation of the results (Dominik Dienes, Remmer Sassen and Jasmin Fischer, 2016). Secondly, the sample is composed of Chinese listed companies. Therefore, the results cannot be generalized to all the enterprises in China. Furthermore, the dimensions of the sampled companies are not taken into account. As affirmed by other former researches, larger firms disclose more environmental and social information compared to smaller firms (Lu and Abeysekera, 2014). Finally, the biggest obstacle faced during the research was the impossibility of acquiring enough material related to the standards and guidelines helping the preparation of the enterprises' sustainability-related reports. In particular, it was extremely difficult to obtain enough information about the national standards and guidelines.

Based on the limitations and obstacles faced during the research, this study provides the readers with some suggestions for further researches. Firstly, other studies could compare the English and Chinese versions of the sustainability-related reports released by the Chinese listed companies in order to find similarities and differences between the two languages. For instance, the study published by Liao, Low and Davey (2013) compared the English and Chinese versions of the reports, affirming that the English version provided more information and, therefore, a better disclosure quality. Moreover, another interesting investigation could be the comparison between the sustainability-related reports of the Chinese listed companies and those published by other enterprises. As an example, it could be useful to compare the European or American listed corporations with the Chinese listed companies. This way, there would be the possibility to discover similarities and differences in the sustainability reporting practice as well as the sustainability disclosure quality between China and western developed countries.

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APPENDICES

Appendix A: Sample of companies

Table 1: Stock exchanges and sectors of the sampled companies

Company name	Stock exchange	Sector
Air China Limited	Hong Kong, London and Shanghai Stock Exchanges	Transportation
Alibaba Group	New York and Hong Kong Stock Exchanges	Software and Services
ANTA Sports Products Limited	Hong Kong Stock Exchange	Consumer Durables and Apparel
BAIC Motor Corporation Limited	Hong Kong Stock Exchange	Automobiles and Components
Beijing Capital International Airport Company Limited	Hong Kong Stock Exchange	Transportation
Beijing Enterprises Holdings Limited	Hong Kong Stock Exchange	Capital Goods
BYD Company Limited	Hong Kong Stock Exchange	Automobiles and Components
China CITIC Bank Corporation Limited	Shanghai and Hong Kong Stock Exchanges	Banks
China Coal Energy Company Limited	Shanghai and Hong Kong Stock Exchanges	Energy
China Communications Construction Company Limited	Shanghai and Hong Kong Stock Exchanges	Capital Goods
China Construction Bank Corporation	Shanghai and Hong Kong Stock Exchanges	Banks
China Cosco Holdings	Shanghai and Hong Kong Stock Exchanges	Transportation
China Everbright International Limited	Hong Kong Stock Exchanges	Commercial and Professional Services
China Galaxy Securities Company Limited	Shanghai and Hong Kong Stock Exchanges	Diversified Financials
China Huarong Asset Management Company Limited	Hong Kong Stock Exchanges	Diversified Financials
China Life Insurance Company Limited	New York, Shanghai and Hong Kong Stock Exchanges	Insurance
China Mengniu Dairy Company Limited	Hong Kong Stock Exchanges	Food, Beverage and Tobacco
China Merchants Bank	Shanghai and Hong Kong Stock Exchanges	Banks
China Merchants Securities	Shanghai and Hong Kong Stock Exchanges	Diversified Financials
China Minsheng Banking Corporation Limited	Shanghai and Hong Kong Stock Exchanges	Banks
China Mobile Limited	Hong Kong and New York Stock Exchanges	Telecommunication Services
China Overseas Land & Investment Limited	Hong Kong Stock Exchange	Real Estate
China Power International Development Limited	Hong Kong Stock Exchange	Utilities
China Railway Signal & Communication Company Limited	Hong Kong Stock Exchange	Technology Hardware and Equipment
China Reinsurance Group Corporation	Hong Kong Stock Exchange	Insurance
China Resources Beer (Holdings) Company Limited	Hong Kong Stock Exchange	Food, Beverage and Tobacco

China Resources Pharmaceutical Group Limited	Hong Kong Stock Exchange	Pharmaceuticals, Biotechnology & Life Sciences
China Shenhua Energy Company Limited	Shanghai and Hong Kong Stock Exchanges	Energy
China Southern Airlines Company LimiteD	Hong Kong, Shanghai and New York Stock Exchanges	Transportation
China State Construction International Holdings Limited	Hong Kong Stock Exchange	Capital Goods
China Vanke Company Limited	Shenzhen Stock Exchange	Real Estate
CNOOC Limited	Hong Kong, New York and Toronto Stock Exchanges	Energy
CRRC Corporation Limited	Shanghai and Hong Kong Stock Exchanges	Capital Goods
Dongfeng Motor Group Company Limited	Hong Kong Stock Exchange	Automobiles and Components
Everbright Securities Corporation Limited	Shanghai and Hong Kong Stock Exchanges	Diversified Financials
Far East Horizon Limited	Hong Kong Stock Exchange	Diversified Financials
Geely Automobile Holdings Limited	Hong Kong Stock Exchange	Automobiles and Components
GF Securities Company Limited	Shenzhen Stock Exchange	Diversified Financials
Guangdong Investment Limited	Hong Kong Stock Exchange	Utilities
Haitong Securities Company Limited	Shanghai and Hong Kong Stock Exchanges	Diversified Financials
Harbin Bank Company Limited	Hong Kong Stock Exchange	Banks
Huaneng Power International Inc	Hong Kong, Shanghai and New York Stock Exchanges	Utilities
Huatai Securities Company Limited	Shanghai Stock Exchange	Diversified Financials
Industrial and Commercial Bank of China Limited	Shanghai and Hong Kong Stock Exchanges	Banks
Kingboard Chemical Holdings Limited	Hong Kong Stock Exchange	Technology Hardware and Equipment
Kunlun Energy Company Limited	Hong Kong Stock Exchange	Energy
Lenovo Group Limited	Hong Kong Stock Exchange	Technology Hardware and Equipment
Li Ning Company Limited	Hong Kong Stock Exchange	Consumer Durables and Apparel
Metallurgical Corporation of China	Shanghai and Hong Kong Stock Exchanges	Capital Goods
PetroChina Company Limited	Hong Kong, Shanghai and New York Stock Exchanges	Energy
Semiconductor Manufacturing International Corporation	Hong Kong and New York Stock Exchanges	Semiconductors & Semiconductor Equipment
Shenzhen International Holdings Limited	Hong Kong Stock Exchange	Transportation
Shenzhen Investment Limited	Hong Kong Stock Exchange	Real Estate
Shimao Property Holdings Limited	Hong Kong Stock Exchange	Real Estate
Sino Biopharmaceutical Limited	Hong Kong Stock Exchange	Pharmaceuticals, Biotechnology & Life Sciences
Sino-Ocean Group Holdings Limited	Hong Kong Stock Exchange	Real Estate
Sinopec Engineering Group Company Limited	Hong Kong Stock Exchange	Capital Goods
Vipshop Holdings Limited	New York Stock Exchange	Retailing
Zijin Mining Group Company Limited	Shanghai and Hong Kong Stock Exchanges	Materials
ZTE Corporation	Shanghai and Hong Kong Stock Exchanges	Technology Hardware and Equipment

Source: elaborated by the author

Table 2: International and national guidelines followed by the sampled companies

Company name	Guidelines	
	International	National
Air China Limited	GRI	Shanghai and Hong Kong Stock Exchanges, SASAC
Alibaba Group	GRI	CASS
ANTA Sports Products Limited	GRI	Hong Kong Stock Exchange
BAIC Motor Corporation Limited	GRI	Hong Kong Stock Exchange
Beijing Capital International Airport Company Limited	GRI, ISO 26000	Hong Kong Stock Exchange
Beijing Enterprises Holdings Limited	GRI, ISO 26000	Hong Kong Stock Exchange, CASS
BYD Company Limited	GRI	CASS
China CITIC Bank Corporation Limited	GRI, ISO 26000	Shanghai and Hong Kong Stock Exchanges
China Coal Energy Company Limited	GRI	Shanghai and Hong Kong Stock Exchanges, CASS
China Communications Construction Company Limited	GRI, ISO 26000	SASAC, CASS
China Construction Bank Corporation	GRI	Shanghai and Hong Kong Stock Exchanges
China Cosco Holdings	GRI	Shanghai and Hong Kong Stock Exchanges
China Everbright International Limited	GRI	Hong Kong Stock Exchange
China Galaxy Securities Company Limited		Shanghai and Hong Kong Stock Exchanges
China Huarong Asset Management Company Limited	GRI	Hong Kong Stock Exchange, CASS
China Life Insurance Company Limited	GRI, ISO 26000	Shanghai and Hong Kong Stock Exchanges
China Mengniu Dairy Company Limited	GRI, ISO 26000	Hong Kong Stock Exchange, CASS
China Merchants Bank	GRI	Shanghai and Hong Kong Stock Exchanges
China Merchants Securities	GRI	Hong Kong Stock Exchange, CASS
China Minsheng Banking Corporation Limited		Hong Kong Stock Exchange
China Mobile Limited	GRI, ISO 26000, UN, 2030 AGENDA	Hong Kong Stock Exchange, CASS
China Overseas Land & Investment Limited	GRI, ISO 26000	SASAC
China Power International Development Limited	GRI	Hong Kong Stock Exchange, SASAC, CASS
China Railway Signal & Communication Company Limited	GRI	Hong Kong Stock Exchange, SASAC, CASS
China Reinsurance Group Corporation		Hong Kong Stock Exchange
China Resources Beer (Holdings) Company Limited		Hong Kong Stock Exchange
China Resources Pharmaceutical Group Limited		Hong Kong Stock Exchange, SASAC, CASS
China Shenhua Energy Company Limited	GRI	Shanghai and Hong Kong Stock Exchanges
China Southern Airlines Company Limited	GRI	Shanghai and Hong Kong Stock Exchanges, SASAC
China State Construction International Holdings Limited	GRI	Hong Kong Stock Exchange

China Vanke Company Limited	GRI, ISO 26000, UN	Hong Kong and Shenzhen Stock Exchanges, CASS
CNOOC Limited	GRI, UN	Hong Kong Stock Exchange
CRRC Corporation Limited	GRI, UN	Hong Kong Stock Exchange
Dongfeng Motor Group Company Limited		Hong Kong Stock Exchange
Everbright Securities Corporation Limited	GRI, ISO 26000, UN	Shanghai and Hong Kong Stock Exchanges, SASAC, CASS
Far East Horizon Limited	GRI	Hong Kong Stock Exchange
Geely Automobile Holdings Limited	GRI, ISO 26000, UN	Hong Kong Stock Exchange
GF Securities Company Limited	GRI	Hong Kong and Shenzhen Stock Exchanges, CASS
Guangdong Investment Limited		Hong Kong Stock Exchange
Haitong Securities Company Limited		Shanghai and Hong Kong Stock Exchanges
Harbin Bank Company Limited	GRI	Hong Kong Stock Exchange
Huaneng Power International Inc	GRI	Shanghai Stock Exchange, SASAC, CASS
Huatai Securities Company Limited	GRI	Shanghai and Hong Kong Stock Exchanges
Industrial and Commercial Bank of China Limited	GRI, ISO 26000, UN	Shanghai and Hong Kong Stock Exchanges
Kingboard Chemical Holdings Limited		Hong Kong Stock Exchange
Kunlun Energy Company Limited		Hong Kong Stock Exchange
Lenovo Group Limited	GRI, UN	Hong Kong Stock Exchange
Li Ning Company Limited		Hong Kong Stock Exchange
Metallurgical Corporation of China	GRI	Shanghai and Hong Kong Stock Exchanges, SASAC
PetroChina Company Limited	GRI, Oil and Natural Gas Industry, UN	Shanghai and Hong Kong Stock Exchanges
Semiconductor Manufacturing International Corporation	GRI, ISO 26000	Hong Kong Stock Exchange, CASS
Shenzhen International Holdings Limited		Hong Kong Stock Exchange
Shenzhen Investment Limited		Hong Kong Stock Exchange
Shimao Property Holdings Limited		Hong Kong Stock Exchange
Sino Biopharmaceutical Limited		Hong Kong Stock Exchange
Sino-Ocean Group Holdings Limited	GRI	CASS
Sinopec Engineering Group Company Limited	GRI	Hong Kong Stock Exchange, SASAC, CASS
Vipshop Holdings Limited	GRI	
Zijin Mining Group Company Limited		Shanghai Stock Exchange
ZTE Corporation	GRI, ISO 26000, UN	Hong Kong Stock Exchange

Source: elaborated by the author

Appendix B: Frameworks

Table 1: Framework on international guidelines

Subject areas	Categories	Items
A. Economic	1. Economic performance	Direct economic value
		Obligations coverage
		Government financial assistance
	2. Market presence	Ratios of standard entry level wage by gender
		Proportion of senior management
	3. Indirect economic impacts	Infrastructure investments and services supported
		Significant indirect economic impacts and extent of impacts
	4. Procurement practices	Proportion of spending on local suppliers
B. Environmental	1. Materials	Materials use efficiency
		Materials used by weight or volume
		Recycled materials use
	2. Energy	Energy consumption by type
		Energy efficiency
		Energy consumption reduction
		Energy-conserving products and services development
		Alternative energy sources
	3. Water	Fresh and clean water
		Water withdrawal by source
		Conservation, use and access to water
		Water recycled and reused
		Water sources affected by withdrawal of water
	4. Biodiversity	Operational sites owned, leased, managed in or adjacent to protected areas
		Significant impacts of activities, products and services on biodiversity in protected areas
		Habitats protected or restored
		Species affected by operations by level of extinction
		Valuing, protecting and restoring biodiversity
	5. Pollution and climate change	Emissions by type
		Direct GHG emissions and intensity
		Emissions reduction
		Emissions of ozone-depleting substances (ODS)
		NOX, SOX and other significant air emissions
		Flared gas
	6. Effluents and waste	Water discharge
		Significant spills
		Waste by type and disposal method
		Toxic and hazardous waste
	7. Products and services	Environmental impacts of products and services
		Percentage of reclaimed sold products
	8. Compliance	Monetary value of fines for non-compliance with environmental laws and regulations
		Total number of non-monetary sanctions for non-compliance with environmental laws and regulations
	9. Transport	Environmental impacts of transporting products and materials

	10. Supply chain management	Percentage of new suppliers screened using environmental criteria
		Significant actual and potential negative environmental impacts in the supply chain and actions taken
	11. Environmental grievance system	Environmental grievance system
C. Social	1. Labour practices and decent work	Employees by gender, employment type, age group and geographical region
		Occupational health and safety
		Occupational injury and illness incidents
		Education, training and development
		Employee equality
		Supplier assessment
		Employee (or labor practices) grievance system
		Conditions of work and social protection
		Social dialogue
		Non-discrimination
		Human rights protection
		Human rights risk situations or abuses
		Freedom of association and collective bargaining
		Child and forced labour avoidance
		Due diligence
		Security practices
		Supplier human rights protection
		Human rights grievance system
		Complicity avoidance
	2. Society	Community involvement and development
		Public policy
		Society grievance system
		Social investment
	3. Fair Operating Practices	Anti-corruption
		Responsible political involvement
		Property rights protection
		Transparency of payments to host governments
		Public advocacy and lobbying
	4. Consumer issues	Consumer data protection and privacy
		Fair marketing and fair contractual practices
		Consumer service, support, complaint and dispute resolution
		Access to essential services
		Education and awareness
	5. Product responsibility	Product stewardship
		Product and service labeling
	6. Community involvement	Wealth and income creation
		Health, education and culture
		Technology development and access
		Employment creation and skills development
		Involuntary resettlement
	7. Local content	Local content practices
		Local hiring practices and performance
		Local procurement and supplier development

Source: elaborated by the author

Table 2: Framework on national guidelines

Subject areas	Categories	Items
A. Economic	1. Business operation	Regulatory compliance system
		Tax payments
		Investors and creditors interests protection
		Anti-corruption
		Intellectual propery rights protection
		Business creditability
		Employment creation
	2. Sustainable profits	Corporate governance improvement
		Democratic management
		Strategy optimization
		Core business focus
		Reasonable resources distribution
		Operational costs minimization
		Risk prevention and safety
		Profitability optimization
		Market competitiveness enforcement
	3. Products and services quality	Products and services safety
		Products and services quality
		Consumer interests protection
	4. Indipendent innovation and technological advancement	Technological innovation system
		Research and development promotion
		High and new technologies development
		Industry upgrade or readjustment
B. Environmental	1. Use of resources	Energy consumption by type
		Energy saving and conservation
		Energy-conserving products and services development
		New, renewable or clean energy
		Resource efficiency
		Renewable resources recycling
		Recycling economy
		Packaging materials
	2. Water	Water consumption
		Water saving and conservation
		Treated water use
	3. Emissions	Emissions by type
		Emission reduction
		Total hazardous waste and intensity
		Total non-hazardous waste and intensity
		Waste generation reduction or avoidance
	4. Green operation	Environmental protection investment
		Environmental management
		Environmental organizations participation
		Production procedures rationalization
	5. Green products	Employees and suppliers environmental awareness
		Number and incidence of environmental penalties on suppliers
		Green and low-carbon development
		Waste and obsolete products reclamation

		Packaging materials consumption reduction
	6. Green ecology	Biodiversity conservation
		Natural habitats protection
		Ecological management
C. Social	1. Employment	Employees by gender, employment type, age group and geographical region
		Employee turnover rate by gender, age group and geographical region
		Percentage of female employees or managers
		Percentage of ethnic minority or other races employees
		Percentage of disabled employees
		Emergency system
		Occupational health and safety
		Work-related accidents
		Lost days due to work injury
	2. Human rights	Employee equality
		Human rights protection
		Collective bargaining
		Percentage of unionized employees
		Employee privacy protection
	3. Labour standards	Employment relationships
		Equal pay for equal work
		Minimum wage
		Overtime pay
		Remuneration and incentives system
		Social insurance
		Child and forced labour avoidance
		Occupational hazards reduction
		Employee assistance investment
		Employee satisfaction
		Employee complaints
	4. Development and training	Employee education, training, encouragement and support
		Percentage of employees trained by gender and employee category
		Average training hours completed per employee by gender and employee category
	5. Supply chain management	Number of suppliers by geographical region
	6. Product responsibility	Percentage of products sold or shipped subject to recalls
		Number of products- and services-related complaints
		Consumer privacy and data protection
	7. Community involvement	Enviornmental and social impacts on local community assessment
		Projects with environmental and social impacts
		Welfare projects in local comunity
		Percentage of local employees
		Corporate charity
		Donations
		Volunteers

Source: elaborated by the author