Towards an integrated reporting framework for China

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ABSTRACT

Integrated Reporting (IR) has emerged as a new corporate reporting approach to communicating to stakeholders about organisational value creation. IR is expected to produce better corporate reporting for stakeholders and promote greater transparency and accountability in the capital market. IR is not currently mandatory for Chinese companies. However, in view of the serious environmental pollution and social problems facing China and given that IR has the potential to contribute to societal and environmental well-being, IR is expected to gain momentum. Although only one Chinese (mainland) company has published integrated reports, a number of Chinese companies have traces of IR in their corporate reports (i.e., annual reports, sustainability reports, and corporate social responsibility reports). IR is important for China but there is currently no Chinese specific IR framework that comprehensively considers factors that are context-specific to China. Thus, the overall research objective of this thesis is to develop an IR framework for China and apply the framework to evaluate IR disclosure practices of Chinese listed companies.

There has been a proliferation of CSR, sustainability, and intellectual capital studies; however, IR-related studies in the Chinese context are scarce. IR studies have not designed a context-specific IR framework that comprehensively considers the contextual factors inherent in the jurisdictions they investigate. Moreover, very few studies adopt a combination of a weighted IR disclosure index and a scoring system that are specifically designed for a specific jurisdictional context to examine IR disclosure practices. In particular, the scoring systems of previous studies lack consideration of the connectivity between financial and non-financial information, and the connectivity between quantitative and qualitative information. Another gap in the extant IR literature is that although many studies have used stakeholder consultation to collect participants' views on the implementation of IR, those studies lack the participation of a broad range of stakeholder groups.

This study provides an interpretation of the IR disclosure practices of Chinese companies using a framework of key theoretical underpinnings of stakeholder, agency, signalling, legitimacy, and institutional theories.

The research methodology adopted in this study is a mixed methods approach. The choice of the research methodology is appropriate for the interpretive and statistical analysis approach as well as influenced by the author's worldview, training, and experience. After two rounds of questionnaire surveys, a weighted IR disclosure index consisting of 68 items is developed in consultation with 51 Chinese stakeholders. The weighted index takes into consideration China's idiosyncratic cultural, economic, political, legal, international, social, and environmental factors. The weighted IR disclosure index and a scoring system are then applied as instruments for content analysis to the top 100 Chinese listed companies' corporate reports for the years 2014-2018. The collected data are quantified and analysed to gauge the extent and quality of IR disclosures. Following the evaluation of IR disclosure practices, the study also conducts a number of hypothesis tests to examine the determinants of IR disclosure practices and the effect of IR disclosure practices on agency costs. Lastly, the third round of questionnaire survey is conducted to gain the opinions of 51 Chinese stakeholders on the barriers to the adoption of IR and their recommendations for IR implementation in China. These surveys, evaluations and tests form the basis for recommendations for a framework of best IR practices in China.

The results indicate that the IR disclosure practices of Chinese companies have been improving over the period 2014-2018. The extent of IR disclosures by Chinese listed companies is satisfactory, but the quality of IR disclosures still has significant room for improvement. Furthermore, there are a number of IR disclosure items that show a gap between the stakeholders' expectations and the actual IR disclosure practices. This study indicates that there are differences in IR disclosure practices between A-share firms and dual A-and H-share firms, between state-owned enterprises (SOEs) and non-SOEs, and between firms in China and firms in other countries. This study also finds that there are anomalies in the conciseness and readability of corporate reports of Chinese listed companies. The findings indicate that many Chinese companies have already initiated the adoption of an IR approach for presenting disclosures in their corporate reports. However, IR disclosure practices (the extent and quality of IR disclosures) by some Chinese companies are at a low level. It is also found that pressures from customers, employees, and communities drive IR disclosure practices. Financial leverage, independent directors, CEO duality, and profitability also impact the IR disclosure practices of Chinese firms. Moreover, both the extent of IR disclosures and the quality of IR disclosures negatively affect agency costs. Additionally, the analysis of stakeholder perceptions reveals that eleven factors are barriers or challenges to implementing IR in China. Further, successful implementation of IR practices in China requires the support of the government as well as initiatives on education, organisations, technology, assurance, and activities.

Several theoretical and practical implications are evident in the study. The findings indicate that there are three incentives motivating Chinese companies to adopt an IR approach: (1) to mitigate information asymmetry between the organisation and all stakeholders; (2) to signal superior quality, legitimacy and conformity to all stakeholders; and (3) to discharge accountability to all stakeholders. In this study, the findings regarding IR practices in China intensify socio-political theories (stakeholder theory, legitimacy theory, institutional theory). However, the findings both support and detract from economics-based theories (agency theory and signalling theory). The study also reveals that IR practices tend to be policy-driven and culturally-embedded in China. The study suggests that "integration" in IR means the integration of five dimensions: time (past-present-future); qualitative and quantitative information; financial and non-financial information; positive and negative information; and internal and external stakeholders. Specific policies and regulations for mandating IR can be designed with stakeholders' participation, such as for certain sectors, for SOEs as well as non-SOEs, and for A- and H-share firms. The sustainability report and the annual report could be incorporated together; the pages should be shortened, and convoluted language and jargon should be avoided.

To the best of the author's knowledge, the current study is the first to extensively investigate IR practices in China. Specifically, the current study is the first to provide a holistic contextual analysis of IR practices in the Chinese context by comprehensively considering a number of aspects. This thesis also contributes to the methodology of evaluating IR disclosure practices in a unique way that comprises a combination of a list of IR disclosure items (an unweighted IR disclosure index), a weighting system and a scoring system that are specifically designed for the Chinese context. Furthermore, both the extent and the quality of IR disclosures are used respectively to examine the relationship between a set of factors and IR disclosure practices by Chinese firms. Analysing the relationship between potential impact factors and IR disclosure practices provides insights on factors that influence IR disclosure practices. This study also provides direct evidence of the positive effect of IR disclosure practices on mitigating agency costs.

There are seven critical reflections in this thesis. Firstly, IR practices in China are complex and multifaceted, requiring comprehensive attention to many aspects. Using the mixed methods approach in this study is appropriate and is important to the multi-objective of the thesis. Secondly, there are three considerations for choosing appropriate theories for IR studies: suiting the nature of IR, interconnecting, and being adaptive to the context. Thirdly, a contextual approach, which can reflect contextual features, is important to the contextual nature of IR. Fourthly, the ultimate purpose of IR is to tell the story of organisational value creation for all stakeholders well and effectively. Fifthly, the decision by the top management to adopt IR or to change IR disclosure practices depends on external pressures from stakeholders, external incentives, and internal incentives. Sixthly, Chinese contextual factors have been changing and their impacts on IR disclosure practices are dynamic. Further, tensions may exist between contextual factors, resulting in an effect on IR practices. Lastly, as a result of the Covid-19 pandemic, IR is in transition towards a new format.

Several lessons were learnt by the author in undertaking this study. Firstly, including all the possible disclosure items in an IR disclosure index is unrealistic. Secondly, the difficulty of content analysis limits the production of studies relating to IR disclosure practices. Thirdly, when doing survey studies, some cultural attributes in China may impede a researcher to successfully approach stakeholders who have no previous association with the researcher. Lastly, the IR framework for China established in this study will need to be adjusted and revised in the future according to changes in contextual factors.

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LIST OF ABBREVIATIONS

A4S	Accounting for Sustainability
CCP	Chinese Communist Party
CEO	Chief Executive Officer
CSR	Corporate Social Responsibility
CSRR	Corporate Social Responsibility Reporting
ESG	Environmental, Social and Governance
GDP	Gross Domestic Product
GNI	Gross National Income
GRI	Global Reporting Initiative
HKSE	Hong Kong Stock Exchange
IC	Intellectual Capital
ICR	Intellectual Capital Reporting
IFRS	International Financial Reporting Standards
IIRC	International Integrated Reporting Council
IIRF	International Integrated Reporting Framework
IoDSA	Institute of Directors in Southern Africa
IR	Integrated Reporting
IRCSA	Integrated Reporting Committee of South Africa
KPI	Key Performance Indicator
NGO	Non-Governmental Organization
SHSE	Shanghai Stock Exchange
SOE	State-Owned Enterprise
SR	Sustainability Reporting
SZSE	Shenzhen Stock Exchange
WBCSD	World Business Council for Sustainable Development
WICI	World Intellectual Capital Initiative

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter provides an overview of the thesis and highlights the key aspects that form the structure of the thesis. The objective of this thesis is to develop an IR framework and apply the framework to evaluate the IR disclosure practices of Chinese listed companies. An interrelated objective of this thesis is to test the determinants of IR disclosure practices of Chinese listed companies and the effect of IR disclosure practices on agency costs. Based on the findings of the evaluation, testing, and surveys, recommendations for the implementation of IR practices in China are proposed.

The rest of this chapter is structured in the following manner. Section 1.2 presents the origin and global developments of IR practices. Section 1.3 describes the Chinese setting for IR practices. Section 1.4 presents a review on relevant theories underlying IR practices. Section 1.5 provides a literature review of the extant studies on IR practices. Section 1.6 describes the research objectives and questions. Section 1.7 and section 1.8 introduce the research methodology and methods, respectively. The scope and limitations of this thesis are stated in section 1.9. The structure of the thesis is provided in section 1.10. Section 1.11 concludes the chapter.

1.2 The origin and global developments of IR practices

The origin of IR practices can be traced to developments in early corporate reporting practices such as Corporate Social Responsibility Reporting (CSRR) and Sustainability Reporting (SR). IR incorporates a number of features (e.g., intellectual capital, corporate social responsibility, and strategy) of early corporate reporting practices and is becoming more relevant in the current era because it shows some clear advantages over early corporate reporting practices (see Eccles & Krzus, 2010; García-Sánchez et al., 2013; Steenkamp, 2018). IR also overcomes some limitations of early corporate reporting practices (see Adams, 2015; Gleeson-White, 2014). The early corporate reporting practices often provide cluttered, duplicated, incomplete, and disconnected information; therefore more and more scholars (such as Burgman & Roos, 2007; Cordazzo, 2005; Hutton, 2004; Kolk & Pinske, 2010; Pedrini, 2007) call for the provision of inter-connected information in an integrated manner. IR is regarded as the most significant reporting innovation for companies since the introduction of International Financial Reporting Standards (IFRS) practices (Kee et al., 2014).

Developments in corporate reporting practices and related regulations worldwide are heading towards the adoption of IR practices (EY, 2014; Howitt, 2016). South Africa was the first country to explicitly mandate (on an apply or explain basis) companies listed in the Johannesburg Stock Exchange to publish integrated reports and to follow its local IR framework, the King III Report on Corporate Governance for South Africa (known as King III) (Cheng et al., 2014). The UK and some countries in the European Union, especially Germany and France, also moved towards mandating IR. For example, the amendment of the Fourth and Seventh Accounting Directives in European Union, the Companies Act 2006 of UK, German Accounting Standard No.15, and Grenelle II of France can be seen as the implementation of IR (EY, 2014; Howitt, 2016). However, IR is still on a voluntary adoption basis in most countries, as for example in Malaysia, Singapore, India, Turkey and Japan, where the voluntary adoption of IR has been backed by their governments.

A significant global IR development is the establishment of the International Integrated Reporting Council (IIRC). The International Integrated Reporting Framework (IIRF) prescribed by IIRC is regarded as a significant achievement (Eccles & Krzus, 2014). The framework consists of two fundamental concepts (value creation; capital), seven guiding principles (strategic focus and future orientation; connectivity of information; stakeholder relationships; materiality; conciseness; reliability and completeness; and consistency and comparability), and seven substantive content elements (business model; risks and opportunities; strategy and resource allocation; performance; outlook; organisational overview and external macro-environment; and governance). Currently, the framework is the most commonly used international guideline by scholars and practitioners of IR research and adoption.

In this present study, IR is a corporate reporting that provides interconnected material financial and non-financial information, including but not limited to strategy, governance, risk, performance and prospects, to stakeholders, demonstrating to them about an organisation’s past, present and future, and how the organisation creates and sustains value over the short, medium and long term.

1.3 The Chinese Setting

Since 2009, the Shanghai Stock Exchange (SHSE) and Shenzhen Stock Exchange (SZSE) have required certain listed companies to disclose information on the environment, social responsibility, and corporate governance. This mandate has resulted in the majority of Chinese listed companies publishing stand-alone CSR reports and other non-financial reports as a part of their annual reports. Although these reports are not integrated reports, Chinese listed companies have accumulated some experiences in compiling non-financial reports (Yang et al., 2012). IR is now gaining momentum in China. The IR Example database website of IIRC indicates that there is only one company, China General Nuclear (CGN) Power, releasing integrated reports in mainland China. There are five Hong Kong-based firms included in the IR Example database website: China Light & Power (CLP) Group, The Hongkong and Shanghai Banking Corporation (HSBC), Link Real Estate Investment Trust (Link REIT), Pacific Basin Shipping Limited, and Swire Pacific Limited (Russell, 2017). In addition, a Hongkong company called The Hongkong and Shanghai Hotels claimed that its annual report was prepared in accordance with IIRF[1]. Chinese government agencies, non-governmental organizations (NGOs), and the academic community are also showing increasing interest in IR practices (see CBCSD, 2015; Li, 2013; Yang et al., 2012). However, there is no IR framework to support the trend in China; therefore, it is important to develop an IR framework to provide guidelines for Chinese companies. This thesis is aims to contribute towards the development of IR in China.

Heterogeneity in contextual factors in different countries causes corporate reporting to differ from country to country (Matemane & Wentzel, 2019). For instance, comparative studies have shown that culture affects variations in CSR reporting practices between countries (Vitolla et al., 2019b). Visser (2008) and Shareef et al. (2014) believe jurisdiction-specific factors are important considerations for developing a non-financial reporting framework in different countries. It is also important to consider factors that are context-specific to China when developing a Chinese-specific IR framework. Hence, the IR framework developed in this thesis considers these Chinese context-specific factors.

[1] Please see 2017 annual report of The Hongkong and Shanghai Hotels (https://www.hshgroup.com/-/media/Files/HSH/Financial-Reports/2017/EW00045-2017-Annual-Report.ashx) and 2018 annual report of The Hongkong and Shanghai Hotels (https://www.hshgroup.com/-/media/Files/HSH/Financial-Reports/2018/2018-Annual-Report---EN.ashx).

1.4 Theoretical framework

Scholars have drawn from diverse, and often complementary, theoretical perspectives, including stakeholder theory, agency theory, signalling theory, legitimacy theory, and institutional theory to explain IR practices.

Stakeholder theory is concerned with the relationships of an organisation with a variety of stakeholders in society. In this theory, stakeholders are crucial to the survival of companies and have expectations about an organisation's behaviours and the corresponding effects of those behaviours (Deegan, 2002; Gray et al., 1996). To meet stakeholders' expectations, the primary aim of IR is to enhance accountability for stakeholders via integrated reports (Steenkamp, 2018).

Agency theory postulates that the provision of better disclosures to the market may reduce information asymmetries between managers and investors (Jensen & Meckling, 1976). IR can thus be seen as a monitoring mechanism that allows investors to supervise managers' behaviours and assess whether managers' actions meet investors' interests, leading to lower information asymmetry between investors and managers and lower agency costs (De Villiers & Hsiao, 2017; Fasan & Mio, 2017; Jensen & Meckling, 1976).

Signalling theory is used to depict the behaviour when two parties have access to asymmetric information and is concerned with reducing the asymmetry between these two parties (Spence, 2002). This theory contends that information disclosure can be seen as signalling the superior quality of a company (Spence, 1973). A high-quality company signals its advantages to the market using information disclosure to distinguish itself from low-quality companies (Frías-Aceituno et al., 2014). IR is regarded as one of the most effective and strategic ways to send positive signals to its users (Inchausti, 1997; Qu et al., 2015; Silvestri et al., 2017).

In voluntary corporate reporting studies, legitimacy theory is one of the most cited theories (Tilling, 2004). This theory is based on the notion of a social contract between the organisation and society (Deegan et al., 2002). Organisational legitimacy is seen as a 'resource' upon which an organisation can be dependent for its survival (Deegan, 2006, p.162). According to legitimacy theory, by communicating organisational legitimisation efforts, IR principally serves to gain, maintain and repair organisational legitimacy (Chu et al., 2013; Deegan, 2002; Velte & Stawinoga, 2017).

In IR studies, institutional theory is a frequently used framework to explain the response to institutional pressure in the process of IR adoption (Frías-Aceituno et al., 2013a; Jensen & Berg, 2012; Wild & Van Staden, 2013). Three types of institutional isomorphism, coercive, mimetic, and normative exert pressures on organisations to adopt IR (Farooq & Maroun, 2017; Vaz et al., 2016). Organisations adopt IR to meet institutional expectations (De Villiers & Hsiao, 2017; Fuhrmann, 2019).

By integrating the above five theories, a theoretical framework is established. Based on the theoretical framework, there are three drivers for companies to improve their IR disclosure practices: to mitigate information asymmetry between the organisation and all stakeholders; to signal superior quality, legitimacy, and conformity to all stakeholders; and to discharge accountability to all stakeholders. Direct and indirect costs are the main factors that lead to poor IR disclosure practices.

1.5 Literature review

The primary areas of focus in previous IR studies are IR disclosures, evaluation of IR disclosure practices, and hypothesis testing in relation to the determinants and effects of IR practices, including the adoption of IR and IR disclosure practices. In order to identify IR disclosures, many extant studies use existing corporate reporting frameworks. For instance, some previous studies (e.g., Pavlopoulos et al., 2017; Sofian & Dumitru, 2017; Stent & Dowler, 2015) adopt disclosure items prescribed by existing IR frameworks (i.e., IIRF (IIRC, 2013); King III Report (IoDSA, 2009); King IV Report (IoDSA, 2016)), while other studies (e.g., Turturea, 2015; Van Zyl, 2013) apply disclosure items prescribed by sustainability reporting frameworks (such as GRI G3 guidelines; GRI G4 guidelines). In order to gauge IR disclosure practices, some studies use the ASSET 4 database (Arguelles et al., 2015; Mervelskemper & Streit, 2017), Bloomberg ESG scores (Bernardi & Stark, 2018), and IR awards and recognitions (Barth et al., 2017; Martinez, 2015), while other studies used a disclosure index (Lee & Yeo, 2016; Zhou et al., 2017).

Some studies (Frías-Aceituno et al., 2013b; Jensen & Berg, 2012; Lai et al., 2017) analyse the determinants (e.g., firm-level characteristics and country-level characteristics) of IR practices; other studies (Barth et al., 2017; Lee & Yeo, 2016; Zhou et al., 2017) investigate the effects (e.g., firm value, cost of equity capital, stock liquidity) of IR practices.

However, previous IR studies have several limitations. First, studies on IR in the Chinese context are scarce. The nature of the scarcity can be explained by the fact that IR is not currently a mandatory requirement for Chinese companies. Second, studies seldom developed their jurisdiction-specific IR frameworks by considering country-specific factors from local stakeholder perspectives. Thirdly, few studies adopted the weighted disclosure index and a scoring system with quality criteria to examine IR disclosure practices so far. In particular, the scoring systems of previous studies lack consideration of the connectivity between financial information and non-financial information, and the connectivity between quantitative information and qualitative information. Lastly, although many studies use stakeholder consultation to collect participants' views on the implementation of IR, those studies lack the participation of a broad range of stakeholder groups.

1.6 Research objectives and research questions

The overall research objective of this thesis is to develop an IR framework for China and apply the framework to evaluate IR disclosure practices[2] of Chinese listed companies. This research objective comprises the following sub-objectives:

- Design a Chinese IR disclosure index that includes a list of IR disclosure items and a weighting system.
- Assess IR disclosure practices of Chinese listed companies using a scoring system and the above IR disclosure index.
- Develop and test several hypotheses with respect to the determinants of IR disclosure practices and the effect of IR disclosure practices on agency costs.
- Make recommendations for the implementation of IR practices in China.

On the basis of the above research objectives, the principal research questions of this thesis are as follows:

- What should be a Chinese IR framework?
- How do the Chinese listed companies perform with regard to their IR disclosure practices?
- What are the firm determinants of IR disclosure practices of Chinese listed

[2] IR disclosure practices refer to the level of alignment between Chinese firms' corporate reports and the IR framework.

companies?

- What is the association between IR disclosure practices and agency costs?
- What factors need to be considered in implementing IR practices in China?

1.7 Research methodology

Two main research paradigms commonly recognised by scholars are positivism and interpretivism (Tashakkori & Teddlie, 1998). Collis and Hussey (2014. p. 13) define positivism as “a paradigm that originated in the natural sciences. It rests on the assumption that social reality is singular and objective and is not affected by the act of investigating it” while interpretivism is defined as “a paradigm…rests on the assumption that social reality is in our minds and is subjective and multiple. Therefore, social reality is affected by the act of investigating it. The research involves an inductive process with a view to providing the interpretive understanding of social phenomena within a particular context” (Collis & Hussey, 2014. p. 44). Positivism emphasises quantitative methodology while interpretivism emphasises qualitative methodology (Tashakkori & Teddlie, 1998).

Positivism and interpretivism are often viewed as opposites and incompatible with each other (Tashakkori & Teddlie, 1998). Pragmatism, as the third paradigm, is concerned with the compatibility between positivism and interpretivism (Collis & Hussey, 2014; Tashakkori & Teddlie, 1998). Pragmatism contends that mixed methods methodology can be the third methodology in addition to qualitative methodology and quantitative methodology (Hall & Howard, 2008). Mixed methods is a research methodology that combines elements of both qualitative and quantitative methods to collect, analyse, and interpret both quantitative and qualitative data (Leech & Onwuegbuzie, 2009; Johnson et al., 2007). This thesis applies mixed methods in order to achieve its multiple objectives. Both quantitative and qualitative data are collected, processed, analysed and interpreted.

1.8 Research methods

According to Collis and Hussey (2014, p.59), a research method is “a technique for collecting and/or analysing data”. Initially, a preliminary IR disclosure index is identified based on a review of extant literature and consideration of some factors unique to China. The IR disclosure index is sent to 51 participants to validate the relevance of the items for Chinese companies. The criteria for stakeholder selection are that the selected stakeholder must be a Chinese (mainland) resident and familiar with corporate reports. The constitution of the stakeholders’ panel is determined with reference to IIRF, GRI G4 guidelines, the King IV Report, and some of the literature relating to stakeholders' classification. These 51 Chinese participants are from eight stakeholder groups: eight scholars in accounting; two editors in financial media; seven financial managers; eight financial analysts in banks; six auditors; five officials in government agencies in charge of supervising Chinese companies; six industry analysts in consultant companies; and nine financial analysts in investment companies. After adjusting some IR disclosure items, the final IR disclosure index is established. A 5-point Likert-like scale is then used for assigning a weighting to each IR disclosure item by every participant. Last, the average weighting for each IR disclosure item is calculated and a weighted IR disclosure index is constructed. In order to assess IR disclosure practices, a scoring system (a 5-point scale from 0 to 4) containing qualitative criteria is established. The qualitative criteria are derived from IIRF, GRI standards, and China's Accounting Standard for Business Enterprises—Basic Standard, and the extant literature.

Secondly, 100 listed A-share companies are chosen according to market capitalisation. The corporate reports of the sample companies for the years 2014 to 2018 are retrieved from the companies' websites. Two coders[3] conduct a pilot test of content analysis, using the constructed weighted IR disclosure index and the scoring system. Ten corporate reports from the sample companies are selected on a random basis and coded using sentences as the unit of coding, and each disclosure item is assigned a score according to the scoring system established previously. After verifying the reliability of the coding process, formal content analysis is conducted using the constructed weighted IR disclosure index and the scoring system. The results of the content analysis are quantified and analysed from various angles[4].

Thirdly, a series of hypotheses as to the determinants of IR disclosure practices and the effect of IR disclosure practices on agency costs are developed based on a number of previous studies as well as relevant theories. Data are collected from both the results of the content analysis for five years of corporate reports of 100 sample companies and accounting databases. The hypotheses are tested using statistical techniques (e.g., correlation tests and OLS regression analysis). Findings are interpreted using the constructed theoretical framework.

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[3] The author and another Chinese PhD candidate in Accounting at the University of Waikato.

[4] The angles include: the IR disclosure practices in terms of items, themes, companies, trend, listing status, and ownership.

Lastly, two open-ended questions are sent to the Chinese stakeholders to consult about the implementation of IR practices in China. Formal recommendations are then proposed by combining the feedback from the Chinese stakeholders, the extant literature, and previous evaluation and testing.

1.9 Scope and limitations

This research focuses on the IR disclosure practices of 100 top A-share listed companies according to market capitalisation in the Chinese mainland over the 5 years from 2014 to 2018. In this study, IR disclosure practices refer to the level of alignment between the corporate reports of Chinese firms and the Chinese-specific IR framework that is established in this study.

The study is subject to the following limitations. Firstly, this study focuses on large companies without the involvement of small and medium-sized companies, which may be not sufficient to represent the overall IR disclosure practices in China. Secondly, this research is restricted to the context of IR disclosure practices in China. As a result, the generality of its findings is limited by the features of a specific context. Thirdly, subjectivity is inevitably involved in this research, despite the researcher's best attempts to avoid the production of biased findings. Lastly, questionnaire surveys (three rounds) depend solely on the views of Chinese stakeholders; no foreign stakeholders participate in this study (see Chapters 6 and 10).

1.10 The structure of the thesis

The thesis is composed of eleven chapters as follows:

Chapter one: Introduction

This chapter provides an overview of the research, including the origin and global developments of IR practices, the Chinese setting, theoretical framework, research objectives and questions, research methodology and methods, scope and limitations.

Chapter two: Theoretical framework

This chapter offers a theoretical framework that adapts to the Chinese context and integrates five mainstream IR theories: stakeholder theory, agency theory, signalling theory, legitimacy theory, and institutional theory. This integrated theoretical framework is used to explain the nature of IR and its practices in China.

Chapter three: Research context

This chapter provides a setting for the thesis. The chapter analyses the impact of external macro-environmental factors on IR disclosure items. This chapter provides the criteria for the selection of IR disclosure items, considering the cultural, economic, political, legal, international, social, and environmental factors of China.

Chapter four: Literature review

This chapter conducts an extensive review of the extant academic literature on IR. The purpose of the literature review is to describe the IR frameworks and approaches used in previous studies to assess IR disclosure practices in different countries, to identify gaps in the extant literature, and to construct a preliminary list of IR disclosure items that are used as a basis for constructing a formal list of IR disclosure items. The most relevant literature is that which harnesses the IR framework to conduct empirical investigations, especially evaluating IR disclosure practices.

Chapter five: Research methodology and method

The chapter first discusses the methodological assumptions that guide the study, then continues by introducing the philosophical background of the author and explaining how it influences the choice of methodology for this study. Lastly, the chapter outlines and justifies the research methods.

Chapter six: Development of the IR disclosure index

This chapter describes the process for the construction of the Chinese IR disclosure index, as one of the components of Chinese IR framework, which is then employed for content analysis of corporate reports of the sample companies. The Chinese IR disclosure index consists of two elements: a list of IR disclosure items and a weighting system.

Chapter seven: IR disclosure practices by Chinese companies

This chapter reports on the results with respect to the IR disclosure practices of Chinese listed companies in terms of items, themes, companies, trend, listing status, and ownership. The results are interpreted using the previously developed theoretical framework.

Chapter eight: Hypothesis development

This chapter develops seventeen hypotheses regarding IR disclosure practices based on the extant literature and theory. The hypothesis development provides the basis for hypothesis testing, which is conducted in chapter nine.

Chapter nine: Hypothesis testing

In this chapter, hypothesis testing examines the determinants of IR disclosure practices, and the associations between IR disclosure practices and agency costs using both univariate and multiple regression analysis. The results are interpreted using the previously developed theoretical framework.

Chapter ten: Chinese stakeholders' perspectives on IR practices

This chapter focuses on examining the perceptions of Chinese stakeholders with regard to the barriers to the adoption of IR and recommendations for IR implementation. This feedback provides the basis for making recommendations about IR practices that are applicable to the Chinese context.

Chapter eleven: Conclusion

This chapter reviews the thesis and discusses the theoretical implications, practical implications, contributions, reflections, lessons learnt, and future research directions.

1.11 Summary

This chapter provides an overview of the study. Academic studies on IR in the Chinese context are scarce and lack depth and breadth. The primary motivation for the current study is to bridge the gap in the literature in the area of IR and promote IR practices in China. China's top 100 A-share listed companies, according to market capitalisation, are chosen as the sample. This study develops a Chinese IR framework, which has not previously been done, and extends earlier studies by focusing on IR disclosure practices in the Chinese context. The study uses literature analysis, stakeholder surveys, content analysis, and statistical analysis to collect data and analyse data using mixed quantitative and qualitative methods. As one of the forerunners of studies on IR in the Chinese context, this study offers a significant platform for further research and is beneficial for both scholars and practitioners. Overall, the study extends our theoretical, empirical, normative and practical knowledge of IR.

CHAPTER TWO
THEORETICAL FRAMEWORK

2.1 Introduction

According to Gray et al. (2009), “Theory is, at its simplest, a conception of the relationship between things. It refers to a mental state or framework and, as a result, determines, inter alia, how we look at things, how we perceive things, what things we see as being joined to other things and what we see as ‘good’ and what we see as ‘bad’” (p. 6). A theoretical framework is a structure that can hold, support, introduce and describe a theory that explains why the research problem under study exists (Abend, 2008). In extant IR studies, although there have been various theories (e.g., agency theory, signalling theory, legitimacy theory, institutional theory and stakeholder theory) applied as theoretical frameworks to interpret IR practices, it is believed that there is no single theory that can solely interpret IR practices as the field is too complex (Gray et al., 1995a; Omran & El-Galfy, 2014). Using multiple theories can allow deeper insights into IR practices and provide a fuller understanding (Deegan et al., 2000). In addition, the theories are not competing but complementary to each other (Gray et al., 1995b).

In this study, multiple theories are used as a basis to guide the methodological approach, make sense of the analysis, and provide reflections on the findings. This chapter presents a theoretical framework consisting of five theories often used to explain IR practices: stakeholder theory, agency theory, signalling theory, legitimacy theory, and institutional theory. The chapter is organised in eight sections. Sections 2.2 to 2.6 review the stakeholder theory, agency theory, signalling theory, legitimacy theory, and institutional theory, respectively. The assumptions underpinning the theories are identified, and the implications of these theories for the current IR study are explained. Section 2.7 explains the nexus between these theories and summarises the similarities and differences. On this basis, an integrated theoretical framework is suggested, and its relevance for the study is explained. Section 2.8 summarises the chapter.

2.2 Stakeholder theory

2.2.1 Overview of stakeholder theory

There are two theoretical positions, shareholder theory and stakeholder theory, which have been recognised as ‘two polar opposites’ in the management literature (Alam, 2018).

Shareholder theory focuses on shareholder primacy (Friedman, 1970). This perspective, according to economic theories, argues that shareholder primacy will result in a better resources allocation and will benefit everyone in the society (Quinn & Jones, 1995; Tantalo & Priem, 2016). However, this perspective is criticised as narrow and restrictive because it focuses only on shareholders and ignores or mistreats other stakeholders (Gray et al., 1988).

From the perspective of shareholder theory, shareholders are viewed as the owners, who can decide how to manage their capitals and properties because contracts prescribe their rights with respect to capitals and properties; managers are thus viewed as the agents of shareholders (Asher et al., 2005; Freeman, 2001). However, from the perspective of stakeholder theory, rights with respect to properties and capitals are socially constructed and are not ultimate rights (Asher et al., 2005; Donaldson & Preston, 1995; Etzioni, 1998). In terms of business objectives, from the perspective of shareholder theory, Friedman (1962, 1970) suggests that a company should have only one objective—maximising the profits for shareholders. From the perspective of stakeholder theory, the business objectives can be extended to include stakeholder objectives (Clarkson, 1995; Freeman et al., 2004; Mitchell et al., 1997). Stakeholder theory emphasises that an organisation needs to meet the objectives of its various stakeholders, rather than only the objectives of shareholders as in shareholder theory because "stakeholder theory highlights organisational accountability beyond simple economic or financial performance" (Guthrie et al., 2006, p. 256).

<u>Stakeholder definition, identification, and prioritisation</u>

The term 'stakeholder' was first proposed in an internal memorandum at the Stanford Research Institute in 1963 (Freeman, 1984). Since then, there have been numerous definitions of the stakeholder. Initially, the shareholder was considered the sole stakeholder (Friedman, 1962). However, Freeman (1984) expands the definition of stakeholder by providing a classical definition, from a strategic management point of view, to include any group that is likely to affect or be affected by organisational activities. Table 2.1 provides several definitions proposed by different researchers.

Table 2.1 Definitions of stakeholders

Researcher	Definitions of Stakeholder
Freeman (1984)	A stakeholder is any group or individual who can affect or is affected by the achievement of the organisation's objectives.
Nutt and Backoff (1993)	Stakeholders are all the parties who will be affected by or will affect the organisation's strategy.
Bryson (1995)	A stakeholder is any group or organisation that can put a claim on the organisation's attention, resource, or output, or is affected by that output.
Jensen (2001)	Stakeholders include all individuals or groups who can substantially affect, or be affected by, the welfare of the firm.
Johnson and Scholes (2002)	Stakeholders are seen as those individuals and groups who depend on the organisation to achieve their own goals and on whom, in some cases, the organisation depends.

Many scholars have attempted to identify and differentiate stakeholder groups. For example, potential categories have included external and internal stakeholders (Carroll, 1989; Pearce, 1982); strategic and moral stakeholders (Goodpaster, 1991); supportive, marginal, non-supportive, and mixed blessing stakeholders (Savage et al., 1991); and single issue and multiple issues stakeholders (Wood, 1994). Clarkson (1995) believes that stakeholders can be divided into two categories, namely primary and secondary stakeholders. Primary stakeholders, including shareholders, employees, customers, suppliers, lenders, government, and communities, are considered to have priorities because they are critical for the organisation's survival. The secondary stakeholders comprising environmentalists and media, do not rely on the organisation and are not considered to be vital for the organisation's survival. Mitchell et al. (1997) endow the stakeholder identification and salience with three stakeholder attributes: power, legitimacy, and urgency. Based on these three relationship attributes, they categorise stakeholders into eight groups from the lowest to the highest priority (non-stakeholder, dormant, discretionary, demanding, dominant, dangerous, dependent, and definitive stakeholders). Friedman and Miles (2002) classify stakeholder groups into four types: whose with explicit/implicit recognised contracts and compatible interests (e.g., shareholders, top management, partners); those with explicit/implicit recognised contracts and incompatible interests (e.g., government, customers, lenders, suppliers and other creditors); those with unrecognised implicit contracts and compatible interests (e.g., the general public, trade associations); and those with no contracts and incompatible interests (e.g., aggrieved or criminal members of the public).

The branches of stakeholder theory

There are many perspectives on stakeholder theory. Donaldson and Preston (1995) frame stakeholder theory into three different versions: descriptive, normative, and instrumental. Berman et al. (1999) separate stakeholder theory into two distinct stakeholder management models: strategic stakeholder management (an instrumental approach) and intrinsic stakeholder commitment (a normative approach). Among these perspectives, two major branches of stakeholder theory are prominent in the literature: the ethical (moral or normative) branch, and the managerial (positive) branch (Belal, 2008; Belal & Owen, 2007; Deegan, 2009; Gray et al., 1996; Gray et al., 2009; Guthrie et al., 2006).

The ethical branch proposes that all stakeholders have the same right to be considered and treated fairly, regardless of what the stakeholder's power[5] is (Deegan, 2009). Stoney and Winstanley (2001) emphasise "the moral role of organisations and their enormous social effects on people's lives" (p.608). Thus, the ethical perspective relates directly to Gray et al.'s (1996) accountability model of stakeholder theory. According to Gray et al. (2009, p. 25), "the organisation owes an accountability to all its stakeholders" rather than only focusing on powerful stakeholders who provide critical resources to the organisation (Deegan & Unerman, 2006). However, when the interests of stakeholder groups conflict, it is a challenge for managers to treat all stakeholders fairly (Fernando & Lawrence, 2014). Nevertheless, Hasnas (1998) points out that an organisation must manage stakeholders' conflicting interests "to attain the optimal balance among them" (p. 32). The managerial branch, unlike the ethical one, is a "management centred" perspective, centred mainly on

[5] It is believed that stakeholders can control the resources of organisations directly or indirectly (Deegan et al., 2000). Stakeholder's power is determined by the level of control stakeholders have over the resources, which include the provision/withdrawal of finances, labour, media, legislation and marketing (Ullmann, 1985).

managing the relationship between an organisation and its critical stakeholders. The identification of critical stakeholders is based on "the extent to which the organisation believes the interplay with each group needs to be managed in order to further the interests of the organisation" (Gray et al., 1996, p. 45). From this perspective, an organisation ought to be accountable to powerful stakeholders who control the critical resources of the organisation, rather than all stakeholders as in the ethical perspective (Fernando & Lawrence, 2014). The more critical the stakeholders' resources to the organisation, the greater is the accountability of the organisation to meet the expectations of those stakeholders (Deegan, 2009).

Stakeholder accountability

It is expected that organisations are accountable for their activities (Alam, 2018). Jones (1977) claims that accountability implies an obligation to explain to somebody else, who has the authority to evaluate the account and allocate compliments or criticism. Stewart (1984) establishes a ladder of accountability, comprising five types of accountability: accountability for probity and legality; process accountability; performance accountability; programme accountability; and policy accountability. In addition, Laughlin (1990) proposes the concepts of contractual accountability and communal accountability. According to Gray et al. (1996), accountability is "the duty to provide an account (by no means necessarily a financial account) or reckoning of those actions for which one is held responsible" (p. 38). In order to explain the possible reasons for stakeholder accountability, Werhane and Freeman (1997) identify three types of analysis: interest-based; rights-based, and duty-based. Compared with interest-based and rights-based accountability, duty-based accountability is the widest and looks at organisational responsibilities to stakeholders. Based on the above definitions, Christensen and Ebrahims (2006) conceptualise accountability as "being answerable to stakeholders for the actions of the organisation" (p. 196). The notion of accountability may be derived from the ethical (normative) perspective of stakeholder theory, in which stakeholders have a right to information about how an organisation affects them (Deegan, 2009).

Stakeholder involvement

According to Waddock (2002), there are three levels of stakeholder involvement: stakeholder mapping (first level), in which the company maps its stakeholders to distinguish between primary and secondary; stakeholder management (second level), in which the company attempts to manage stakeholder expectations and balance different positions; and stakeholder engagement (third level), in which the company engages its stakeholders in decision-making processes, shares information, has dialogues and establishes a mutual responsibility model (Manetti, 2011; Rinaldi, 2013). It is believed that high-level accountability towards stakeholders can be fulfilled if an organisation is inclined to stakeholder engagement (Freeman, 1984; Silvestri et al., 2017).

2.2.2 Implications of stakeholder theory for IR

According to the definition provided by IIRC (2013), stakeholders are "those groups or individuals that can reasonably be expected to be significantly affected by an organisation's business activities, outputs or outcomes, or whose actions can reasonably be expected to significantly affect the ability of the organisation to create value over time" (p.33). IIRC (2013) advocates that "an integrated report benefits all stakeholders interested in an organisation's ability to create value over time, including employees, customers, suppliers, business partners, local communities, legislators, regulators and policy-makers" (p.4). Value creation by embracing all stakeholders fits in ideally with the nature of IR (Haller & Van Staden, 2014). Likewise, Conway (2019) also argues that "the rationale behind IR is underpinned by stakeholder theory" (p.607). Songini and Pistoni (2015) believe that IR can satisfy the information needs of the overall stakeholders' categories. Similarly, Eccles et al. (2010) also see IR as a channel of communication for all stakeholders.

Steenkamp (2018) believes that the purpose of IR is to enhance accountability for stakeholders via integrated reports. Silvestri et al. (2017) classify accountability into two categories: strong accountability and weak accountability. From the strong accountability perspective, IR is used as a strong accountability tool by companies to be answerable towards their stakeholders; from the weak accountability perspective, IR is regarded as a reputational tool. Quarchioni et al. (2020) claim that IR is not only a stakeholder accountability tool but a stakeholder managerial tool.

Kılıç and Kuzey (2018b) believe that according to stakeholder theory, gender-diverse boards can better recognise the needs of stakeholders, which can enhance a company's ability to manage the needs of different groups of stakeholders. Moreover, a higher practice of forward-looking disclosures in an integrated report represents a higher ability of a company to manage the needs of different stakeholder groups. Therefore, board gender diversity has a positive relationship with the practice of forward-looking disclosures in an integrated report. García-Sánchez et al. (2013) explore whether the culture of a country affects the adoption of IR. They find that firms from countries with stronger collectivist and feminist values are more likely to adopt IR. García-Sánchez et al. (2013) interpret these results using stakeholder theory and suggest that collectivist and feminist values highlight public welfare, leading firms to adopt IR to enhance the decision-making ability of stakeholders.

Similarly, Vitolla et al. (2019b) examine how national culture impacts IR quality based on a sample of 135 international companies from 28 countries. The results show that firms operating in countries with cultural systems with less power distance, more uncertainty avoidance, less individualism, less masculinity, and less indulgence tend to show higher IR quality. The interpretations of the results are based on the ethical-moral (normative) and strategic-managerial (instrumental) approaches of stakeholder theory, respectively. Vitolla et al. (2019b) believe a cultural system defines whether a country is stakeholder-oriented or shareholder-oriented. From the ethical-moral (normative) approach perspective, low power distance, high collectivism, high feminism, high restraint and high uncertainty avoidance lead to a stakeholder-oriented national culture, shaping a context that encourages firms to report financial and non-financial information in an integrated way. From the strategic-managerial (instrumental) approach perspective, the above national culture elements define the context in which the stakeholders act. In order to strategically manage the information needs of stakeholders, a high IR quality is required. Vitolla et al. (2019c) develop hypotheses regarding the relationship between five kinds of stakeholders' pressure and IR quality based on stakeholder theory. The results indicate that pressure from customers, environmental protection organisations, employees, shareholders, and governments leads to IR quality. They believe that stakeholder pressure determines IR quality because a higher IR quality represents a proactive response by companies to stakeholders' expectations.

In addition, according to Ambler and Wilson (1995), stakeholder theory is criticised because it may lead to inefficiency and suboptimality generally because of conflicts among stakeholders. Similarly, Jensen (2001) believes "whereas value maximisation provides corporate managers with a single objective, stakeholder theory directs corporate managers to serve many masters. And, to paraphrase the old adage, when there are many masters, all end up being short-changed. Without the clarity of mission provided by a single-valued objective function, companies embracing stakeholder theory will experience managerial confusion, conflict, inefficiency, and perhaps even competitive failure" (p. 9). However, Conway (2019) points out that this criticism of stakeholder theory is not a problem for IR because IR clarifies the aim of a company by clearly disclosing the company's objectives and strategy; thus, decisions are made closely surrounding the aim and trade-offs between stakeholder interests are "necessary and acceptable" (p. 611).

2.3 Agency theory

2.3.1 Overview of agency theory

Agency theory is mainly concerned with the agency problem that arises from the separation of ownership and managerial control (Jensen & Meckling, 1976), which translates to the separation of risk sharing, decision making and control in companies (Fama & Jensen, 1983).

Principal-agent relationship

Agency theory is founded on the principal-agent relationship (also referred to as the agency relationship), which is defined by Jensen and Meckling (1976) as "a contract under which one or more persons (the principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent" (p.308). According to Lambert (2001), the principal is seen as the party who provides capital, endures primary risks and conducts incentives, while the agent is viewed as the party who makes decisions and performs a service on behalf of the principal, and endures secondary risks. In a corporate context, agents mainly correspond to managers, whereas principals primarily correspond to investors (Shehata, 2014).

Agency problem

Two key assumptions underlie a principal-agent relationship: (1) economic rationality (the principal and the agent are interest maximisers); and (2) self-interest (the interests of the principal and the agent are not always aligned) (Berle & Means, 1932; Jensen & Meckling, 1976; Merkl-Davies & Brennan, 2011). Based on these assumptions, agency theory infers that there are conflicts (known as "agency conflict") inherent in principal-agent relationships, although there is a fiduciary relationship between agents and principals and it is expected that agents act in the interests of the principals (Bhaumik &

Gregoriou, 2010; De Villiers & Hsiao, 2017). When the agent does not act in the best interests of the principal, an agency problem emerges, because individualistic and opportunistic interests held by principals and agents impact the efficiency of the principal-agent relationship (Subramaniam, 2018). This type of agency problem is called a “principal-agent problem” (Panda & Leepsa, 2017).

Information asymmetry

According to agency theory, information asymmetry results from managers who have an information advantage over investors (De Villiers & Hsiao, 2017). Specifically, it reflects an information gap that arises from managers possessing private or asymmetric information regarding the true situation of a company (De Villiers & Hsiao, 2017). Information asymmetry may exacerbate agency problems (Scott, 1997). Specifically, information asymmetry may lead to moral hazards (also referred to as hidden costs) and adverse selection (Fama & Jensen, 1983; Jensen, 1986; Jensen & Meckling, 1976).

Agency costs

Agency costs are the summation of the monitoring cost, bonding cost, and the residual loss arising from loopholes in agency relationships (Jensen & Meckling, 1976). Several strategies, including incentive-focused and monitoring strategies, may mitigate agency problems. Incentive-focused strategy aims to provide incentives that induce agent behaviours congruent with the principal’s interests. For instance, employment contracts may be chosen by the investors to provide incentives for aligning the managers’ interest with that of the investors. Accordingly, the cost related to incentive-focused strategies is called a bonding cost (e.g., bonuses and stock options). The second type of strategy for reducing opportunistic behaviour is the monitoring strategy, which aims to monitor managers’ behaviour. It includes external or internal audits (Watts & Zimmerman, 1986), the composition of the board of directors (Fama & Jensen, 1983), and performance evaluation systems (Kaplan & Atkinson, 1989). Accordingly, the costs related to monitoring strategies are called monitoring costs (e.g., mandatory audit costs). Monitoring costs are paid by investors, whereas bonding costs are paid by managers (Shehata, 2014). Residual loss occurs when managers do not aim to maximise the investors’ interest (Morris, 1987).

2.3.2 Implications of Agency theory for IR

Agency theory postulates that IR can be seen as one of the mechanisms to monitor a company's performance by providing high extent and quality of disclosures to investors (De Villiers & Hsiao, 2017; Fasan & Mio, 2017; Jensen & Meckling, 1976). Thus, IR reduces information asymmetry between investors and managers, allowing investors to monitor managers' behaviours and to assess whether managers' actions meet investors' interests (De Villiers & Hsiao, 2017; Fasan & Mio, 2017; Jensen & Meckling, 1976). Previous studies have shown that IR can also mitigate agency costs.

García-Sánchez and Noguera-Gámez (2017a) investigate the effect of voluntary disclosures concerning IR on information asymmetry. They argue that IR provides high extent and quality of voluntary disclosures, which can decrease information asymmetries. Their results indicate that there is a negative relationship between information asymmetry and the adoption of IR, suggesting that IR can mitigate information asymmetry. In another study, Pavlopoulos et al. (2017) find that a higher quality of IR disclosures decreases agency costs.

Wen et al. (2017) use agency theory to test the association between the extent of IR disclosures of Malaysian public listed companies and financial performance. They believe IR can be seen as one of the monitoring mechanisms for the company performance because managers are willing to share a company's private information with the capital market in order to maximise the company's value. Finally, Wen et al. (2017) find that the extent of IR disclosures has a significant positive impact on financial performances. Similarly, Frías-Aceituno et al. (2014) find that there is a positive relationship between profitability and the extent of IR disclosures of a company.

Kılıç and Kuzey (2018b) verify that firm size and practices of forward-looking disclosures contained in integrated reports have a positive relationship. They believe that according to agency theory, a larger company incurs a higher level of agency cost associated with high-level information asymmetry compared to small ones. Therefore, larger companies are willing to release forward-looking disclosures in integrated reports in a high-level manner to minimise information asymmetry and accordingly, agency costs. Similarly, Frías-Aceituno et al. (2014) use agency theory to investigate whether there is a positive relationship between firm size and the extent of IR disclosures. They state that larger companies have a greater need for external funds, resulting in an increased likelihood of conflicts of interest between investors and managers. Consequently, larger companies face higher agency costs and greater problems of information asymmetry. IR, as a means of voluntary disclosure, can be adopted to reduce agency costs. Frías-Aceituno et al. (2014) show that firm size has a positive relationship with the extent of IR disclosures.

2.4 Signalling theory

2.4.1 Overview of signalling theory

Signalling theory was initially developed to elucidate uncertainty in workforce markets (Spence, 1973). According to Spence's (1973) findings, employers lack information about the quality of potential employees and this information asymmetry may impede employers' selection ability; therefore, high-quality job applicants distinguish themselves from low-quality job applicants by using the signalling function of higher education. Spence's (1973) work triggered massive studies using signalling theory in management research, in areas including corporate governance (Miller & Triana, 2009; Zhang & Wiersema, 2009), entrepreneurship (Busenitz et al., 2005; Certo, 2003; Elitzur & Gavius, 2003; Lester et al., 2006), human resource management (Suazo et al., 2009), and voluntary disclosure in corporate reporting (Ross, 1977).

According to Connelly et al. (2011), signallers are "insiders (e.g., executives or managers) who obtain information about an individual (e.g., Spence, 1973), product (e.g., Kirmani & Rao, 2000), or organisation (e.g., Ross, 1977) that is not available to outsiders" (p. 44). The receivers are defined by these researchers as "outsiders who lack information about the organisation in question but would like to receive this information." According to Morris (1987), information asymmetry exists between signallers and receivers. In other words, the signallers' information is superior to that of receivers. The signal is defined as "the publication of a device which acts as a prediction of superior quality" (Morris, 1987, p. 48). Information asymmetry is the precondition for the existence of the signal. In order to be effective, the signal provided by high-quality sellers must not be easily imitated by low-quality sellers. Signalling theory is used to depict the behaviour when signallers and receivers have access to different information and is concerned with reducing information asymmetries between these two parties (Spence, 2002). Typically, signallers must choose whether and how to signal the information, and receivers must choose how to interpret the signal (Omran & El-Galfy, 2014).

According to Connelly et al. (2011), quality is “the underlying, unobservable ability of the signaller to fulfill the needs or demands of an outsider observing the signal” (p. 43). In Spence’s (1973) example, higher education can be regarded as a reliable signal of a job applicant’s quality, based on two premises: (1) potential employees’ quality cannot be observed by employers; and (2) low-quality job applicants are not able to complete higher education. Similarly, Kirmani and Rao (2000) also provide a general example of signalling theory. A product warranty can be regarded as a reliable signal of a product’s quality, based on two premises: (1) buyers are not able to distinguish between high-quality products and low-quality products; and (2) the sellers of low-quality products are not able to provide a product warranty. In Ross’s (1977) example, financial indicators (e.g., interest and dividend payments) can be regarded as a reliable signal of a company’s quality, based on two premises: (1) companies’ quality cannot be observed by external investors; and (2) low-quality companies are not able to sustain these payments.

These above signals can be classified into three categories: intent, camouflage and need (Connelly et al., 2011). Intent signals indicate future action. For example, a company may signal its determination by responding to a competitive action initiated by a rival quickly (Baum & Korn, 1999). Camouflage signals disguise a potential liability by diverting attention away from a potential vulnerability to some other characteristic. For example, companies expanding globally signal their legitimacy by using strategic alliances in order to draw attention away from the liability of foreignness (Dacin et al., 2007). Need signals communicate requirements to the receiver. For example, each of the divisions or subsidiaries of a company signals its need for funds and resources, and the headquarter of the company decides which is signalling the greatest need (Gupta et al., 1999).

2.4.2 Implications of signalling theory for IR

According to signalling theory, voluntary disclosures, such as non-financial information in corporate reports can be seen as a signalling device to signal the superior quality of a company to the capital market (Cohen et al., 2012; Spence, 1973). In a similar vein, IR containing non-financial disclosures such as intellectual capital and CSR can be used as a signalling device (An, 2012; Visser, 2008).

Albertini (2018) finds that French companies tend to disclose information on increases in capitals in integrated reporting, confirming that insiders in companies purposely use IR to communicate the superior quality of the company. Based on signalling theory, Frías-Aceituno et al. (2014) argue that profitable companies distinguish themselves from low-quality companies through IR in order to reduce the cost of capital and to stabilise or enhance their company value. They then find there is a positive relationship between profitability and the adoption of IR. Likewise, Girella et al. (2019) develop a hypothesis about the relationship between the adoption of IR and profitability based on signalling theory. They find that higher profitability leads a firm to adopt IR. In addition, they also find that companies operating in collectivist countries tend to adopt IR voluntarily. Girella et al. (2019) argue that according to signalling theory, if a company operates in a country with high collectivism in which people are willing to share information, its managers are likely to signal more information out, resulting in the company applying IR voluntarily.

2.5 Legitimacy theory

2.5.1 Overview of legitimacy theory

Legitimacy theory is concerned with the relationship between the organisation and society (Belal, 2008; Deegan, 2002). Legitimacy theory is based on the notion of a social contract between the organisation and society (Deegan et al., 2002; Deegan, 2006; Deegan & Samkin, 2009; Deegan & Unerman, 2011; Magness, 2006). Shocker and Sethi (1974) provide an explanation of the concept of the social contract:

> *Any social institution and business with no exception operates in society via a social contract, expressed or implied, whereby its survival and growth are based on the delivery of some socially desirable ends to society in general; and the distribution of economic, social, or political benefits of groups from which it derives its power (p. 67).*

Deegan et al. (2000) describe the explicit term of the social contract as the legal system, whereas the implicit term of the social contract refers to un-codified societal expectations.

Legitimacy

According to Suchman (1995), legitimacy is "a generalised perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (p. 574). Lindblom (1994) defines legitimacy as "a condition or status which exists when an entity's value system is congruent with the value system of the larger social system of which the entity is a part" (p. 2). Dowling and Pfeffer (1975) also provide an explanation of legitimacy:

> *Organisations seek to establish congruence between the social values associated with or implied by their activities and the norms of acceptable behaviour in the larger social system of which they are a part (p. 122).*

The above three definitions are concerned with whether the value system of an organisation is congruent with the societal value system. Gray et al. (2009, p. 28) believe that “organisations can only continue to exist if the society in which they are based perceives the organisation to be operating to a value system that is commensurate with the society’s own value system”. This assertion is also supported by other scholars, such as Dowling and Pfeffer (1975), Lindblom (1994), and Magness (2006). Therefore, legitimacy is regarded as a resource, which can determine the organisation’s survival (Dowling & Pfeffer, 1975; O’Donovan, 2002; Suchman, 1995).

Lindblom (1994) distinguishes between legitimacy and legitimation. Legitimacy is considered to be a status or condition, while legitimation is considered to be the process of being adjudged legitimate (Lindblom, 1994). Maurer (1971) also claims that “legitimation is the process whereby an organisation justifies to a peer or superordinate system its right to exist” (p. 361). Therefore, Suchman (1995) argues that “legitimacy is possessed objectively, yet created subjectively” (p. 574).

Suchman (1995) proposes three different legitimacy conceptions: pragmatic legitimacy, moral legitimacy and cognitive legitimacy. Pragmatic legitimacy means that if organisational actions or policies benefit relevant members of the public, the relevant public may see these organisational actions as legitimate. Pragmatic legitimacy is classified into exchange legitimacy, influence legitimacy and dispositional legitimacy (Dumitru & Guse, 2017). Moral legitimacy reflects the notion that the relevant public may see organisational actions as legitimate when they judge these actions or policies to be “the right things”. Moral legitimacy has four forms: consequential, procedural, structural, personal legitimacy, and legal legitimacy (Durocher et al., 2007; Suchman, 1995). Cognitive legitimacy is based on the relevant public’s cognition rather than on their benefit or moral judgement. Organisations are perceived to be cognitively legitimate if their actions follow the pre-existing pattern of other organisations that are comprehensible and familiar to the relevant public.

Legitimacy gap

According to Lindblom (1994, p. 3), "legitimacy is dynamic in that the relevant publics continuously evaluate corporate output, methods, and goals against an ever-evolving expectation". Lindblom (1994, p. 2) also argues "when a disparity, actual or potential, exists between the two value systems, there is a threat to the entity's legitimacy". The disparity between an organisation's value system and the societal value system is referred to as the legitimacy gap (Liu & Anbumozhi, 2009).

Wartick and Mahon (1994) contend that legitimacy gaps may occur when:

1. There is a change in the organisation's output, methods, and goals, but societal expectations of the organisation's output, methods, and goals remain unchanged;
2. The organisation's output, methods, and goals and societal expectations change in different directions, or change in the same direction but with differing momentum;
3. The organisation's output, methods, and goals are unchanged, but societal expectations of the organisation's output, methods, and goals have changed.

Changes in societal expectations include changes in social awareness (Choi et al., 2013; Freedman & Jaggi, 2005); changes in media influence (Brown & Deegan, 1998; Deegan et al., 2002); changes in relevant group pressure (Deegan & Gordon, 1996); and changes in regulations (Cowan & Deegan, 2011; Patten, 2002).

Alrazi et al. (2016, p. 671) comment on the implications of a legitimacy gap as follows:

> *The implications of a legitimacy gap could be enormous, leading to potential product boycotts by customers, withdrawals of investments by shareholders, and difficulties in securing loans from banks, while increased lobbying activities by the public, which could lead to increased regulation, and difficulties in hiring qualified staff.*

However, it is not easy to determine the legitimacy gap's existence and size (Wartick & Mahon, 1994).

<u>Strategic perspective and institutional perspective</u>

Depending on the purpose of legitimation, there are two perspectives on legitimacy – institutional legitimacy and organisational (or strategic) legitimacy (Ashford & Gibbs, 1990; Gray et al., 1996; Suchman, 1995). The distinction between institutional legitimacy and organisational/strategic legitimacy is "a matter of perspective, with strategic theorists adopting the viewpoint of organisational managers looking 'out', whereas institutional theorists adopt the viewpoint of society looking 'in'" (Suchman, 1995, p. 577). The institutional perspective assumes that "cultural definitions determine how the organisation is built, how it is run, and, simultaneously, how it is understood and evaluated" (Suchman, 1995, p. 576). From an institutional perspective (a wider perspective), institutional legitimacy focuses on what institutional structures, procedures and practices as a whole (such as capitalism/socialism) are accepted by society (Chen & Roberts, 2010). These pre-existing structures, procedures and practices are adopted as the baseline to estimate whether the organisation complies with social expectations (Chen & Roberts, 2010). A strategic perspective (a narrower perspective) emphasises "the ways in which organisations instrumentally manipulate and deploy evocative symbols" (Suchman, 1995, p. 572), assuming legitimacy is a "high level of managerial control over legitimating processes" (Suchman, 1995, p. 576). Generally, institutional legitimacy and organisational/strategic legitimacy are complementary, rather than conflicting (Ahmed Haji & Anifowose, 2017).

The strategic perspective focuses on strategies employed by companies to "obtain, maintain or repair" organisational legitimacy (Suchman, 1995). Maintaining legitimacy is generally easier than obtaining or repairing legitimacy (O'Donovan, 2002). In order to maintain legitimacy that has already been established and to respond to challenges that may threaten legitimacy, an organisation keeps an eye on changing social expectations and emerging challenges (Maroun, 2018). The extent of an organisation's efforts to maintain or repair legitimacy relies on the importance of legitimacy for the organisation's survival. For some organisations, such as those with low-level legitimacy, it is not necessary to invest too much effort into maintaining or repairing legitimacy. Conversely, some organisations, such as those with high-level legitimacy, need to manage their legitimacy more proactively (Clarkson et al., 2008; O'Donovan, 2002; Suchman, 1995).

Legitimation strategies

When organisations face a threat to their legitimacy or a perceived legitimacy gap, there are four legitimation strategies they may apply (Dowling & Pfeffer, 1975; Lindblom, 1994).

1. Adaptation and conformance: change the organisation's output, methods, and goals to conform with relevant public expectations about the organisation's performance.
2. Alter expectations: do not change the organisation's output, methods, and goals but change relevant public expectations about the organisation's performance.
3. Manage perceptions: do not change the organisation's output, methods, and goals but educate the relevant public about its actual performance.

4. Avoidance/denial: do not change the organisation's output, methods, and goals but distract or manipulate/divert relevant public attention away from the issue.

Legitimation strategies can vary between substantive management and symbolic management (Setia et al., 2015). Substantive management is seen as "making real, material changes in organisational goals, structures, process and socially constituted practices", while symbolic management is depicted acting "so as to appear consistent with social values and expectations" (Ashforth & Gibbs, 1990, pp. 178-180). According to Kim et al. (2007), substantive management is more effective than symbolic management in managing social expectations. In addition, Meznar and Nigh (1995) also propose two strategies named "bridging" and "buffering". "Bridging" is similar to the concept of substantive management, while "buffering" focuses on protecting organisations from external interference or affecting the external environment through political action, lobbying and advertising. Additionally, Deegan (2002) points out that legitimisation strategies may vary between countries. In this sense, choosing legitimisation strategies requires explicit consideration of the specific jurisdictional context (Deegan, 2002).

2.5.2 Implications of legitimacy theory for IR

Corporate reports have been regarded as a critical source of legitimation (Dyball, 1998; O'Donovan, 2002). Both mandatory disclosures and voluntary disclosures can lead to legitimisation (Lightstone & Driscoll, 2008; Magness, 2006). Corporate reports, such as IR, are regarded as documents that facilitate companies achieving organisational legitimacy (Chu et al., 2013). In other words, organisations prepare IR in order to gain, maintain or repair their legitimacy to ensure continued access to resources (De Villiers & Maroun, 2017). Managers may prepare integrated reports to manipulate others' perceptions of their companies by selective reporting of favourable information (Melloni et al., 2016). Albetairi et al. (2018) examine the extent of IR disclosures of Bahraini listed insurance companies and find that a high practice of performance indicator disclosures in a firm's integrated report is associated with the poor financial performance of the firm. They explain this result using legitimacy theory: a company whose legitimacy is threatened (e.g., one that has poor financial performance) tends to increase the extent of IR disclosures to enhance its communication with stakeholders, gain a better reputation, and maintain legitimacy.

Velte and Stawinoga (2017) see IR as a tool to communicate organisational legitimisation actions; therefore, by being a qualified corporate citizen, an organisation's image is enhanced. Ahmed Haji and Anifowose (2017) find that there is an overall significant increase in the quality of IR disclosures in South African companies, and the quality of IR disclosures are increasing over time in particular industries. They explain their findings using both the strategic and institutional perspectives of legitimacy theory: the overall significant increase in the quality of IR disclosures is a response to external pressures (strategic legitimacy), and the increase in the quality of IR disclosures within a particular industry indicates institutionalisation (institutional legitimacy). The findings suggest that the strategic and institutional perspectives of legitimacy theory are complementary, rather than conflicting. Nicolò et al. (2020a) find a positive relationship between the environmentally and socially sensitive industry membership of European SOEs and the extent of IR disclosures. By using institutional theory, Nicolò et al. (2020a) argue that environmentally sensitive companies are likely to make more IR disclosures to show that they are operating within accepted environmental and social boundaries so as to maintain their legitimacy. Moreover, socially sensitive companies tend to make more IR disclosures to repair their legitimacy.

2.6 Institutional theory

2.6.1 Overview of institutional theory

Institutionalists focus on identifying institutions and institutional pressures as well as explaining institutional impacts on organisational structures, processes and practices (Greenwood et al., 2008). Institutional researchers contend that organisational structures, processes and practices are the result of institutional pressures (Farooq & Maroun, 2017). Institutions generate institutional pressures on various social actors (individuals and organisations) to force these individuals and organisations to adopt similar structures, processes and practices (De Villiers et al., 2014; De Villiers & Alexander, 2014; DiMaggio & Powell, 1983).

<u>Institutionalisation</u>

The concept of institutionalisation stems from the explanation of the nature and origin of social order (Berger & Luckmann, 1967). They argue that social order emerges as individuals communicate and disseminate interpretations with others about their actions (also defined as social interactions), creating a shared social reality. Institutionalisation is defined by Scott (1987) as the process by which actions become repeated over time and acquire similar meanings among members of society. Institutional theory has evolved from the creation of social reality to the institutionalisation of organisations, which emphasises the patterns of organisational behaviour and those patterns' conformity among organisations (Chen & Roberts, 2010; Scott, 1987). Some scholars (e.g., DiMaggio & Powell, 1983; Meyer & Rowan, 1977) question what makes organisations so similar. They conclude that not all organisational behaviour can be attributed to pursing maximising organisational efficiency and effectiveness; the reason that organisations increasingly homogenise their organisational structures, processes and practices is to meet social expectations or to be socially acceptable.

Isomorphism and Decoupling dimensions

There are two dimensions in institutional theory: isomorphism and decoupling. Isomorphism, as the core concept of institutional theory, is described as the "adaptation of an institutional practice by an organisation" (Dillard et al., 2004, p. 509). DiMaggio and Powell (1983, p. 149) define isomorphism as "a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions". Moll et al. (2006) divide isomorphism into two components: competitive isomorphism and institutional isomorphism. They define competitive isomorphism as "how competitive forces drive organisations towards adopting least-cost, efficient structures, and practices" (Moll et al., 2006, p. 187). Institutional isomorphism can be divided into three isomorphism processes: coercive, mimetic, and normative (DiMaggio & Powell, 1983).

According to DiMaggio and Powell (1983, p. 150), coercive isomorphism "results from both formal and informal pressures exerted on organisations by other organisations upon which they are dependent and by cultural expectations in the society in which organisations function". Coercive pressure results from resource dependence, which means organisations that depend on resources can be constrained by an organisation which effectively controls the same resources (Salter & Hoque, 2018). Coercive isomorphism is usually the result of laws, regulations or social pressures, which force organisations to comply with the respective prescription (Farooq & Maroun, 2017). In other words, coercive isomorphism means organisations are forced by external factors to apply specific internal structures and procedures (Moll et al., 2018). Mimetic isomorphism means that organisations imitate the internal structures and procedures applied by other organisations or themselves that are perceived to be more legitimate and more successful (DiMaggio & Powell, 1983; Farooq & Maroun, 2017; Moll et al., 2018). Normative isomorphism stems from professionalisation. It is evident when organisations apply structures and procedures promoted by educational institutions and professional institutions (DiMaggio & Powell, 1983; Farooq & Maroun, 2017; Moll et al., 2018).

Decoupling is the other dimension of institutional theory. It occurs when "the formal organisational structure or practice is separate and distinct from actual organisational practice" (Dillard et al., 2004, p. 510). This separation may be an intentional and/or unintentional action of the organisation (Moll et al., 2006). Organisational structures, procedures and practices are not necessarily the result of maximising organisational efficiency and effectiveness but rather stem from the need to conform to institutional pressures (DiMaggio, 1983; Lounsbury, 2008; Powell, 1988). In order to balance actual structures, procedures and practices with conformity to institutional pressures, organisations "buffer their formal structures from the uncertainties of technical activities by becoming loosely coupled, building gaps between their formal structures and actual work activities" (Meyer & Rowan 1977, p. 357). There are three indicators of decoupling (see Meyer & Rowan, 1977; Suchman, 1995). The first is ambiguous or generally defined goals, targets and performance indicators, which avoid clear connections between processes and outcomes and technical data. The second is ambiguous or unclearly understood technical processes, and is based on the assumptions that if qualified experts perform the assigned task carefully, the outcome is correct. The third is ambiguous or inexplicitly explained connections between the characteristics of the organisation.

2.6.2 Implications of institutional theory for IR

Institutional theory is one of the theories used to explain and to predict IR practices (Katsikas et al., 2016). Both isomorphism and decoupling mechanisms can explain the adoption of IR by organisations. For instance, the presence of regulations in South Africa, illustrated by the King III and King IV reports mandating the adoption of IR, is an example of the coercive mechanism (Vaz et al., 2016). Also, the development of the IIRC and its publication of IIRF have become sources of normative pressure for organisations, impelling organisations to do well in IR practices (Farooq & Maroun, 2017; Humphrey et al., 2017). Additionally, organisations' successful peers who have performed well in IR practices introduce mimetic pressure for organisations (Farooq & Maroun, 2017; Vaz et al., 2016). Producing merely empty rhetoric in IR can be interpreted as evidence of decoupling (Chikutuma, 2019; Deegan & Unerman, 2011; Farooq & Maroun, 2017).

Previous studies have also shown that jurisdictional factors in a country, such as its legal, economic, financial, and cultural systems, have an impact on IR practices. For instance, Jensen and Berg (2012) identify potential country-level determinants of the adoption of IR, based on institutional theory. They find that the adoption of IR is determined by the financial, educational and labour, cultural, and economic systems of a country. They explain that, according to institutional theory, a country’s comprehensive system of financial, educational, cultural and economic institutions exerts institutional pressure on the country’s companies.

Frías-Aceituno et al. (2013a) investigate whether the adoption of IR is determined by the legal system of a country. Their findings indicate that companies from countries with civil law are more likely to adopt IR, and companies from a country where regulations are strictly enforced are also more likely to adopt IR. The researchers use institutional theory to explain their findings. Generally, they believe a country’s legal institutions exert institutional pressure (coercive and normative pressures) on companies. Specifically, they assert that the civil law system is more stakeholder-oriented compared with the common law legal system, which focuses on protecting shareholders. Companies in the countries where there is coercive and normative pressure (i.e., the legal system seeks to protect stakeholders) are likely to adopt IR. Moreover, if regulations are strictly enforced, it can be seen as effective protection of stakeholders’ interests. IR is seen as a complementary mechanism to the control mechanisms that ensure companies comply with regulations; thereby, IR is more likely to be adopted in countries that have stronger legal enforcement. Higgins et al. (2014) interpret the findings of interview surveys with managers of early IR-adopting of Australian companies using institutional theory and indicate that the motivation for adopting IR is to signal a company’s strategy and to meet institutional expectations.

2.7 Theoretical framework

2.7.1 The relationship between theories

These aforementioned five theories can be broadly classified into two main categories: socio-political theories that include stakeholder, legitimacy, and institutional theory; and economics-based theories based on the wealth maximisation and individual self-interest concepts inherent in agency and signalling theory (Gray et al., 1995b). Stakeholder, legitimacy, and institutional theories are mainly concerned with how companies react to societal and/or political pressures, which means these three theories do not consider company value. In contrast, agency and signalling theories are primarily concerned with maximising company value (Perez, 2018). Table 2.2 shows the similarities among the respective theories.

Table 2.2 The similarities among theories

<table>
<tr><th></th><th colspan="2">Common concept</th><th></th></tr>
<tr><td>Agency theory</td><td colspan="2">1.Information asymmetry
2.Financial stakeholders (investors)</td><td>Signalling theory</td></tr>
<tr><td>Legitimacy theory</td><td>1.Accountability
(To the whole society)</td><td>1.Accountability
(To investors)</td><td>Agency theory</td></tr>
<tr><td>Institutional theory</td><td colspan="2">1. Signals conformity to the established patterns of other organisations</td><td>Signalling theory</td></tr>
<tr><td rowspan="2">Stakeholder theory</td><td colspan="2">1.Social system</td><td rowspan="2">Legitimacy theory</td></tr>
<tr><td>2.External pressure
(from stakeholders)</td><td>2.External pressure
(from the whole society)</td></tr>
<tr><td rowspan="2">Stakeholder theory</td><td colspan="2">1.Social system</td><td rowspan="2">Institutional theory</td></tr>
<tr><td>2.External pressure
(from stakeholders)</td><td>2.External pressure
(from other social organisations)</td></tr>
<tr><td rowspan="2">Agency theory</td><td>1.Financial Stakeholders
(Investors)</td><td>1.Stakeholders
(All stakeholders)</td><td rowspan="2">Stakeholder theory</td></tr>
<tr><td>2.Accountablilty
(To investors)</td><td>2.Accountablilty
(To all stakeholders)</td></tr>
<tr><td>Signalling theory</td><td colspan="2">1.Signal legitimacy to society</td><td>Legitimacy theory</td></tr>
<tr><td>Stakeholder theory</td><td>1. Stakeholders
(All stakeholders)</td><td>1.Stakeholders
(Investors)</td><td>Signalling theory</td></tr>
<tr><td></td><td colspan="2">1.Social system</td><td></td></tr>
</table>

Legitimacy theory	2.External pressure (from the whole society)	2.External pressure (from other social organisations)	Institutional theory

Source: Author's design

Agency theory and signalling theory

Signalling theory is closely linked to agency theory. Agency theory and signalling theory consider only the economic outcomes of the company. In other words, both theories primarily consider financial stakeholders, rather than a broader spectrum of stakeholders (Fernando & Lawrence, 2014). Moreover, information asymmetry is one of the key concepts in both agency theory and signalling theory. From the perspectives of agency theory and signalling theory, a company has an incentive to mitigate information asymmetry between company management and investors (An, 2012; Liu, 2014).

Stakeholder theory, legitimacy theory, and institutional theory

Stakeholder theory, legitimacy theory, and institutional theory evolve from a similar philosophical background, providing complementary and overlapping views (Azizul Islam & Deegan, 2008). All three theories treat the organisation as part of a broader social system (Deegan, 2006). They also have a common interest: explaining how organisations can survive in a changing society (Chen & Roberts, 2010). Stakeholder, legitimacy, and institutional theories all consider that economic outcomes, as well as organisational efficiency and effectiveness, are necessary but not sufficient for organisations to survive (Chen & Roberts, 2010).

Institutional legitimacy is directly related to institutional theory (Chen & Roberts, 2010). Institutional theorists (e.g., Ashforth & Gibbs, 1990; Oliver, 1991; Suchman, 1995) suggest that conformity to pre-existing institutional patterns is the easiest path to legitimacy because pre-existing institutional patterns must already have the characteristic of legitimacy (Chen & Roberts, 2010). From this perspective, Suchman (1995, p. 576) states "legitimacy and institutionalisation are virtually synonymous". However, the perspective of institutional theory is narrower than that of legitimacy theory (Chen & Roberts, 2010). Institutional theory does not examine the value systems of society directly (Chen & Roberts, 2010). It sees the pre-existing institutional patterns as symbolic representations of the social value system (Chen & Roberts, 2010). While legitimacy theory does not specifically express how to meet social expectations or to be socially acceptable, institutional theory emphasises that organisations can incorporate pre-existing institutional patterns to achieve survival and success. Carpenter and Feroz (2001) believe institutional theory views organisations as operating within a social framework of norms, values, and taken-for-granted assumptions about what constitutes expectable or acceptable behaviour. Institutional theory is able to describe the reinforcement of the existing condition of legitimacy but is not sufficient to explain the changes in social expectation or the dynamics of legitimacy (Chen & Roberts, 2010; Gray et al., 1996).

An overlap also exists between stakeholder theory, especially in its managerial branch, and legitimacy theory (Azizul Islam & Deegan, 2008). According to Gray et al. (1995a, p. 67), "The different theoretical perspectives (legitimacy theory and stakeholder theory) need not be seen as competitors for explanation but as sources of interpretation of different factors at different levels of resolution." However, compared with legitimacy theory, which sees the "environment" as a whole, stakeholder theory is concerned with the relationships between an organisation and its various stakeholders, who constitute the environment, and recognises that some stakeholder groups in the society are more powerful than other stakeholder groups (Chen & Roberts, 2010; Woodward et al., 1996). From the perspective of stakeholder theory, legitimacy is subjectively evaluated based on the value criterion of stakeholder groups, rather than the value system of the whole society (Chen & Roberts, 2010). Therefore, the focus of stakeholder theory is narrower than that of legitimacy theory (Azizul Islam & Deegan, 2008). Gray et al. (1997) argue that stakeholder theory, focusing on market forces, is reliant on organisation-centred legitimacy, which ignores the force of the whole society and social legitimacy.

Other relationships

The concept of accountability is explicitly or implicitly incorporated in agency, stakeholder, and legitimacy theories. Agency theory is mainly concerned with the relationship between company management and investors and emphasises accountability to financial stakeholders (Parker, 2005; Segrestin & Hatchuel, 2011). However, agency theory ignores the relationship between the company and other stakeholders. Stakeholder theory complements agency theory, and extends the relationship between management and investors to a wider range of stakeholders and emphasises accountability to all stakeholders (An, 2012; Liu, 2014). Legitimacy theory argues that a company should discharge accountability to society as a whole (Liu, 2014).

By connecting the concepts of signal and information asymmetry, signalling theory links to stakeholder theory and legitimacy theory (Albers & Günther, 2010; Hahn & Kühnen, 2013), although the information asymmetry concept is not included in stakeholder theory (An, 2012) and legitimacy theory (Liu, 2014). The existence of information asymmetry impairs the decision-making ability of stakeholders (Dilling & Caykoylu, 2019), intensifies conflicts of interests between managers and various stakeholder groups (Velte, 2018), and threatens the legitimacy of an organisation in society (An, 2012). Thus, a company has incentives to develop a signalling tool to mitigate information asymmetry between the organisation and various stakeholders to meet stakeholders' expectations (Hill & Jones, 1992) as well as to mitigate information asymmetry between the organisation and the society as a whole to signal that it is complying with society's cultural values and expectations (An, 2012). In addition, signalling theory connects with institutional theory (Fuhrmann, 2019). In order to respond to institutional pressures, a company will pursue a strategy to signal that it is conforming to the established patterns of other organisations.

2.7.2 The integrated theoretical framework

Although each of the aforementioned five theories can be used to partly explain IR practices, any single one is inadequate if it is applied as the sole theoretical framework to elucidate IR practice (Fuhrmann, 2019). Thus, an integrated IR theoretical framework is developed on the basis of stakeholder, agency, signalling, legitimacy, and institutional theories. Some previous studies of corporate reporting practice have adopted the same theories to establish their theoretical framework. For example, An (2012) constructs a comprehensive theoretical framework consisting of stakeholder, agency, signalling, and legitimacy theories to interpret intellectual capital disclosure practices by Chinese companies and Liu (2014) establishes a theoretical framework by combining stakeholder, agency, signalling, legitimacy, and institutional theories to illuminate corporate internet reporting practices by Chinese companies. Some IR studies have also attempted to use multiple theories to justify the rationale of IR practice. For example, institutional, legitimacy, and agency theories are used by Camilleri (2018) to shed light on IR practice, and institutional, signalling, stakeholder, and legitimacy theories are applied by Fuhrmann (2019) as a theoretical basis for interpreting a firm's decision to release an integrated report.

An integrated IR theoretical framework is developed on the basis of the relationships between stakeholder, agency, signalling, legitimacy, and institutional theories (refer to Figure 2.1). Each theory incorporated in the integrated theoretical framework sees IR as having different functions, which are summarised in Figure 2.1. For instance, IR is a legitimation tool from the perspective of legitimacy theory, while IR is a monitoring mechanism from the perspective of agency theory. Each theory can be used to interpret the motivation for higher IR disclosure practices by organisations. For instance, the reason for higher IR disclosure practices by organisations is to gain legitimacy from society from the perspective of legitimacy theory, while it is to mitigate information asymmetry between principals and agents from the perspective of agency theory. Considering the theories are interrelated and underpin each other in explaining IR disclosure practices by organisations, the drivers for higher IR disclosure practices are integrated into three categories:

1. To mitigate information asymmetry between the organisation and all stakeholders
2. To signal superior quality, legitimacy and conformity to all stakeholders
3. To discharge accountability to all stakeholders.

Despite the three motivations for higher IR disclosure practices of organisations, there are also two explanations for lower IR disclosure practices. Specifically, IR induces both direct and indirect disclosure costs, which discourage firms from higher IR disclosure practices (Grassmann et al., 2019; Fuhrmann, 2019). Direct disclosure costs include the costs of preparing, disseminating, and auditing an integrated report (Admati & Pfleiderer, 2000; Wang et al., 2013). Indirect disclosure costs include unwillingness to set a disclosure precedent (Wang et al., 2013); higher volatility in the stock market (Bushee & Neo, 2000); and all proprietary costs (An, 2012; Fuhrmann, 2019; Grassmann et al., 2019; Wang et al., 2013), including competition costs (i.e., the possibility of losing competitive disadvantage), political costs (i.e., increased labour costs; intensified regulations), and litigation costs. For example, a company may be reluctant to report forward-looking information because such information may be used by its competitors, thus diminishing its competitiveness (Kılıç & Kuzey, 2018b). Also, releasing forward-looking information may incur litigation, which is another reason that a firm avoids disclosing such information (Kılıç & Kuzey, 2018b). It can be said that managers’ decisions on IR disclosure practices constitute a cost-benefit analysis process (Beattie & Smith, 2012; Wang et al., 2013). In other words, a firm will use IR only when the firm believes that the benefits of IR exceed the costs of IR (Kannenberg & Schreck, 2018).

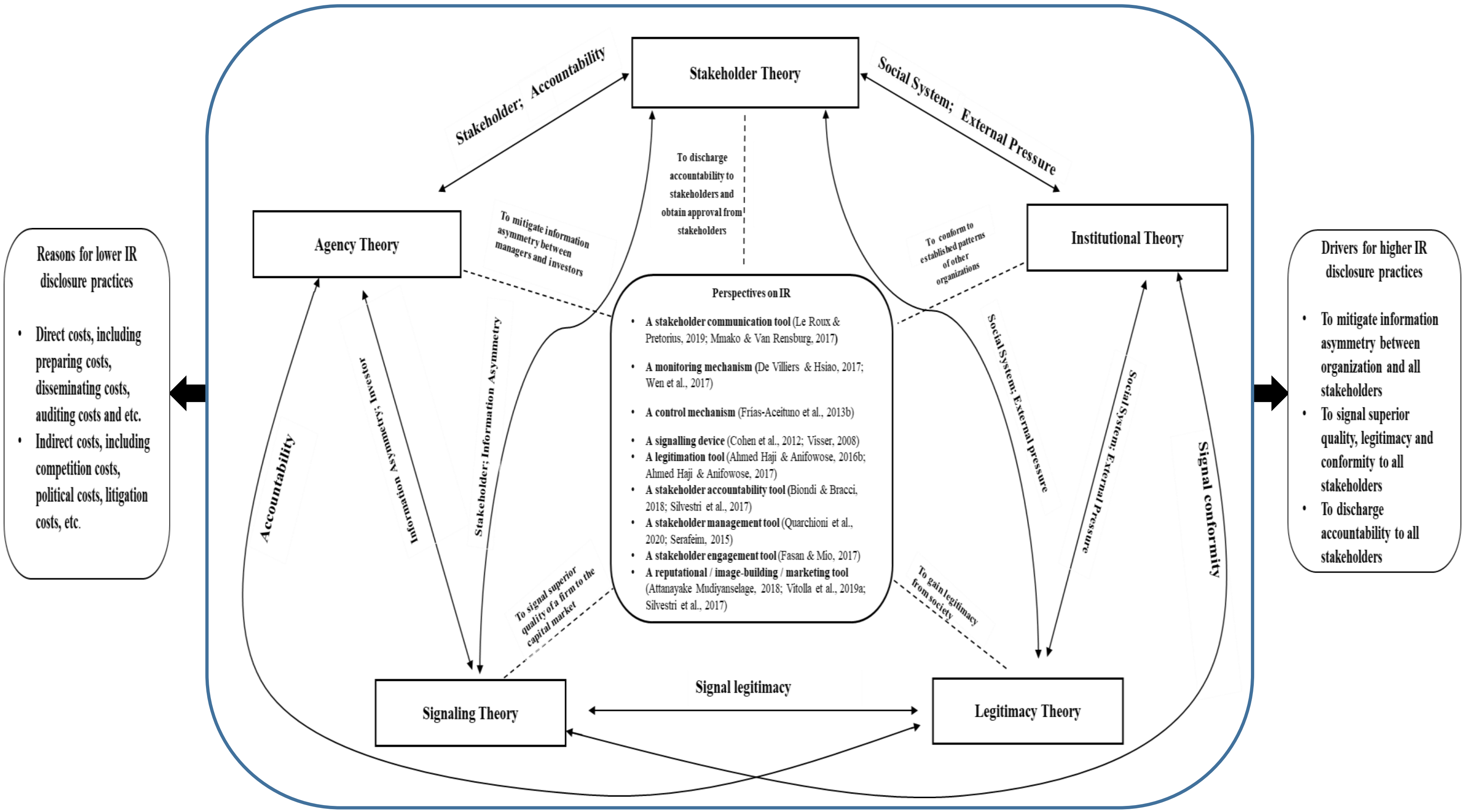

Figure 2.1 The integrated theoretical framework

Source: Author's design

Application of the integrated theoretical framework

The theoretical framework is applied to guide the methodology of this thesis. Firstly, from the perspective of signalling theory, if an explicit guideline for a company in terms of how to use IR to signal its superior quality is not given, wrong signalling may happen (An, 2012). Thus, when implementing IR in China, an explicit IR framework for Chinese companies is required. The objective of this thesis – establishing a Chinese IR framework – meets this expectation. Secondly, legitimacy theory and institutional theory suggest that firms' disclosure decisions vary between countries; hence, the national characteristics of the country where a firm is resident need to be considered (Baldini et al., 2018; Deegan, 2002; Fuhrmann, 2019). Thus, when constructing the Chinese IR framework in this thesis, Chinese jurisdictional factors, such as the political system, the cultural system, the legal system, and the economic system are taken into consideration (see Chapter three), and a stakeholder-consultation approach is also adopted (see the first-round questionnaire survey in Chapter six).

Thirdly, stakeholder theory emphasises balancing the conflicting expectations of different stakeholder groups with regard to disclosures (Hasnas, 1998); therefore, it is necessary to identify the expectations of each stakeholder group about IR disclosures. Also, on the basis of legitimacy theory, some scholars propose that knowledge is needed about whether there are specific stakeholder groups who are more easily influenced by legitimising disclosures than others (An, 2012; Deegan, 2002; Liu, 2014); hence, analysing which stakeholder groups are sensitive to IR disclosures is important. Thus, in order to identify the expectations of various stakeholder groups about IR disclosures, and the sensitive stakeholder groups affected by IR disclosures, in this thesis different weightings are assigned according to the importance of different disclosures in Chinese stakeholders' minds (see the second-round questionnaire survey in Chapter six).

Fourthly, the legitimation and institutionalisation processes of IR are dynamic and change over time (Deegan, 2018; Ryan, 2011; Van Bommel, 2014; Zilber, 2008); therefore, a longitudinal approach is used to examine the changes in IR disclosure practices by Chinese companies over a 5-year period. Lastly, IR is a totally new reporting format (Briem & Wald, 2018; Kannenberg & Schreck, 2018), especially for China. According to institutional theory, firms who are pioneers in adopting a new reporting format such as IR in one country would be considered as "organisational role models" for other firms in that country and are more likely to obtain external approval (Clegg & Hardy, 2005;

Hassan et al., 2019; Higgins et al., 2014). Thus, how firms adapt to IR and how to implement the adoption of IR both within a country and within a company need to be considered. This thesis consults with Chinese stakeholder groups on two aspects: the barriers to IR adoption in China and recommendations for the implementations of IR in China.

The integrated theoretical framework is used to make sense of the analysis and to provide reflections on the findings of this study. Firstly, the integrated theoretical framework is applied to give meaning to the construction of the Chinese IR framework (see Chapter six). Secondly, the integrated theoretical framework is employed to shed light on the current status and development of IR disclosure practices by Chinese companies (see Chapter seven). Thirdly, the integrated theoretical framework is adopted to develop hypotheses on factors influencing IR disclosure practices in China, the effect of IR disclosure practices on agency costs and to interpret the findings (see Chapter eight and Chapter nine). Lastly, the integrated theoretical framework is used to interpret the perceptions of Chinese stakeholders on both the barriers to the adoption of IR and recommendations for IR implementation (see Chapter ten).

The integrated theoretical framework in China

There are two main reasons that the integrated theoretical framework for IR is applicable to the Chinese context. One is that although all theories in the integrated theoretical framework are derived from western countries, Chinese companies have become more and more similar to their Western counterparts, enabling the possibility of applying Western theories to the Chinese context (Liu, 2014). In fact, all theories incorporated in the theoretical framework have already been used in many corporate reporting studies in the Chinese context (e.g., An, 2012; Liu, 2014). The other is that the integrated theoretical framework is established for interpreting IR, which is a new reporting format for China. Compared with traditional corporate reporting, the nature of IR fits the Chinese context better. For instance, China is a socialist country, and its social system emphasises that every person is equal. This belief ideally fits the concept of embracing all stakeholders in IR. Moreover, with rapid economic ascendance, China faces many challenges, including high inequality, rapid urbanisation, challenges to environmental sustainability, and external imbalances. Therefore, in order to meet the information demands of stakeholders, Chinese companies need to provide disclosures on sustainability. IR is the most recent development in sustainability reporting, which offers this possibility (De Villiers et al., 2014; De Villiers et al., 2017). In addition, considering China's growing international affiliations, IR, as an international corporate reporting, can be adopted by Chinese companies to adapt to the scrutiny of international investors (Maroun et al., 2014). Thus, a theoretical framework is needed that is more relevant to the Chinese context and can replace the traditional ones so as to better interpret IR in the Chinese context. Therefore, a constructed integrated theoretical framework, which comprises five mainstream theories underpinning IR and takes the concept of stakeholder theory as the core, is believed to be appropriate for this current study.

2.8 Summary

This chapter provides an integrated theoretical framework for the present study by integrating a series of theoretical traditions, comprising stakeholder theory, agency theory, signalling theory, legitimacy theory, and institutional theory. Each theory has its own features, although common concepts and differences exist between theories. By combining the features of IR, this integrated theoretical framework analyses the three drivers for companies to improve their IR disclosure practices (to mitigate information asymmetry between the organisation and all stakeholders; to signal superior quality, legitimacy, and conformity to all stakeholders; and to discharge accountability to all stakeholders). It then provides two reasons for limiting higher IR disclosure practices (direct and indirect costs). It also explains how the integrated theoretical framework is used in this thesis and why the integrated theoretical framework is appropriate for the current study in the Chinese context.

CHAPTER THREE
RESEARCH CONTEXT

3.1 Introduction

The People's Republic of China was established on 1 October 1949. It is the world's third-largest country, with a population of 1.39 billion. It is home to 56 ethnic groups, with over 91.9% of the people being Han Chinese. China is a country with more than 5,000 years of civilisation, and Mandarin is the official language. The government system is a communist state, and the Chinese Communist Party (CCP) is the only ruling party. China's official currency is the renminbi (yuan) (CNY).

This chapter provides an overview of the cultural, economic, political, legal, international, social, and environmental factors that influence corporate reporting practices in China and discusses the importance of these factors in the development of a Chinese IR framework. The chapter is structured as follows. Section 3.2 explains the implications of three traditional cultures for modern-day China. Section 3.3 discusses the economic context of China. Section 3.4 considers the influence of the Chinese government on CSR and introduces the attitude of the Chinese government towards developing IR in China. Section 3.5 introduces the current Chinese legislation that has implications for IR practices. Section 3.6 considers international relations that may dictate how Chinese companies operate business globally. Section 3.7 reviews the social and environmental context in China. Section 3.8 elaborates the implications of the jurisdictional factors for the construction of Chinese IR framework. Finally, section 3.9 summarises the chapter.

3.2 The Chinese cultural context

Chinese culture stems from Taoism, Confucianism, and Buddhism, which are widely viewed as the most influential philosophies that shape Chinese society (Thompson & Pope, 1979; National Geographic, 2019). These teachings have been advocated and practised in Chinese society for over 2500 years. It is argued that these cultures engender systems of thought that resonate with how Chinese people think and act (Gao & Handley-Schachler, 2010; Suen et al., 2007). Taoism, Confucianism and Buddhism preach a "philosophy of life". Their common ultimate goal for adherents is enlightenment (Liu et al., 2018).

<u>Taoism</u>

Taoism originated in China between 600 and 500 BC. It is a genuinely Chinese religion (Du, 2013a). It is an important part of Chinese civilisation and has the most profound impact on Chinese culture (Bai et al., 2011). In today's China, Taoism is still the source of wisdom for Chinese people (Bai et al., 2011). Tao (in other words, naturalness) is the ultimate pursuit of Taoism (Bai et al., 2011). Taoists refer to this state of naturalness as "non-action" (Drake, 2018). Non-action is not a withdrawal from action, but rather the achievement of a higher kind of action: action in accord with the natural order (Drake, 2018). In other words, Taoism is an inner way as well as an outward path, which means outwardly "going with the flow" while inwardly adhering to one's true nature. Taoism highlights the harmony between man and nature. Moreover, Taoism teaches contributing to society, including the willingness to share wealth, and to give comfort, compassion, concern and care (Cao et al., 2016). Tao Te Ching (the classic text of Taoism) suggests that "Sages do not accumulate wealth. The more you do things for others, the more you have. The more you give others, the more you get." It is believed by many scholars that CSR has deep roots in Taoism and CSR is closely aligned with the spirit of Taoism (Gao, 2011; Parsa et al., 2016).

Confucianism

Confucianism forms the essential basis of Chinese civilisation (Waldmann, 2000). There are five virtues: Ren (humanity–benevolence), Yi (righteousness), Li (propriety), Zhi (wisdom), and Xin (trustworthiness) that underpin Confucian thought (Gao & Handley-Schachler, 2010). Confucianism preaches that humans live in harmony with nature. For instance, Confucius believes a noble person only fishes with a rod instead of a net and only shoots birds on the wing, not birds that are resting in the nest (Low, 2012). Confucianism is concerned with the welfare of ordinary people (Low, 2012). Confucius believes ren (humanity–benevolence) is to love people and advocates that you should "love your fellow men" (Suen et al., 2007). Li (etiquette/ politeness) represents the criteria or standards for correct behaviour; any deviation from li will lead to adverse consequences. Therefore, it is important to follow these criteria or standards (Suen et al., 2007). Many scholars believe Confucianism has a close connection with CSR and Confucianism fosters CSR in China (Wang & Juslin, 2009; Zhang et al., 2014).

Buddhism

Buddhism is China's oldest imported religion (Du, 2013a). It was introduced to China in AD 64. Buddhism in China has incorporated some elements of Taoism and Confucianism

(Yang, 1967). Chinese Buddhists say that people's material desires are the root of evil. Buddhism preaches that if a person wants to get rid of suffering and distress, he/she has to give up all his or her material desires (Gao & Handley-Schachler, 2010). There are three core tenets to giving up material desires: self-discipline, wealth-sharing and altruism. In order to achieve the three core tenets, people need to have four ethical virtues: compassion, loving-kindness, happiness-sharing, and equality. All these three core tenets and four ethical virtues motivate corporate social responsibility (Du et al., 2016). Buddhism has a strong philosophy of "do not take what you do not give", and encourages sharing wealth with others. "Doing-good and gathering of blessings" are major values of Buddhism (Ip, 2003). A number of scholars believe that Buddhism has a close linkage with CSR and that CSR conforms to the spirit of Buddhism (Parsa et al., 2016; Vermander, 2013).

Overall, the concept of social responsibility has a long history in China and is embedded in traditional Chinese cultures (Wang & Juslin, 2009). Taoism, Confucianism, and Buddhism all advocate people-oriented behaviour, express sympathy for vulnerable groups, teach people the correct attitude toward the temptations of money (materialism) and condemn greed and illegitimate profit. Thus, they can drive companies to behave morally and ethically (Du, 2013a, 2013b). Jensen and Berg (2012) verify that if a country's culture highlights CSR, companies from such countries are more likely to adopt IR. Fasan et al. (2016) point out that if a country's culture highlights CSR, its companies are more likely to have higher IR disclosure practices. Moreover, it is generally believed that Chinese collectivism stems from Taoism, Confucianism, and Buddhism (Van de Vliert et al., 2013). García-Sánchez et al. (2013) and Vaz et al. (2016) respectively find that companies from countries exhibiting stronger collectivism are more likely to adopt IR. Therefore, it is deduced that Chinese culture provides support for adopting IR, because IR is strongly aligned with the spirit of Chinese culture.

3.3 The Chinese economic context

Since 1978, a centrally planned economy has been transformed into a socialist market economy, via the "Chinese economic reform" (Naughton, 1996). Prior to the economic reform in 1978, a centrally planned economy was implemented in China, and private ownership was forbidden. After the economic reform, the restrictions on private ownership were abolished. Discrimination against private ownership was eliminated on the basis that private ownership is equally as important as state-owned ownership in the economy (Zhou, 2011). Moreover, since 1978, a series of state-owned company reforms have been implemented, including the privatisation of some state-owned companies and the transformation of some state-owned companies into public listed companies (Sun & Tong, 2003). At the end of 2012, 953 state-owned listed companies accounted for 51.4% of the total market capitalisation of China's A-share listed companies (Yang et al., 2015).

In 1978, China's GDP ranked 11th in the world. In 2010, China's GDP surpassed Japan and became the world's second-largest economy. In 2017, China's GDP was equivalent to 12.3 trillion US dollars, accounting for about 15% of the world's total GDP (OECD, 2019; National Bureau of Statistics of China, 2018). China's GNI per capita also increased from US$200 in 1978 to US$8250 in 2016, exceeding the average for middle-income countries. In addition, China's foreign exchange reserves have leapt from US$0.17 billion in 1978 to US$3.14 trillion in 2017. The living conditions of Chinese residents have continuously improved. In 2017, the national Engel coefficient[6] was 29.3%, decreasing 34.6% from 1978. From 1979 to 2017, the disposable income per capita of Chinese residents increased by 8.5% annually. Moreover, China's rural poor population fell from 250 million in 1978 to 30.46 million in 2017 (Wang, 2018). Also, the Chinese middle class outstripped the size of the American middle class for the first time and became the world's largest in 2015 (Credit Suisse, 2016). China's total R&D expenditure is now the second-largest in the world after the United States. In 2017, the gross enrolment rate in tertiary education reached 45.7%, which is higher than the average level of middle- and high-income countries (Li & Zhu, 2019). Despite the ongoing development of China's economy, the country still has uneven economic development (XINHUANET, 2018a). Although China's government has committed to eradicating poverty, poverty is still a major problem in China, and a number of poverty-stricken areas continue to exist (Zhou et al., 2018). Income inequality also increased from 1978 to 2017. The Gini coefficient increased from 0.293 in 1978, to 0.372 in 2000, and to 0.467 in 2017 (OECD, 2019). Rising income inequality may cause serious social problems, such as social conflict and violent crimes (Wang et al., 2015). These challenges present difficulties to the attempt to achieve a comprehensively well-off society in China (Zhou et al., 2018).

Two stock exchanges in mainland China, the Shanghai Stock Exchange (SHSE) and the Shenzhen Stock Exchange (SZSE) were established in 1990 and 1991, respectively. The

[6] China's Engel's coefficient has reached UN well-off line.

third stock exchange is the Hong Kong[7] Stock Exchange (HKSE). At the end of 2017, the number of listed companies reached 1396 with a total market capitalisation of about 33.13 trillion yuan[8] in the SHSE (SSE, 2018). There were 2089 companies listed on the SZSE with a total market capitalisation of about 23.58 trillion yuan[9] (SZSE, 2018). On the Shanghai Stock Exchange (SHSE) and the Shenzhen Stock Exchange (SZSE), A-shares and B-shares are traded. A-shares are issued by companies registered and listed in mainland China and are available to residents of mainland China and qualified foreign institutional investors. B-shares are also issued by companies registered and listed in mainland China and are available to any investors globally. A-shares are subscribed and traded in Chinese currency, while B-shares are subscribed and traded in foreign currencies[10]. H-shares are issued by companies registered in mainland China but listed in Hong Kong and traded on the HKSE. By the end of 2018, there were 239 H-share companies. Companies registered in mainland China can simultaneously issue A-shares, B-shares and H-shares. By the end of 2018, there were 80 dual-list A- and B-share companies and 106 dual-list A- and H-share companies. The development of the Chinese stock market is still immature (Ellyatt, 2018). Some problems, such as the lack of transparency, the imperfect stock trading system and inappropriate stock market supervisory mechanisms still exist in the Chinese stock market (Ellyatt, 2018). For instance, tunnelling[11] is a serious problem in China and is one of the main focuses of current Chinese corporate governance system (Li et al., 2018).

Previous studies reveal that economic development is a determinant of IR practices. Jensen and Berg (2012) believe a new corporate reporting form is more likely to appear in a country with higher economic development. Their findings show that companies from countries with higher economic development are more likely to adopt IR. Similarly, Fasan et al. (2016) find that companies from countries with higher economic development are likely to have higher IR disclosure practices. Based on these studies, it is believed that the rapid economic development in China provides support for adopting IR as an innovative corporate reporting. What is more, the uneven economic development in China calls for a new corporate reporting that pays attention to sustainable development, and

[7] one of the special administrative regions of China
[8] Around 5 trillion US dollars
[9] Around 3.5 trillion US dollars
[10] B-shares on SHSE are traded in US dollars, and B-shares on SZSE are traded in Hong Kong dollars.
[11] Tunnelling occurs when the people who control the company, including majority shareholder or senior managers, expropriate other stakeholders to maximize the controllers' own private benefits by transferring assets and profits out of the company (Bhaumik & Gregoriou, 2010).

this supports the adoption of IR in China. Furthermore, Jensen and Berg (2012) verify that companies from countries with a higher degree of stock market maturity are more likely to adopt IR. Similarly, Fasan et al. (2016) indicate that companies from countries with a higher degree of stock market maturity are more likely to have higher IR disclosure practices. They explain that listed companies in a mature stock market depend more on their stakeholders. Therefore, these companies have an incentive to distinguish themselves by adopting innovative corporate reporting. By disclosing comprehensive, transparent and integrated information to stakeholders, IR has the potential to compensate for the limitations of existing Chinese financial markets. A series of IR studies confirm that IR is able to provide benefits for both companies and the stock market. For instance, IR can provide higher disclosure practices, thereby resulting in a lower cost of capital (e.g., García-Sánchez & Noguera-Gámez, 2017b; Zhou et al., 2017), lower information asymmetry (e.g., García-Sánchez & Noguera-Gámez, 2017a; Pavlopoulos et al., 2017), milder earnings management (e.g., Pavlopoulos et al., 2017), higher analysts' forecast accuracy (e.g., Bernardi & Stark, 2018; Perez, 2018; Zhou et al., 2017) and higher company value (e.g., Lee & Yeo, 2016). Because of these potential benefits, it is expected that Chinese companies and the Chinese stock market will be motivated to adopt IR.

3.4 The Chinese political context

The Chinese government attaches great importance to sustainable development. In China's 13th Five-Year (2016-2020) National Plan for economic and social development, the Chinese government committed to actively implementing the 2030 Agenda for Sustainable Development prescribed by the United Nations. In 2016, the Ministry of Foreign Affairs issued *China's Position Paper on the Implementation of the 2030 Agenda for Sustainable Development*. In the same year, the Chinese State Council released two files: the *National Plan on Implementation of the 2030 Agenda for Sustainable Development* and the *Development of Innovation Demonstration Zones for the Implementation of the 2030 Agenda for Sustainable Development*. In 2017, the Chinese government submitted *China's Progress Report on the Implementation of the 2030 Agenda for Sustainable Development*. In order to achieve sustainable development in China, the Chinese government has promoted many initiatives to motivate corporate social responsibility (CSR), such as offering financing (e.g., the Green Credit Guidelines by the China Banking Regulatory Commission), establishing a blacklist for excessively high-polluting companies (e.g., the Environmental Protection Black List produced by the China Ministry of Environmental Protection), rating and ranking (e.g., the Research

Report on Social Responsibility of China by the Chinese Academy of Social Science), granting awards (e.g., the annual CSR awards by the People's Daily), offering government-funded projects and rewards, and simplifying the requirements for examination and verification (e.g., SHSE corporate governance index) (Chen et al., 2018; Hui et al., 2018).

Because IR highlights sustainable development and incorporates features of CSR, the development of IR in China has received support from the Chinese government. In 2011, the International Integrated Reporting Committee held its first meeting in China since its launch, which can be seen as an active response to IR from the Chinese government (GRI, 2011; IIRC, 2011a). China's Ministry of Finance has joined the IIRC and "expressed support for integrated reporting in its 13th Five Year Plan—a significant signal to the market towards greater adoption" (IIRC, 2018). Additionally, a series of research reports on IR has been published by the Accounting Department of the Ministry of Finance since 30 November 2016. The latest one was released on 9 November 2018. The Chinese government believes IR is in line with the trend of corporate reporting reform towards global and domestic sustainable development, thereby encouraging Chinese companies to apply IR to achieve the sustainable development (CBCSD, 2015; Li, 2013; Yang et al., 2012). IR is in line with the Chinese government's vision on sustainable development; therefore, it is expected that IR can help the Chinese government achieve its mission.

3.5 The Chinese legal context

The legal system of China is based primarily on the civil law model and is officially defined as a socialist legal system (Zhang, 2018). China's legal system is classified into seven categories and divided into three different levels. The seven categories are the Constitution and Constitution-derived; civil and commercial; administrative; economic; social; criminal law; and lawsuit and non-lawsuit procedures. The three different levels are state laws, administrative regulations and local statutes. The Constitution of China is the highest law.

The Chinese government has promulgated a series of legal documents on corporate governance, corporate social responsibility, and environmental protection. In 2001, the China Securities Regulatory Commission (CSRC) issued the *Code of Corporate Governance of Chinese Listed Companies*, which aims to improve corporate governance in listed companies. The concept of CSR was first incorporated into Chinese Company

Law in 2006. It is stated that a company must, when engaging in business activities, abide by the laws and administrative regulations, observe social morals and business ethics, act with integrity and good faith, accept regulation by the government and the public, and undertake social responsibilities (Zhao, 2018). Chinese Company Law in 2006 implied that companies have to be socially responsible to all stakeholders (Zhao, 2018). In the same year, the SZSE issued the *Guidelines for Social Responsibility of Listed Companies*. In 2008, the SHSE promulgated the *Guidelines for Environmental Information Disclosure of Listed Companies*. The SHSE and the SZSE mandated certain listed companies to disclose CSR information starting from 2008[12]. Specifically, the SHSE mandated sustainability reporting for companies included in the SHSE Corporate Governance Index, companies that issue overseas-listed foreign shares, and companies in the financial industry. The SZSE mandated sustainability reporting for companies included in the Shenzhen 100 Index.

Further, in 2008, the *Guidelines to State-owned Enterprises Directly under the Central Government on Fulfilling Corporate Social Responsibility*, issued by the State-owned Assets Supervision and Administration Commission (SASAC) aimed to highlight eight aspects: legal and honest business; sustainable profits; high-quality products and services; resource conservation and environmental protection; independent innovation and technological advancement; production safety; legal rights of employees; and social public welfare. It provides guidance for the application of social responsibility by Chinese companies (Shin, 2014). In the same year, the Environmental Information Disclosure Act issued by the Ministry of Environmental Protection (MEP) was introduced.

In 2010, the MEP published *Guidelines on Environmental Information Disclosure by Listed Companies*, in which listed companies from sixteen polluting industries are required to release annual environmental reports. The Environmental Protection Law was introduced on 1 January 2015. In June 2017, CSRC and the Ministry of Environmental Protection jointly signed a cooperation agreement for the disclosure of environmental information by listed companies (Hofman et al., 2017). Based on the *Notice of the China Securities Regulatory Commission on Promulgating the Standards Concerning the Contents and Formats of Information Disclosure by Companies Offering Securities to the Public No.2—Contents and Formats of Annual Reports* (2017 Revision), all Chinese

[12] The requirements are prescribed in the *SHSE Notice of Doing a Better Job for Disclosing 2008 Annual Reports* and *SZSE Notice of Doing a Better Job for Disclosing 2008 Annual Reports*, respectively.

listed companies are encouraged to disclose social responsibility information and listed companies in polluting industries must disclose environmental information. More recently, since 1 January 2018, the Environmental Protection Tax Law was enacted. In the same year, the CSRC issued the amended *Code of Corporate Governance of Chinese Listed Companies*.

In the Hong Kong stock market in 2012, the HKSE formally released its *Guidelines for Environmental, Social and Governance Reporting* and encouraged Hong Kong listed companies to prepare and publish ESG reports to help investors understand the non-financial performance information of listed companies in Hong Kong. In December 2015, the HKSE issued revised guidelines for ESG reporting, raising the disclosure requirement from encouraging adoption to "disclose or explain", and requiring all Hong Kong listed companies to release ESG reports from 2016 onwards. Hong Kong listed companies are required to disclose ESG information in their annual reports or publish a stand-alone ESG report within three months after the release of their annual reports.

Although CSR reporting is not mandatory for all Chinese listed companies, these regulatory documents on corporate governance, environmental protection, and corporate social responsibility affect CSR practices and also impact Chinese companies' voluntary disclosures on CSR (Liu & Anbumozhi, 2009; Qu et al., 2012; Yuen et al., 2009). Berger-Walliser and Scott (2018) explain that "this trend to impose formerly voluntary CSR engagement on companies leads to what we call legalisation of CSR" (p. 169). State-owned companies follow the spirit of the regulations prescribed by the government and act as pilots to set an example to private companies (Hjaltadóttir, 2017). Eventually, private companies follow suit by complying with voluntary disclosure (Hjaltadóttir, 2017). In 2001, the China National Petroleum Corporation released China's first environmental health and safety report, which began the process of environmental reporting in China. In March 2006, the State Grid Corporation of China released the first CSR report from a Chinese company. Since 2009, the number of Chinese listed companies that release CSR reports has gradually increased (Yu & Zheng, 2020).

Jensen and Berg (2012) believe that countries whose legal systems emphasise the importance of CSR are more likely to favour IR. Fasan et al. (2016) show that countries in which the legal system emphasises the importance of CSR are more likely to have higher IR disclosure practices. Moreover, Frías-Aceituno et al. (2013a) and García-

Sánchez and Noguera-Gámez (2018) respectively find companies from countries with efficient and strict legal systems are more likely to adopt IR. In addition, Mervelskemper and Streit (2017) claim that there is a strong incentive for companies that have issued stand-alone CSR reports or sustainability reports to convert stand-alone CSR reports or sustainability reports to IR. Lueg et al. (2016) believe that releasing CSR reports or sustainability reports is more likely to achieve successful IR implementation. Kılıç and Kuzey (2018a) confirm that issuing stand-alone CSR reports or sustainability reports increases the extent of IR disclosures. Therefore, the gradual improvement of laws and regulations related to corporate governance, environmental protection, and corporate social responsibility, and the continuous publication of CSR reports reflect the developing trend towards IR in China (Yang et al., 2012). However, the laws and regulations are issued by different government agencies with different focuses; therefore, the corporate reporting guidelines provided by those separate government agencies may be overlapping, redundant and isolating. Accordingly, the corporate reports that follow these guidelines may also be overlapping, redundant and isolating. In this case, an integrated approach to reporting is called for, and this translates to the necessity for the development and implementation of IR in China.

3.6 Chinese international trade and investment

Chinese economic reform has opened China to the outside world (Dorn, 1998). In the 40 years since the economic reform, China has become an influential country in international trade and international investment. The total import and export volume of goods reached US$4.1 trillion in 2017, ranking first in the world (ANBOUND, 2018). Services trade have also developed rapidly. In 2017, the total import and export volume of services was US$659 billion, and it remained the second largest in the world for four consecutive years. China has become a hot spot for global investment (Wu, 2018). In 2017, China's actual use of foreign direct investment was US$131 billion, an increase of 91.3 times over 1984, with an average annual growth rate of 14.7%. From 1979 to 2017, China's cumulative foreign direct investment reached US$1,896.6 billion. In 2017, China's overseas investment (excluding banking, securities, and insurance) was US$120.1 billion.

In order to comply with the development trends in international trade and international investment, the Chinese government has been promoting the integration and adaptation of its business system with the international business system. For instance, Accounting Standards for Business Enterprises (ASBE) was promulgated by the Ministry of Finance

(MOF) in 1992 and came into effect on 1 July 1993. Then in 2000, sixteen Chinese Accounting Standards were developed by the Chinese Accounting Standards Committee (CASC) with reference to International Accounting Standards. This change can be seen as the harmonisation of Chinese accounting standards with international accounting standards (Wang et al., 2013). Further, the Chinese government issued the New Accounting Standard for Business Enterprises, which came into effect on 1 January 2007. The New Accounting Standard for Business Enterprises consists of the basic ASBE and 38 specific accounting standards that are substantially in line with international standards. It is regarded as being the closest to International Accounting Standards (Wang et al., 2013). Furthermore, China is a member of a number of international trade and investment organisations, such as the World Trade Organisation (WTO), Asia-Pacific Economic Cooperation (APEC), and the Silk Road Economic Belt and the 21st-century Maritime Silk Road[13]. More than 100 countries and international organisations have participated in The Silk Road Economic Belt and the 21st-century Maritime Silk Road, and more than 80 countries and international organisations have signed cooperation agreements with China.

The concept of CSR incorporates these organisations' trade and investment agreements, which puts pressure on China to undertake CSR. GRI G4 guidelines and GRI standards are globally recognised international sustainability reporting frameworks (Parsa et al., 2016). Currently, the guidelines followed voluntarily by some Chinese companies in compiling their CSR reports are mainly the GRI G4 guidelines, GRI standards and the Corporate Social Responsibility Report Compilation Guide released by the Corporate Social Responsibility Research Centre of the Chinese Academy of Social Sciences. The Corporate Social Responsibility Report Compilation Guide is regarded as a framework for information disclosure on social responsibility for Chinese companies (Shin, 2014). According to GoldenBee (2018), among 1579 Chinese companies that issue CSR reports, 22.36% of companies refer to GRI G4 or GRI standards, and 20.08% of companies refer to the Corporate Social Responsibility Report Compilation Guide. These guidelines, especially the GRI G4 guidelines and GRI standards, are adopted because there are no CSR report guidelines prescribed or explicitly appointed by the Chinese government.

[13] It is also known as the "Belt and Road Initiative (BRI)" or "One Belt One Road (OBOR)". It is a development strategy applied by the Chinese government involving infrastructure development and investments in countries in Europe, Asia and Africa.

Also, these guidelines provide a large number of information disclosure standards that are more detailed than government laws and regulations (Ma et al., 2016).

In extant IR studies, Frías-Aceituno et al. (2014) find that companies that employ GRI standards are more likely to adopt IR. Similarly, Kılıç and Kuzey (2018a) find that adopting GRI standards has a positive impact on the extent of IR disclosures. IR, as a corporate reporting form recognised by international business systems, may serve as a new form of corporate reporting enabling China to adapt to the international business system.

3.7 Social and environmental issues

According to the *Research Report on ESG Evaluation System of Chinese Listed Companies* published by the Asset Management Association of China (2018), employees' safety and health issues as well as consumers' safety, health, and privacy issues are two of the most pressing social issues faced by Chinese companies. There were 219 coal mine accidents in 2017, causing 375 deaths (XINHUANET, 2018b). In the housing engineering and municipal engineering industry, there were 692 accidents in 2017, resulting in 807 deaths. Occupational illness is another huge problem in China. Pneumoconiosis has become one of the most serious occupational diseases for Chinese workers. The total number of pneumoconiosis cases is the highest among all occupational diseases. By the end of 2017, there were more than 0.85 million reported cases of pneumoconiosis in China, of which 62% were in the coal industry. The Chinese government released a plan to control occupational diseases from 2016 to 2020, including stronger supervision, more effective prevention and treatment, and higher service level. In addition, a series of scandals that jeopardised consumers' safety, health, and privacy have occurred in China in recent years, such as the 2008 milk scandal (a large dairy company adulterated milk with melamine); the 2011 lean meat powder scandal (meat products tainted with lean meat powders were found in a listed meat processing company); the 2012 plasticiser scandal (excessive levels of plasticiser in alcoholic drinks were found in a listed liquor-making company); the 2018 substandard vaccine scandal (a listed drug company sold substandard vaccines); the 2018 child abuse scandal (child abuse was found in a high-end Chinese preschool education company listed on the New York Stock Exchange); and the 2018 data leakage scandal (a listed information company stole users' information). Food and drug safety are top concerns in China. Two five-year plans (2016-2020) on food and drug safety have been published by the Chinese government, including stricter standards, more severe punishment, and stronger supervision.

The fragility of the natural ecological environment places tremendous pressure on sustainable development in China (State Council of the People's Republic of China, 2012). A large percentage of the land is not suitable for human habitation. Arid and semi-arid regions account for 52% of the country's total land area. Resource constraints have become a huge challenge for China's sustainable development. The per capita freshwater, cultivated land, and forest resources in China account for 28%, 40%, and 25% of the world's average, respectively. China has paid a heavy environmental price for its economic growth (Liu, 2015). Nowadays, air and water contamination problems are at the top of the agenda for the Chinese government (Yin et al., 2019). According to the monitoring results for 338 cities of China in 2017, only 99 cities met national air quality standards, accounting for 29.3% of the total; 239 cities (70.7%) failed to meet national air quality standards (MoEE, 2018). Water pollution is another environmental challenge that China has to face (Albert & Xu, 2016). In 2017, 32.1% of surface water and 37.5% of key lakes and reservoirs were unfit for potable use or human contact. Only 31.9% of groundwater reached a good or excellent quality (MoEE, 2018). A war on pollution was initiated by the Chinese central government in 2014 (Han et al., 2016). Many businesses, especially heavy industries, have been inspected, fined or shut down across the country (China Briefing, 2017). What is more, imports of foreign waste have been banned by the Chinese government since 2018. Protecting the environment is one of the top concerns of the Chinese public (China Daily, 2014).

Stakeholders are users of corporate social and environmental disclosures (Lu & Abeysekera, 2014, 2017). The social and environmental issues in China call for stakeholder-oriented corporate reporting by Chinese companies. IR is a stakeholder-oriented form of corporate reporting and incorporates information on CSR, thereby allowing stakeholders to examine both the ethical behaviour (e.g., human rights protection and environmental protection) and unethical behaviour (e.g., human rights violation and environmental damage) of companies in great detail (Jensen & Berg, 2012). Churet and Eccles (2014) find that IR practices can enhance companies' environmental, social and governance management quality, which implies that IR can play an important role in solving social and environmental issues.

3.8 The implication of contextual factors for the IR framework

One of the main purposes of this study is to develop a Chinese IR framework. After analysing the Chinese contextual factors, it is clear that in the Chinese IR framework, these factors cannot be omitted and need to be considered. Two initiatives are adopted in order to incorporate the Chinese contextual factors in the present research. The first is that stakeholder surveys are adopted when constructing the Chinese IR framework because Chinese stakeholders are more conversant with Chinese contextual factors. Specifically, the preliminary IR disclosure items are scrutinised and validated by Chinese stakeholders in order to be adaptive and applicable to the Chinese context and meet Chinese stakeholders' expectations. Chinese stakeholders also express their views on the importance of each disclosure item.

The second initiative adopted is that two unique disclosure items are reflected in the Chinese IR framework. The first unique disclosure item is CCP-building. Chinese listed companies are required to carry out CCP-building activities. Since 1949, the CCP has been the dominating force and ruling party. China had 89.564 million CCP members at the end of 2017. The strength, resilience and adaptability of the CCP significantly rely on its pervasive primary party organisations, which are the smallest units of the Party (Chen et al., 2015; Han, 2015). In order to remain in power, the CCP has to maintain its pervasive penetration of the society (Chen et al., 2015; Han, 2015). Typically, in order to attract and manage talent in private sectors, the CCP has created primary party organisations in the private sector, especially in non-state-owned listed companies (Chen et al., 2015; Han, 2015). The CCP constitution stipulates that any companies with more than three official communist party members must establish primary party organisations (XINHUANET, 2017). The CCP pays special attention to party-building. According to the listed company governance guidelines, listed companies are required to provide the necessary support for the activities of the party organisation (REUTERS, 2018; Xie, 2018). Some Chinese state-owned companies, such as the State Grid Corporation of China (since 2017), the State Development & Investment Corporation (since 2017), and the China National Offshore Oil Corporation (since 2015), have already published stand-alone CCP-building reports. Therefore, in the present study, a disclosure item on the CCP-building is incorporated in the Chinese IR framework.

The second unique disclosure item is overseas social responsibility. More and more Chinese listed companies are investing in overseas countries. The Chinese government encourages Chinese companies to be socially and environmentally responsible to overseas stakeholders (Carey et al., 2017; Lu et al., 2015; Moon & Shen, 2010). In 2013, the Chinese Ministry of Commerce and Ministry of Environmental Protection published its *Guidelines for Environmental Protection in Foreign Investment and Cooperation*. The guidelines cover a wide range of issues related to overseas Chinese business, including community relations, environmental policies and legal compliance (International Rivers, 2013). In 2017, the Chinese government published the *Report on the Sustainable Development of Chinese Enterprises Overseas*. Considering that Chinese companies' overseas social responsibility performances have received much attention, in this present study, a disclosure item on overseas social responsibility is incorporated in the Chinese IR framework.

3.9 Summary

It is believed that jurisdictional factors are important considerations for developing a non-financial reporting framework in different countries (Shareef et al., 2014; Visser, 2008). Therefore, in the development of an IR framework for China, it is important to consider jurisdictional factors that are context-specific to China. In this chapter, the economic, political, legal, international relational, cultural, social, and environmental factors that influence the corporate reporting practices in China are discussed. The importance of these factors in the development of a Chinese IR framework is explained as well. Moreover, in the extant international and Chinese corporate reporting frameworks, some disclosures, especially those in the Chinese context, have not been prescribed yet or are not presented sufficiently. By exploring and summarising China's jurisdictional factors, this chapter extracts two disclosures that are recommended to be presented in a Chinese IR framework: CCP-building and overseas social responsibility.

CHAPTER FOUR

LITERATURE REVIEW

4.1 Introduction

This chapter presents a review of the extant literature on IR research. The literature review has two primary purposes. First, it forms the basis for drafting a list of IR disclosure items, which will be used for stakeholder consultation (Chapter six). The second purpose is to identify the approaches adopted in prior studies for evaluating IR disclosure practices. Section 4.2 traces the development of IR worldwide and provides definitions of IR. Section 4.3 reviews the prior IR studies related to the measurement of IR disclosure practices, the determinants of IR practices, the effects of IR practices, the measurement of other attributes of IR, and stakeholder consultation. Section 4.4 identifies the research gaps in the prior IR studies and states how the present study is designed to fill these gaps. Section 4.5 establishes a preliminary list of IR disclosure items. Section 4.6 provides a summary of the chapter.

4.2 The development and definitions of IR

Different forms of non-financial reporting, including Corporate Social Responsibility Reporting (CSRR), Sustainability Reporting (SR), Environmental, Social and Governance (ESG) reporting, and Intellectual Capital Reporting (ICR), have gained popularity over many years (Liu et al., 2018). A number of international non-financial reporting guidelines have been published by various organisations including the Global Reporting Initiative (GRI), Accounting for Sustainability (A4S), the World Intellectual Capital Initiative (WICI), the Enhanced Business Reporting Consortium, the Carbon Disclosure Project, the International Corporate Governance Network, the Sustainability Reporting Standards Board and the Climate Disclosure Standards Board. Jurisdictional-specific regulations on non-financial reporting were also developed, such as guidelines for strategic reporting by Britain (see Table 4.1). However, although companies are producing more sustainability reports and corporate social responsibility reports, these early non-financial reporting initiatives are often disconnected from financial reports, leading to non-financial information being isolated from financial information (Iannoconi & Sinnett, 2011; Mervelskemper & Streit, 2017). This disconnectedness undermines the effectiveness of communication with stakeholders and impedes stakeholders' decision-making (Aluchna et al., 2019; Frías-Aceituno et al., 2013a). IR represents a new corporate reporting model (De Villiers et al., 2017; Gunarathne & Senaratne, 2017), and has gained traction and momentum worldwide (Lee & Yeo, 2016). IR incorporates a number of features (e.g., intellectual capital, corporate social responsibility, strategy) of these early non-financial reporting practices. IR also addresses the shortcomings of the early non-financial reporting practices by emphasising the connectivity of non-financial and financial information (Fasan, 2013).

Table 4.1 Jurisdictional-specific regulations on non-financial reporting

European Union	Amendments for the Fourth and Seventh Accounting Directives
United Kingdom	Guidelines of strategic reports issued by the Financial Reporting Council; The Companies Act 2006 (strategic report and directors' report) Regulations 2013
Germany	German Accounting Standard 15
France	Grenelle II (all companies with over 500 employees, 31 December 2013 onward)
Brazil	The Sao Paulo Stock Exchange stipulates that listed companies must disclose non-financial KPIs on a "comply or explain" basis.
Malaysia	Public Consultation Paper of the Malaysian Code on Corporate Governance 2016
Singapore	Guide to sustainability reporting for Singapore Stock Exchange listed companies
India	The Exchange Board of India (SEBI) mandates the top 100 public listed companies to release ESG information; other public listed companies are encouraged to voluntarily release ESG information in order to meet the mandatory Business Responsibility Report (BRR) requirements.
China	The Shanghai Stock Exchange (SHSE) and the Shenzhen Stock Exchange (SZSE) mandated certain listed companies to disclose ESG information starting from 2008[14].
Denmark	Proposal Act amending the Danish Financial Statements Act
United States	SEC Regulation S-K item 101, item 103 and 303

Source: Author's design

In order to encourage firms to report non-financial information, the King I Report on Corporate Governance was developed in South Africa in 1994, which is seen as the

[14] The SHSE mandated ESG reporting for companies included in the SHSE Corporate Governance Index, companies that issue overseas listed foreign shares, and companies in the financial industry. SZSE mandated ESG reporting for companies included in the Shenzhen 100 Index (Rezaee et al., 2019).

beginning of IR (De Villiers et al., 2017). The King II Report was then released in 2002 and introduced the concept of "integrated sustainability reporting" (Baboukardos & Rimmel, 2016; Dumay et al., 2016). Companies listed on the Johannesburg Stock Exchange needed to incorporate a narrative statement in annual reports stating how the principles in the King II report were complied with (Hoffman, 2012). The King III report was issued in 2009, which can be seen as a break-through for IR (Rowbottom & Locke, 2015). The King III report formally introduced the term "integrated reporting" and called for South African listed companies to prepare integrated reports (IoDSA, 2012). In South Africa, all companies listed on the Johannesburg Stock Exchange were mandatorily required to apply the King III report on an "apply or explain" basis from March 2010 (IRCSA, 2011; WBCSD, 2014). In order to facilitate the adoption of the King III report, the Integrated Reporting Committee of South Africa (IRCSA) was established in May 2010 (IoDSA, 2012). In January 2011, a discussion paper called "Framework for IR and the integrated report" was reported by the IRCSA (IRCSA, 2011). In this discussion paper, the IRCSA crystallised the concept of IR by outlining the elements of an integrated report (IRCSA, 2011; Rowbottom & Locke, 2015). It was the first time a regulator had aimed to codify IR.

The International Integrated Reporting Committee was formed in August 2010, and its initial formation involved the Prince of Wales' Accounting for Sustainability Project (A4S), the Global Reporting Initiative (GRI), and the International Federation of Accountants (IFAC) (Camilleri, 2018). Then the International Integrated Reporting Committee changed its name to the International Integrated Reporting Council (IIRC), which was registered as a not-for-profit company in the UK in November 2011. The IIRC's mission is "to establish IR and thinking within mainstream business practice as the norm in the public and private sectors"[15]. Since its initial formation, the IIRC has been dedicated to the development of IR guidelines (see Table 4.2). In September 2011, a discussion paper on a draft framework for an integrated report, titled "Towards Integrated Reporting: Communicating Value in the 21st Century" was published by the IIRC (Magarey, 2012; Reuter & Messner, 2015). In October 2011, the IIRC launched a pilot program in which organisations trialled the application of the draft IR framework and gave feedback to the IIRC (Sofian & Dumitru, 2017). This pilot program was the starting

[15] http://integratedreporting.org/the-iirc-2/

point for the release of the International Integrated Reporting Framework (IIRF) in 2013 (Sofian & Dumitru, 2017).

Table 4.2 Important documents published by the IIRC

Discussion Paper on IR in September 2011
IIRC Pilot Programme in October 2011
Prototype IR Framework in November 2012
Consultation Draft of the IR Framework in April 2013
A series of background papers on key IR concepts
Finalised IR Framework in December 2013
Reports on assurance on IR in 2014
Reports on IR Framework implementation feedback in 2017 and 2018

Source: Author's design

The International Integrated Reporting Framework (IIRF) prescribed by the IIRC is regarded as a significant development in IR (Eccles & Krzus, 2014). The IIRF is a principles-based document containing two main sets of requirements (guiding principles and content elements) for the preparation of an integrated report. This framework identifies information to be included in an integrated report and governs the overall content of an integrated report (see Table 4.3). Content elements are defined as "the categories of information required to be included in an integrated report" (IIRC, 2013, p.33). Guiding principles are "the principles that underpin the preparation and presentation of an integrated report, informing the content of the report and how information is presented" (IIRC, 2013, p.33). Capitals, as the fundamental concepts underpin guiding principles and content elements, are the "stocks of value on which all organisations depend for their success as inputs to their business model, and which are increased, decreased or transformed through the organisation's business activities and outputs" (IIRC, 2013, p.33).

Table 4.3 Guiding Principles, Content Elements and Fundamental concepts in the IIRF

Guiding Principles	Content Elements	Fundamental concepts
Strategic focus and future orientation	Organisational overview and external environment	Financial capital
Connectivity of information	Governance	Manufactured capital
Stakeholder relationships	Business model	Intellectual capital
Materiality	Risks and opportunities	Human capital
Conciseness	Strategy and resource allocation	Social and relationship capital
Reliability and completeness	Performance	Natural capital
Consistency and comparability	Outlook	Value creation process
	Basis of preparation and presentation	

Source: Derived from IIRF (IIRC, 2013)

The King IV Report on Corporate Governance for South Africa was issued in November 2016. It replaced the King III Report and was effective for fiscal years starting on or after 1 April 2017 (Dumay et al., 2017). With the publication of the King IV Report, the prior "apply or explain" requirement was replaced by an "apply and explain" approach, which requires firms to adopt all principles in the King IV Report and explain how the principles are complied with (Le Roux & Pretorius, 2019; Willows & Rockey, 2018). Now, the IIRF is a part of the new King IV Report (IIRC, 2016; IoDSA, 2016).

The term "integrated reporting" was first mentioned explicitly by Allen White, the co-founder of the GRI, in his discussion of Novo Nordisk's company report, which he termed an example of "integrated, balanced, and candid reporting". Some scholars, such as Burgman and Roos (2007), Cordazzo (2005), Hutton (2004), Kolk and Pinske (2010), and Pedrini (2007) call for connectivity of information, advocating the integration of various types of information. In the following studies, a number of researchers give their views on the definition of IR by summarising the features of IR (see Table 4.4).

There are four critical aspects in IR: the constituted elements of IR; the relationship between constituted elements; value; and stakeholders, drawing on the definitions provided in Table 4.4. In terms of the elements of IR, all definitions state that both financial information and non-financial information are indispensable components of IR. However, there are different views on what constitutes non-financial information in an integrated report. Cortesi and Vena (2019) focus on corporate social responsibility information. Similarly, Songini and Pistoni (2015) are concerned with social and environmental information. Branwijck (2012) and Katsikas et al. (2016) highlight both corporate social responsibility information and intellectual capital information. Several other studies have broader views. In their definitions, in addition to social and environmental information, there are a number of elements, including strategy (Bartolini et al., 2013; IIRC, 2011b; IIRC, 2013; IRCSA, 2011), governance (Bartolini et al., 2013; Eccles & Krzus, 2010; IIRC, 2011b; IIRC, 2013), risk (Bartolini et al., 2013; De Villiers et al., 2014), opportunity (De Villiers et al., 2014; Monterio, 2015), business model (Monterio, 2015), various capitals (Monterio, 2015; Rinaldi et al., 2018), external operating context (Rinaldi et al., 2018) and outlook (IIRC, 2011b; IIRC, 2013; Owen, 2013).

In terms of the relationship between constituted elements, Monterio (2015) describes the relationship as “interdependent and connected” whereas Rinaldi et al. (2018) describe the constituted elements as “interrelated”. Katsikas et al. (2016) use the term “interlinked” to depict the relationship. Eccles and Krzus (2010) believe that IR combines financial information and non-financial information, while Cortesi and Venay (2019) believe that IR merges financial information and non-financial information. In Bartolini et al.’s (2013) view, IR is the synthesis of financial and non-financial information. No matter which terms they use to define IR, what these scholars highlight is the connectivity between financial and non-financial information.

Nearly all studies emphasise the importance of value. However, some definitions only focus on value creation (Busco et al., 2013; Casonato et al., 2018; IIRC, 2013; Katsikas et al., 2016; Rinaldi et al., 2018) while other definitions are concerned with both creating value and sustaining value (Bartolini et al., 2013; IRCSA, 2011; IIRC, 2011b). With regard to stakeholders, some definitions clearly state that IR is a stakeholder-oriented corporate reporting (Cortesi & Venay, 2019; IRCSA, 2011; Songini & Pistoni, 2015) whereas some definitions seem to omit the role of stakeholders in IR (IIRC, 2011b; IIRC, 2013). Considering all the aspects highlighted by researchers, in this present study, IR is defined as a corporate reporting that provides interconnected material financial and non-financial information, including but not limited to strategy, governance, risk, performance and prospects, to stakeholders, demonstrating to them about an organisation’s past, present and future, and how the organisation creates and sustains value over the short, medium and long term.

Table 4.4 Definitions of integrated reporting

Author	**Integrated reporting**
Eccles and Krzus (2010)	A single report that combines the financial and narrative information found in a company's annual report with the non-financial (such as on environmental, social, and governance issues) and narrative information found in a company's 'Corporate Social Responsibility' or 'Sustainability' report (p.10).
IRCSA (2011)	A report to stakeholders on the strategy, performance and activities of the organisation in a manner that allows stakeholders to assess the ability of the organisation to create and sustain value in the short, medium and long term. An effective integrated report reflects an appreciation that the organisation's ability to create and sustain value is based on financial, social, economic and environmental systems and by the quality of its relationships with its stakeholders. The integrated report should be written in clear and understandable language in order for it to be a useful resource for its stakeholders (p. 6).
IIRC (2011b)	IR Integrated reporting brings together material information about an organisation's strategy, governance, performance and prospects in a way that reflects the commercial, social and environmental context within which it operates. It provides a clear and concise representation of how an organisation demonstrates stewardship and how it creates and sustains value (p. 2).
IIRC (2013)	An integrated report is a concise communication about how an organisation's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value over the short, medium and long term (p. 7).
Busco et al. (2013)	IR is a process that leads to communicating value creation over time through the annual integrated report.
Bartolini et al. (2013)	IR represents a sort of synthesis of the financial report and the sustainability report and also aims to combine the "individualism" of the financial report with the implied "altruism" of the sustainability report. IR effectively and concisely describes the ability of a company to create sustainable value and provides combined information about governance, strategy, risk, operations, financial and non-financial performance.
Owen (2013)	IR includes "a strategic rather than operational or transactional focus; longer- rather than short-term outlook; prospective rather than retrospective analysis; qualitative commentary as well as quantitative information; and reports on wider business performance metrics rather than on narrower external financial reporting data or audit compliance" (p.1).

(Continued)

Table 4.4 (Continued)

Author	Integrated reporting
De Villiers et al. (2014)	The main distinguishing feature of IR is it indicates "an organisation's most material social, environmental and economic actions, outcomes, risks and opportunities in a manner that reflected the integrated nature of these factors for the organisation" (p. 1046).
Monterio (2015)	"IR gives companies around the world a consistent, yet flexible, way to tell their own unique stories, linking their business strategy, business model, various capitals, opportunities, and risks to future economic value over the short, medium, and long term. An integrated report shows interdependencies and connections between these important elements so that users of the information can clearly see how one impacts another and ultimately affects the value of the organisation" (p.36).
Songini and Pistoni (2015)	The integrated report is a holistic and integrated representation of a company's status according to the financial performance, social performance and environmental performance. It is based on the recognition that the distinction between shareholders and stakeholders has to be removed.
Katsikas et al. (2016)	IR provides an answer to the need to understand the extent to which CSR, intellectual capital and environmental strategies are linked and take part in the value creation process.
Rinaldi et al. (2018)	The aim of an integrated report is to provide managers, investors and other stakeholders with information about several interrelated dimensions that affect or can be affected by organisations, including the external environment, six forms of capital employed to create value and the value creation process (which describes how organisations interact with both the external environment and the capitals).
Casonato et al. (2018)	IR emphasises the company's future value-creation story and presents interactions between financial and non-financial information.
Cortesi and Vena (2019)	In response to the growing information needs of stakeholders, IR is to enhance overall transparency by merging traditional reporting and corporate social responsibility.

Source: Author's design

4.3 Prior research on IR

Extant IR studies primarily investigate the measurement of IR disclosure practices (Liu et al., 2018a), the determinants of IR practices (Ahmed Haji & Anifowose, 2016a), the effects of IR practices (Zhou et al., 2017), and the measurement, determinants and effects of other attributes of IR (Melloni et al., 2017). Many studies also conduct stakeholder consultation to conduct in-depth analyses of the implementation of IR (Adhariani & De Villiers, 2018; Attanayake Mudiyanselage, 2018). These existing studies are highly relevant to the present research. Therefore, this section provides a review of these studies.

4.3.1 Measurement of IR disclosure practices

Content analysis is the commonest approach to measuring IR disclosure practices. A disclosure index and a scoring system are the instruments for content analysis. A disclosure index begins with a list of disclosure items. According to Garegnani et al. (2015), when a study covers voluntary disclosure[16], there is no predefined list of disclosure items; therefore, it is necessary to define a list of disclosure items that is ready to be employed before constructing the scoring system. The list of disclosure items is usually identified by referring to extant literature (Adhikari & Tondkar, 1992). Previous IR studies have primarily adopted four channels to identify IR disclosure items. The first channel is to extract disclosure items prescribed in extant international IR frameworks, such as the IIRF (Nakib & Dey, 2018; Songini & Pistoni, 2015). The second channel is to extract disclosure items prescribed by local IR frameworks, such as the King III or King IV reports (Pavlopoulos et al., 2017; Solomon & Maroun, 2012). The third channel is to extract disclosure items prescribed by sustainability reporting frameworks, such as GRI G4 guidelines or GRI standards (Marcia et al., 2015; Needles et al., 2018). The fourth channel is to extract disclosure items from other sources (Lipunga, 2015; Zinsou, 2018). According to Hammond and Miles (2004), verification by stakeholders can enhance the reliability of disclosure items. However, most IR studies do not employ stakeholder consultation when constructing the list of IR disclosure items. Only the studies of Marx and Mohammadali-Haji (2014), Naynar et al. (2018), and Zhou et al. (2017) consider stakeholders' expectations and use a questionnaire survey or an interview survey to validate their IR disclosure items. Zhou et al. (2017) focus on investors, while Marx and Mohammadali-Haji (2014) are concerned about the views of knowledgeable people from commerce, industry and academia. Naynar et al.'s (2018) stakeholder panel comprises students majoring in accounting, accounting practitioners, accounting academics, chartered accountants, audit trainees, and students majoring in business without an accounting subject.

The disclosure indices in extant IR studies can be categorised into two types according to their weighting systems: unweighted and weighted disclosure indices. Researchers who adopt an unweighted disclosure index do not assign any weighting to each item, as it is

[16] Voluntary disclosure represents free choices by the company's management on the provision of information which exceeds the mandated requirements of generally accepted accounting principles and the Securities and Exchange Commission rules (FASB, 2001; Meek et al., 1995).

assumed each item is equally important (Coy & Dixon, 2004; Hossain et al., 1995; Meek et al., 1995). Some scholars believe that assigning weightings increases subjectivity (Ahmed & Courtis, 1999; Ferguson et al., 2002), increases the complexity of the research (Hooks, 2000), but does not significantly influence the findings (Adhikari & Tondkar, 1992; Chow & Wong-Boren, 1987; Firth, 1980). However, Marston and Shrives (1991) argue that subjectivity is inevitable, and Coy and Dixon (2004) contend that abandoning the assigning of weightings is itself a subjective phenomenon. Hooks (2000) suggests that the benefits of assigning weightings outweigh the subjectivity involved. Velte and Stawinoga (2017) recommend assigning weightings to each disclosure item according to the preferences of stakeholders. This disclosure index is termed the weighted disclosure index. A number of IR studies have adopted weighted disclosure indices. Lee and Yeo (2016), Zhou et al. (2017), and Naynar et al. (2018) consider the stakeholders' preferences and use questionnaire surveys to assign weightings to each item. However, Zhou et al. (2017) and Lee and Yeo (2016) only consider whether a disclosure item is important or not important, while Naynar et al. (2018) classify the importance of the disclosure item into five levels. In addition, Zhou et al. (2017) and Lee and Yeo (2016) focus on investors and financial analysts, respectively. In contrast, Naynar et al. (2018) are concerned about the views of students majoring in accounting, accounting practitioners, accounting academics, chartered accountants, audit trainees, and students majoring in business without an accounting subject.

A scoring system is incorporated in the disclosure index to assess IR disclosure practices. A scoring system can be categorised as being with or without quality criteria. A scoring system without quality criteria, usually a two-point scale, only can measure the presence or absence of a selected item; it cannot measure the quality of the item (Coy & Dixon, 2004). Most IR studies adopt scoring systems without quality criteria, such as those by Santis et al. (2018) and Zhou et al. (2017). Some IR studies use scoring systems with quality criteria, but their quality criteria are not the same, and may involve a three-point scale (Ruiz-Lozano & Tirado-Valencia, 2016), a four-point scale (Zinsou, 2018), a five-point scale (Van Zyl, 2013), a six-point scale (Lee & Yeo, 2016), or a seven-point scale (Liu et al., 2018a).

Table 4.5 provides a summary of IR studies with regard to disclosure items, weighting systems and scoring systems. Some studies do not measure IR disclosure practices but only provide partial disclosure items in IR (e.g., Bowrin, 2018; Garanina & Dumay, 2017) or integral IR disclosure items (e.g., Demartini & Trucco, 2017; Katsikas et al., 2016). For instance, Garanina and Dumay (2017) identify disclosure items on intellectual capital in IR and Bowrin (2018) identifies disclosure items on human resources in IR. In studies that investigate IR disclosure practices, some examine partial disclosure practices in IR[17] (e.g., Kılıç & Kuzey, 2018b; Santis et al., 2018) while others measure the integral IR disclosure practices[18] (e.g., Lee & Yeo, 2016; Zhou et al., 2017). For instance, Santis et al. (2018) examine intellectual capital disclosure practices in IR while Kılıç and Kuzey (2018b) measure forward-looking disclosure practices in IR. Among these studies, only Lee and Yeo (2016) adopt a weighted disclosure index and a scoring system with quality criteria.

There are six main types of categorizations of disclosure items in prior IR literature. Firstly, several studies, including those of such as Kılıç and Kuzey (2018a), Lee and Yeo (2016), Marx and Mohammadali-Haji (2014), Menicucci (2018), Nakib and Dey (2018), Sofian and Dumitru (2017), Stent and Dowler (2015), and Zhou et al. (2017) primarily categorise their disclosure items into seven themes: organisational overview and external environment, governance, business model, risks and opportunities, strategy, performance, and outlook. These items are in line with the content element of the IIRF. Secondly, some studies, such as those by Demartini and Trucco (2017) and Melloni (2015) classify their disclosure items into six forms of capital: financial, manufactured, intellectual, human, social and relationship, and natural. These themes are in line with the fundamental concepts of the IIRF. Thirdly, Ahmed Haji and Anifowose (2016b) and Ruiz-Lozano and Tirado-Valencia (2016) classify their disclosure items based on the guiding principles of the IIRF. Fourthly, some researchers, such as Katsikas et al. (2016) and Songini and Pistoni (2015) categorise disclosure items based on both content elements and guiding principles prescribed by the IIRF. Fifthly, La Torre et al. (2018) develop a taxonomy for IR in which disclosure items are categorised by referring to both content elements and six forms of capital. Fasan et al. (2016) and Marcon and Mancin (2016) adopt the same approach. Sixthly, Liu et al. (2018) make the classification by considering content elements, six forms of capital, and guiding principles simultaneously. Content elements are the categories of information suggested to be included in an integrated report, and the six forms of capital are the fundamental concepts underpinning the guiding principles and content elements (IIRC, 2013). The guiding principles underpin the preparation and

[17] These studies provide partial disclosure items in IR as well.
[18] These studies provide integral IR disclosure items as well.

presentation of an integrated report (IIRC, 2013). According to WICI (2013), an integrated report should cover the content elements and fundamental concepts recommended by IIRF. Therefore, following La Torre et al. (2018), categorising disclosure items grounded on content elements and fundamental concepts seems most appropriate.

Another finding is that the number of IR disclosure items varies between studies that provide integral IR disclosure items. The number of IR disclosure items ranges from 12 (Marx & Mohammadali-Haji, 2014) to 123 (Liu et al., 2018a). Most studies have measured the IR disclosure practices of South African companies (Lee & Yeo, 2016; Zhou et al., 2017) and the IR disclosure practices of international sample companies from multiple countries (García-Sánchez et al., 2018). A few studies have focused on analysing the IR disclosure practices of a single country’s companies, such as New Zealand (Stent & Dowler, 2015), Australia (Liu et al., 2018), France (Zinsou, 2018), Malawi (Lipunga, 2015), Turkey (Kılıç & Kuzey, 2018a), Malaysia (Wen et al., 2017), and Bangladesh (Nakib & Dey, 2018).

Table 4.5 Previous IR studies regarding disclosure items, weighting systems and scoring systems

Author	**Purpose**	**Source of disclosure items**	**Stakeholder validation**	**Weighted or Unweighted**	**Scoring system**
Cohen et al. (2012)	Leading indicators disclosure practices in IR	Previous literature	No	Unweighted	Seven-point scale
Solomon and Maroun (2012); Du Toit et al. (2017)	IR disclosure practices (South Africa)	King III Report	No	No	Two-point scale
Abeysekera (2013)	Disclosure items in IR	King III and IIRF	No	No	No
Frías-Aceituno et al. (2013a); Frías-Aceituno et al. (2013b); Frías-Aceituno et al. (2014); García-Sánchez and Noguera-Gámez (2017a); García-Sánchez and Noguera-Gámez (2017b); García-Sánchez et al. (2018); García-Sánchez and Noguera-Gámez (2018)	IR disclosure practices (Worldwide)	IIRF and Spanish Accounting and Business Administration Association (23 disclosure items)	No	Unweighted	Two-point scale
Lai et al. (2013)	Disclosure items on business model in IR	IIRF and Lai et al.'s (2013) elaboration	No	No	No
Van Zyl (2013)	Sustainability disclosure practices in IR	King III Report and National Environmental Management Act	No	Unweighted	Five-point scale
Eccles and Krzus (2014)	IR disclosure practices	IIRF and researchers' elaboration (20 disclosure items)	No	Unweighted	Four-point scale
Marx and Mohammadali-Haji (2014)	IR disclosure practices (South Africa)	IIRF; related literature (12 disclosure items)	Yes	Unweighted	Two-point scale

(Continued)

Table 4.5 (Continued)

Author	Purpose	Source of disclosure items	Stakeholder validation	Weighted or Unweighted	Scoring system
Eccles et al. (2015b)	Disclosure items in IR	IIRF and the study of Eccles and Krzus (2014)	No	No	No
Lipunga (2015)	IR disclosure practices (Malawi)	previous literature (25 disclosure items)	No	Unweighted	Two-point scale
Marcia et al. (2015)	CSR disclosure practices in IR	King III and GRI G4	No	Unweighted	Five-point scale
Setia et al. (2015)	Human, social and relational, natural and intellectual capital disclosure practices in IR	IIRF	No	Unweighted	Two-point scale
Stent and Dowler (2015); Sofian and Dumitru (2017)	IR disclosure practices (New Zealand; Europe)	IIRF (33 disclosure items)	No	Unweighted	Two-point scale and three-point scale
Turturea (2015)	Sustainability disclosure practices in IR	King III Report and National Environmental Management Act	No	Unweighted	Five-point scale
Abeywardana (2016); Albetairi et al. (2018)	IR disclosure practices (Sri Lanka; Bahrain)	IIRF	No	Unweighted	Two-point scale
Ahmed Haji and Anifowose (2016a); Ahmed Haji and Anifowose (2016b)	IR disclosure practices (South Africa)	highly regarded integrated reports, IIRF, King III Report, and IRCSA (2011) (52 disclosure items)	No	Unweighted	A two-point scale and a four-point scale
Ahmed Haji and Hossain (2016)	Disclosure items in IR	IIRF, King III Report, IRCSA (2011), Sigma Project, 2003, Forum for the Future, 2009	No	No	No
Bertinetti and Gardenal (2016)	IR disclosure practices (Worldwide)	IIRF	No	Unweighted	Two-point scale

(Continued)

Table 4.5 (Continued)

Author	Purpose	Source of disclosure items	Stakeholder validation	Weighted or Unweighted	Scoring system
Bini et al. (2016)	Disclosure items on business model in IR	Bini et al.'s (2016) elaboration	No	No	No
Fasan et al. (2016)	IR disclosure practices (Worldwide)	IIRF (72 disclosure items)	No	Unweighted	Two-point scale
Katsikas et al. (2016)	Disclosure items in IR	IIRF (72 disclosure items)	No	No	No
Lee and Yeo (2016)	IR disclosure practices (South Africa)	IIRF (40 disclosure items)	No	Unweighted/weighted (for robust test)	Six-point scale
Marcon and Mancin (2016)	IR disclosure practices (Worldwide)	IIRF (72 disclosure items)	No	Unweighted	Two-point scale
Ruiz-Lozano and Tirado-Valencia (2016)	IR disclosure practices (Worldwide)	IIRF (32 disclosure items)	No	Unweighted	Three-point scale
Vedovato (2016)	Disclosure items on strategy and business model in IR	Vedovato (2016)'s elaboration	No	No	No
Ahmed Haji and Anifowose (2017)	Intellectual relational/social capital and human capital disclosure practices in IR	Sigma Project, 2003; Forum for the Future, 2009; highly regarded integrated reports, IIRF, King III Report and IRC (2011) of South Africa	No	Unweighted	Four-point scale
Demartini and Trucco (2017)	Disclosure items in IR	IIRF, King III, UNGC, typical companies' integrated reports and Abeysekera (2013)	No	No	No
Garanina and Dumay (2017)	Disclosure items on intellectual capital in IR	Garanina and Dumay (2017)'s elaboration	No	No	No
Oshika and Saka (2017)	Disclosure items on sustainability KPIs in IR	Oshika and Saka (2017)'s elaboration	No	No	No
Pavlopoulos et al. (2017)	IR disclosure practices (Worldwide)	King III Report (28 disclosure items)	No	Unweighted	Two-point scale

(Continued)

Table 4.5 (Continue)

Author	Purpose	Source of disclosure items	Stakeholder validation	Weighted or Unweighted	Scoring system
Rivera-Arrubla et al. (2017)	IR disclosure practices (Worldwide)	IIRF (25 disclosure items)	No	Unweighted	Two-point scale
Trébucq and Magnaghi (2017)	Disclosure items on capitals in IR	European Foundation for Quality Management (EFQM) excellence model	No	No	No
Wen et al. (2017)	IR disclosure practices (Malaysia)	IIRF (115 disclosure items)	No	Unweighted	Two-point scale
Zhou et al. (2017)	IR disclosure practices (South Africa)	IIRF (31 disclosure items)	Yes	Weighted	Two-point scale
Albertini (2018)	IR disclosure practices (France)	IIRF	No	No	Two-point scale
Bowrin (2018)	Disclosure items on human resources in IR	Related literature and GRI G3	No	No	No
Kılıç and Kuzey (2018a)	IR disclosure practices (Turkey)	IIRF (50 disclosure items)	No	Unweighted	Two-point scale
Kılıç and Kuzey (2018b)	Forward-looking disclosure practices in IR	Previous literature	No	Unweighted	Two-point scale
La Torre et al. (2018)	Disclosure items in IR	IIRF	No	No	No
Liu et al. (2018)	IR disclosure practices (Australia)	IIRF and GRI G4 (123 items)	No	Unweighted	Two-point scale and seven-point scale
Maroun and Atkins (2018)	Disclosure items on bio-species protection in IR	Maroun and Atkins (2018)'s elaboration	No	No	No
Menicucci (2018)	Forward-looking disclosure practices in IR	IIRF	No	Unweighted	Two-point scale
Nakib and Dey (2018)	IR disclosure practices (Bangladesh)	IIRF (50 disclosure items)	No	Unweighted	Two-point scale
Naynar et al. (2018)	IR disclosure practices (South Africa)	Financial service companies' integrated reports (60 disclosure items)	Yes	Weighted	Two-point scale

(Continued)

Table 4.5 (Continued)

Author	Purpose	Source of disclosure items	Stakeholder validation	Weighted or Unweighted	Scoring system
Needles et al. (2018)	IR disclosure practices (Worldwide)	GRI G4 and IIRF	No	Unweighted	Four-point scale
Pistoni et al. (2018); Vitolla et al. (2019b, 2019c); Vitolla et al. (2020c)	IR disclosure practices (Worldwide)	IIRF	No	Unweighted	Two-point scale and six-point scale
Santis et al. (2018)	Intellectual capital disclosure practices in IR	IIRF	No	Unweighted	Two-point scale
Terblanche and De Villiers (2018)	Intellectual capital disclosure practices in IR	Previous classic studies on intellectual capital.	No	Unweighted	Two-point scale
Zinsou (2018)	CSR disclosure practices in IR	Previous studies and French Grenelle II Act	No	Unweighted	Four-point scale
Pavlopoulos et al. (2019)	IR disclosure practices (Worldwide)	King III Report (28 disclosure items)	No	Unweighted	Two-point scale
Matemane and Wentzel (2019)	IR disclosure practices	Content elements of IIRF and the previous researches	No	Unweighted	Four-point scale
Rimmel (2019)	Human resource disclosure practices in IR	GRI G4	No	Unweighted	Two-point scale
Sukhari and De Villiers (2019)	Business model and strategy disclosure practices in IR	IIRF and IIRC's background paper on business model.	No	Unweighted	Two-point scale

Source: Author's elaboration

4.3.2 Studies on the determinants and effects of IR practices

4.3.2.1 Determinants of IR practices

Several IR studies have investigated the determinants of IR practices (see Table 4.6). Jensen and Berg (2012) identify country-level determinants of the adoption of IR based on a sample of 309 worldwide companies. They find that nine factors positively affect the adoption of IR: investor protection; market orientation; dispersed ownership structures; the share of private expenditures for tertiary education; trade union density; level of environmental and social development; level of self-expression values; level of secular-rational values; and developed or developing country. At the same time, there is a significant negative correlation between employment protection and the adoption of IR. Frías-Aceituno et al. (2013a) analyse whether a country's legal system determines the adoption of IR and find that companies from countries with civil law and countries where regulations are strictly enforced are more likely to adopt IR. García-Sánchez et al.'s (2013) results show that two country-level factors (a collectivist orientation and a feminist orientation) are determinants of the adoption of IR. In addition, firm size, industry type and profitability have positive effects on the adoption of IR. Fasan et al. (2016) follow Jensen and Berg (2012) to investigate the country-level determinants of the extent of IR disclosures; they find that civil law, strong employment protection, a higher degree of market orientation, a higher degree of state ownership, higher involvement in post-secondary education, a higher density of trade unions, a higher national corporate responsibility, and higher economic development positively impact the extent of IR disclosures, while strong investor protection negatively impacts the extent of IR disclosures. Vaz et al. (2016) find that two country-level factors – the existence of IR regulations, and collectivism in Hofstede's sense – are determinants of the adoption of IR.

García-Sánchez and Noguera-Gámez (2018) confirm that three company-level factors (firm size, profitability, and industry concentration) and two country-level factors (judicial efficiency and levels of law and order) are determinants of the adoption of IR. They conclude that these company-level factors have relatively more weight than country-level factors in explaining the adoption of IR. García-Sánchez et al. (2018) investigate whether there is a relationship between managerial discretion in munificent environments[19] and the adoption of IR. They confirm the assumption that munificence positively impacts managerial discretion; therefore, they find that munificence is negatively and significantly related to the adoption of IR. These researchers also find that internal forces (such as the strength of the board) and external forces (such as the level of investor protection and the country's transparency) moderate the relationship between munificence and the adoption of IR, playing positive roles in the adoption of IR in munificent environments. Vitolla et al. (2019b) select 135 international companies representing 28 countries and find that four national cultural factors, including power distance, individualism, masculinity, and indulgence negatively impact the quality of integrated reports, whereas uncertainty avoidance positively influences the quality of integrated reports. Girella et al. (2019) report that companies located in countries with a higher level of corruption perception, a better risk rating, and more collectivist, more feminist, and long-term orientations are more likely to adopt IR voluntarily. Fuhrmann (2019) investigates country-level and company-level drivers of the adoption of IR and reports that return on assets (ROA), leverage, level of market concentration in a sector, level of investor protection, level of power distance, and level of masculinity negatively impact the adoption of IR. In contrast, social performance, market-to-book value, and a civil law setting impact the adoption of IR positively. Vitolla et al. (2020b) focus on exploring country-level and company-level drivers of IR quality of financial institutions. Their findings suggest that IR quality is significantly and positively affected by return on equity (ROE), firm size, leverage and a civil law setting.

Frías-Aceituno et al. (2013b) examine the relationship between board characteristics and IR adoption in 568 companies from 15 countries, for the period 2008–2010. The results show that four company-level factors: firm size, board size, gender diversity, and growth opportunities, are determinants of the adoption of IR. Frías-Aceituno et al. (2014) investigate company-level determinants of the adoption of IR of 1590 international companies for the years 2008–2010. They find that firm size, profitability, and application of GRI standards have a positive impact on the adoption of IR, while industry concentration has a negative impact on the adoption of IR. Sierra-García et al. (2015) find that region and industry are negatively related to the adoption of IR while three factors (assurance of the CSR report, the year for which the company has prepared the CSR report, and firm size) are positively related to the adoption of IR. Furthermore, Sierra-García et

[19] Munificent environments are measured using the industry growth rate.

al. (2015) find that if companies have their CSR reports externally audited, four factors (region, industry type, the year for which the company has prepared the CSR report, and company size) are significantly related to the adoption of IR. Izzo and Fiori (2016) study the influence of corporate governance on the adoption of IR by 178 European companies. They find that a company with a smaller board size has a lower probability of adopting IR compared to companies with medium board sizes. They also find that if a female serves on the board, the probability of adopting IR decreases as company size increases. Ahmed Haji and Anifowose (2016a) find that the overall effectiveness of the audit committee, ownership concentration, audit committee meetings, audit committee authority, sustainability committee, and industry type affect the extent of IR disclosures positively. In contrast, leverage affects the extent of IR disclosures negatively. Also, the overall effectiveness of the audit committee, ownership concentration, audit committee meetings, audit committee authority, sustainability committee, company size and industry type affect the quality of IR disclosures positively. Lai et al. (2016) show that Bloomberg's ESG disclosure rating is positively associated with the adoption of IR, using a sample of 52 IR adopters (IIRC Pilot Program members) and 52 IR non-adopters.

Pavlopoulos et al. (2017) indicate that fourteen factors result in a greater extent of IR disclosures: a higher percentage of independent directors on the nomination committee; a higher percentage of non-executive board members on the audit committee; the CEO is also the chairman of the board of directors; using the term "Integrated Annual Report" on corporate reports; higher asset turnover ratio; lower ROE; lower discretionary operating expenses; lower market-to-book ratio of equity; a lower percentage of nomination committee members who are independent of the board of directors; a higher dividend payout ratio; larger company size; a higher debt ratio; a larger number of pages in the company's annual report; and a higher ratio of the number of shares owned by institutional shareholders to total outstanding common shares. Rivera-Arrubla et al. (2017) find that four factors are significantly associated with the extent of IR disclosures: the region where a company is based; the industry in which a company operates; assurance; and the decision to publish the annual report on the IIRC website. Buitendag et al. (2017) use the top 100 companies listed on the Johannesburg Stock Exchange as a sample and use the EY Excellence in IR Awards to substitute for the quality of IR disclosures. Their research shows that industry type, company size, growth in revenue and composition of the board of directors all impact the quality of IR disclosures. Kılıç and Kuzey (2018a) find that the publication of separate sustainability reports, adoption of GRI standards, listing in a sustainability index, and the existence of a sustainability committee are significantly and positively associated with the extent of IR disclosures. Kılıç and Kuzey (2018b)'s findings show that gender diversity and firm size are positively related to forward-looking disclosure practices, whereas leverage is negatively related to IR practices (forward-looking disclosure practices). Similarly, Menicucci's (2018) findings suggest that profitability (ROE) and firm size have a statistically significant relationship with forward-looking disclosure practices in IR.

Pavlopoulos et al. (2019) find that companies that mandatorily use IR are more likely to have a higher extent of IR disclosures than companies that voluntarily use IR. Furthermore, Pavlopoulos et al. (2019) find that firm size, market-to-book ratio, whether the assurance provider is one of the big 4, CEO duality, whether a firm has a corporate governance committee, the proportion of a firm's equity held by institutional shareholders, and dividend payout ratio positively impact the extent of IR disclosures, whereas ROE and earning quality negatively impact the extent of IR disclosures. A study by Girella et al. (2019) indicates that firm size, profitability, market-to-book ratio, and board size positively impact the voluntary adoption of IR. Vitolla et al. (2019c) investigate how pressure exerted by stakeholders affects the IR disclosure practices of 145 international companies, for the period 2011–2018. This study suggests that pressures from customers, environmental protection organisations, employees, shareholders, and governments positively impact IR quality. Based on an analysis of a sample of 134 international firms, Vitolla et al. (2020a) report that IR quality is positively associated with board size, board independence, board diversity, and board activity. By analysing 110 global companies that issued an integrated report for the fiscal year 2017, Dilling and Caykoylu (2019) report that a firm that has a larger size, a higher female board member ratio, and a listing in the IIRC examples database tends to show a higher quality of IR disclosures. However, a firm with a higher female executive ratio, external board member ratio, profitability, leverage, greater report length, and previous report experience, is likely to show a lower quality of IR disclosures. Maroun (2019a) explores whether external assurance contributes to a higher quality of IR disclosures[20] and finds that the amount of information being assured in integrated reports (whether the assurance provider is one of the big 4; whether the company requires a reasonable or limited assurance engagement; and whether disclosures on general sustainability as well as AccountAbility principle and

[20] The quality of IR disclosures is measured according to the EY Excellence in IR.

financial statistics are independently assured) can positively affect the quality of IR disclosure. Raimo et al. (2020) examine the role of ownership structure in IR quality. They find that institutional ownership positively affects IR quality, whereas ownership concentration, managerial ownership, and state ownership negatively affect IR quality.

Several studies find that there are no associations between IR practices and some of the determinants assumed by the researchers. Jensen and Berg (2012) find that companies from countries with civil law are not more likely to adopt IR. García-Sánchez et al. (2013) find that tolerance of uncertainty, long-term orientation, and power distance are not determinants of IR practices. Frías-Aceituno et al. (2013b) find that the relationship between the independence of the board of directors and the adoption of IR is not significant and that the activity of the board does not have a significant relationship with the adoption of IR. Frías-Aceituno et al. (2014) report that there is no significant relationship between companies' growth opportunities and the adoption of IR, and no significant relationship between companies' business sector and the adoption of IR. Vaz et al. (2016) do not find statistical evidence that code-law countries, investor protection, economic development, feminism in Hofstede's sense, company size, being a listed company, industry membership, or the decision to assure sustainability information are determinants of the adoption of IR. Rivera-Arrubla et al. (2017) indicate that the legal system, type of auditor, GRI application level, and length of the report do not show significant relationships with the extent of IR disclosures. Kılıç and Kuzey (2018a) indicate that external assurance does not have a significant impact on the extent of IR disclosures. Table 4.6 summarises the main findings of prior literature that investigates the determinants of IR practices.

Table 4.6 Determinants of IR practices

Author	**Determinants of IR practices**
Jensen and Berg (2012)	(+) investor protection; market orientation; dispersed ownership structures; share of private expenditures for tertiary education; trade union density; level of environmental and social development; level of self-expression values; level of secular-rational values; developed countries (-) employment protection law
Frías-Aceituno et al. (2013a)	(+) countries with civil law; countries where regulations are strictly enforced
Frías-Aceituno et al. (2013b)	(+) company size; board size; gender diversity; growth opportunities
García-Sánchez et al. (2013)	(+) countries with a collectivist orientation; countries with a feminist orientation; size; industry; profitability
Frías-Aceituno et al. (2014)	(+) company size; ROA; application of GRI standards (-) industry concentration
Sierra-García et al. (2015)	(+) assurance of the CSR report; the year for which the company has prepared the CSR report; company size (-) region; industry If companies have assured their CSR reports: (+) region; industry; the year for which the company has prepared the CSR report; company size
Ahmed Haji and Anifowose (2016a)	(+) overall effectiveness of the audit committee; ownership concentration; audit committee meetings; audit committee authority; sustainability committee; industry type; company size (-) leverage
Fasan et al. (2016)	(+) civil law countries; employment protection; degree of market orientation; degree of ownership concentration; involvement in post-secondary education; density of trade unions; national corporate social responsibility; economic development (-) strong investor protection
Izzo and Fiori (2016)	(-) board size (limited to small and medium board size companies) If a female serves on the board: (-) company size
Lai et al. (2016)	(+) Bloomberg's ESG disclosure ratings
Vaz et al. (2016)	(+) the existence of IR regulations; collectivism in Hofstede's sense

(Continued)

Table 4.6 (Continued)

Author	Determinants of IR practices
Pavlopoulos et al. (2017)	(+) percentage of independent directors on the nomination committee; the percentage of non-executive board members on the audit committee; CEO is also the chairman of the board of directors; using "Integrated Annual Report" on corporate reports; asset turnover ratio; dividend payout ratio; company's size; debt ratio; the number of pages in the company's annual report; the ratio of the number of shares owned by institutional shareholders to total outstanding common shares (-) ROE; discretionary operating expenses; market-to-book ratio of equity; percentage of nomination committee members who are independent of the board of directors
Rivera-Arrubla et al. (2017)	(+) the region where a company is based; the industry where a company operates; the assurance; decision to publish the annual report on the IIRC website
García-Sánchez and Noguera-Gámez (2018)	(+) company size; profitability; industry concentration; judicial efficiency; levels of law and order
García-Sánchez et al. (2018)	(-) munificence In munificent environments: (+) strength of the boards; level of investor protection; the country's transparency
Kılıç and Kuzey (2018a)	(+) publication of separate sustainability reports; adoption of GRI standards; listing in a sustainability index; the existence of a sustainability committee
Kılıç and Kuzey (2018b)	(+) gender diversity; company size (-) leverage
Menicucci (2018)	(+) ROE; company size
Dilling and Caykoylu (2019)	(+) firm size; female board member ratio; listing in the IIRC examples database (-) female executive ratio; external board member ratio; profitability; leverage; report length; previous report experience
Fuhrmann (2019)	(+) social performance; market-to-book value; a civil law setting (-) ROA; leverage; level of market concentration in a sector; level of investor protection; level of power distance; level of masculinity
Girella et al. (2019)	(+) company size; profitability; market-to-book ratio; board size; corruption perception; risk rating, collectivism; feminism; long-term orientation

(Continued)

Table 4.6 (Continued)

Author	Determinants of IR practices
Pavlopoulos et al. (2019)	(+) a mandatory basis; firm size; market-to-book ratio; Big 4; CEO-duality; firm has a corporate governance committee; ratio of number of shares owned by institutional shareholders to total outstanding common shares; dividend payout ratio (-) earning quality; ROE
Maroun (2019a)	(+) the amount of information being assured in integrated reports; the assurance provider is one of the Big 4; limited assurance; moderate assurance; general sustainability disclosures are independently assured; AccountAbility principle and financial statistics are independently assured
Vitolla et al. (2019b)	(+) uncertainty avoidance (-) power distance; individualism; masculinity; indulgence
Vitolla et al. (2019c)	(+) customer pressure; pressure from environmental protection organisations; employee pressure; shareholder pressure; government pressure
Raimo et al. (2020)	(+) institutional ownership (-) ownership concentration; managerial ownership; state ownership
Vitolla et al. (2020a)	(+) board size; board independence; board diversity; board activity
Vitolla et al. (2020b)	(+) ROE; firm size; leverage; civil law setting

Note: Plus sign (+) indicates a positive association; minus sign (−) indicates a negative association

Source: Author’s elaboration

4.3.2.2 Effects of IR practices

Several researchers analyse the effects of IR practices (see Table 4.7). Churet and Eccles (2014) analyse the relationship between IR quality and environmental, social and governance management quality. They use the RobecoSAM database to identify a substitute for IR quality. Their findings suggest a significant and positive relationship between IR quality and environmental, social and governance management quality. Lee and Yeo (2016) also examine the association between the quality of IR disclosures and company value. They find that firm value (Tobin's Q[21]) is positively associated with the quality of IR disclosures, especially in companies with higher organisational complexity or in companies with higher external financing needs. Serafeim (2015) uses the Thompson Reuters Asset4 database to identify a substitute for IR quality. Serafeim's (2015) findings show that higher IR quality leads to more long-term-oriented and fewer transient investors and this association is stronger for companies with high growth opportunities, operating in industries with strong social criticism, showing more stable IR quality over time, and controlled by non-founding-family.

Baboukardos and Rimmel (2016) explore the value relevance of accounting information under an integrated reporting approach. They find that the value relevance of earnings per share (EPS) of companies listed on the Johannesburg Stock Exchange increases after IR is mandatorily adopted. They also observe a significant decline in the value relevance of book value per share (BVPS). Similarly, Li (2017) observes that the value relevance of financial information increases after the publication of integrated reports by Japanese companies. Also, Li (2017) reports that earnings management by Japanese listed companies becomes milder after IR is implemented. Mervelskemper and Streit (2017) find that the value relevance of ESG performance is higher for companies that publish an integrated report compared with companies that publish a stand-alone ESG report. Barth et al. (2017) investigate the associations between the IR quality of South African companies and corresponding market reactions in the period 2011-2014. They measure IR quality based on the EY Excellence in IR awards. The results indicate that higher IR quality results in higher stock liquidity (lower bid-ask-spreads), higher firm value (Tobin's Q) and higher expected cash flows. Zhou et al. (2017) find that higher IR quality leads to higher analysts' forecast accuracy and results in a lower cost of capital for companies with a low analyst following. García-Sánchez and Noguera-Gámez (2017a)

[21] Market value of equity plus book value of total liabilities divided by total assets.

indicate that there is a negative relationship between information asymmetry and the adoption of IR based on a sample of 995 international companies listed for the years 2009 to 2013. They also find that in countries with strong investor protection or in companies with lower quality of financial information, the negative relationship between information asymmetry and the adoption of IR is more statistically significant. Similarly, García-Sánchez and Noguera-Gámez (2017b) study the association between the adoption of IR and the cost of capital. They confirm that the adoption of IR leads to a lower cost of capital and that in countries with lower investor protection or in companies with higher information asymmetry, the negative relationship between the cost of capital and the adoption of IR is more statistically significant. Pavlopoulos et al. (2017) report that an increased extent of IR disclosures results in milder earnings management (lower discretionary accruals) and lower agency costs.

Wen et al. (2017) investigate the impact of the extent of IR disclosures on the financial performance of the top 50 Malaysian listed companies from 2012 to 2015 and shows that the extent of disclosures on governance, business model, risks and opportunities, and performance have a significant positive impact on ROE. In contrast, only the extent of disclosure on business model has a significant positive impact on ROA. By using the event study approach, Giorgino et al. (2017) find that releasing an integrated report impacts a company's share prices significantly. Cosma et al. (2018) also employ the event study approach and conclude that abnormal stock returns react positively to IIRC-recognised awards (e.g., EY excellence in IR awards; PwC's building public trust 'excellence in reporting' awards; CSSA IR awards; Nikonki top 100 JSE listed companies IR awards), which represent a high quality of IR disclosure. Bernardi and Stark (2018) use the Bloomberg ESG disclosure score to measure ESG disclosure practices in integrated reports from South African companies. They find a positive and statistically significant association between ESG disclosure practices in integrated reports and analyst forecast accuracy after IR became mandatory in South Africa. Perez (2018) adopts the Sustainability Disclosure Transparency Index (SDTI) score[22] to identify a substitute for IR quality for 279 South African companies and finds that IR quality is associated with higher analysts' forecast accuracy and positively associated with market liquidity. Albetairi et al. (2018) test the effects of the extent of IR disclosures on companies'

[22] The SDTI score is prescribed by a South African accounting company named Integrated Reporting and Assurance Services. It evaluates the accuracy, consistency, completeness, and reliability of quantitative data for 84 indicators based on IR and GRI factors (Perez, 2018).

financial performance (ROA). They find that the extent of disclosures on business model, strategy, and resource allocation has a positive relationship with ROA, while the extent of disclosure on risk and opportunities is negatively related to ROA. Loprevite et al. (2018) report that the A4R integrated performance indicator, as a proxy for IR disclosure practices, is value relevant.

Cortesi and Vena (2019) explore the value relevance of accounting information after adopting IR, using an international dataset (sample companies from 57 countries) and a longitudinal approach (15 years). The results indicate that the adoption of IR positively impacts companies' share prices, and the value relevance of EPS increases after adopting IR. Using 99 South African listed companies during the period 2006–2015 as a sample, Tlili et al. (2019) observe that the mandatory adoption of IR enhances the value relevance of organisational capital. Pavlopoulos et al. (2019) find that a greater extent of IR disclosures leads to a higher ROA, a higher Tobin's Q, a higher market value of equity, a higher market-to-book ratio of equity, and higher abnormal stock returns (especially for companies with high level of earnings quality or high market value). Matemane and Wentzel (2019) examine whether higher IR quality increases the financial performance of seven South African listed banks. The results indicate that IR quality positively impacts EPS. Using an international setting, Flores et al. (2019) investigate the relationship between the adoption of IR and the number of analysts following. The result suggests that IR adopters have more analysts than non-adopters and the researchers explain that this is because IR represents higher disclosure quality. Vitolla et al. (2020c) analyse the impact of the IR quality of 116 international companies on the cost of equity capital. The results indicate that higher IR quality leads to a lower cost of equity capital. Vena et al. (2019) examine the relationship between the cost of capital and the adoption of IR using a sample of 211 companies from 31 countries between 2009 and 2017. The results suggest that companies that adopt IR have a lower cost of capital, especially those in countries with low power distance, strong collectivism values, and high levels of masculinity. Akisik and Gal (2019) investigate the role of the adoption of IR in influencing financial performance for North American companies from 2011 to 2016 and find that there is a significant positive correlation between the adoption of IR and four indicators of financial performance: stock price growth based on the average of the annual high stock price and annual low stock price; ROE; ROA; and the natural logarithm of return on common stocks. These positive associations are greater when integrated reports are assured by accounting firms. Conway (2019) observes that financial performance (ROA, Tobin's Q and excess returns) and risk (beta) in South African firms are negatively associated with the mandatory adoption of IR. However, higher institutional shareholding and increased ESG scores are positively impacted by the mandatory adoption of IR. Gal and Akisik (2020) conduct an investigation for North American firms between 2011 and 2016 and find the adoption of IR is negatively correlated with firm value. Gal and Akisik (2019) believe that the negative impact of the adoption of IR is caused by IR preparation costs and proprietary costs. Internal control can moderate this negative association.

Landau et al. (2020) analyse the value relevance of the adoption of IR on the basis of a sample of 50 companies of the STOXX Europe between the years 2010 and 2016. They find that the adoption of IR negatively affects firms' market value and argue the reason that the finding is contrary to the findings of market-oriented studies is that proprietary costs of disclosing ESG issues are high in a country where ESG is voluntary. Obeng et al. (2020a) examine the relationship between IR practices that are proxied by the IR scores provided by ASSET4 and agency costs on a basis of a sample covering firms from 35 countries in which IR is voluntarily adopted. They find that higher IR practices lead to lower agency costs, and this negative relation is more pronounced in countries with a stakeholder orientation than in shareholder-oriented countries. Obeng et al. (2020b) observe a positive relationship between the adoption of IR and earnings quality based on an analysis of global listed companies in ASSET4 from 2009 to 2015. Moreover, agency costs positively moderate the positive relationship between the adoption of IR and earnings quality. Muttakin et al. (2020) gauge the role of the adoption of IR in influencing the cost of debt on the basis of a sample of South African companies from 2009 to 2015. They find that adopting IR leads to a lower cost of debt, and the inverse relationship between financial reporting quality and cost of debt is stronger for companies that adopt IR. Albitar et al. (2020) examine the role of the adoption of IR in moderating the association between ESG disclosure and firm performance employing a sample of all companies of FTSE 350 over the period 2009-2018 (excluding 2013). They observe that the adoption of IR leads to higher financial performance and amplifies the positive effect of ESG disclosures on financial performance.

Several studies do not find a significant relationship between IR practices and some potential effects assumed by the researchers. Barth et al. (2017) find no statistical evidence for a significant association between IR quality of South African companies and cost of capital. Using a sample of listed companies on the Johannesburg Stock Exchange, Zhou et al. (2017) conclude that higher IR quality cannot improve analysts' forecast dispersion. Reimsbach et al. (2018) find that with regard to storing and recalling sustainability information, professional investors who receive an integrated report do not show higher performance than investors who receive separate financial and sustainability reports. Using an international sample of listed companies from 2002 to 2011, Maniora (2017) demonstrates that compared with stand-alone CSR reports, the adoption of IR is not associated with higher economic and sustainability performance. Wahl et al. (2020) gauge whether investors benefit from the adoption of IR using an international sample of 167 listed companies. They do not find evidence that the adoption of IR has a significant effect on earnings forecast accuracy or on firm value and explain that in environments where IR is voluntary, the level of transparency of a company is too high to be enhanced by the adoption of IR. Table 4.7 summarises the main findings of previous literature that investigates the effects of IR practices.

Table 4.7 Effects of IR practices

Author	Effects of IR practices
Churet and Eccles (2014)	(+) environmental, social and governance management quality
Serafeim (2015)	(+) long-term-oriented investors (-) transient investors
Baboukardos and Rimmel (2016)	(+) value relevance of accounting information
Lee and Yeo (2016)	(+) company value, especially in companies with higher organisational complexity or in companies with higher external financing needs
Barth et al. (2017)	(+) stock liquidity; company value; expected cash flows
García-Sánchez and Noguera-Gámez (2017a)	(-) cost of capital, especially in countries with lower investor protection or in companies with higher information asymmetry
García-Sánchez and Noguera-Gámez (2017b)	(-) information asymmetry, especially in countries with strong investor protection or in companies with lower quality of financial information
Giorgino et al. (2017)	(+) share prices
Li (2017)	(+) value relevance of accounting information (-) earnings management
Pavlopoulos et al. (2017)	(-) earnings management; information asymmetry
Wen et al. (2017)	(+) ROE (-) ROA
Zhou et al. (2017)	(+) analysts' forecast accuracy (-) cost of capital for companies with a low analyst following
Cosma et al. (2018)	(+) share prices
Bernardi and Stark (2018)	(+) analysts' forecast accuracy
Perez (2018)	(+) analysts' forecast accuracy; market liquidity
Akisik and Gal (2019)	(+) financial performance (stock price growth based on the average of the annual high stock price and annual low stock price; ROE; ROA; the natural logarithm of return on common stocks), especially when integrated reports are assured by accounting firms.
Flores et al. (2019)	(+) the number of analysts following
Gal and Akisik (2019)	(-) the firm's market value (internal control can moderate this inverse association)
Matemane and Wentzel (2019)	(+) earnings per share
Pavlopoulos et al. (2019)	(+) ROA; company value; value relevance of accounting information; abnormal stock returns, especially for companies with high levels of earnings quality or high market value.
Tlili et al. (2019)	(+) the value relevance of organisational capital

(Continued)

Table 4.7 (Continued)

Author	Effects of IR practices
Vena et al. (2019)	(-) cost of capital, especially firms in countries with low power distance, strong collectivism values, and high level of masculinity.
Albitar et al. (2020)	(+) higher financial performance; the positive effect of ESG disclosure on financial performance.
Landau et al. (2020)	(-) the firm's market value
Muttakin et al. (2020)	(-) the cost of debt; the inverse association between financial reporting quality and cost of debt
Obeng et al. (2020a)	(-) agency costs, especially the firms operating in high stakeholder orientation countries.
Obeng et al. (2020b)	(+) earnings quality, especially the firms experiencing higher agency costs.
Vitolla et al. (2020c)	(-) the cost of equity capital

Note: Plus sign (+) indicates a positive association; minus sign (−) indicates a negative association

Source: Author's elaboration

4.3.2.3 Summary

Previous IR studies have investigated the determinants of IR practices and the effects of IR practices. Specifically, both country-level determinants (e.g., legal systems and cultural systems) and firm-level determinants (e.g., board characteristics and ownership structure) are verified. Moreover, the effects of IR practices (e.g., firm value, analysts' forecast accuracy, expected cash flows, stock liquidity, cost of capital, agency costs, and information asymmetry) are also examined. A summary is shown in Figure 4.1.

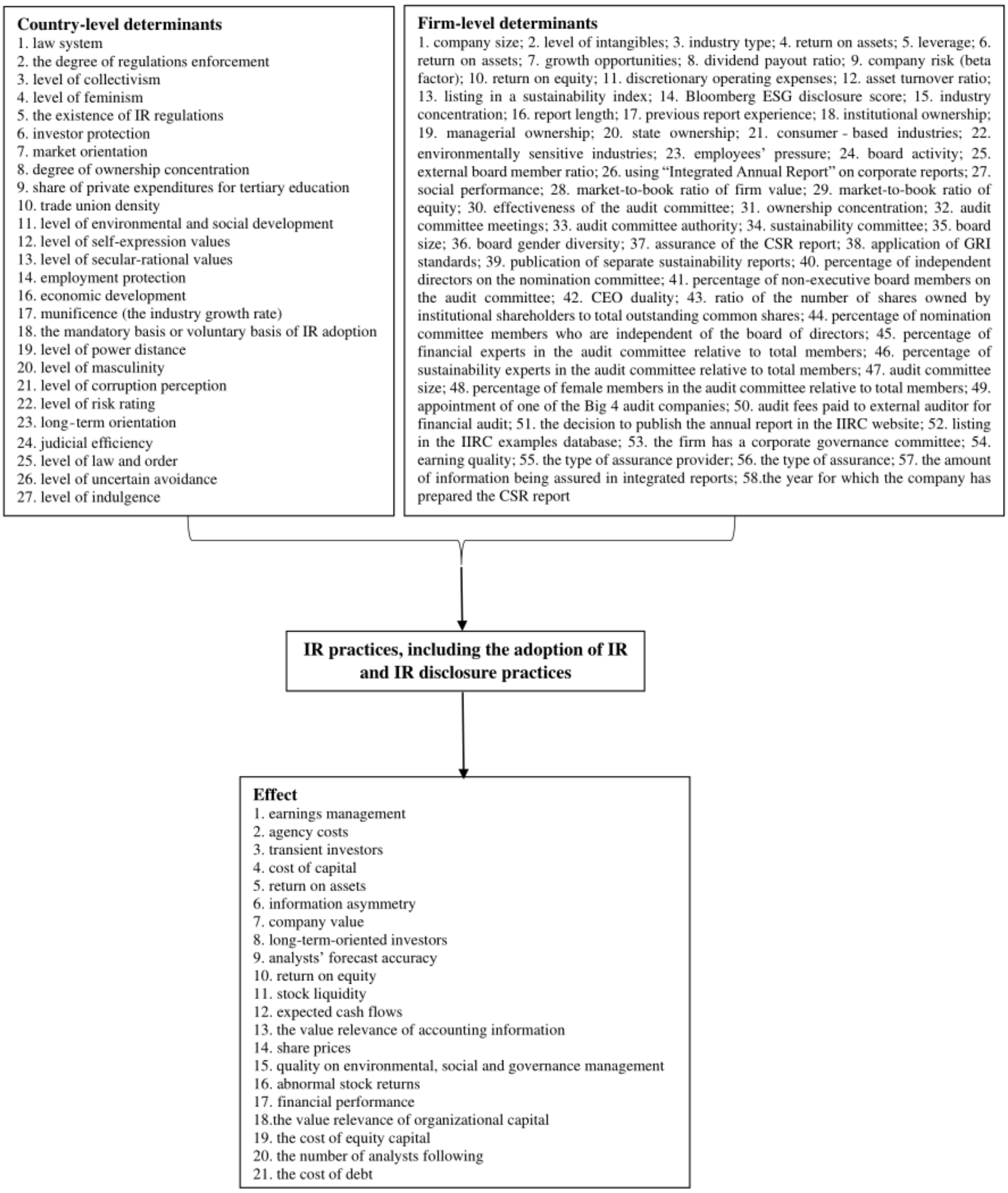

Figure 4.1 The determinants and effects of IR practices

Source: Author's elaboration

4.3.3 Studies on other attributes of IR

A number of studies investigate other attributes of IR as well, such as materiality, readability, and balance. These studies complement the extant literature on IR practices and provide different understandings for research on IR practices.

Materiality

Fasan and Mio (2017) analyse the impact of company-level factors on the practices of materiality disclosure within integrated reports. Their results indicate that three factors:

industry type, board size, and women on the board, play a significant role in determining the practices of IR materiality disclosure of 65 companies in the IIRC Pilot Program. To measure the practices of IR materiality disclosure, they use two different variables: one is the word count of the terms “material” and “materiality” divided by the number of pages of the integrated report; the other is a categorical variable (0 to 5)[23], which evaluates the relevance of the practices of IR materiality disclosure. Gerwanski et al. (2019) improve the approach of Fasan and Mio (2017) to evaluate the practices of IR materiality disclosure. They conduct content analysis for seven aspects of IR materiality disclosure: materiality section, identification process, description of material aspects, time horizon, materiality matrix, risks and opportunities, and mitigation actions. Gerwanski et al. (2019) find that the practices of IR materiality disclosure by 117 companies from 14 countries are positively associated with IR implementation experience, gender diversity in the board of directors, and the assurance of non-financial information in the integrated report. Beske et al. (2019) use a binary disclosure index to assess the IR materiality disclosure for a sample of 33 companies on the German 110 HDAX stock market index between 2014 and 2017. The binary disclosure index contains three aspects: whether the term “materiality analysis” is defined in IR; whether a firm simply mentioned or elaborated on its most relevant stakeholder groups and the methods adopted for identifying them; and whether a firm simply mentioned or elaborated on its most relevant topics and the methods adopted for identifying them.

Readability

Many studies evaluate the readability of IR. Du Toit (2017) adopts the Flesch Reading Ease formula, the Gunning Fog index, and the Flesch-Kincaid measure to gauge the readability of IR, and tests for complex words, long words, Fog index difficult words, passive voice and wordy items. Melloni et al. (2017) use the Flesch Reading Ease formula, the Gunning Fog index, and the Flesch-Kincaid measure and find that companies with lower financial or non-financial performance are associated with less readable IR. Velte (2018) applies the Flesch Reading Ease formula and the Gunning Fog index to assess the readability of IR, and reports that ten factors (percentage of financial experts in the audit

[23] If the materiality is not mentioned at all, the variable is 0; the variable is 1, if the report only states that materiality is the principle of integrated report; the variable is 2 if it includes a brief discussion of what is considered material; The variable is 3 if it goes beyond the discussion of what is material and conveys the material issues that arise in the analysis; if the description of the process and its results are described in more detail, the variable is 4; If the integrated report gives great attention to the material issue, the variable is 5.

committee relative to total members; percentage of sustainability experts in the audit committee relative to total members; annual audit committee meetings; audit committee size; percentage of female members in the audit committee relative to total members; the appointment of one of the Big 4 audit companies; audit fees paid to the external auditor for financial audit; engagement of third-party assurance of the integrated report; ownership structure; and the type of industry) positively impact the readability of IR, while firm risk negatively affects the readability of IR. Roman et al. (2019) observe that companies from countries with stronger transparency tendencies, companies from non-environmentally sensitive industries, and companies that adopt International Financial Reporting Standards (IFRS) are likely to publish less readable integrated reports. Roman et al. (2019) use the Gunning Fog index to measure the readability of integrated reports. Stone and Lodhia (2019) measure the readability of IR using the Flesch Reading Ease formula, the Gunning Fog index, and the Flesch-Kincaid measure. In addition, Stone and Lodhia (2019) provide two supplementary measures for evaluating the readability of IR. The first focuses on tables, graphs, photographs, pictures, figures, and diagrams in integrated reports, and the second deals with headings and sub-headings.

Balance

A balanced integrated report represents that it discloses matters using the positive and negative tones in a balanced way (Caglio et al., 2019; Melloni et al., 2017). In order to appraise the balance of IR, Beretta et al. (2018), Melloni et al. (2017), and Melloni et al. (2015) test the disclosure tone of IR. Beretta et al. (2018) adopt Loughran and McDonald’s Financial Sentiment Dictionary as a tool to measure the tone of intellectual capital disclosure within IR. If an intellectual capital text unit[24] contains one of the words listed in the positive word lists in the dictionary, it is classified as embodying a positive disclosure tone. Their results indicate that higher non-financial performance, smaller companies, companies which provide more text on intellectual capital disclosure, and companies which report more backward-looking intellectual capital disclosure tend to have a more optimistic tone in intellectual capital disclosures. Melloni et al. (2017) use DICTION’s optimism index to measure the tone of IR. They establish that companies with lower financial performance are associated with a more optimistic tone. Melloni et al. (2015) investigate whether the tone of business model disclosure within IR is a positive or non-positive connotation. They find that a bigger board, declining financial

[24] The text unit is defined as a sentence including a single piece of information.

performance, and forward-looking disclosure are associated with a more optimistic tone. Roman et al. (2019) apply Linguistic Inquiry and Word Count (LIWC) to capture the tone of integrated reports. Their results show that high revenue companies, newly established companies, and companies with shorter integrated reports tend to adopt an optimistic tone in their integrated reports.

Others

Three studies test multiple attributes of IR. Pistoni et al. (2018) examine the readability and clarity of IR (presence of multiple forms of information), conciseness of IR (number of pages in the document) and accessibility of IR (hard-copy documents versus website accessibility). Similarly, Melloni (2015) investigates the volume of capital disclosure (presence or absence), the time orientation of capital disclosure (forward-looking or non-forward looking), type of capitals disclosure (quantitative or non-quantitative), the tone of capital disclosure (positive or non-positive) and the topic of capital disclosure (inputs or outcomes). Caglio et al. (2019) explore the economic consequences of the readability, length, and tone of IR. Three measures: the Gunning Fog index, the Flesch-Kincaid grade level, and the Smog index, are adopted for evaluating the readability of IR. The length of IR is proxied by the number of words and the number of characters, respectively. The tone of IR is represented by the optimism and certainty. Optimism and certainty are calculated using the DICTION optimism score and the DICTION certainty score, respectively. Caglio et al. (2019) find that a less readable integrated report leads to a lower market value but if the less readable integrated report is assured, the negative impact of reading difficulty on market value is compensated. Furthermore, the length of IR is negatively associated with stock liquidity, but if a lengthy integrated report is assured, the negative impact of verbosity on stock liquidity is lessened. The result also indicates that the biased tone of IR results in lower dispersed analysts' estimates, and if an integrated report with a biased tone is assured, analysts' forecast dispersion is lower as well.

4.3.4 Stakeholder consultation in IR research

A number of IR studies use stakeholder consultation to collect stakeholders' views on the implementation of IR. Adhariani and De Villiers (2018), James (2015), and Steyn (2014) use questionnaire surveys to conduct stakeholder consultation, while the majority of extant IR studies use interview surveys (see Appendix A). In these studies, most respondents are report preparers, senior managers, auditors, regulators, and academics.

The main questions posed in the stakeholder consultation include the benefits of the adoption of IR, the challenges in adopting IR, how to address these challenges, the drivers of the adoption of IR, the understanding of IR, how to use the IR framework, who are the users of IR, how to implement integrated thinking, and how to prepare IR.

4.4 Limitations of prior IR studies

The overall research objective of this study is to develop an IR framework for China and apply the framework to evaluate the IR disclosure practices of Chinese listed companies. In order to identify IR disclosure items, many extant IR studies use IIRF as their framework rather than developing a jurisdiction-specific IR framework by considering country-specific factors. However, IIRF has several shortcomings, which explain why it could not be used indiscriminately in the present study. The problems are described as follows:

The first shortcoming of IIRF is that there is a lack of sustainability information. IIRF is established based on the belief that IR is intended to "explain to providers of financial capital how an organisation creates value over time" (IIRC, 2013, p.4). It has been critiqued by many scholars (e.g., Alexander & Blum, 2016; Brown & Dillard, 2014; Flower, 2015; Reuter & Messner, 2015) because IIRF focuses primarily on value to investors (Oll & Rommerskirchen, 2018). Critics, such as Brown and Dillard (2014), Flower (2015), and Alexander and Blum (2016) argue that IIRF falls far short of highlighting sustainability information.

The second shortcoming of IIRF is that it shows a lack of consideration of jurisdictional factors. The history, cultural and legal environments of different countries create a variety of obstacles to implementing IIRF (Dumay et al., 2017). Some scholars, such as Visser (2008) and Shareef et al. (2014) believe jurisdictional factors are important considerations for developing non-financial reporting frameworks. For instance, Visser (2008) argues that jurisdictional factors are drivers for non-financial reporting (e.g., CSR reporting) because they construct a distinctive picture of how non-financial reporting is understood and practiced in a specific country and make it necessary to be sensitive to a specific country's context (Visser, 2008).

The third shortcoming of IIRF is that there is a lack of specific disclosure and description. The disclosures prescribed by IIRF are too general; specific disclosures and their descriptions are needed (Abhayawansa et al., 2019).

The current study overcomes the limitations of IIRF. Firstly, sustainability information is incorporated into the Chinese IR framework. Secondly, Chinese jurisdictional factors are considered in the Chinese IR framework. The Chinese economic, political, legal, international, cultural, social, and environmental factors, which influence corporate reporting practices in China, are discussed and analyzed. Two disclosure items – Chinese Communist Party-building and overseas social responsibility – are incorporated into the Chinese IR framework. Thirdly, specific disclosures and descriptions are prescribed in the Chinese IR framework.

Strong (2015) argues that it is important to have stakeholders participating in shaping the IR framework. However, only a few studies adopt stakeholder consultation to validate IR disclosure items (e.g., Marx & Mohammadali-Haji, 2014; Naynar et al., 2018; Zhou et al., 2017) or to assign a weighting to each disclosure item (e.g., Lee & Yeo, 2016; Naynar et al., 2018; Zhou et al., 2017). Although stakeholders' perspectives are considered in these studies, they lack broader stakeholder participation. Abeysekera (2013) suggests that all stakeholders should be considered in an integrated report. Similarly, Velte and Stawinoga (2017), and Eccles and Krzus (2014) believe that IR should reflect all stakeholders' information needs. In the present research, a broader stakeholders' panel, including scholars in accounting, editors in financial media, financial managers, financial analysts in banks, auditors, officials in government agencies in charge of supervising Chinese companies, industry analysts in consultant companies, and financial analysts in investment companies, are involved in validating the disclosure items and assigning weightings to disclosure items to establish a weighted IR disclosure index.

In terms of the scoring system, although some IR studies adopt a scoring system with quality criteria (e.g., Lee & Yeo, 2016; Liu et al., 2018; Ruiz-Lozano & Tirado-Valencia, 2016; Van Zyl, 2013; Zinsou, 2018), their quality criteria lack consideration of the connectivity between financial and non-financial information, and of the connectivity between quantitative and qualitative information. Both Eccles and Krzus (2014) and Eccles et al. (2015a) assert that "connectivity of information" is the "spirit" of IR. In the scoring system of the present research, connectivity between financial and non-financial information, and connectivity between quantitative and qualitative information, are considered.

In order to collect stakeholders' views on the implementation of IR, the extant IR studies mainly focus on the perspectives of report preparers, senior managers, auditors, regulators and academics. However, the voices of other stakeholders are not heard by these researchers. In this study, a broader range of stakeholders participate in consultation to discuss the implementation of IR in China.

In addition, according to Manes-Rossi et al. (2020), “there is a limited amount of research that assesses IR disclosure levels” (p. 7). In particular, studies exploring IR disclosure practices by Chinese companies are scarce. In the present research, the most current IR disclosure practices of Chinese companies are measured using a newer dataset (2014-2018). The IR disclosure practices of Chinese companies are examined from various angles, including disclosure items analysis, themes analysis, overall analysis, trend analysis (2014-2018), listing type analysis (pure A-share listed companies and dual A- and H-share listed companies), and ownership type analysis (state-owned companies and non-state-owned companies). The determinants of IR disclosure practices and the effect of IR disclosure practices on agency costs are also investigated.

4.5 The selection and categorization of preliminary disclosure items

There are five main instruments on mandatory disclosure in mainland China, including the Shanghai Stock Exchange: *Notice of Doing a Better Job for Disclosing 2008 Annual Reports*; the Shanghai Stock Exchange: *Guidelines for Environmental Information Disclosure of Listed Companies*; the China Securities Regulatory Commission: *Regulations on Information Disclosure of Listed Companies*; the Shenzhen Stock Exchange: *Notice of Doing a Better Job for Disclosing 2008 Annual Reports*; and *the Notice of the China Securities Regulatory Commission on Promulgating Standards Concerning the Contents and Formats of Information Disclosure by Companies Offering Securities to the Public No.2—Contents and Formats of Annual Reports (2017 Revision)*. The details are provided in Appendix B. Rather than prescribing specific disclosure items, these lengthy and overlapping instruments on mandatory disclosure are more like promotions for information disclosure. Zheng (2014) believes that the instruments on information disclosure in China are complex and numerous, which is not conducive to accurate and efficient retrieval and referencing. Moreover, Zheng (2014) points out that the requirements of these instruments on information disclosure are broad and vague.

IR studies are selected as the primary reference literature for the identification of IR disclosure items considering the above arguments. Twenty-four articles regarding IR disclosures are chosen as the key literature. The key literature has a variety of features. Some articles (e.g., Lee & Yeo, 2016; Marx & Mohammadali-Haji, 2014; Zhou et al.,

2017) provide concise but not comprehensive IR disclosure items while others (e.g., La Torre et al., 2018; Liu et al., 2018) attempt to offer comprehensive but excessively exhaustive IR disclosure items. Other studies have different priorities. For instance, Kılıç and Kuzey (2018b) focus on forward-looking information disclosures, while the study by Du Toit et al. (2017) is concerned with CSR disclosures. The studies of Terblanche and De Villiers (2018) and Ahmed Haji and Anifowose (2017) cover information disclosures on human, relational and intellectual capitals. Hence, disclosure items are identified based on different features of the key literature. First, disclosure items that appear with high frequency in different literature sources are selected. Second, multiple academic articles are compared to prevent the omission of an important disclosure item and to ensure the comprehensiveness of the disclosure list; however, the list of disclosure items needs not to be too exhaustive (An, 2012). Lastly, academic articles that focus on a particular topic are referred to as well, such as those that place emphasis on intellectual capital disclosures. As a result, 52 disclosure items identified in the key literature are incorporated into the list of disclosure items. Among these disclosure items, two disclosure items are used by four different articles, while ten disclosure items are used by three different articles. Twenty-five disclosure items are applied by two different articles, while 15 disclosure items are employed by only one article.

Several studies on voluntary disclosure in the Chinese context, including those by Wang et al. (2008), Xiao and Yuan (2007) and Yuen et al. (2009) are also reviewed. Considering some sample companies in the present research are dual-listed A and H share companies, two instruments on mandatory disclosure published by the Hong Kong Stock Exchange, the Corporate governance code and the revised guidelines for ESG reporting, are referred to. In addition, a number of corporate reports, including annual reports and CSR reports, are scrutinized in case some important disclosure items might otherwise be omitted in the present research. Based on Chapter three, two disclosure items – overseas corporate social responsibility and Chinese Communist Party-building – are incorporated into the present research. Since this study is concerned with IR disclosure items that are generally applicable across industries, rather than focusing on a particular industry, the list of disclosure items does not need to be exhaustive. Therefore, several disclosure items are presented in an integrated manner. For instance, patents, copyrights and trademarks are similar in nature (An & Davey, 2010); thus, they are combined under the item of intellectual property. Overall, 54 preliminary IR disclosure items are identified in this study.

In previous IR studies, Kılıç and Kuzey (2018a), Lee and Yeo (2016), Zhou et al. (2017), Frías-Aceituno et al. (2013b), and Naynar et al. (2018) adopt 50 disclosure items, 40 disclosure items, 31 disclosure items, 23 disclosure items and 60 disclosure items respectively. The number of disclosure items in the present research is 54. This list of disclosure items, capturing the important elements of IR, is considered to be comprehensive and of an appropriate size, and thus applicable to one of the objectives of this study: to evaluate IR disclosure practices by Chinese companies.

Based on the previous discussion about the classification of IR disclosure items (see Section 4.3.1), in the present study, the preliminary disclosure items are categorised under eleven themes: namely organisational overview and external environment; governance; risks and opportunities; strategy; outlook; financial capital; manufactured capital; intellectual capital; human capital; social and relationship capital; and natural capital. The business model and performance are omitted because these seem to repeat other themes. According to IIRF, a business model is “an organisation’s system of transforming inputs (refer to the capitals that the organisation draws upon for its business activities) through its business activities into outputs (an organisation’s products and services, and any by-products and waste) and outcomes (the internal and external consequences for the capitals as a result of an organisation’s business activities and output) that aims to fulfil the organisation’s strategic purposes and create value over the short, medium and long term” (IIRC, 2013, p.33). Performance is defined as “an organisation’s achievements relative to its strategic objectives, and its outcomes in terms of its effects on the capitals” (IIRC, 2013, p.33). The six forms of capital can provide financial and non-financial key performance indicators, and the business model is an illustration of how a company processes its six forms of capital (Silvestri et al., 2017; Stent & Dowler, 2015). In addition, considering value creation (the other fundamental concept in addition to the six forms of capital) is implicitly considered in the six forms of capital, it is not listed as one of the preliminary disclosure items (Stent & Dowler, 2015).

Therefore, the preliminary list of disclosure items consists of 54 potential IR disclosure items, grouped as follows: 6 in corporate overview and external environment; 3 in strategy and competitiveness; 3 in governance; 2 in risk and opportunity; 3 in future outlooks; 4 in financial capital; 3 in manufacturing capital; 3 in natural capital; 7 in intellectual capital; 9 in human capital; and 11 in social and relational capital. Table 4.8 provides the draft list of IR disclosure items and their references.

Table 4.8 Draft list of IR disclosure items

Theme	Disclosure item	Reference
Corporate overview & external environment	Mission and vision	(Abeysekera, 2013; Kılıç & Kuzey, 2018a; Lee & Yeo, 2016; Sukhari & De Villiers, 2019)
	Culture, ethics and values	(Abeysekera, 2013; Kılıç & Kuzey, 2018a; Santis et al., 2018; Sukhari & De Villiers, 2019)
	Operating context	(Lee & Yeo, 2016; Kılıç & Kuzey, 2018a; Rivera-Arrubla et al., 2017)
	Ownership structure	(Nakib & Dey, 2018)
	Operating structure	(Nakib & Dey, 2018)
	Business and market	(Frías-Aceituno et al., 2013; Kılıç & Kuzey, 2018a)
Strategy & competitiveness	Strategy	(Kılıç & Kuzey, 2018a; Zhou et al., 2017)
	Competitive landscape	(Kılıç & Kuzey, 2018a; Lee & Yeo, 2016; Terblanche & De Villiers, 2018)
	Core competitiveness	(Lee & Yeo, 2016; Menicucci, 2018; Zhou et al., 2017)
Governance	Leadership structure	(Marx & Mohammadali-Haji, 2014; Zhou et al., 2017)
	Management remuneration and incentives	(Menicucci, 2018; Rivera-Arrubla et al., 2017)
	Management experience and capability	(Kılıç & Kuzey, 2018a)
Risk and opportunity	Risk	(Kılıç & Kuzey, 2018a; Lee & Yeo, 2016)
	Opportunity	(Kılıç & Kuzey, 2018a; Lee & Yeo, 2016)

(Continued)

Table 4.8 (Continued)

Theme	Disclosure item	Reference
Future outlooks	Business plans	(Kılıç & Kuzey, 2018b)
	Business objectives	(Kılıç & Kuzey, 2018a; Sukhari & De Villiers, 2019)
	Challenges & uncertainties	(Lee & Yeo, 2016; Nakib & Dey, 2018)
Financial capital	Present financial KPIs	(Kılıç & Kuzey, 2018a)
	The linkage between past and present financial KPIs	(Kılıç & Kuzey, 2018a; Nakib & Dey, 2018)
	Fund from financing	(Demartini & Trucco, 2017; Melloni, 2015)
	Fund from operations or investments	(Demartini & Trucco, 2017; Melloni, 2015)
Manufacturing capital	Buildings	(La Torre et al., 2018)
	Equipment	(Liu et al., 2018)
	Infrastructure	(Liu et al., 2018)
Natural capital	Pollution & pollution reduction	(La Torre et al., 2018; Liu et al., 2018)
	Resource consumption & resource saving	(La Torre et al., 2018; Liu et al., 2018)
	Extra environmental protection	(Du Toit et al., 2017)

(Continued)

Table 4.8 (Continued)

Theme	Disclosure item	Reference
Intellectual capital	Management processes	(La Torre et al., 2018; Terblanche & De Villiers, 2018)
	Brand	(Ahmed Haji & Anifowose, 2017; Kılıç & Kuzey, 2018a; Terblanche & De Villiers, 2018)
	Information technology & system	(Ahmed Haji & Anifowose, 2017; Terblanche & De Villiers, 2018)
	Research & development	(Ahmed Haji & Anifowose, 2017; Setia et al., 2015)
	Intellectual property	(Ahmed Haji & Anifowose, 2017; Santis et al., 2018; Terblanche & De Villiers, 2018)
	Marketing	(Naynar, Ram, & Maroun, 2018)
	Entrepreneurial spirit	(Terblanche & De Villiers, 2018)
Human capital	Recruitment and job creation	(Lai et al., 2013; Lee & Yeo, 2016; Naynar et al., 2018)
	Employee remuneration	(Ahmed Haji & Anifowose, 2017; Garanina & Dumay, 2017; Terblanche & De Villiers, 2018)
	Employee equality	(Bowrin, 2018; Naynar et al., 2018; Terblanche & De Villiers, 2018)
	Employee care	(Terblanche & De Villiers, 2018)
	Resignation, layoffs and dismissal	(Bowrin, 2018; Garanina & Dumay, 2017)
	Employee career development	(Bowrin, 2018; Terblanche & De Villiers, 2018)
	Employee health and safety	(Ahmed Haji & Anifowose, 2017; Terblanche & De Villiers, 2018)
	Employee training and education	(Ahmed Haji & Anifowose, 2017; Kılıç & Kuzey, 2018a; Terblanche & De Villiers, 2018)
	Employee qualifications	(Terblanche & De Villiers, 2018)

Continued

Table 4.8 (Continued)

Theme	Disclosure item	Reference
Social and relational capital	Competitor relation	(Liu et al., 2018; Setia et al., 2015)
	Customer relation	(Ahmed Haji & Anifowose, 2017; Kılıç & Kuzey, 2018a; Terblanche & De Villiers, 2018)
	Business collaboration	(Ahmed Haji & Anifowose, 2017; Terblanche & De Villiers, 2018)
	Supplier or distributor relation	(Naynar et al., 2018; Terblanche & De Villiers, 2018)
	Government relation	(La Torre et al., 2018; Naynar et al., 2018)
	Shareholder relation	(Setia et al., 2015)
	Creditor relation	(Terblanche & De Villiers, 2018)
	Overseas CSR	Own elaboration
	Society & community support	(Naynar et al., 2018; Setia et al., 2015)
	Product or service quality	(Lai et al., 2013; Terblanche & De Villiers, 2018)
	CCP-building	Own elaboration

4.6 Chapter summary

IR is a new form of corporate reporting, which emphasises “the connectivity between financial and non-financial information”, “creating and sustaining value”, and “stakeholder-orientation”. The origin of IR practices can be traced to developments in early corporate reporting practices. Developments in related regulations globally are also heading towards the adoption of IR. A significant global IR development has been the establishment of the IIRC and its IIRF, which is regarded as an important achievement in IR. Most previous studies have used the IIRF as their IR framework instead of developing a jurisdictional IR framework for a specific country. Content analysis using a disclosure index and a scoring system is widely applied to assess IR disclosure practices. However, a weighted disclosure index and a scoring system with quality criteria are seldom used in IR disclosure practices measurement approaches.

Due to the scarcity of IR research in the Chinese context, the present study develops a Chinese stakeholder-oriented IR framework and uses this framework to assess IR disclosure practices by Chinese companies. Drawing on previous IR studies, this chapter provides a preliminary list of disclosure items, which forms the basis for stakeholder consultation in China.

CHAPTER FIVE

RESEARCH METHODOLOGY AND METHOD

5.1 Introduction

This chapter describes the research methodology and method adopted in this study. The emphasis is on the mixed method comprising both quantitative and qualitative analysis. Key concepts related to the mixed method are defined and justifications are provided for the use of the methodology and method in this research.

Section 5.2 describes the assumptions underpinning three research paradigms: positivist, constructivist and pragmatist, and explains the choice of mixed methods as the research methodology. Section 5.3 explains how the mixed method is applied in this study, including data collection and data analysis. Section 5.4 summarises the chapter.

5.2 Research methodology

A research paradigm is “a framework that guides how research should be conducted, based on people’s philosophies and their assumptions about the world and the nature of knowledge” (Collis & Hussey, 2014, p. 43). Burrell and Morgan (1979) identify research paradigms based on objectivist-subjectivist approaches to ontology, epistemology, human nature and methodology. They believe that assumptions about ontology, epistemology and human nature guide the social science researcher’s choice of different methodologies (Burrell & Morgan, 1979). Table 5.1 provides a summary of the main features of the three main social science research paradigms: positivist, constructivist (or interpretivist), and pragmatist.

With regard to ontology, positivist researchers believe that reality is objective and singular, while constructivist researchers believe that reality that is subjective and multiple (Tashakkori & Teddlie, 1998). From the perspective of epistemology, positivist researchers assert that the researcher is independent of what is being researched, while constructivist researchers assert that the researcher is inseparable from what is being researched (Tashakkori & Teddlie, 1998). Looking at axiology, positivist researchers advocate the research is value-free, while constructivist researchers hold that research is value-bound (Tashakkori & Teddlie, 1998). From a methodology point of view, positivist researchers emphasise quantitative methodology, while constructivist researchers prefer the use of qualitative methodology (Tashakkori & Teddlie, 1998).

Based on the contrast between the two paradigms, the positivist and constructivist paradigms are often viewed as opposite and incompatible with each other, which leads to the so-called qualitative-quantitative debate (or paradigm wars) in which researchers from two distinct paradigm camps reject each other's paradigm (Gage, 1989; Howe, 1992; Tashakkori & Teddlie, 1998). A number of scholars have criticised viewing the positivist and constructivist paradigms as mutually exclusive dichotomies (Bryman, 2007; Datta, 1994; Grafton et al., 2011; Hammersley, 1992; Hedrick, 1994; House, 1994). In order to reconcile the paradigm wars, pragmatism was introduced (e.g., see Datta, 1994; House, 1994), focusing on the compatibilities between positivism and constructivism (Collis & Hussey, 2009; Tashakkori & Teddlie, 1998).

The ontological assumptions underpinning pragmatism are that reality is viewed as singular as well as multiple, and the world is objective as well as subjective (Creswell, 2014; Creswell & Clark, 2011). The epistemological assumption of pragmatism allows for the coexistence of both objective and subjective points of view (Creswell, 2003; Tashakkori & Teddlie, 1998). The axiology of pragmatism assumes that value plays a large role in research (Collis & Hussey, 2009; Tashakkori & Teddlie, 1998). Pragmatism focuses on "what works" rather than being committed to any one system of philosophy and reality (Creswell, 2014). Therefore, pragmatist researchers are not constrained by a single paradigm and do not focus on the philosophical debate about reality and the nature of knowledge (Collis & Hussey, 2009). They advocate that researchers ought to be free to choose and mix different methods from different paradigms, based on whether these methods are useful for solving the research problem (Collis & Hussey, 2009). Thus, pragmatist paradigm is regarded as an attempt to cross the divide between the positivist and constructivist paradigms (Curran & Blackburn, 2000).

Table 5.1 The features of three research paradigms

Assumption		Positivism; Post positivism	Constructivism	Pragmatism
Ontology: the nature of reality		Reality is objective and singular, apart from the researcher	Reality is subjective and multiple as seen by participants in a study	Is not committed to any one system of philosophy and reality; researchers have a freedom of choice; the world is not an absolute unity; the truth is not based in a duality between reality independent of the mind or within the mind; an external world is independent of the mind as well as that is lodged in the mind.
Epistemology: relationship to that being researched		A researcher is independent of that being researched	Researcher interacts with that being researched	
Axiology: the role of values		Value-free and unbiased	Value-bound and biased	
Methodological: the overall process of research	Methodology	Typically, quantitative	Typically, qualitative	Typically, mixed methods
	Form of data	Typical numeric	Typical narrative	Narrative plus numerical
	Purpose of research	(Often) confirmatory plus exploratory	(Often) exploratory plus confirmatory	Confirmatory plus exploratory
	Logic	Deductive process; Mutual simultaneous shaping of factors	Inductive process; Cause and effect	Both inductive and deductive logic; inductive-deductive research cycle
	Typical studies or designs	Experimental designs; Nonexperimental designs, such as surveys	Narrative research; Phenomenology; Grounded theory; Ethnographies; Case study	Convergent; Sequential; Transformative, embedded, or multiphase; Concurrent
	Sampling	Mostly probability	Mostly purposive	Probability, purposive, and mixed
	Data analysis	Statistical analysis; descriptive and inferential	Thematic strategies; categorical and contextualising	Integration of thematic and statistical; data conversion
	Validity/trustworthiness issue	Accurate and reliable through validity and reliability (testing)	Accurate and reliable through verification	Inference quality; inference transferability

Source: adaptive from Creswell (2003), Creswell (2014), Tashakkori and Teddlie (2003)

Grounded in pragmatism, pragmatist researchers propose mixed methods methodology as the third methodology in addition to qualitative and quantitative methodology (Hall & Howard, 2008; Tashakkori & Teddlie, 1998). Mixed methods research uses both qualitative and quantitative methods for collecting, integrating, analysing, and interpreting quantitative and qualitative data in order to obtain breadth and depth of understanding and corroboration (Johnson et al., 2007; Leech & Onwuegbuzie, 2009; Tashakkori & Creswell, 2007; Tashakkori & Teddlie, 2003) and has gained in popularity in multiple disciplines (Leech & Onwuegbuzie, 2009).

According to Tashakkori and Teddlie (2003), compared with only adopting single quantitative methods or qualitative methods, there are three areas in which mixed methods may have advantages. Firstly, "mixed methods research can answer research questions that the other methodologies cannot" (p.14). Secondly, "mixed methods research provides better (stronger) inferences" (p.14). Thirdly, "mixed methods provide the opportunity for presenting a greater diversity of divergent views" (p.15). Brannen (2005) also believes that mixed methods research can provide a more holistic picture of the research phenomenon. Firstly, the adoption of one type of method can enrich the understanding obtained from another type. Secondly, the adoption of one type of method can generate complementary insights with another type. Thirdly, the adoption of one type of method can spark new research questions that can be explored using another type. In addition, contradictions obtained from mixed methods can be juxtaposed in order to be explored in further research (Brannen, 2005). In summary, no single type of method is best because each method has its own advantages and disadvantages (De Silva, 2011). Mixed methods research can overcome the methodological weaknesses of a sole type of method to some extent (Creswell, 2003).

According to Creswell (2003), several factors influence the selection of a paradigm; these include the researcher's worldview, the training and experience of the researcher, the nature of the research problem, and the audience for the study. Firstly, the worldview of the researcher in the present study coincides with the philosophical assumptions of mixed methods. The researcher in the present study believes researchers are free to select the methods that best meet their needs and purposes, rather than subscribing to only one type of method. Therefore, the worldview of the researcher enables the researcher not to confine the study to a certain type of method. Secondly, the researcher in the present study has received the necessary training in technical writing skills, literary writing skills, computer statistical skills, computer text-analysis skills, and library skills and thus has the ability to apply different research methods to some degree. Thirdly, in terms of the nature of the research problem, IR practices, as one of the corporate reporting practices, are a reflection of human behaviour, and thereby can be examined using various types of research methods (De Silva, 2011). A number of studies on IR practices, such as those of Zhou et al. (2017), Fernando et al. (2018), and Naynar et al. (2018) have used mixed methods. Lastly, the potential research audiences of the study are broad stakeholders. Some audiences may tend to prefer quantitative research, but other may tend to prefer qualitative research. Compared with a single research method, mixed methods can provide comprehensive findings and interpretations for the broad research audience. Thus, given the benefits of mixed methods and the above arguments on paradigm choices, mixed methods are adopted in the present research, as shown in Figure 5.1. Overall, both quantitative data and qualitative data are collected, processed, analysed and interpreted.

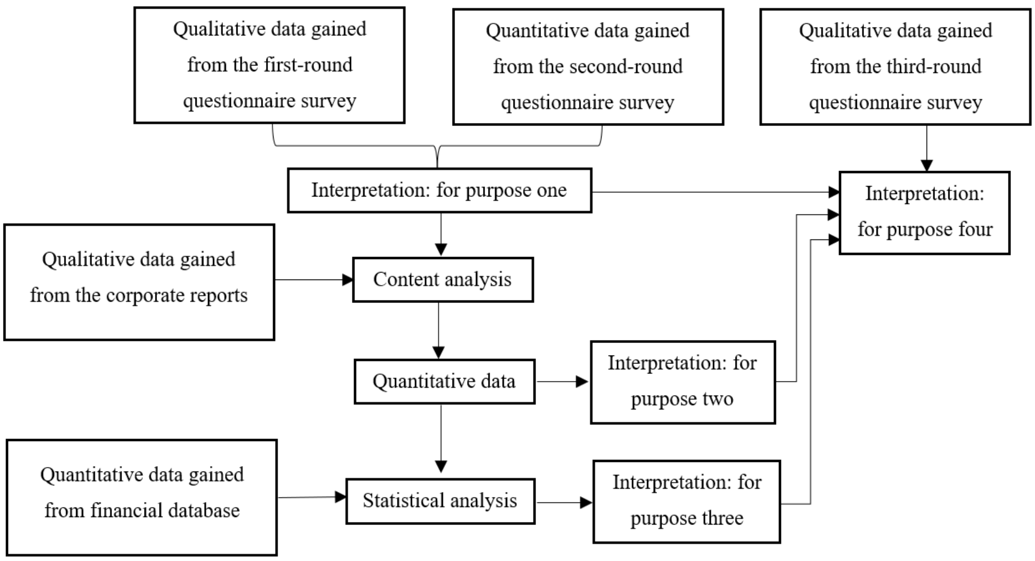

Figure 5.1 The adoption of mixed methods methodology

Source: Author's design

5.3 Research method

A research method is "a technique for collecting and/or analysing data" (Collis & Hussey, 2014, p.59). According to Smith (2015), archives, experiments, surveys, and fieldwork are commonly used data-collection methods. In order to achieve the purposes of the present research, surveys (questionnaires) and archives (corporate reports and financial database) are used to collect data. In the extant accounting studies, descriptive statistics and inferential statistics (including correlation, regression, analysis of variance and multivariate model building) are widely used to process and analyse quantitative data, while content analysis, narrative analysis, discourse analysis, and grounded theory are commonly applied to process and analyse qualitative data (Smith, 2015). In the present study, content analysis is adopted to deal with textual data gained from corporate reports while statistical analysis (descriptive statistics and inferential statistics) is used to deal with quantitative data gained from content analysis[25] and financial databases. Overall, the methods of data collection and analysis are outlined in Figure 5.2.

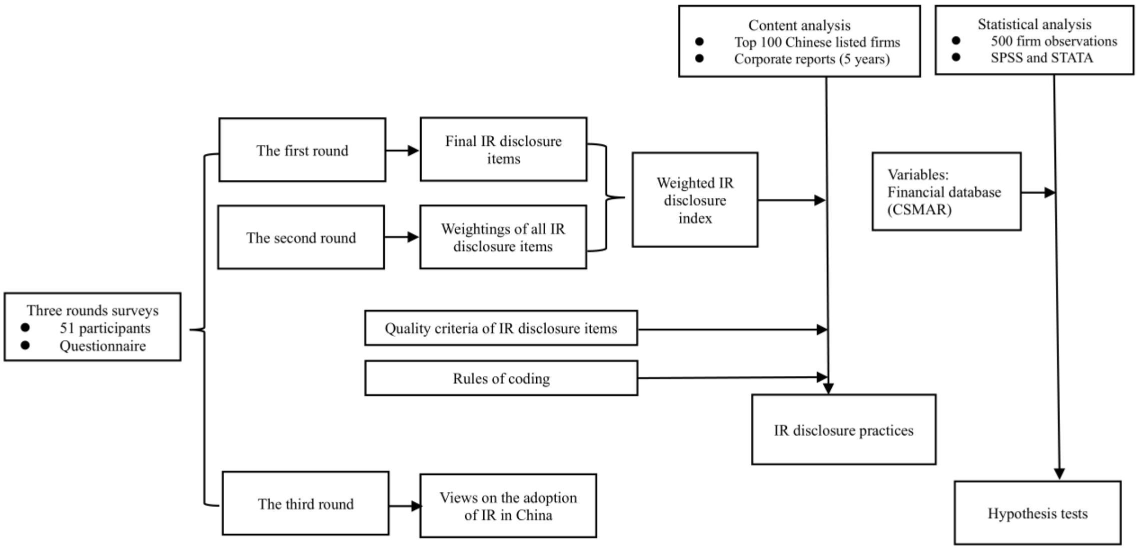

Figure 5.2 The process of data collection and analysis

Source: Author's design

5.3.1 Stakeholder survey

Designing a Chinese IR disclosure index and making recommendations for the implementation of IR practices in China are two of the main purposes of this research. In order to achieve the two research purposes, three rounds of stakeholder surveys with a stakeholder panel comprising 51 Chinese stakeholders are conducted. The 51 Chinese stakeholders consist of eight groups: scholars in accounting, editors in financial media, financial managers[26], financial analysts in banks, auditors, officials in government agencies in charge of supervising Chinese companies, industry analysts in consultant companies, and financial analysts in investment companies. Of the 51 participants, 32 are

[25] Content analysis can systematically convert selected items of qualitative data to quantitative data (Collis & Hussey, 2014).

[26] Financial managers are also corporate report preparers due to preparing corporate reports are one of responsibilities of Chinese financial managers.

male while 19 are female. Complying with specific criteria can make the selection of stakeholders purposive rather than random. Firstly, every stakeholder has to be a Chinese resident. Because one of the objectives of this study is to develop a Chinese IR disclosure index, it is expected that Chinese residents would be the primary beneficiaries of this study. Furthermore, Chinese residents are more familiar with the Chinese context than with other countries' residents. In addition, Chinese residents are the main users of corporate reports (Chinese language version) issued by Chinese listed companies. Secondly, the stakeholders are selected based on their professional background. Their different professional backgrounds represent different stakeholder groups that have a variety of professional voices. It is also expected that the selected stakeholders could provide critical insights from their professional perspectives. Thirdly, the stakeholders have to be familiar with corporate reporting. Fourthly, the selected stakeholder must agree to participate in this research. Therefore, each questionnaire contains two questions about professional details, including the job title of the participant and the type of organisation where the participant works. Each questionnaire also provides two tick-boxes to verify the stakeholder is a Chinese resident and a corporate reporting reader. This research has been granted Ethics Approval by Waikato Management School Human Research Ethics Committee (see Appendix C). Each participant is also provided with a participant information sheet (see Appendix D) and asked to sign a consent form (see Appendix E) to indicate their willingness to participate in the study.

The sampling method adopted in the questionnaire survey is convenience sampling. Convenience sampling is a type of nonprobability sampling in which people are sampled because they are "convenient" sources of data to contact or to reach (Etikan et al., 2016). The potential participants are identified by the researcher of the study using personal channels, involving the researcher's personal relationship network. For instance, the researcher contacted family members, friends, previous classmates, previous teachers, and previous colleagues and briefly introduced the study and the criteria for selection of stakeholders. Then the researcher invited them to participate in this study if they met the criteria for selection. The researcher also asked them to invite any eligible professional people they were familiar with by using their relationship networks. Specifically, acquaintances of the author introduced someone they were familiar with and asked those potential participants whether they were willing to participate in this research and whether they were willing to provide their contact information to the researcher. After obtaining permission from those potential participants, the researcher obtained contact information and contacted potential participants. The personal channel is considered a common way to build an informal personal connection between two or more persons (Liu, 2014). In the initial contact process, all the potential participants were fully informed of the necessary information for this study and their rights to confidentiality, withdrawal, and further queries about the research.

This stakeholder consultation panel consists of 51 professionals from eight stakeholder groups. Dalkey (1969) believes that the minimum number of participants is 15-20, while Martino (1993) points out that 10-30 participants are reasonable. In previous IR studies, Lee and Yeo (2016) use 40 professionals. In other corporate reporting studies, An (2012) has 24 participants and Md Zaini (2017) has 41 participants. The 51 participants in this research represent a wide range of stakeholders and could provide comprehensive views from multiple angles. Therefore, it is considered that 51 participants are appropriate for this research.

The data collection documents (consisting of a cover letter, participant information sheet, questionnaires, and consent form) were sent to participants via email. All the data collection documents were originally written in English by the author of this study. As the data collection documents were used for collecting views from Chinese stakeholders, a certified translator was invited to translate the content of these documents from English to Chinese.

In order to ensure that the certified translator’s Chinese version provided the same information as the author’s English version and to reach equal status, the researcher asked a Chinese PhD candidate from the Waikato Management School to translate the certified translator’s Chinese version back into English. A comparison was then made between the Chinese PhD candidate’s English version and the author’s English version by the author’s two PhD supervisors (both of whom were native English-speakers), and only minor differences were found. For instance, in the consent form for participants, the author stated “I also understand that I am free to withdraw from the study at any time until 31 August 2020, or to decline to answer any particular questions in the study” while the Chinese PhD candidate states “I also understand that I can withdraw from the study at any time until 31 August 2020, or refuse to answer any specific questions in the study”. Another example is that in the questionnaire, the author described a disclosure item, “resource consumption and resource conservation”, as “various resources consumed by the company and initiatives to reduce resources consumption" whereas the Chinese PhD candidate described the same disclosure item as "various resources consumed by the company and measures to reduce resource consumption". As all these differences were different ways of expressing (using different words and phrases) the same content, the differences were acceptable and no changes were made.

Finally, the author asked an associate professor (bilingual in both English and Chinese) who worked in the Waikato Management School to assess the author's English version and the certified translator's Chinese version. The associate professor indicated that the Chinese version was accurate and tightly consistent with the author's English version. Therefore, the certified translator's Chinese version was used as the final version of the questionnaire surveys. Once the feedback from all the participants was received by the author, the certified translator translated participants' comments from Chinese to English and the Chinese PhD candidate from the Waikato Management School checked these translations.

The first-round stakeholder survey

The purpose of the first-round and second-round stakeholder surveys is to design a Chinese IR disclosure index. Because most disclosure items are identified as being principally based on prior IR frameworks used to investigate IR disclosure practices in other countries, it is necessary to assess their applicability in the Chinese context. Therefore, stakeholder consultation is important to construct the Chinese-specific IR framework because stakeholders are more conversant with the Chinese context. Specifically, the first-round stakeholder survey is to validate preliminary IR disclosure items. Prior corporate reporting studies, such as those by Coy and Dixon (2004), Guthrie et al. (2004) and Hooks et al. (2002), emphasise the importance of validation of disclosure items by corporate report users. In previous IR studies, Zhou et al. (2017), Marx and Mohammadali-Haji (2014), and Naynar et al. (2018) collect such data from the questionnaire survey or interview survey. In the present study, the tool for data collection is a questionnaire containing three open-ended questions and a preliminary list of 54 disclosure items developed mainly based on the literature review (an example is provided in Table 5.2). Each disclosure item is provided with a brief description and the reference(s). Compared with solely offering the list of disclosure items without corresponding references, providing reference(s) is deemed to be a better way (An, 2012). The preliminary list of 54 disclosure items needs to be scrutinised by Chinese stakeholders in order to be adaptive to the Chinese context and meet Chinese stakeholders' expectations. The questionnaire (See Appendix F) was sent to 51 Chinese stakeholders from eight stakeholder groups via email. After negotiating with stakeholders who had varied views, and achieving consensus, the formal list of 68 disclosure items was established.

Table 5.2 An example of the first questionnaire

Item	Description
3.2 Brand	Brand ranking, brand value, brand image, brand reputation, etc.
…	…
Question No. 1: Which disclosure items do you think are not necessary to appear in the list and can be deleted? Why do you think these disclosure items are unnecessary?	
Question No. 2: Which disclosure items presented in the list need to be adjusted? Why do you think these disclosure items need to be adjusted and how would you suggest modifying these disclosure items?	
Question No. 3: In addition to the disclosure items presented in the list, are there any additional disclosure items that ought to be disclosed? Why do you think these disclosure items are necessary?	

Each questionnaire contains two questions about participants' professional details, including the job title of the participant and the type of organisation where the participant works. In order to verify the participants are Chinese residents and are familiar with corporate reports, two tick-boxes are incorporated into the questionnaire. The first one is "Are you a Chinese resident?" and the second one is "Are you familiar with the corporate reports?" The questionnaire also provides a brief introduction to IR, which enables participants who are not familiar with IR to understand its nature.

The questionnaire includes a preliminary list of IR disclosure items, followed by blank spaces to allow participants to answer three open-ended questions. The first question is "Which disclosure items do you think are not necessary to appear in the list and can be deleted? Why do you think these disclosure items are unnecessary?". The second question is "Which disclosure items presented in the list need to be adjusted? Why do you think these disclosure items need to be adjusted and how would you suggest modifying these disclosure items?". The third question is "In addition to the disclosure items presented in the list, are there any additional disclosure items that ought to be disclosed? Why do you think these disclosure items are necessary? Why do you think these disclosure items are necessary?” In addition, a tick-box is incorporated to allow the participants to check. The option of “yes” could be chosen if a participant has no further comments and totally agrees with the disclosure items.

The second-round stakeholder survey

The second-round stakeholder survey is to assign a weighting for each formal IR disclosure item. In extant IR studies, Zhou et al. (2017), Naynar et al. (2018), and Lee and Yeo (2016) have collected such data from questionnaire surveys. Both Zhou et al. (2017) and Lee and Yeo (2016) adopt a 2-point Likert-like scale, only considering whether a disclosure item is important or not important, while Naynar et al. (2018) use a 5-point Likert-like scale, which is similar to that used in the present study. In the present study, the tool for data collection is a questionnaire containing a list of formal IR disclosure items with a 5-point Likert-like scale (for an example, see Table 5.3). The questionnaire (See Appendix G) was sent to 51 Chinese stakeholders from eight stakeholder groups via email. Hooks (2000) believes “the weightings result from feedback from a wide range of stakeholders so that the bias that would be imposed by just one-user group, for example, financial analysts, is avoided and may be eliminated” (p. 128). All Chinese stakeholders gave a weighting to the importance of each disclosure item presented in the questionnaire.

In this 5-point Likert-like scale, 1 indicates the least important; 2 indicates less important; 3 indicates moderately important; 4 indicates very important; and 5 indicates extremely important. Such a scale has some advantages, being easy to understand and fast to use (Hooks, 2000), constraining the extent to which the participants can distinguish their responses, and avoiding participants having different understandings about the level of importance indicated by a specific numerical value (Ingram & Robbins, 1992). Many studies have used 5-point Likert-like scales, including those by Adhikari and Tondkar (1992) in the international context, Hooks et al. (2002) in the New Zealand context, An (2012) and Liu (2014) in the Chinese context, and Md Zaini (2017) in the Malaysian context.

All weightings assigned to each item are summed and divided by 51 (the total number of panel members) to calculate a mean scale of importance for each item (An, 2012; Coy & Dixon, 2004; Hooks et al., 2002; Liu, 2014). The reasons for using a mean scale of importance are to mediate the disparity of stakeholders’ responses and to avoid misleading results (Dinius & Rogow, 1988; Hooks et al., 2002). Once the weightings are assigned to all disclosure items, a weighted IR disclosure index is established.

Table 5.3 An example of the second questionnaire

Item	**Description**	**Your weighting (1-5)**				
		1	2	3	4	5
		Unimportant to disclose	Of little importance to disclose	Moderately important to disclose	Very important to disclose	Extremely important to disclose
1.1 Brand	Brand ranking, brand value, brand image, brand reputation, etc.					
…	…	…				

<u>The third-round stakeholder survey</u>

The purpose of the third-round stakeholder survey is to make recommendations for the implementation of IR practices in China. Specifically, the third-round stakeholder survey is to collect Chinese stakeholders' views on the challenges of adopting IR in China and obtain Chinese stakeholders' suggestions. In previous IR studies, Adhariani and De Villiers (2018), James (2015) and Steyn (2014) collect such data from questionnaire surveys. However, more IR studies use interviews to collect such data (e.g., Abhayawansa et al., 2019; Atkins & Maroun, 2015; Chaidali & Jones, 2017; James, 2015; Lodhia, 2015). Interviews have some advantages over questionnaires (Phellas et al., 2011). If interviewees do not understand some questions, the interviewer can provide further explanations; if interviewers do not understand the responses, interviewees can be asked for further elaboration (Phellas et al., 2011). However, compared with questionnaires, interviews are more time consuming (Phellas et al., 2011). Moreover, questionnaires can avoid interviewer bias and allow respondents more time to collect necessary information or to deliberate their answers (Phellas et al., 2011). Therefore, based on the above arguments, the tool for data collection is a questionnaire containing a series of open-ended questions (see the example in Table 5.4). The questionnaire (See Appendix H) is sent to 51 Chinese stakeholders via email. The questionnaire includes blank spaces to allow participants to answer two open-ended questions. The first question is "If IR is to be adopted in China, what are the barriers to IR adoption and challenges to IR adoption?"

and the second one is “What are your recommendations on the implementation of IR in China?” Additionally, each questionnaire provides a tick-box. The “no” option means that a participant has no comments on the two open-ended questions.

Table 5.4 An example of the third-round questionnaire

Question	Reply
1. If IR is to be adopted in China, what are the challenges of IR?	…
…	…

5.3.2 Content analysis

Assessing IR disclosure practices of Chinese listed companies is one of the main purposes of this research. In order to achieve this purpose, content analysis is employed. According to Krippendorff (2014), “content analysis is a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use” (p. 18). Denscombe (1998) believes the strength of content analysis is that “it provides a means for quantifying the contents of a text, and it does so by using a method that is clear and, in principle, repeatable by other researchers” (p. 168). Content analysis is a widely accepted tool for textual analysis (Silverman, 1993). This textual analysis tool has been commonly used to examine corporate reporting disclosure practices (Steenkamp, 2018). Content analysis is also widely used in previous IR studies to evaluate IR disclosure practices (Cohen et al., 2012; Eccles & Krzus, 2014; Lipunga, 2015; Needles et al., 2018; Santis et al., 2018; Terblanche & De Villiers, 2018).

Data collection

The textual data displayed on the annual reports and CSR reports are necessary for content analysis (De Silva, 2011). In this study, the source of data collection is five fiscal years (2014-2018) annual reports and CSR reports by Chinese A-shares listed Companies. The annual report and CSR reports issued by a listed company are usually comprehensive documents, including mandatory and voluntary information in the form of numbers, narratives, photographs and charts, to present the overall picture of a company. In previous IR studies, Lipunga (2015) collects such data from annual reports by Malawi listed companies and Stent and Dowler (2015) gather such data from annual reports by New Zealand companies. Kılıç and Kuzey (2018a) obtain such data from annual reports and sustainability reports from Turkish listed companies. The justification for the selection of the corporate reports published for fiscal years 2014-2018 is that one of the purposes of the present study is to investigate the most recent IR disclosure practices by Chinese companies. Corporate reports of 2014 were the first that can be impacted by the IIRF because the IIRF was published on 8 December 2013 (Grassmann et al., 2019).

In the present study, according to market capitalisation at the end of the fiscal year 2014[27], the top 100 A-share listed companies are selected as sample companies, for the following four reasons. Firstly, the sample companies are the largest companies in China. Compared with smaller ones, large companies are subject to more significant scrutiny from stakeholders and regulatory bodies (Deegan et al., 2002). Thus, considering larger companies are regarded as benchmarking companies for medium and small companies (Shin, 2014), their IR disclosure practices are of more concern to Chinese stakeholders. Moreover, large companies have more mature corporate reporting systems, more developed accounting infrastructure, and more expertise, allowing larger companies to be the forerunners in preparing corporate reports with high IR disclosure practices (Maroun & Atkins, 2018). Secondly, the sample companies cover a wide range of industrial sectors; therefore, IR disclosure practices in various industries could be investigated, which ensures the findings are not specific to a particular type of industry (Maroun & Atkins, 2018). Thirdly, the sample includes both pure A-share and dual-listed A- and H-share Chinese companies, which represent a unique stock market. Fourthly, a sample of 500 firm-year observations represents a reasonable sample size for further statistical analysis in Chapter nine (VanVoorhis & Morgan, 2007). The market capitalisation of sample companies as at 31 December 2014 ranges from 74.7 billion yuan to 20.8 trillion yuan with a mean of almost 1.38 trillion yuan. The 100 sample companies belong to 10 industry sectors: consumer goods (7); consumer services (4); technology (6); telecoms (1); oil and gas (2); basic materials (5); industrial (24); utilities (7); financial (34); and real estate (10).

Some IR studies do not select financial companies (e.g., banks and insurance companies) as sample companies. García-Sánchez et al. (2013) exclude financial companies from their sample because they believe that compared with non-financial companies, assets evaluation and corporate structures of financial companies are quite different. Gerwanski et al. (2019) eliminate financial companies because they show significant differences from non-financial companies regarding asset structure and financial leverage,

[27] According to Regulations on Information Disclosure of Listed Companies issued by CSRC in 2007, the annual report for the previous fiscal year must be released no later than 30 April.

accounting standards and practice, and disclosure regulation and supervision. Zinsou (2018) believes that financial companies have a special corporate reporting system. However, some researchers do not avoid financial companies in their research (e.g., Lee & Yeo, 2016; Vaz et al., 2016; Zhou et al., 2017). Sofian and Dumitru (2017) choose financial companies because the financial sector is the largest sector in Europe. Sofian and Dumitru (2017) claim that although financial companies are excluded from a number of previous studies, they offer an interesting setting for IR research. The financial services sector is the largest sector in China's stock market and represents more than one-fifth of the total market capitalisation (Cheng & Li, 2014). Also, financial companies have started attracting more attention from stakeholders and regulatory bodies with regard to the accountability, legitimacy, and influence of the financial sector since the global financial crisis in 2007 (Vitolla et al., 2020b). Therefore, financial companies are not excluded from the present study.

Many studies select sample companies based on market capitalisation. For instance, Ahmed Haji and Anifowose (2016b) identify the top 100 companies listed on the Johannesburg Stock Exchange according to market capitalisation. Kılıç and Kuzey (2018a)'s sample companies consist of the top 100 companies listed in Borsa Istanbul according to market capitalisation. Marx and Mohammadali-Haji (2014) focus on the top 40 companies listed on the Johannesburg Stock Exchange based on market capitalisation. In this research, the top 100 Chinese A-shares listed companies are chosen based upon their market capitalisation on 31 December 2014. The pure A-share listed companies mainly publish Chinese-language corporate reports (annual reports based on Chinese accounting standards as well as stand-alone CSR reports)[28] while dual-listed A- and H-share companies produce separate Chinese-language and English-language corporate reports (annual reports based on International Financial Reporting Standards as well as stand-alone CSR reports). In this study, only the Chinese-language versions of corporate reports (annual reports and CSR reports) are collected. These corporate reports are manually acquired from the websites of each company.

[28] According to Regulations on Information Disclosure of Listed Companies issued by China Securities Regulatory Commission (CSRC) in 2007, information disclosure can be compiled in Chinese and other languages simultaneously, but the Chinese version is mandatory and in the event of any disparities between the Chinese version and other language versions, the Chinese version prevails.

Rules of coding

The rules of coding are the basis of content analysis (Berelson, 1952; Krippendorff, 1980; Stemler, 2001; Weber, 1990), and are important in ensuring the reliability of content analysis (Milne & Adler, 1999). Three rules of coding are applied in this research.

The first coding rule is "code for meaning rather than looking for exact words" (Schneider & Samkin, 2008, p.472). Interpretative content analysis is employed in the present study because according to the explanations of Beck et al. (2010), interpretative content analysis captures meaning by disaggregating narrative into textual units and then interpreting the contents of each disaggregated textual unit. Interpretative content analysis focuses on gaining a greater understanding of what is communicated; therefore, it is more concerned with the meaning of the narrative. Thus, all coding is undertaken manually rather than using the qualitative data analysis software that specializes in looking for exact words.

The second rule of coding is that a sentence is the text unit. In previous IR studies, words or sentences of corporate reports have been used as text units. For instance, Menicucci (2018) takes words as the text units while some studies, such as those of Stacchezzini et al. (2016), Melloni (2015), Melloni et al. (2015), and Beretta et al. (2018), choose sentences as text units. Vandemaele et al. (2005) believe that compared with words, sentences are more reliable as the text units. According to Milne and Adler (1999), "individual words have no meaning to provide a sound basis for coding social and environmental disclosures without a sentence or sentences for context" (p. 243). Therefore, the second coding rule is that a sentence containing a single piece of information relating to IR disclosure items in the list constructed previously is chosen to be the textual unit in the present research. However, if a sentence includes more than one single piece of information, different pieces of information are considered separately as a single textual unit. It is noted that if the meaning of a sentence is implied, it is not coded (Schneider & Samkin, 2008). Furthermore, if the same disclosure item is presented more than once in different sentences, a score is given based on the aggregate of disclosure quality (An, 2012; An & Davey, 2010; Schneider & Samkin, 2008). In addition, tables are coded and one row is considered as one sentence (An & Davey, 2010; Schneider & Samkin, 2008). Also, information in the form of pictures, photographs, figures, or charts may convey a meaningful message (Md Zaini, 2017). If a picture, photograph, figure, or chart can convey narrative/actual physical quantified/monetary descriptions, it is coded.

The third rule of coding is that auditors' reports, financial statements and notes to the financial statements contained in the annual report[29] are not coded (An, 2012; An & Davey, 2010; Md Zaini, 2017; Schneider & Samkin, 2008). The reason is that auditors' reports are rigidly based on the Auditing Standards for the Chinese Certified Public Accountants, and financial statements and notes to the financial statements are compiled rigidly based on the Accounting Standards for Business Enterprises (ASBE). These parts cannot reflect the level of commitment held by companies towards reporting more transparent information (An, 2012; An & Davey, 2010; Guthrie et al., 2006).

Scoring system

Once the coding of corporate reports is completed, a score for each disclosure item[30] is assigned according to the scoring system. As stated earlier in Chapter four, a scoring system can be categorised as either with or without quality criteria. A scoring system without quality criteria is used to assess the extent of IR disclosures. Most IR studies only consider the extent of IR disclosures (the presence or absence of a given disclosure item) (e.g., Nakib & Dey, 2018; Rivera-Arrubla et al., 2017; Santis et al., 2018; Wen et al., 2017; Zhou et al., 2017). In other words, they use a two-point scale (0-1) where "0" is assigned when a disclosure item in the list is not disclosed at all, and "1" is assigned when the item is disclosed. Figure 5.3 shows the process of evaluating the extent of IR disclosures. Assessing the extent of IR disclosures is consistent with the guiding principle of "completeness" that is prescribed in IIRF (IIRC, 2013).

[29] According to *Regulations on Information Disclosure of Listed Companies* issued by CSRC in 2007, there are ten parts in an annual report: (1) basic information of the company; (2) major accounting figures and financial indexes; (3) company stock and bond issuance and changes; (4) the number of shares, the number of bonds, the number of shareholders, and the top 10 shareholders (at the end of the reporting period); (5) shareholders who have stakes of 5% or above, controlling shareholders and actual controllers; (6) positions, stock holding changes and annual remunerations (directors, supervisors and senior managers); (7) the board of directors' report; (8) management discussion and analyses; (9) major incidents and their influence on the company during the reporting period; and (10) financial reports and full text of audit report.

[30] The disclosure items contained in the formal list of IR disclosure items.

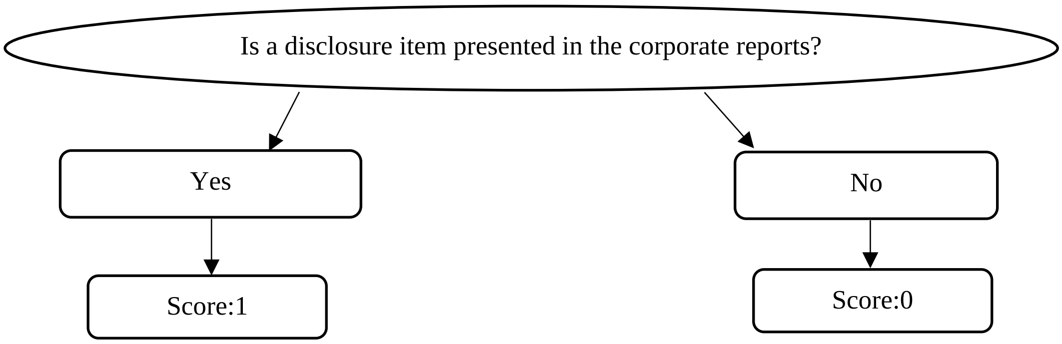

Figure 5.3 The process of evaluating the extent of IR disclosures

Source: Author's design

A scoring system with quality criteria is used to assess the quality of IR disclosures and to differentiate the quality of disclosures (Liu, 2014). Ruiz-Lozano and Tirado-Valencia (2016) use a three-point scale (0-2: 2 for a sufficiently explained disclosure item and 1 for an insufficiently explained disclosure item). Some researchers (e.g., Ahmed Haji & Anifowose, 2017; Eccles & Krzus, 2014; Needles et al., 2018) use a four-point scale (0-3: 3 for a detailed described disclosure item, 2 for a moderately described disclosure item and 1 for a generally described disclosure item). Similarly, Zinsou (2018) applies another four-point scale (0-3: 3 for a numerical and detailed described disclosure item, 2 for a numerical but not detailed described disclosure item, and 1 for a generally described disclosure item). Marcia et al. (2015) and Van Zyl (2013) use a five-point scale (1-5: 5 for the highest quality disclosure item and 1 for the lowest quality disclosure item). Pistoni et al. (2018) and Lee and Yeo (2016) apply a six-point scale (0-5: 5 for an excellent description of a disclosure item; 4 for good and detailed description; 3 for a balanced description; 2 for a quantitative description; and 1 for a poor description). Liu et al. (2018) use a seven-point scale by considering the time dimension (past, present and future) and value dimension (absolute as well as relative amounts, amounts disaggregated into different levels and amounts compared with targets). If a disclosure reveals its past values, present values, future values, absolute as well as relative amounts, amounts disaggregated into different levels, and amounts compared with targets, then a maximum score of 6 is assigned. Stent and Dowler (2015) and Sofian and Dumitru (2017) give each disclosure item a quality criterion by considering the specificity of each disclosure item. By referring to the guiding principles of IIRF and previous IR studies, the quality criteria adopted in the present study use a five-point scale (0-4) (see Table 5.5). Several prior studies have used a five-point scale, including those of Davey (1985) on CSR disclosure in New

Zealand, An (2012) on intellectual capital disclosure in China, and Md Zaini (2017) on voluntary disclosure in Malaysia.

Table 5.5 The basic quality criteria

Disclosure quality	Score	Criteria	Reason
Comprehensive disclosure	**4**	The key content of a disclosure item is elaborated using monetary description, actual physical quantified description, and clear narrative description.	Considering the connectivity of non-financial-qualitative information, non-financial-quantitative information and financial information. ***Note[31]:*** 1.Monetary description represents financial information. 2. Actual physical quantified description represents non-financial-quantitative information. 3.Narrative description represents non-financial-qualitative information.
Disclosure with two forms	**3**	The key content of a disclosure item is elaborated using monetary description and actual physical quantified description, **or** narrative description and actual physical quantified description, **or** monetary description and clear narrative description.	
Disclosure with one form	**2**	The key content of a disclosure item is elaborated using monetary description only **or** actual physical quantified description only **or** clear narrative description only.	
Brief disclosure	**1**	A disclosure item is only briefly mentioned.	
Non-disclosure	**0**	A disclosure item does not appear in the corporate report.	

Previous corporate reporting researchers, such as Boesso and Kumar (2007), Broberg et al. (2010), and Malola and Maroun (2019) believe that information can be disclosed in three ways: (1) quantitative monetary form; (2) quantitative non-monetary form; and (3)

[31] Financial Times Lexicon (2015) and INTOSAI Working Group on Environmental Auditing (2013) believe that non-financial information is not represented in monetary terms (Haller et al., 2017).

qualitative form. Both the connectivity between financial and non-financial information and the connectivity between quantitative and qualitative information are considered in the quality criteria. A number of scholars emphasise the importance of the connectivity between financial and non-financial information in IR (Attanayake Mudiyanselage, 2018; De Villiers & Maroun, 2017; Zhou et al., 2017), and the importance of connectivity between quantitative information and qualitative information in IR (Oliver et al., 2016; Wulf et al., 2014; Zinsou, 2018). However, emphasising the connectivity does not mean a directive to monetise or quantise all information (Albertini, 2018; Burke & Clark, 2016; Goicoechea et al., 2019). Each description form has its advantages (Beattie et al., 2004; Md Zaini, 2017; Watson et al., 2002). For instance, some researchers, such as Schneider (2006) and An (2012) believe that in some cases a disclosure presented in qualitative form can provide more informative content and a greater understanding than its quantitative form. Furthermore, some disclosures can only be described using narrative and not monetised or quantified (Goicoechea et al., 2019). For instance, several disclosure items (e.g., mission and vision; culture, ethics and values) are narrative in nature (An & Davey, 2010). Therefore, firstly, it is assumed that monetary description, actual physical quantified description and narrative description have equal quality of disclosure. Secondly, each disclosure item is provided with a quality criterion. For disclosure items that can be described in narrative form, actual physical quantified form and monetary form, their maximum quality score is 4[32]. For disclosure items that can only be described in two forms (e.g., narrative and actual physical quantified form), their maximum quality score is 3. For disclosure items that can only be described in one form, their maximum quality score is 2.

Based on the above explanations, among the 68 disclosure items[33], six disclosure items (basic information about the company; company history; mission and vision; culture, ethics and values; leadership structure; management experience and capability) have a score scale of 0 to 2 while two disclosure items (employee allocation; employee qualifications) have a score scale of 0 to 3; the remaining 60 disclosure items have a score scale of 0 to 4. Figure 5.4 shows the process of evaluating the quality of IR disclosures.

[32] Some researchers (e.g., An et al., 2017; Malola & Maroun, 2019; Marrone & Oliva, 2019) believe that if the information type of a reported sentence is a mix of monetary, physical quantitative, and narrative qualitative, it represents the highest disclosure quality.
[33] Some items are added to the preliminary list of 54 disclosure items as a result of the first round of the questionnaire survey, leading to 68 items in the final list of IR disclosure items.

Each disclosure item is assigned a score based on the degree of compliance of the disclosure item with the quality criteria.

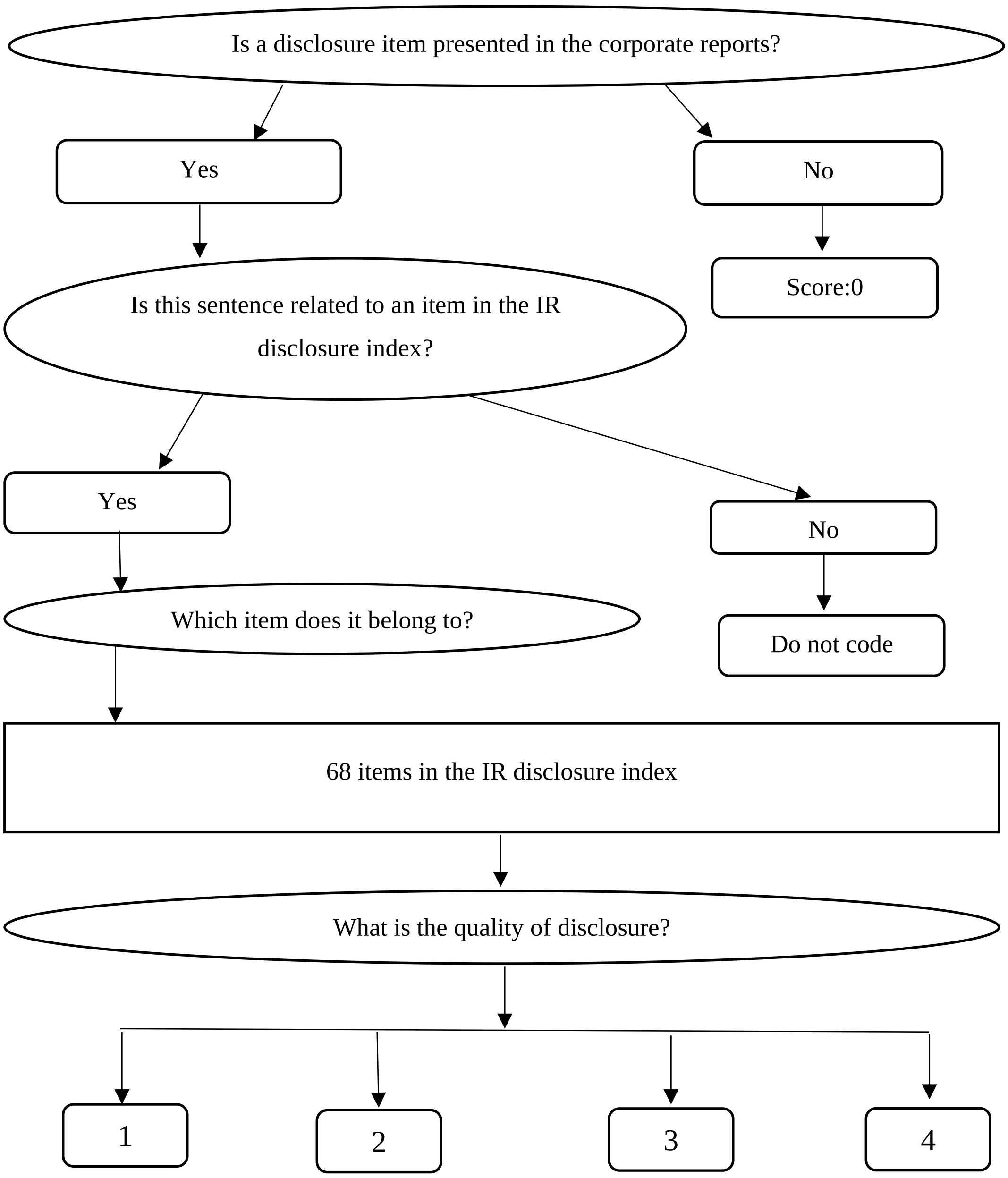

Figure 5.4 The process of evaluating the quality of IR disclosures

Source: Author's design

With the establishment of the weighted IR disclosure index and the scoring system with quality criteria, an instrument for evaluating IR disclosure practices is constructed. This evaluation instrument, as one of the components of Chinese IR framework, incorporates the features of IIRF that include fundamental concepts and content elements (see Chapter four, which provides explanations in section 4.5), as well as guiding principles (see Chapter six, which provides explanations in section 6.5).

Four examples of content analysis are provided to illustrate the process clearly. In the annual report of 2017, Air China Limited described the disclosure item “brand” in the following manner:

> *From 2007 to 2017, according to World Brand Lab’s data, our company has been ranked as one of the world’s top 500 brands for 11 consecutive years. The ranking rose from 461 in 2007 to 290 in 2017. We are the only Chinese airline company selected and our brand value reached 128.536 billion yuan in 2017. The company also won the “2017 China Brand Annual Awards NO.1 (airline company)” and “2017 Five-Star Diamond Award” and won a special award – “2017 China Cultural Brand of the Year”. In addition, the company also successfully listed on “the 2017 BrandZ Top 30 Chinese Brands” and “BrandZ Top 100 Most Valuable Chinese Brands”. For the third consecutive year, the company was rated as an A-class company in the assessment of the central company of the State-owned Assets Supervision and Administration Commission. The excellent practice of corporate brand building was compiled by the State-owned Assets Supervision and Administration Commission into the “On the topic of the brand building of central companies” (thematic compilation of 8 central companies)* [34].

Considering the disclosure item (brand) is elaborated using monetary description, actual physical quantified description, and narrative description, a score of “4” is assigned.

In the annual report of 2014, Air China Limited provides a description of the disclosure item “brand” in the following manner:

> *With a long history of operation, the company has a world-class safety flight record and a domestic leading comprehensive competitiveness. It has extensive brand recognition and good brand reputation among consumers…. From 2007 to 2014, the company was selected as one of the world’s top 500 brands for eight consecutive years, ranking from 461 to 322, becoming the only Chinese airline company selected. The company was also selected as one of “China’s 500 Most Valuable Brands”. The ranking was steadily increased from 32 in 2004 to 24 in 2014, ranking first among China’s airline companies.*

Considering the disclosure item (brand) is elaborated using actual physical quantified description and narrative description, a score of “3” is assigned.

In the annual report of 2017, Air China Limited describes the disclosure item “business objectives” in the following manner:

[34] It is a translation of the Chinese language sentence.

Based on the analysis of the external context and the comprehensive judgement of our own conditions, the main production objectives of the company in 2018 are:

1.Hours of flight: 2.242 million;

2.Total turnover:27.814 billion tonne-kilometres;

3.Number of passengers: 109 million;

4.Goods and mail turnover: 8 billion tonne-kilometres.

Given the disclosure item (business objectives) is elaborated using actual physical quantified description, a score of "2" is assigned.

In the CSR report of 2014, Air China Limited offers a description of the disclosure item "government relationship" in the following manner:

The company participated in policy planning, investigation and formulation, made research reports for the government, is supervised and assessed by the government, guaranteed special governmental flights, and carried out poverty alleviation and disaster relief.

Due to the disclosure item (government relationship) is only briefly mentioned, a score of "1" is assigned.

<u>The pilot test</u>

A pilot test is a pre-test of the coding process, aiming to assess and ensure the reliability of the coding process of a study (An, 2012; Melloni, 2015). Similar to some previous IR studies, such as those of Lee and Yeo (2016) and Zhou et al. (2017), two coders are involved in the current study to conduct the pilot test. One of the coders is the author of this study and the other is a Chinese PhD candidate in accounting at the University of Waikato[35].

Initially, both two coders are trained in the coding process prior to the pilot test, which is to ensure the quality criteria and rules of coding are being adequately and accurately used (Beck et al., 2010; Lombard et al., 2002). Then ten corporate reports from the sample companies are selected on a random basis for the pilot test. Both coders coded the selected corporate reports independently. Each textual unit (a sentence) contained in the corporate reports is transferred and recorded on separate coding sheets by the two coders respectively. The two coders then compare the coding sheets to confirm the same textual units have been extracted. Then, each sentence is carefully read in order to capture its

[35] This Chinese PhD candidate is selected is because this student is familiar with corporate reports of Chinese firms and has knowledge and experience in doing content analysis.

meaning and identify a suitable theme for it. In other words, the coders decide whether or not the sentence falls under one of the themes of the IR disclosure index and contains information that fits within a disclosure item of the IR disclosure index. In the coding sheet, each coder then independently assigns a score for each sentence and provides a note to justify the basis for their scores. This cross-referencing system is in place from the start in order to be convenient for future comparison between two coding sheets.

In order to ensure "reproducibility or intercoder reliability…when multiple coders are involved" (Melloni, 2015, p. 670), the coding sheets are compared to examine the level of agreement and deviation between the two coders, by calculating Krippendorff's alpha coefficient of agreement. According to Lombard et al. (2002), the advantages of Krippendorff's alpha are that it is applicable for any number of coders and for variables at different levels of measurement from nominal to ratio and it accounts for chance agreements between coders. Table 5.6 shows the Krippendorff's alpha for each corporate report, indicating the extent to which the results of content analysis by the two coders are in agreement. The results show that all corporate reports tested are above the threshold value of 0.800 (the acceptable level of reliability in Krippendorff's alpha coefficient (Boesso & Kumar, 2007; Milne & Adler, 1999)), confirming the reproducibility (intercoder reliability) of the content analysis (Melloni, 2015; Md Zaini, 2017). In order to ensure consistency of the coding process, the author codes the rest of corporate reports independently after the pilot test (Ahmed Haji & Anifowose, 2017; Manes-Rossi et al., 2020).

Table 5.6 The pilot test using Krippendorff's alpha

Company	Year	Krippendorff's Alpha
Ping An Bank Co., Ltd.	2015	0.8642
China Vanke Co., Ltd.	2015	0.8871
Avic Capital Co., Ltd.	2014	0.9104
Jiangsu Yanghe Brewery Joint-Stock Co., Ltd.	2016	0.8714
Ping An Insurance (Group) Company of China, Ltd.	2018	0.8779
Shanghai Pudong Development Bank Co., Ltd.	2014	0.9227
Metallurgical Corporation of China Ltd.	2014	0.8715
Poly Development Holding Group Co., Ltd.	2016	0.8510
TBEA Co., Ltd.	2018	0.9356
Metallurgical Corporation of China Ltd.	2017	0.9270

5.3.3 Statistical analysis

Developing and testing several hypotheses with respect to the determinants of IR disclosure practices and the effect of IR disclosure practices on agency costs is one of the main purposes of this research. To achieve this purpose, statistical analysis is employed. The top 100 A-share companies in terms of market capitalisation at the end of the fiscal year 2014 are selected as sample companies. Firstly, in order to investigate the firm-level factors that determine IR disclosure practices by Chinese companies, sixteen variables (leverage, firm size, audit quality, profitability, financial sector, environmentally sensitive sector, consumer-based sector, listing status, independent directors, ownership concentration, state-owned shares, board size, CEO duality, regulatory authority, community, and overseas customers) are adopted as independent variables. These factors are commonly adopted as independent variables in prior studies regarding information disclosure practices (e.g., Kılıç & Kuzey, 2018b; Raffournier, 1995; White et al., 2007). Furthermore, listing status, state-owned shares, and independent directors are closely linked with the Chinese business environment. The data for sixteen variables are collected from a Chinese local financial database, called China Stock Market and Accounting Research (CSMAR). The CSMAR Databases provide data on the China stock markets and the financial statements of Chinese listed companies. The IR disclosure practices obtained from the content analysis are used as the dependent variable. Hypothesis development is introduced and described in Chapter 8.

Secondly, in order to investigate the effect of IR disclosure practices by Chinese companies, one variable (agency costs) is adopted as a dependent variable. The data on agency costs are also collected from CSMAR. The IR disclosure practices obtained from the content analysis are employed as the independent variable. A set of control variables is applied by referring to some IR studies that explore the association between IR practices and agency costs (or information asymmetry) (e.g., García-Sánchez and Noguera-Gámez, 2017b; Pavlopoulos et al., 2017). Hypothesis development is also introduced and described in Chapter 8.

Univariate analysis and multiple regression analysis are applied to examine the correlations between the dependent variables and the independent variables. Univariate analysis tests the correlation between the dependent variable and each independent variable, using Pearson's correlation coefficient test and Spearman's rank correlation coefficient test, respectively. Multiple regression analysis is used to test the correlations between the dependent variable and a set of independent variables, using an Ordinary Least Squares (OLS) model. OLS "is one of the most popular statistical techniques used in the social sciences. It is used to predict values of a continuous response variable using one or more explanatory variables and can also identify the strength of the relationships between these variables" (Hutcheson & Sofroniou, 1999, p. 55). In order to conduct univariate analysis and multiple regression analysis, two popular software packages used for statistical analysis: Statistical Package for Social Science (SPSS), and Stata, are applied.

In order to evaluate the robustness of the findings, two types of robustness tests are conducted by altering the measurement of IR disclosure practices. The first type is to alter the measurement of the extent of IR disclosures. Specifically, each disclosure item is assigned a weighting, according to its importance from the Chinese stakeholders' perspective. The second type is to alter the measurement of the quality of IR disclosures. Specifically, all disclosure items are assigned equal weighting. Accordingly, the new extent of IR disclosures and the new quality of IR disclosures are adopted in multiple regression analysis. The use of the new IR disclosure practices is to investigate the determinants and effects of IR disclosure practices by Chinese companies from an unbiased perspective.

5.4 Chapter summary

This chapter provides a detailed discussion of the research methodology and methods employed in the study. It begins by explaining the assumptions underpinning the three main research paradigms and justifies the choice of the mixed method as the research methodology. This chapter emphasises describing the process of data collection and data analysis. Three sources of data collection: questionnaires, annual reports and CSR reports, and the financial database are used for the current study. The main data analysis in this study contains content analysis and statistical analysis. For the content analysis, the rules of coding and the quality criteria are set, and the quality criteria (a five-point scale) are exhibited in this chapter. Examples of content analysis and the coding process are offered as well. In order to investigate the potential determinants of IR disclosure practices (leverage, firm size, audit quality, profitability, financial sector, environmentally sensitive sector, consumer-based sector, listing status, independent directors, ownership concentration, state-owned shares, board size, CEO duality, regulatory authority, community, and overseas customers) and the effect (agency costs) of IR disclosure practices, multiple regression analysis is adopted.

CHAPTER SIX

DEVELOPMENT OF THE IR DISCLOSURE INDEX

6.1 Introduction

This chapter discusses the review of preliminary disclosure items and the development of the final IR disclosure index by incorporating the views of 51 Chinese stakeholders. The 51 participants who participated in the questionnaire survey comprised eight stakeholder groups, including scholars in accounting, editors in financial media, financial managers, financial analysts in banks, auditors, officials in government agencies in charge of supervising Chinese companies, industry analysts in consultant companies, and financial analysts in investment companies. In the first-round questionnaire survey, the participants validated the preliminary list of IR disclosure items, added new disclosure items and adjusted their categories. In the second-round questionnaire survey, the participants assigned a weighting for each IR disclosure item on the basis of what they considered to be the most important to the least important. A final IR disclosure index, containing 68 disclosure items, was established by the participants. The final IR disclosure index provided the themes for the content analysis to assess IR disclosure practices of Chinese corporate reports (see Chapter seven).

The chapter is structured as follows. Section 6.2 describes the selection of the stakeholders' panel. The results of the first-round stakeholder survey are detailed in section 6.3. Section 6.4 presents the results of the second-round stakeholder survey. Finally, section 6.5 summarizes the chapter.

6.2 Selection of the stakeholders

Invitation letters were sent to 58 participants who initially agreed to participate in the survey. However, seven of them subsequently declined to participate, including two editors in financial media, one chief finance officer, one bank financial analyst, one financial analyst from an investment company and two scholars in accounting. The financial analyst from an investment company and one financial media editor apologized because they did not have enough time, while two scholars in accounting felt they were not sufficiently expert in the area of IR. Three other participants withdrew from the survey on the grounds that they were afraid of disclosing sensitive information in the survey, which might jeopardize their careers. The chief finance officer was concerned that the survey might have a negative impact on her company and the financial media editor claimed the survey did not conform with her company's confidentially requirements and that employees were not permitted to participate in external surveys. The bank financial analyst commented:

> *I am truly sorry that I cannot be involved in the survey because we signed a confidentiality agreement with the bank. There have been some similar problems previously. The risk is really everywhere. I am really sorry. Our bank emphasises information security and confidentiality almost every day.*

Details of the 51 participants who participated in the survey are provided in Table 7.1. The participants are coded as P1 to P51, and classified according to their stakeholder group.

Table 6.1 List of panel members

ID	**Participant classification**
P1-P8	Scholars in accounting (one professor, five associate professors and two lecturers)
P9-P10	Editors in financial media (two chief editors)
P11-P17	Financial managers (four senior financial accounting managers, one head of financial accounting department, two regular accountants)
P18-P25	Financial analysts in banks
P26-P31	Auditors (one senior auditor and five regular auditors)
P32-P36	Officials in government agencies in charge of supervising Chinese companies
P37-P42	Industry analysts in consultant companies (three senior analysts and three regular analysts)
P43-P51	Financial analysts in investment companies (three directors, one chief investment officer, one chief risk management officer and four senior managers)

6.3 First-round stakeholder survey

Twenty-four participants agreed with the preliminary list of IR disclosure items (see Table 4.8 in Chapter four) and did not provide any further comments. The remaining 27 participants suggested amendments to the preliminary list.

Three participants (P1, P10, and P13) suggested removing the item of “CCP-building” because they considered this item not necessary. Nine items that were considered sensitive information by participants were suggested to be deleted, including “employee remuneration” (Participant P26) “competitor relation” (Participant P14), “core competitiveness” (Participant P42), “R&D activities” (Participant P42), “operational structure” (Participant P43), “leadership structure” (Participant P43), “business and market” (Participant P43), “government relation” (Participant P13), “management processes” (Participant P3) and “equipment” (Participant P6). A financial analyst (P44) in investment companies doubted the authenticity of information on natural capital and believed that “*even if the company discloses them, the information is not real*”. Another financial analyst in investment companies (P46) stated that the items of “mission and vision”, “culture, ethics and value” and “society and community support” are always empty rhetoric in corporate reports and suggested deleting these three items. This participant’s argument was not surprising because companies may use decoupling (producing empty rhetorical disclosures) to deal with institutional pressures (Boxenbaum & Jonsson, 2017). According to Boxenbaum and Jonsson (2017, p.7), “decoupling means that organisations abide only superficially by institutional pressure and adopt new structures without necessarily implementing the related practices.” In fact, some researchers have found that rhetorical disclosures exist in integrated reports (Setia et al., 2015; Solomon & Maroun, 2012). However, in order to maintain the completeness of the disclosure items, the author of the current study did not accept the suggestions proposed by participants who advised removing certain items because these participants accounted for only a minor proportion of all participants and provided little evidence to establish why these items should be deleted.

Several participants proposed adding some new disclosure items. According to stakeholder theory, companies must take notice of information disclosures and meet their stakeholders’ information demands if they expect to obtain ongoing support from their stakeholders (Xu et al., 2019). A professor in accounting (P2) argued that basic information about a company, such as its industry type, its registered capital and its registered location is important and can be shown under the theme of corporate overview. A financial analyst in an investment company (P45) contended that the history of a company is necessary and ought to be provided under the theme of corporate overview as well.

An associate professor in accounting (P4) stated that although the six capitals contained in the preliminary list of IR disclosure items can provide an explanation of a company's business model, it is still important to see how a company describes and summarizes its business model. Thus, the scholar suggested adding the item of "business model" and listed it under the theme of "strategy". Although the details of business model, such as inputs and outcomes can be revealed by other themes such as the different types of capitals, there is a need to identify the statement of its business model by the organisation. An organisation's business model is its core, and the organisation should answer the question in its IR that "what is the organization's business model?" in a holistic way (Beattie & Smith, 2012; IIRC, 2013). Presenting the business model in a holistic way, though difficult, enables an organisation to connect business model to the strategy (Attanayake Mudiyanselage, 2018; IIRC, 2012; Sukhari & De Villiers, 2019).

A financial manager (P12) would like to see how a company allocates its employees, such as the number of employees in various positions (e.g., technicians). Hence, this participant suggested incorporating the item of "employee allocation" into the theme of human capital. Three participants: an official in government agencies in charge of supervising Chinese companies (P33), a financial manager (P15), and an associate professor in accounting (P8), pointed out that warnings or penalties for companies (or senior management) (e.g., violation of the Labour Protection Act, the Environmental Protection Act, or the Consumer Protection Act) can reflect the level of corporate governance. Thus, they suggested adding the item of "warnings or penalties for companies (or senior management)" under the theme of governance. From the perspective of legitimacy theory, a company may obscure or dismiss any negative information (e.g., warnings or penalties) that potentially undermines its legitimacy (Savage et al., 2001), while in some circumstances a company may release negative information with detailed descriptions to maintain its legitimacy (De Villiers & Van Staden, 2011; Fuhrmann, 2019). A financial manager (P14) and an official in government agencies in charge of supervising Chinese companies (P34) stated that they were keen to include information on taxation (e.g., tax incentives, tax rates for overseas subsidiaries or branches, company's tax credit rating, tax contribution rate). They believed an item on "taxation" belongs to the theme of financial capital. A new item called "insurance" was allocated under the theme of financial capital because a financial manager (P12) favoured information on the purpose, coverage, amount, and claims related to insurance bought by the company. The item of "debtor relations" was proposed by a financial analyst in a bank

(P18). In the participant's opinion, debtor relations can reflect the level of accounts receivable management. Sherman (2011) believes accounts receivable are not effectively managed in many companies; thus, based on agency theory, investors have incentives to detect managers' behaviours.

Apart from the above eight items suggested for inclusion in the list, there were another five new items proposed by some participants. A scholar in accounting (P5) highlighted three items to be included under the theme of social and relational capital: industry association relations, media relations (an editor of financial media (P9) emphasised this item as well), and NGO relations. In term of industry association relations, the scholar (P5) argued that:

> *The relationship with industry associations is a kind of public relations. The industry association, as the bridge and the link between the government and companies, has become the third force to promote economic development. Industry associations can promote industry self-regulation, can help companies to improve competitiveness and to expand the market, and can provide an in-depth understanding of industry policies. Therefore, the relationship with industry associations needs to be considered.*

With regard to media relations, the scholar (P5) argued that:

> *Media relationships are an important part of public relations. The media can promote a company's reputation and can harm a company's reputation as well. Especially when a company faces a reputational crisis, how to utilize media to address the crisis is extremely important. Listed companies must maintain media relations actively and correctly.*

As for NGO relations, the scholar (P5) pointed out that:

> *NGO relations are easily overlooked by companies. However, NGOs cover a wide range of groups who are concerned with consumer rights protection, employee rights protection, environmental protection, poverty alleviation, and so on. In fact, as I know, some listed companies have disclosed their relationship with NGOs on their CSR reports, although they didn't provide this kind of information in very great detail.*

Industry associations, media and NGOs are all stakeholders of a company (Sternad, 2019). The IIRC (2013, p.17) states that "an integrated report should provide insight into the nature and quality of the organisation's relationships with its key stakeholders…". Thus, the scholar (P5)'s proposal for adding industry association relations, media relations and NGO relations makes sense.

The views of other participants who suggested incorporating new items in the final disclosure index included the following. A financial analyst in an investment company (P46) emphasised the importance of other financial relations:

I think some financial relations, such as the financial analyst relation, credit rating agency relations, etc. are important. They directly or indirectly impact investors' perception and judgment. Generally speaking, financial analysts are very familiar with the company. A well-known sell-side analyst usually has good relationships with directors, supervisors or senior managers of listed companies.

An official in government agencies in charge of supervising Chinese companies (P35) noticed the importance of the item of "anti-corruption":

Since 2012, the Chinese government has been implementing an aggressive anti-corruption campaign, which is considered as the largest anti-corruption campaign in Chinese history. As I know, by the end of 2014, a total of 41 provincial and ministerial officials were investigated and arrested during the anti-corruption campaign. I think the current anti-corruption campaign may change China's business environment fundamentally. Anti-corruption is also incorporated into GRI's sustainability reporting framework. However, information on anti-corruption is not presented sufficiently in the current Chinese corporate report. Therefore, I suggest the disclosure item on anti-corruption be added in your framework.

The suggestion for incorporating an "anti-corruption" item into the IR disclosure index is in line with the perspective of institutional theory. One of the sources of coercive pressure is the policies, laws, or regulations issued by the government or regulatory authorities (Joseph et al., 2016). This regulatory authority is seen as a highly institutionalized external formal structure that exerts pressure on companies to disclose anti-corruption information (Meyer & Rowan, 1977). Therefore, companies conduct anti-corruption activities and report related information to show that their behaviours comply with the institutional environment (Joseph et al., 2016; Oliver, 1991). Legitimacy theory suggests that the pressure from a strong anti-corruption environment forces companies to disclose anti-corruption information to increase their legitimacy (Xu et al., 2019).

Four participants suggest switching two disclosure items to different themes. An industry analyst in consultant companies (P41) advised reclassifying two items, "shareholder relations" and "creditor relations" as financial capital. The industry analyst (P41) believed that:

I understand shareholder relations and creditor relations are two important components of relational capital. However, I still believe that they are more appropriate to list under the theme of financial capital. The financial capital is the pool of funds that is available to an *organisation for creating products or services. Apart from the funds generated by operations and investments, shareholder relations and creditor relations directly impact whether a company can finance funds from the capital market successfully.*

A scholar in accounting (P7) saw the item of CCP-building as a component of governance and commented that:

I think CCP-building is an important component of corporate governance. CCP-building has been incorporated into the new listed company governance guidelines. Several academic articles also advocate incorporating CCP-building into corporate governance. Therefore, I suggest that CCP-building can be recategorized into governance.

Similarly, one industry analyst in the consultant company (P38) believed that the item of "CCP-building" does not belong under the theme of "human capital" because the connection between "CCP-building" and "human capital" is weak. Thus, in line with the recommendation of participants, the item "CCP-building" was reallocated to the theme of governance.

In addition to the above adjustments, an item called "overseas CSR" was divided into two separate items: "overseas CSR (social aspect)" and "overseas CSR (environmental aspect). An auditor (P27) stated that:

I think overseas corporate social responsibility can be divided into two aspects, namely social aspect and environmental aspect. The social aspect is related to overseas social and relational capital and the environmental aspect is related to natural capital.

Once the draft final list of disclosure items was established, the author contacted the rest of the participants and sent them the modified disclosure items with explanations of why changes had been made to the preliminary list of IR disclosure items. All the participants accepted the reasons and agreed with these changes made. No additional disclosure items were suggested, and no current disclosure items were suggested to be deleted. Thus, the final list of disclosure items (see Table 7.2) contained 68 IR disclosure items including: 7 in corporate overview and external environment, 4 in strategy and competitiveness, 6 in governance, 2 in risk and opportunity, 3 in future outlooks, 10 in financial capital, 3 in manufacturing capital, 4 in natural capital, 7 in intellectual capital, 10 in human capital, and 12 in social and relational capital. Stakeholders' participation in establishing the final list of disclosure items resulted in significant changes from the preliminary one, which can be regarded as a contribution from stakeholders. Stakeholders' expectations of IR, as well as the legitimization and institutionalization of IR, vary between countries, as each country has its own unique social, political, regulatory, economic, and cultural contexts, leading to significant differences in IR disclosures between countries (De Abreu et al., 2012; Dong et al., 2014; Visser, 2008).

Table 6.2 The final list of disclosure items

1. Corporate overview & external environment	**2. Strategy & competitiveness**
1.1 Basic information about the company 1.2 Mission and vision 1.3 Culture, ethics and value 1.4 Operating context 1.5 Business and market 1.6 Company history 1.7 Operational structure	2.1 Strategy 2.2 Core Competitiveness 2.3 Competitive landscape 2.4 Business model
3. Governance	**4. Risk and opportunity**
3.1 Ownership structure 3.2 Leadership structure 3.3 Management remuneration 3.4 Management experience and capability 3.5 Warnings and penalties 3.6 Chinese Communist Party-building	4.1 Risk 4.2 Opportunity
5. Outlook	**6. Financial capital**
5.1 Business plans 5.2 Business objectives 5.3 Challenges and uncertainties	6.1 Funds from financing 6.2 Funds from operations or investments 6.3 Present financial KPIs 6.4 The linkage between past and present financial KPIs 6.5 Shareholder relations 6.6 Creditor relations 6.7 Debtor relations 6.8 Other financial relations 6.9 Taxation 6.10 Insurance
7. Manufacturing capital	**8. Natural capital**
7.1 Buildings 7.2 Equipment 7.3 Infrastructure	8.1 Pollution and pollution reduction 8.2 Resource consumption and resource saving 8.3 Extra environmental protection 8.4 Overseas CSR (environmental aspect)
9. Intellectual capital	**10. Human capital**
9.1 Management processes 9.2 Brand 9.3 Technology 9.4 Research and development 9.5 Intellectual property 9.6 Marketing 9.7 Entrepreneurial spirit	10.1 Recruitment 10.2 Employee remuneration 10.3 Employee equality 10.4 Employee care 10.5 Resignation, layoffs and dismissal 10.6 Employee career development 10.7 Employee health and safety 10.8 Employee training and education 10.9 Employee qualifications 10.10 Employee allocation
11. Social and relational capital	
11.1 Competitor relations 11.2 Customer relations	

11.3 Business collaborations
11.4 Supplier or distributor relations
11.5 Government relations
11.6 Society & community support
11.7 Product or service quality
11.8 NGO relations
11.9 Media relations
11.10 Industry association relations
11.11 Anti-corruption
11.12. Overseas CSR (social aspect)

6.4 Second-round stakeholder survey

The final list of IR disclosure items, as presented in Table 6.2 was sent to the 51 participants and they were asked to weight the disclosure items in order of importance. The weightings for each disclosure item assigned by each participant are presented in Appendix I. In order to calculate a mean scale of importance for each item, all weightings assigned by 51 panellists to each item were summed and divided by 51 (the total number of panel members). The higher the score of a disclosure item, the greater the importance of the item in the corporate report.

As shown in Table 6.3 to Table 6.13, 7.35% of the disclosure items were weighted as extremely important, 63.24% as very important, and 29.41% as moderately important. Participants valued traditional financial information most highly. Among all disclosure items, “present financial KPIs” was seen as extremely important to disclose and had the highest weighting, with an average weighting of 4.57 out of 5. The disclosure item named “the linkage between past and present financial KPIs” was also viewed as extremely important to disclose and was the second highest-weighted item, with a weighting of 4.51 out of 5. Three disclosure items: “Chinese Communist Party-building”, “employee care”, and “industry association relations”, were rated as the least important disclosure items, with an average weighting of 2.78 out of 5.

In terms of the responses of stakeholder groups (also see Appendix I), the group of accounting scholars (eight members) assigned the highest weighting (an average of 3.97) to the overall disclosure items. The lowest weighting (an average of 3.35) was assigned by the group of editors in financial media (two members). For the accounting scholars, two disclosure items, namely “research and development” and “intellectual property”, were of the utmost importance while “Chinese Communist Party-building” was the lowest weighted disclosure item. In the views of editors in financial media, the most important disclosure items were “employee health and safety”, “pollution and pollution reduction”, “resource consumption and resource saving”, “product or service quality” and “Chinese Communist Party-building”. From financial managers’ perspectives, “present financial KPIs” was the most important disclosure item while three disclosure items – “employee equality”, “employee care” and “media relations” – were the least important. Auditors saw “buildings”, “equipment”, “infrastructure” and “basic information about the company” as the top four important disclosure items and perceived “employee equality”, “employee care” and “industry association relations” as the least important disclosure items. “Present financial KPIs” and “the linkage between past and present financial KPIs” were regarded as the most important disclosure items by analysts in banks, officials in government agencies and analysts in consultant companies. In contrast, “employee care”, “employee equality” and “Chinese Communist Party-building” were respectively regarded as the least important disclosure items by analysts in banks, officials in government agencies and industry analysts in consultant companies. The financial analysts in investment companies viewed five disclosure items – “basic information about the company”, “company history”, “present financial KPIs”, “the linkage between past and present financial KPIs” and “shareholder relation” – as the most important disclosure items.

(a) Corporate overview and external environment

From Table 6.3, it can be seen that the stakeholder panel viewed five disclosure items under the theme of “corporate overview and external environment” as very important items and the remaining two as extremely important items. The average weighting of this theme was 3.86. “Business and market” was the most highly weighted item (with an average weighting of 4.43) in the theme: 60.78% of the stakeholders considered it extremely important and 23.53% deemed it very important. “Culture, ethics and value” was the least weighted item (with an average weighting of 3.55) in the theme. Of the eight stakeholder groups, financial analysts in investment companies assigned the highest weighting to this theme (an average weighting of 4.29) while analysts in banks give the lowest weighting to this theme (an average weighting of 3.41). Among eleven themes, financial analysts in investment companies believed the theme of “corporate overview and external environment” had the highest importance.

Table 6.3 Responses of the stakeholder panel on corporate overview and external environment

1. Corporate overview and external environment		Frequency[36]					Weighting	Importance
		1	2	3	4	5		
1.1 Basic information of the company	Basic information about the company (e.g., industry type, registered capital).	**2**	**0**	**9**	**9**	**31**	**4.31**	**Extremely important**
1.2 Mission and vision	Mission and vision of the company	**3**	**5**	**12**	**14**	**17**	**3.73**	**Very important**
1.3 Culture, ethics and value	Culture, ethics and values of the company	**3**	**8**	**12**	**14**	**14**	**3.55**	**Very important**
1.4 Operating context	The impacts of various external contexts on a company's business, including economic, industrial, political, environmental, legal, and social contexts.	**0**	**5**	**13**	**14**	**19**	**3.92**	**Very important**
1.5 Business and market	Product or service differentiation, sales volume and sales revenue of each product or service in each market (region or country)	**0**	**1**	**7**	**12**	**31**	**4.43**	**Extremely important**
1.6 Company history	The history of the company	**5**	**3**	**14**	**14**	**15**	**3.61**	**Very important**
1.7 Operational structure	Hierarchy within a company related to departments, offices, branches, and subsidiaries	**0**	**5**	**10**	**23**	**13**	**3.86**	**Very important**

(b) Strategy and competitiveness

Table 6.4 shows that all disclosure items under the theme of "strategy and competitiveness" were given similar weightings and were weighted as very important by the stakeholder panel. The theme of "strategy and competitiveness" was recognized as the second most important theme of the eleven themes, reaching an average weighting of 4.02. There was a large variation in the weightings assigned by each stakeholder group. Accounting scholars assigned the highest weighting for this theme (an average of 4.38), whereas editors in financial media gave the lowest weighting (an average of 3.38). Of the eleven themes, financial managers deemed that the theme of "strategy and competitiveness" had the highest importance.

[36] "Frequency" here refers to the number of participants (a total of 51) who gave each of the weightings.

Table 6.4 Responses of the stakeholder panel on strategy and competitiveness

2. Strategy and competitiveness		Frequency					Weighting	Importance	
		1	2	3	4	5			
2.1 Strategy	Strategy statements, strategic profile, strategic summary and how does the company intend to get there?	**0**	**2**	**16**	**11**	**22**	**4.04**	**Very important**	
2.2 Core competitiveness	Competitive advantages owned by the company, such as talent, technology, natural resource, and business model.	**0**	**4**	**11**	**14**	**22**	**4.06**	**Very important**	
2.3 Competitive landscape	Market share and ranking of each product or service in each market (region or country)	**0**	**2**	**13**	**20**	**16**	**3.98**	**Very important**	
2.4 Business model	The company's business model to depict its value creation process and the impact of business models on the company	**0**	**5**	**6**	**15**	**25**	**4.18**	**Very important**	

(c) Governance

In the theme of "governance", five disclosure items were weighted as very important, while "Chinese Communist Party-building" was weighted as moderately important (see Table 6.5). Of the surveyed stakeholders, 17.65% considered "Chinese Communist Party-building" was unimportant and 27.45% deemed it less important. The average weighting of this theme was 3.76. The theme was given the highest weighting (an average of 3.97) by officials in government agencies. Editors in financial media assigned the lowest weighting for this theme (an average of 3.50).

Table 6.5 Responses of the stakeholder panel on governance

3. Governance		Frequency					Weighting	Importance
		1	2	3	4	5		
3.1 Ownership structure	Shareholders' backgrounds and proportion of shareholding; the actual controller of the company; the history of shareholder equity changes	**1**	**4**	**7**	**12**	**27**	**4.18**	**Very important**
3.2 Leadership structure	Leadership hierarchy within a company related to board of directors, board of supervisors, senior managers; the duties of the company's senior management	**1**	**3**	**7**	**17**	**23**	**4.14**	**Very important**
3.3 Management remuneration	Management remuneration policy and implementation (e.g., the stock options plan and how the company uses stock options plans to motivate management)	**1**	**2**	**13**	**16**	**19**	**3.98**	**Very important**
3.4 Management experience and capability	Senior management's background on education, career experience and occupational qualification	**1**	**3**	**15**	**14**	**18**	**3.88**	**Very important**
3.5 Warnings and penalties	Warnings or penalties for companies (or senior management) (e.g., violation of the Labour Protection Act, the Environmental Protection Act or the Consumer Protection Act)	**3**	**4**	**15**	**10**	**19**	**3.75**	**Very important**
3.6 Chinese communist party building	Chinese Communist Party-building activities such as conferences, seminars, lessons, and visits.	**9**	**14**	**14**	**7**	**7**	**2.78**	**Moderately important**

(d) Risk and opportunity

The average weighting of the theme of "risk and opportunity" was 3.64. Under this theme, disclosure items of "risk" and "opportunity" were all considered very important (see Table 6.6). Different stakeholder groups had different perceptions of the importance of the theme. Accounting scholars assigned an average weighting of 4.44 for this theme. However, officials in government agencies only gave an average weighting of 2.90. Of the eleven themes, accounting scholars believed "risk and opportunity" had the highest importance.

Table 6.6 Responses of the stakeholder panel on risk and opportunity

4. Risk and opportunity		Frequency					Weighting	Importance
		1	2	3	4	5		
4.1 Risk	Internal and external risks that companies identify and initiatives to mitigate risk, such as internal audit, internal control, risk management, and so on.	**3**	**5**	**10**	**14**	**19**	**3.80**	**Very important**
4.2 Opportunity	Internal and external opportunities that companies identify and initiatives to seize the opportunity	**1**	**6**	**18**	**13**	**13**	**3.61**	**Very important**

(e) Outlook

All disclosure items belonging to the theme of "outlook" were considered very important by the stakeholder panel (see Table 6.7). The average weighting of this theme was 3.69. The theme was given the highest weighting (an average of 4.13) by accounting scholars. Editors assigned the lowest weighting for this theme (an average of 3.33).

Table 6.7 Responses of the stakeholder panel on outlook

5. Outlook		Frequency					Weighting	Importance
		1	2	3	4	5		
5.1 Business plans	Future business plans for marketing, financing, recruitment, M&A, R&D, etc.	**2**	**2**	**16**	**16**	**15**	**3.78**	**Very important**
5.2 Business objectives	Various business objectives set by the company and initiatives to achieve the objectives	**2**	**5**	**8**	**22**	**14**	**3.80**	**Very important**
5.3 Challenges & uncertainties	Challenges and uncertainties regarding pursuing its business objectives and potential responses to critical challenges and uncertainties	**3**	**4**	**14**	**18**	**12**	**3.63**	**Very important**

(f) Financial capital

The theme of "financial capital" was recognized as the most important of the eleven themes, reaching an average weighting of 4.04. Three disclosure items: "present financial KPIs", "the linkage between past and present financial KPIs" and "shareholder relations" were weighted as very important while "insurance" was weighted as moderately important. The remaining six disclosure items were weighted as very important (see Table 6.8). Among the eight stakeholder groups, analysts in consultant companies assigned the highest weighting to this theme (an average of 4.55) while the editors in financial media gave the lowest weighting (an average of 3.35). Among the eleven themes, three stakeholder groups, including analysts in consultant companies, officials in government agencies and analysts in banks, believed "financial capital" had the highest importance.

Table 6.8 Responses of the stakeholder panel on financial capital

6. Financial capital		**Frequency**					**Weighting**	**Importance**
		1	**2**	**3**	**4**	**5**		
6.1 Funds from financing	The pool of funds available to a company through financing	**2**	**1**	**11**	**12**	**25**	**4.12**	**Very important**
6.2 Funds from operations or investments	The pool of funds that is available to a company generated through operations or investments	**2**	**1**	**9**	**14**	**25**	**4.16**	**Very important**
6.3 Present financial KPIs	Important financial indicators and analysis of the comparison with the target	**1**	**1**	**3**	**9**	**37**	**4.57**	**Extremely important**
6.4 The linkage between past and present financial KPIs	Analysis of the changes in important financial indicators	**1**	**2**	**4**	**7**	**37**	**4.51**	**Extremely important**
6.5 Shareholder relations	Relationship between the company and shareholders	**0**	**2**	**6**	**19**	**24**	**4.27**	**Extremely important**
6.6 Creditor relations	Relationship between the company and creditors (e.g., Bank)	**1**	**1**	**10**	**15**	**24**	**4.18**	**Very important**
6.7 Debtor relations	Relationship between the company and debtors (e.g., the collection of accounts receivable)	**0**	**2**	**11**	**18**	**20**	**4.10**	**Very important**
6.8 Other financial relations	Relationship between the company and other financial stakeholders (e.g., financial analysts, credit ratings agencies)	**0**	**4**	**20**	**11**	**16**	**3.76**	**Very important**
6.9 Taxation	The company's information on taxation (e.g., tax incentives, tax rates for overseas subsidiaries or branches, company's tax credit rating, tax contribution rate)	**0**	**3**	**15**	**16**	**17**	**3.92**	**Very important**
6.10 Insurance	The purpose, coverage, amount, and claims relating to the insurance purchased by the company	**5**	**11**	**9**	**13**	**13**	**3.35**	**Moderately important**

(g) Manufacturing capital

The average weighting of the theme of "manufacturing capital" was 3.38. All disclosure items belonging to this theme were considered very important by the stakeholder panel (see Table 6.9). Of the eight stakeholder groups, auditors assigned the highest weighting to this theme (an average of 4.72) and they also believed the theme of "manufacturing capital" had the highest importance of all the eleven themes. However, three stakeholder groups, including analysts in consultant companies, editors in financial media, and accounting scholars, held the opposite view. They deemed this theme the least important of all the eleven themes. Editors in financial media assigned the lowest weighting to this theme (an average of 2.50).

Table 6.9 Responses of the stakeholder panel on manufacturing capital

7. Manufacturing capital		Frequency					Weighting	Importance
		1	2	3	4	5		
7.1 Buildings	Important buildings (e.g., factories and plants) used within the company	**3**	**8**	**15**	**11**	**14**	**3.49**	**Very important**
7.2 Equipment	Important equipment (e.g., machines and tools) used within the company	**5**	**6**	**16**	**9**	**15**	**3.45**	**Very important**
7.3 Infrastructure	Important infrastructure (e.g., roads, ports, bridges) used within the company	**5**	**6**	**15**	**11**	**14**	**3.45**	**Very important**

(h) Natural capital

Table 6.10 shows that "pollution and pollution reduction" and "resource consumption and resource saving" were very important disclosure items while the importance of "extra environmental protection" and "overseas CSR (environmental aspects)" was moderate. The average weighting of the theme of "natural capital" was 3.44. Among the eight stakeholder groups, accounting scholars assigned the highest weighting to this theme (an average of 4.16) while officials in government agencies gave the lowest weighting to this theme (an average of 2.90). Of the eleven themes, editors in financial media indicated the theme of "natural capital" had the highest importance. However, analysts in investment companies rated the importance of this theme as the lowest among all the eleven themes.

Table 6.10 Responses of the stakeholder panel on natural capital

8. Natural capital		Frequency					Weighting	Importance
		1	**2**	**3**	**4**	**5**		
8.1 Pollution and pollution reduction	Pollution caused by the company and initiatives to reduce pollution	**1**	**8**	**6**	**17**	**19**	**3.88**	**Very important**
8.2 Resource consumption and resource saving	Resources consumed by the company and initiatives to reduce resource consumption	**1**	**9**	**12**	**13**	**16**	**3.67**	**Very important**
8.3 Extra environmental protection	Voluntary environmental protection activities	**7**	**13**	**12**	**7**	**12**	**3.08**	**Moderately important**
8.4 Overseas CSR (environmental aspect)	Corporate social responsibility activities (environmental aspects) in overseas markets	**8**	**14**	**10**	**9**	**10**	**2.98**	**Moderately important**

(i) Intellectual capital

The average weighting of the theme of "intellectual capital" was 3.69. Five disclosure items belonging to this theme were considered very important by the stakeholder panel, while the importance of two disclosure items, "marketing" and "entrepreneurial spirit" was moderate (see Table 6.11). Of the eight stakeholder groups, accounting scholars assigned the highest weighting to this theme (an average of 4.09) while auditors and analysts in banks gave the lowest weighting to this theme (an average of 3.52).

Table 6.11 Responses of the stakeholder panel on intellectual capital

9. Intellectual capital		Frequency					Weighting	Importance
		1	2	3	4	5		
9.1 Management processes	The processes related to the management of a company, such as cost management, and marketing management.	**0**	**4**	**22**	**13**	**12**	**3.65**	**Very important**
9.2 Brand	Brand ranking, brand value, brand image, and brand reputation.	**0**	**6**	**18**	**16**	**11**	**3.63**	**Very important**
9.3 Technology	Application of various technologies (e.g., ERP, database, internet, e-commerce for internal administrative management, marketing management, customer relationship management, supplier management, and employee management)	**2**	**5**	**16**	**13**	**15**	**3.67**	**Very important**
9.4 Research and development	Research and development activities for new products and services creation, products and service upgrades.	**0**	**4**	**13**	**9**	**25**	**4.08**	**Very important**
9.5 Intellectual property	Patents, copyrights, and trademarks owned by the company	**0**	**6**	**9**	**10**	**26**	**4.10**	**Very important**
9.6 Marketing	Marketing activities such as advertising, commercial sponsorship, promotions, social media presence, roadshows, and relationships with the media.	**1**	**6**	**24**	**15**	**5**	**3.33**	**Moderately important**
9.7 Entrepreneurial spirit	The spirits of innovation, proactive and reactive abilities, changeability, empowerment, responsibility taking, risk taking, employee engagement, creativity, knowledge sharing; initiatives to spur and cultivate these spirits.	**3**	**11**	**14**	**10**	**13**	**3.37**	**Moderately important**

(g) Human capital

In Table 6.12, there were ten disclosure items under the theme of "human capital". Eight of them were considered moderately important. Three disclosure items: "employee equality", "employee care" and "employee career development" were weighted below 3.00. This theme was recognized as the least important theme of all the eleven themes by the stakeholder panel, only reaching an average weighting of 3.13. Four stakeholder groups: officials in government agencies, analysts in banks, auditors, and financial managers all regarded the theme of "human capital" as the least important theme of the eleven themes.

Table 6.12 Responses of the stakeholder panel on human capital

10. Human capital		Frequency					Weighting	Importance
		1	**2**	**3**	**4**	**5**		
10.1 Recruitment	Recruitment activities	**2**	**16**	**16**	**11**	**6**	**3.06**	**Moderately important**
10.2 Employee remuneration	Employee remuneration policy and implementation (e.g., the comparison with the average wage of companies in the same industry or in the same region)	**2**	**4**	**19**	**17**	**9**	**3.53**	**Very important**
10.3 Employee equality	Equality for disabilities, females and ethnic minorities in recruitment, and remuneration.	**8**	**16**	**14**	**8**	**5**	**2.73**	**Moderately important**
10.4 Employee care	Employee care activities, such as providing counselling for employees who have personal crises, holding sports competitions for employees, etc.	**6**	**16**	**16**	**9**	**4**	**2.78**	**Moderately important**
10.5 Resignation, layoffs and dismissal	Employee turnover and the impact of turnover of important employees on the company	**3**	**13**	**15**	**10**	**10**	**3.22**	**Moderately important**
10.6 Employee career development	Initiatives that support career development amongst employees	**5**	**13**	**19**	**8**	**6**	**2.94**	**Moderately important**
10.7 Employee health and safety	Initiatives to ensure occupational health and safety	**7**	**7**	**16**	**11**	**10**	**3.20**	**Moderately important**
10.8 Employee training and education	Training or education programs provided by the company to employees	**4**	**14**	**17**	**6**	**10**	**3.08**	**Moderately important**
10.9 Employee qualifications	Information on academic and vocational qualifications held by employees	**2**	**11**	**18**	**12**	**8**	**3.25**	**Moderately important**
10.10 Employee allocation	Information on employees in various positions (e.g., technicians) and employees of various ages	**1**	**5**	**21**	**9**	**15**	**3.63**	**Very important**

(k) Social and relational capital

The average weighting of the theme of "social and relational capital" was 3.32. Six disclosure items belonging to this theme were considered very items by the stakeholder panel while the other six disclosure items were rated as being of moderate importance (see Table 6.13). Among eight stakeholder groups, accounting scholars gave the highest weighting to this theme (an average of 3.90) while the financial managers offered the lowest weighting (an average of 2.92).

Table 6.13 Responses of the stakeholder panel on social and relational capital

11. Social and relational capital		Frequency					Weighting	Importance
		1	2	3	4	5		
11.1 Competitor relations	Relationships between the company and its competitors, such as anti-competitive initiatives	2	5	19	14	11	3.53	Very important
11.2 Customer relations	Relationships between the company and its customers, such as initiatives to increase customer satisfaction, and customer loyalty.	0	6	15	19	11	3.69	Very important
11.3 Business collaboration	Business activities with other companies or non-governmental organisations, such as joint ventures, mergers or acquisitions, marketing, strategic alliances, and R&D.	0	2	16	15	18	3.96	Very important
11.4 Supplier or distributor relations	Relationships between the company and its suppliers or distributors, such as policies for suppliers or distributors, support for suppliers or distributors, identification of qualified suppliers and distributors	0	4	18	14	15	3.78	Very important
11.5 Government relations	Relationships between the company and government, such as strategic cooperation	1	8	12	15	15	3.69	Very important
11.6 Society & community support	Various types of voluntary services provided by the company to society and communities	4	15	18	8	6	2.94	Moderately important
11.7 Product or service quality	Initiatives to ensure consumer safety, health and privacy	0	5	12	15	19	3.94	Very important
11.8 NGO relations	Relationships between the company and non-profit organisations (e.g., environmental NGOs)	7	14	16	7	7	2.86	Moderately important
11.9 Media relations	Relationships between the company and the media	6	13	18	9	5	2.88	Moderately important
11.10 Industry association relations	Relationships between the company and industry association	6	16	16	9	4	2.78	Moderately important
11.11 Anti-corruption	Initiatives to prevent corruption	4	12	16	10	9	3.16	Moderately important
11.12 Overseas CSR (social aspect)	Corporate social responsibility activities (social aspects) in overseas markets	4	14	16	7	10	3.10	Moderately important

Overall, the theme of "financial capital" was the most important and the theme of "human capital" was the least important. From the perception of each stakeholder group, the theme of "corporate overview and external environment" was regarded as the most important theme among all eleven themes by financial analysts in investment companies. Financial managers believed the theme of "strategy and competitiveness" was the most important theme, while accounting scholars asserted that "risk and opportunity" had the highest importance. Analysts in consultant companies, officials in government agencies, and analysts in banks reached a consensus that the theme of “financial capital” was the most important. Officials in government agencies, analysts in banks, auditors and financial managers all agreed that the theme of “human capital” was the least important of all eleven themes. Stakeholder groups had varied perceptions about the importance of the themes of “manufacturing capital” and “natural capital”. Analysts in consultant companies, editors in financial media and accounting scholars deemed that “manufacturing capital” was the least important of all eleven themes but auditors believed had the highest importance. In terms of the theme of “natural capital”, editors in financial media believed this was the most important theme while analysts in investment companies saw it as the least important.

In this second-round questionnaire survey, certain stakeholder groups weighted the disclosure items quite differently than others. This confirms the notion that the information expectations of different stakeholder groups are dissimilar; the information expectations of different stakeholder groups are even sometimes conflicting (Chen & Roberts, 2010; Dong et al., 2014; Huang & Kung, 2010). In this circumstance, organisations need to balance these conflicting expectations in IR, whether from the ethical perspective of stakeholder theory or the managerial perspective of stakeholder theory (Azizul Islam & Deegan, 2008; Deegan & Blomquist, 2006; Dong et al., 2014; Huang & Kung, 2010). This study also finds that accounting scholars seemed to be more sensitive to IR disclosures while editors in financial media were less sensitive compared with other stakeholder groups. Identifying stakeholder groups that are more sensitive to IR disclosures is in line with legitimacy theory.

6.5 Chapter summary

A final IR disclosure index is established in this chapter. In order to achieve this, two-round questionnaire surveys are conducted. A total of 51 stakeholders, consisting of scholars in accounting, editors in financial media, financial managers, financial analysts in banks, auditors, officials in government agencies in charge of supervising Chinese companies, industry analysts in consultant companies and financial analysts in investment companies, constitute the stakeholders’ panel. With the establishment of a Chinese IR disclosure index, the first objective of this thesis is accomplished.

In the first-round questionnaire survey, the preliminary list of IR disclosure items constructed in Chapter four, containing a total of 54 disclosure items, is checked, validated, and revised by stakeholders. Thus, the final list of disclosure items contains 68 IR disclosure items in eleven themes. The second-round questionnaire survey is to identify the weighting of each IR disclosure item. The responses (weightings) from the participants for each IR disclosure item are summed and the total is divided by 51 to obtain an average score that indicates the weighting of the item. Thus, the final IR disclosure index is established and is presented in Table 6.14.

The guiding principles of the IIRF have been implicitly or explicitly incorporated in the list of IR disclosure items (Stent & Dowler, 2015). For instance, "strategic focus and future orientation" is evident in the themes of "strategy and competitiveness" and "future outlooks"; "stakeholder relationships" are explicitly incorporated in some themes like "social and relational capital". All the disclosure items, both positive and negative information, contained in the IR disclosure index, are scrutinized by Chinese stakeholders and weighted as at least moderately important, meeting the IIRF's guiding principles of "materiality" and "reliability and completeness", which focus on including all material information in integrated reports (IIRC, 2013). The IR disclosure index is adopted in Chapter seven to undertake content analysis to corporate reports published by Chinese listed firms to assess IR disclosure practices by Chinese companies for the years 2014-2018, thus enabling comparison the IR disclosure practices between years and between firms. This is in line with the guiding principle of "consistency and comparability" in the IIRF (IIRC, 2013). According to Stent and Dowler (2015), the guideline principle of conciseness is difficult to achieve in lists of IR disclosure items. Thus, an additional assessment for "conciseness" of corporate reports is carried out in Chapter seven. Also, "connectivity of information" can only be achieved implicitly in the list of IR disclosure items (Stent & Dowler, 2015), thus failing to highlight the essence of IR (Eccles et al., 2015a). Therefore, the "connectivity of information" is particularly emphasized and incorporated in the quality criteria of the scoring system (see Chapter five).

From a theoretical point of view, the features of some theories, such as stakeholder, legitimacy, institutional, agency and signalling theories, are explicitly or implicitly reflected in Chinese stakeholders' views. Moreover, stakeholder theory is supported because with the construction of the IR disclosure index it is found that the information demands of various stakeholder groups are different. In a similar vein, legitimacy theory is also supported as a result of identifying which stakeholder group is more sensitive to IR disclosures by assigning stakeholders’ weightings to different IR disclosure items.

Table 6.14 Final IR index

1. Corporate overview & external environment	**Weighting**
1.1 Basic information about the company	4.31
1.2 Mission and vision	3.73
1.3 Culture, ethics and value	3.55
1.4 Operating context	3.92
1.5 Business and market	4.43
1.6 Company history	3.61
1.7 Operational structure	3.86
2. Strategy and competitiveness	**Weighting**
2.1 Strategy	4.04
2.2 Core competitiveness	4.06
2.3 Competitive landscape	3.98
2.4 Business model	4.18
3. Governance	**Weighting**
3.1 Ownership structure	4.18
3.2 Leadership structure	4.14
3.3 Management remuneration	3.98
3.4 Management experience and capability	3.88
3.5 Warnings and penalties	3.75
3.6 Chinese Communist Party-building	2.78
4. Risk and opportunity	**Weighting**
4.1 Risk	3.80
4.2 Opportunity	3.61
5. Outlook	**Weighting**
5.1 Business plans	3.78
5.2 Business objectives	3.80
5.3 Challenges & uncertainties	3.63
6. Financial capital	**Weighting**
6.1 Funds from financing	4.12
6.2 Funds from operations or investments	4.16
6.3 Present financial KPIs	4.57
6.4 The linkage between past and present financial KPIs	4.51
6.5 Shareholder relations	4.27
6.6 Creditor relations	4.18
6.7 Debtor relations	4.10
6.8 Other financial relations	3.76
6.9 Taxation	3.92
6.10 Insurance	3.35

(Continued)

Table 6.14 (Continued)

7. Manufacturing capital	**Weighting**
7.1 Buildings	3.49
7.2 Equipment	3.45
7.3 Infrastructure	3.45
8. Natural capital	**Weighting**
8.1 Pollution and pollution reduction	3.88
8.2 Resource consumption and resource saving	3.67
8.3 Extra environmental protection	3.08
8.4 Overseas CSR (environmental aspects)	2.98
9. Intellectual capital	**Weighting**
9.1 Management processes	3.65
9.2 Brand	3.63
9.3 Technology	3.67
9.4 Research and development	4.08
9.5 Intellectual property	4.10
9.6 Marketing	3.33
9.7 Entrepreneurial spirit	3.37
10. Human capital	**Weighting**
10.1 Recruitment	3.06
10.2 Employee remuneration	3.53
10.3 Employee equality	2.73
10.4 Employee care	2.78
10.5 Resignations, layoffs and dismissals	3.22
10.6 Employee career development	2.94
10.7 Employee health and safety	3.20
10.8 Employee training and education	3.08
10.9 Employee qualifications	3.25
10.10 Employee allocation	3.63
11. **Social and relational capital**	**Weighting**
11.1 Competitor relations	3.53
11.2 Customer relations	3.69
11.3 Business collaborations	3.96
11.4 Supplier or distributor relations	3.78
11.5 Government relations	3.69
11.6 Society & community support	2.94
11.7 Product or service quality	3.94
11.8 NGO relations	2.86
11.9 Media relations	2.88
11.10 Industry association relations	2.78
11.11 Anti-corruption	3.16
11.12 Overseas CSR (social aspects)	3.10

CHAPTER SEVEN
IR DISCLOSURE PRACTICES BY CHINESE COMPANIES

7.1 Introduction

This chapter examines the IR disclosure practices (the extent and quality of IR disclosures[37]) of Chinese listed companies using content analysis of five years (2014-2018) corporate reports (annual reports and stand-alone sustainability reports) from 100 top A-share Chinese listed companies (see Appendix K). The IR disclosure index (designed in Chapter six) is used as a basis for the content analysis. This chapter reports the extent and quality of IR disclosures of the Chinese companies in terms of: items, themes, companies, industry type, listing status, and ownership. The chapter is organized in the following sections.

Section 7.2 shows the extent and quality of IR disclosures by items. Section 7.3 presents the extent and quality of IR disclosures by themes. Section 7.4 describes the extent and quality of IR disclosures by companies. Section 7.5 presents the trend of extent and quality of IR disclosures. Sections 7.6 and 7.7 report the extent and quality of IR disclosure by listing status and ownership, respectively. Section 7.8 provides interpretive comments. Finally section 7.9 summarizes the chapter.

7.2 IR disclosure practices by items

Extent and Quality

Details of the extent and quality of IR disclosures[38] are shown in Appendix L. From 2014 to 2018, the extent of disclosure of 48 items (71% of total items) improves. There is only a slight decline in the extent of disclosure for 5 items and the remaining 15 items keep the same extent of disclosure. Over the five-year period, the extent of disclosure related to “business model” shows the highest improvement, with an increase of 46% (98%-52%) while that for “warnings and penalties” shows the greatest decrease of 16% (78%-62%). There is a clear upward trend in the number of IR items presenting the highest extent of disclosure from 2014 to 2018 and the number of IR items with the lowest extent of

[37] Refer to Appendix J for calculation of the extent and quality of IR disclosures.

[38] “The extent of IR disclosures” here is a normalized score ranging from 0 to 1, referring to the extent of “one item of all firms in one year” and “the quality of IR disclosures” here is also a normalized score ranging from 0 to 1, referring to the quality of “one item of all firms in one year” (see Appendix J for details).

disclosure decreases. The results indicate that the extent of disclosure of IR items improves over the five-year period.

It can be seen that the quality of disclosure of 55 items (81% of total items) improves from 2014 to 2018, although the quality of disclosure of the other 13 items decreases slightly. The quality of disclosure of "business model" shows the highest improvement with an increase of 0.3900 (0.5850-0.1950) over the five-year period. In addition, the quality of disclosure of "Chinese Communist Party-building" also substantially improves, with an increase of 0.3300 (0.3650-0.0350). However, because the Chinese Communist Party-building was incorporated into the Chinese listed company governance guidelines in 2018, it is not surprising to see an increase in its quality of disclosure. Seven items: "business and market"; "the linkage between past and present financial KPIs"; "operational structure"; "ownership structure"; "management experience and capability"; "society and community support"; and "funds from financing" show the highest quality of disclosures in 2014, achieving a quality score of over 0.800. In 2018, the number of items that shows the highest quality of disclosures increases to 9 with the addition of three new items ("shareholder relations", "operating context" and "employee allocation") while "ownership structure" no longer shows the highest quality of disclosure. In 2014 the number of items whose quality score exceeded 0.500 is 34, accounting for half of the total items. In comparison, the number reached 41 (60% of total items) in 2018. In addition, the number of disclosure items whose quality scores are lower than 0.200 rapidly reduces from 14 to 8 over the five years analyzed. However, there are still two disclosure items ("insurance" and "overseas CSR (environmental aspects)") that in 2018 attain a quality score below 0.100.

By combining the data on the extent and quality of IR disclosure items, "business and market" has the best disclosure practices (both in extent and quality) during the period 2014-2017, while the disclosure practices for "management experience and capability" are the highest in 2018. However, the disclosure practices for "overseas CSR (environmental aspects)" are the lowest of all items in each sample year. In addition, "business model" is the item whose disclosure practices show the greatest enhancement over the five-year period.

Information gap

The information gap refers to the gap between the quality of disclosure of an item and stakeholders' expectations of it (An et al., 2015; Hooks et al., 2002). By comparing the quality score of an item and its importance (see Appendix L) (An et al., 2015), it can be seen that there is an information gap[39] between the quality of disclosure of several IR items and the perceptions of Chinese stakeholders for the importance of these IR items[40]. According to the 2018 dataset, the quality of disclosure of 10 items exceeds stakeholders' expectations while for 27 items the quality of disclosure is consistent with stakeholders' expectations. However, there are 31 items (45% of the total) which fail to meet Chinese stakeholders' expectations, indicating that there is an information gap between the disclosure practices of these 31 IR items by Chinese companies and the views of Chinese stakeholders on the importance of these IR items.

7.3 IR disclosure practices by themes

A total of 68 items are categorized under 11 themes. Table 7.1 shows the extent and quality of IR disclosures in terms of the 11 themes. Across five years, "outlook" has the highest extent of IR disclosures while "manufacturing capital" has the lowest extent of IR disclosures among the 11 themes. There is an increasing trend for all IR themes in terms of the extent of disclosures from 2014 to 2018. "Strategy and competitiveness" and "intellectual capital" have the highest increasing trend in the extent of disclosures whereas "financial capital" and "outlook" have the lowest increasing trend.

"Corporate overview and external environment" has the highest quality of IR disclosures of the 11 themes in each sample year. In comparison, "manufacturing capital" has the lowest quality score in each sample year. The quality of disclosure of all 11 themes shows an increasing trend from 2014 to 2018. Two themes ("strategy and competitiveness" and "intellectual capital") have the highest increasing trend in the quality of disclosures while the other 9 themes show only a slight increase.

[39] A quality score of below 0.2000 corresponds to an unimportant item; a quality score of 0.2 to 0.4 corresponds to an item of minor importance; a quality score of 0.4 to 0.6 signifies a moderately important item; a quality score of 0.6 to 0.8 indicates a very important item; and a quality score of 0.8 to 1.0 corresponds to the extremely important item. For instance, if an item is seen as a moderately important item and if its quality score is below 0.4, then its quality of disclosure is below the stakeholders' expectations; if its quality score is between 0.4 and 0.6, then its quality of disclosure is consistent with the stakeholders' expectations; if its quality score is above 0.6, then its quality of disclosure is above the stakeholders' expectations.

[40] See Chapter six for details about the perceptions of Chinese stakeholders on the importance of IR items.

Table 7.1 Extent and quality of IR disclosures for each theme

Theme	2014		2015		2016		2017		2018	
	Extent	Quality	Extent	Quality	Extent	Quality	Extent	Quality	Extent	Quality
Corporate overview & external environment	0.7886	0.7082	0.7957	0.7317	0.8029	0.7404	0.8129	0.7514	0.8829	0.7589
Strategy and competitiveness	0.7750	0.4272	0.9000	0.5256	0.9025	0.5418	0.9150	0.5588	0.9625	0.5676
Intellectual capital	0.7057	0.4425	0.7357	0.4746	0.7486	0.4842	0.7700	0.5080	0.8786	0.5688
Manufacturing capital	0.1333	0.0917	0.1600	0.1286	0.1700	0.1336	0.1800	0.1419	0.2300	0.1703
Human capital	0.7820	0.4988	0.7980	0.5138	0.7940	0.5237	0.8060	0.5338	0.8450	0.5613
Natural capital	0.5775	0.3971	0.5825	0.4048	0.6025	0.4344	0.6150	0.4442	0.6375	0.4822
Financial capital	0.7250	0.5385	0.7580	0.5753	0.7630	0.5823	0.7670	0.5832	0.7560	0.5763
Social and relational capital	0.6825	0.4112	0.6775	0.4138	0.7133	0.4423	0.7383	0.4606	0.7558	0.4946
Governance	0.8100	0.5718	0.7833	0.5636	0.7933	0.5724	0.8250	0.5927	0.8817	0.6171
Risk and opportunity	0.8800	0.5538	0.8950	0.5599	0.9150	0.5833	0.9200	0.5881	0.9500	0.5987
Outlook	0.9533	0.5611	0.9467	0.5644	0.9400	0.5646	0.9367	0.5749	0.9767	0.5739

7.4 IR disclosure practices by companies

Appendix M summarizes the IR disclosure practices of each sample company from 2014 to 2018. In terms of the extent of disclosures, no companies disclose all the IR items in each sample year. In 2014, the extent of overall IR disclosures is 0.72 (=49.01/68), suggesting that the average number of IR items disclosed per company is 49 out of a maximum possible of 68 items. The lowest extent of overall IR disclosures is 0.50 (=34/68) while the highest extent of overall IR disclosures is 0.88 (60/68). The extent of overall IR disclosures, the lowest extent of overall IR disclosures, and the highest extent of overall IR disclosures increase gradually year by year. In 2018, the three indicators are 0.80, 0.62 and 0.93, respectively. By comparing the data for 2014 and 2018, it is apparent that the extent of IR disclosures of 90 companies (90% of the total) has improved and a decrease has occurred for the remaining 10 companies.

In terms of the quality of IR disclosure, Appendix M shows the overall IR disclosure quality score exceeds 0.5000 from 2015 to 2018, indicating that the recent quality of overall IR disclosures by Chinese companies is good in general. In 2014, the overall IR disclosure quality score is 0.4839 and this steadily increases year by year. In 2018, the overall IR disclosure quality score reaches 0.5548. In 2014, there are 41 companies (41%) scoring over 0.5000 for the quality of overall IR disclosures. In 2018, the number of companies that scores over 0.5000 increased to 78. By contrasting the 2014 and 2018 datasets, it is apparent that the quality of IR disclosures of 91 companies (91% of the total) is enhanced and a slight decrease occurs for the remaining 9 companies.

7.5 IR disclosure practices by trend

Figure 7.1 shows an upward trend in the extent of overall IR disclosures from 2014 to 2018, with an increase from 49.01 to 54.62 over 5 years. To compare the extent of overall IR disclosures between years, ANOVA is considered. One-way ANOVA assumes normality and homogeneity of variance (Warner, 2012). Firstly, the results of the Kolmogorov-Smirnov test reject the assumption of normality. Secondly, the tests of homogeneity of variances for the extent of overall IR disclosures meet the assumption of homogeneity of variance ($p>.10$). Considering that the one-way ANOVA tolerates violations of its normality assumption reasonably well, one-way ANOVA is applied for the extent of overall IR disclosures.

The results of the one-way ANOVA suggest that the increase in the extent of overall IR disclosures between years is significant ($F=19.210$, $p=.000$)[41]. The Tukey post-hoc test indicates that the increases between 2014 and 2016, 2014 and 2017, 2014 and 2018, 2015 and 2018, 2016 and 2018, and 2017 and 2018 are significant ($p<.05$). However, there is no significant increase between 2014 and 2015, 2015 and 2016, 2016 and 2017, and 2015 and 2017.

[41] A robustness test (the Kruskal-Wallis test, which does not require an assumption of normality (Liu, 2014)) is also used for the extent of overall IR disclosures. The results of the Kruskal-Wallis test are consistent with those of the one-way ANOVA.

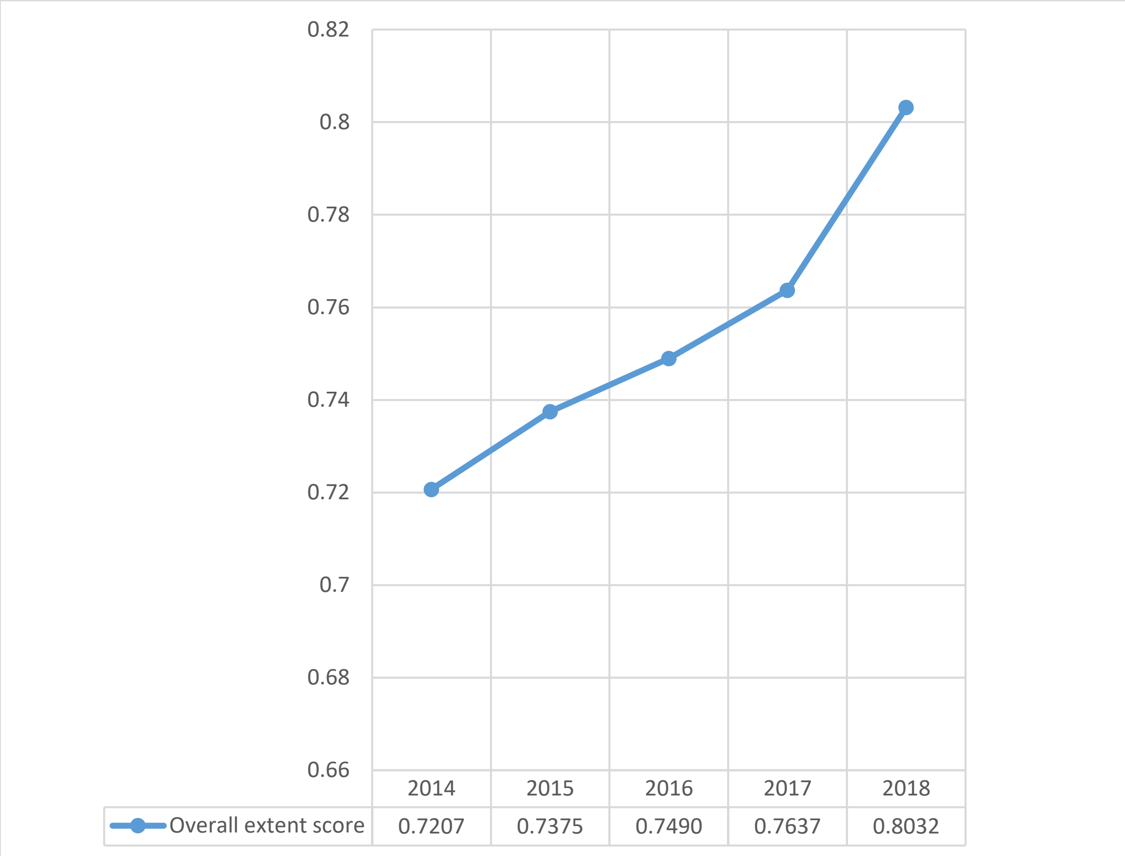

Figure 7.1 Trend in the extent of overall IR disclosures from 2014 to 2018

Source: Author’s design

Figure 7.2 shows that the quality of overall IR disclosures improves from 2014 to 2018, with an increase in disclosure quality score from 0.4839 to 0.5548 over 5 years. The Kolmogorov-Smirnov test shows the quality of overall IR disclosures meet the assumption of normality ($p>.10$). Additionally, tests of homogeneity of variances for the quality of overall IR disclosure meet the assumption of homogeneity of variance ($p>.10$).

One-way ANOVA indicates that the increase of the quality of overall IR disclosures between years is significant ($F=18.093$, $p = .000$). The Tukey post-hoc test indicates that the increases in the quality of overall IR disclosures between 2014 and 2016, 2014 and 2017, 2014 and 2018, 2015 and 2017, 2015 and 2018, and 2016 and 2018 are significant ($p<.05$). However, there is no significant increase between 2014 and 2015, 2015 and 2016, 2016 and 2017, and 2017 and 2018.

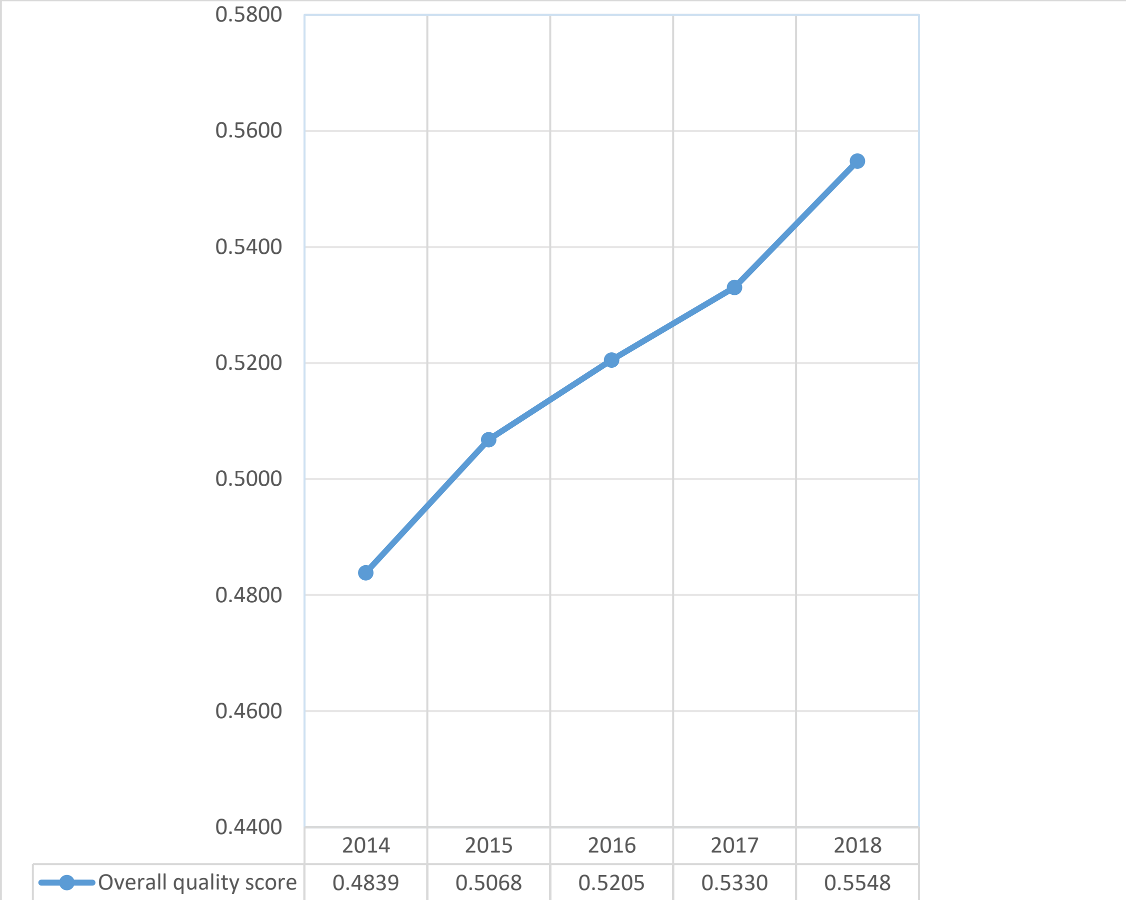

Figure 7.2 Trend in the quality of overall IR disclosures from 2014 to 2018

Source: Author's design

The upward trend in the quality of overall IR disclosures is very consistent with the extent of overall IR disclosures. The gradual improvement in IR disclosure practices can be explained using stakeholder theory; that is, the gap between the firms' actual IR disclosure practices and stakeholders' expectations causes pressure to be exerted by stakeholders, and firms then gradually enhance their IR disclosure practices to respond to their stakeholders' concerns in order to reduce transparency and accountability pressures and maintain legitimacy (Marrone & Oliva, 2019; Nicolò et al., 2020a). The gradual improvement in IR disclosure practices also reflects the processes of legitimation and institutionalisation of IR practices by Chinese firms.

7.6 IR disclosure practices by listing status

Listing status can be seen as a notable feature in the Chinese stock market (An, 2012; Liu, 2014). Since 19 April 1993, Chinese firms have been allowed to simultaneously issue A-shares on mainland Chinese stock markets and H-shares on the HKSE (Li et al., 2015). Compared to solo-listed A-share firms, it is generally believed that dual-listed A- and H-share firms have resource advantages, abide by stricter listing rules, are subject to an environment of stronger investor protection, and face more mature investors (An, 2012; Li et al., 2015). However, between 1993 and 2007, mainland Chinese investors could not access H-shares and foreign investors could not access A-shares. Between 2007 and 2014, mainland Chinese investors were allowed to trade H-shares. Only after 17 November 2014, were foreign investors allowed to trade A-shares (Luo et al., 2020). Some studies have found that dual-listed A- and H-share firms outperformed their solo-listed A-share peers in reporting disclosures before 2014 (An, 2012; Liu, 2014). Thus, understanding the IR disclosure practices of dual-listed A- and H-share firms after 2014 and comparing IR disclosure practices between dual-listed A and H-share firms and their solo-listed A-share counterparts is important and contributes to the extant literature. The sample companies comprise 224 dual-listed A- and H-share companies and 276 solo-listed A-share companies. The disclosure practices of the dual-listed companies and solo-listed companies are shown in Table 7.2, which shows that both the extent of disclosure and the quality of disclosures of companies that are dual-listed are better than those of companies that are solo-listed.

Table 7.2 IR disclosure by listing status

Listing status		Year					
		2014	2015	2016	2017	2018	Average
Solo-listed	Extent	0.7160	0.7274	0.7337	0.7435	0.7745	0.7390
	Quality	0.4741	0.4953	0.5059	0.5131	0.5286	0.5029
Dual-listed	Extent	0.7272	0.7503	0.7669	0.7874	0.8370	0.7748
	Quality	0.4974	0.5215	0.5377	0.5564	0.5856	0.5406
	Extent	Z=-5.490 P=0.000					
	Quality	T=-6.508 P=0.000					

Based on the results of normality tests for the dual-listed A- and H-share company group and the solo-listed A-share company group, a t-test for the 5-year average quality of overall IR disclosures is carried out. In addition, the 5-year average extent of overall IR disclosures are tested using the Mann-Whitney test. The dual-listed A- and H-share companies show overwhelming advantages in releasing IR disclosures, compared with solo-listed A-share companies. Specifically, the 5-year average extent and quality of overall IR disclosures by dual-listed A- and H-share companies are significantly higher than those by solo-listed A-share companies.

The distinction between the dual-listed A- and H-share company group and the solo-listed A-share company group can be explained using institutional theory. In order to respond to institutional pressure, companies tend to employ similar patterns in disclosing information (DiMaggio & Powell, 1983). Firms listing on the same stock exchange generally have similar disclosure practices and vary from firms listing on other stock exchanges. If a firm does not adopt similar disclosure practices to others listing on the same stock exchange, it would be perceived as a failure of the firm by its stakeholders, which endangers the relationship between the firm and its stakeholders and negatively affects the company's legitimacy. Thus, the difference in IR disclosure practices between A and A+H shares is significant. This finding provides evidence for institutional theory.

7.7 IR disclosure practices by ownership

State-owned shares are another noteworthy feature in the Chinese stock market (An, 2012; Liu, 2014). For instance, the Chinese government controls approximately 50% of all the shares of Chinese listed companies (Keller, 2017). State-owned firms dominate China's economy and are seen as social enterprises—enterprises that aim to fulfil social goals using business as an approach (Lin et al., 2020). Chinese state-owned firms, integrating both non-financial and financial logics, are created to balance the expectations of various stakeholder groups, which is in line with one of the spirits of IR—embracing all stakeholders including 'employees, customers, suppliers, business partners, local communities, legislators, regulators and policymakers' (IIRC, 2013, p. 4; Lin et al., 2020). Thus, understanding the IR disclosure practices of Chinese state-owned firms and comparing IR disclosure practices between state-owned firms and their non-state-owned peers is necessary and complements the existing literature. The sample companies consist of 95 non-state-owned companies and 405 state-owned companies. The disclosure practices of these two groups are shown in Table 7.3. Both the extent of IR disclosures (except in 2014) and the quality of IR disclosures of state-owned companies are better than those of non-state-owned companies.

Table 7.3 IR disclosure by ownership

Ownership		Year					
		2014	2015	2016	2017	2018	Average
NON-SOE	Extent	0.7283	0.7345	0.7368	0.7515	0.7895	0.7481
	Quality	0.4773	0.4988	0.5041	0.5130	0.5364	0.5059
SOE	Extent	0.7190	0.7382	0.7518	0.7665	0.8065	0.7564
	Quality	0.4854	0.5087	0.5244	0.5377	0.5591	0.5231
	Extent	Z=-1.409 P=0.159					
	Quality	Z=-2.276 P=0.023					

After carrying out normality tests for the two groups, the Mann-Whitney test reveals that the 5-year average quality of overall IR disclosures by state-owned companies is significantly higher than those by non-state-owned companies. Some researchers believe that the Chinese government encourages state-owned companies to increase the level of information disclosures in order to exhibit a good image of corporate governance (Xiao & Yuan, 2007; Wang et al., 2008); and the Chinese government also pressures state-owned companies to become role-models for non-state-owned companies in reporting information, considering state-owned companies are likely to be scrutinized more rigidly by the public (Tagesson et al., 2009). Moreover, according to Nicolò et al. (2020a), state-owned companies have more responsibilities in terms of the need to “create and deliver public value for citizens” (p.2), and they face greater pressure compared with their non-state-owned counterparts in discharging accountability to the public, especially in the non-financial aspects. This finding supports legitimacy theory.

7.8 Discussion

7.8.1 IR disclosure practices in China

The results of the formal content analysis indicate that many Chinese companies have already used three forms of IR disclosures: monetary, numerical and, narrative descriptions, in their corporate reports. However, IR disclosure practices by some Chinese companies are at a low level, and specifically, some sample companies tend to describe items using qualitative description rather than quantitative description, which supports the findings of previous studies (Kılıç & Kuzey, 2018b). This is especially so for negative information; although many companies have already released this kind of information, it is usually described using a qualitative format, which is consistent with Casonato et al.’s (2018) argument that “There is evidence that companies are more likely to disclose…negative information in a qualitative format" (p. 150). Considering there has not been a constructed or generally accepted IR framework in current China so far, the low IR disclosure practices of some firms are understandable. Also, according to An (2012), the small size of the corporate reports for some companies causes low IR disclosure practices by those companies.

A high IR disclosure practice represents a more transparent firm, meaning the firm faces the possible risk of higher indirect costs, including political, litigation, and proprietary costs (Trucco, 2015). Firms may hesitate to pursue higher IR disclosure practices to avoid potential penalization, political attacks, and the release of proprietary information to competitors (Kılıç & Kuzey, 2018b; Trucco, 2015). Furthermore, traditional Chinese culture may amplify Chinese firms concerns about the possible negative effect of high IR disclosure practices. Because of the impact of traditional Chinese culture, Chinese listed companies may be very reluctant to provide certain types of information that are regarded as sensitive (Qu & Leung, 2006). In the traditional Chinese cultural environment, which features conservatism and secrecy, transparency of information disclosure by corporates is difficult to achieve (Qu & Leung, 2006). Thus, the impact of traditional Chinese culture may cause low IR disclosure practices in some Chinese firms. However, with the economic development of China, China's culture is changing and Chinese listed companies are becoming more willing to gradually improve their transparency (Qu & Leung, 2006), as shown by the gradual improvement in IR disclosure practices of the sample companies in this study.

In addition to the results of content analysis, there are two other interesting findings. Firstly, no company incorporates its sustainability report into its annual report. The IIRC (2013) believes that an integrated report can be a stand-alone report or a part of another report. Eccles and Saltzman (2011) contend that "an integrated report is a single document" (p.27). According to Paternostro (2013), there are three approaches to facilitating IR practices: weak aggregation, strong aggregation, and the best aggregation. The weak aggregation approach involves a simple combination of financial reports and sustainability reports. In this approach, financial reports may be seen as the primary reports and sustainability reports as the secondary reports. The primary report and the secondary report can be differentiated easily in an integrated report. The strong aggregation approach contends that in an integrated report, the boundary between the primary report and the secondary report is not obvious. Information provided by both financial reports and sustainability reports is balanced. However, in this approach, the information provided by financial reports and sustainability reports can be identified and distinguished easily. Under the best aggregation approach, the information provided by financial reports and sustainability reports is completely integrated and the boundary between the two types of information cannot be recognized. Based on the above arguments, separation between the annual report and the sustainability report would not be conducive to improvement in the IR disclosure practices of Chinese companies. Thus, Chinese firms may attempt to apply the aforementioned three approaches gradually to facilitate their IR disclosure practices. Secondly, no company mentions the term 'integrated reporting' in their annual reports and sustainability reports or states that they prepare their corporate reports in accordance with the IIRF, indicating either that Chinese companies do not see their corporate reports as integrated reports, or that the concept of IR has not diffused widely among Chinese firms yet.

7.8.2 Chinese IR disclosure practices in the international level

A comparison of the findings of the current study with those of other countries is essential to ascertain the status of IR practices in China in the international arena. In terms of disclosure extent, Zhou et al. (2017) examine the 4-year average (2009-2012) extent of IR disclosures by all Johannesburg Stock Exchange (JSE) listed companies, which is 0.2027 (6.283/31). Pavlopoulos et al. (2017) find that the 5-year average (2011 to 2015) extent of IR disclosures by international companies reached 0.702. Kılıç and Kuzey (2018a) measure the extent of IR disclosures by the 100 largest companies on the Istanbul Stock Exchange (BIST) in 2015, which is 0.63. Sofian and Dumitru (2017) investigate European listed financial companies and obtain their extent of IR disclosure in 2015, which is 0.7382. In Bangladesh, the extent of IR disclosures by the Dhaka Stock Exchange 30 companies is 0.6148 in 2016 (Nakib & Dey, 2018). Nicolò et al. (2019) find that the extent of IR disclosures of international SOEs in 2016 reached 0.65. In comparison, the present research, the 5-year average (2014-2018) extent of IR disclosures by Chinese listed companies is 0.7548 and their extent of IR disclosures in 2015 and 2016 is 0.7375 and 0.7490 respectively. The findings indicate that the extent of IR disclosures by Chinese listed companies is higher than those by South African listed companies, Bangladeshi listed companies, Turkish listed companies and the worldwide average level. However, it also shows that the extent of IR disclosures by Chinese listed companies is slighter lower than that by their European counterparts.

In terms of disclosure quality, Lee and Yeo (2016) find the 4-year average (2010-2013) quality of IR disclosures by all JSE listed companies is 0.4650 (93/200). In a study conducted by Perez (2018), the 3-year average (2013-2015) quality of IR disclosures by South African listed companies is 0.4750. Similarly, Pistoni et al. (2018) show that the quality of IR disclosure by international companies in 2014 is 0.5816 (29.08/50). In the present study, the 5-year average (2014-2018) quality of IR disclosures by Chinese listed companies is 0.5198 and their quality of IR disclosures in 2014 is 0.4839. The results of the comparison suggest that the quality of IR disclosures in China is higher than those in some countries such as South Africa, but it has not reached the worldwide average level.

7.8.3 Conciseness and readability

The IIRF (IIRC, 2013, p.5) highlights that "an integrated report should be concise." One of the purposes of IR is to avoid redundant information (Zhou et al., 2017). Drawing on prior studies by De Franco et al. (2015) and Li (2008), Melloni et al. (2017) believe that conciseness can be captured by the length of the corporate report. Many researchers have used the number of pages in integrated reports to proxy their conciseness (Pavlopoulos et al., 2019; Nicolò et al., 2020a; Tirado-Valencia et al., 2019). Tirado-Valencia et al. (2019) find that the 5-year (2013 to 2017) average number of pages in integrated reports released by 17 state-owned international companies is 188. In a study by Pavlopoulos et al. (2019), the 5-year (2011 to 2015) average number of pages in integrated reports released by 82 international companies is approximately 131 pages. Nicolò et al. (2020a) find that the average number of pages in integrated reports produced by 34 European state-owned companies for the year 2016 is 206.65; thus, the researchers believe these corporate reports are concise. Zinsou (2018) find that the average number of pages in integrated reports by French listed companies is 347. Diverging from prior results observed by different scholars, the current study demonstrates that the number of pages in corporate reports disclosed by Chinese companies is increasing gradually year by year, from 282 to 340, indicating that the conciseness of corporate reports is on a downward trend. Moreover, the 5-year (2014 to 2018) average number of pages is 305 (see Table 7.4). One explanation for the downward trend is that the Chinese companies have been trying to cover more information in their corporate reports in order to achieve completeness (Melloni et al., 2017).

One of the aims of IR is to facilitate the communication with different stakeholders; thus, the readability of integrated reports strongly influences the value of these reports for users (Du Toit, 2017; Gerwanski et al., 2019). Management can use the readability of IR to demonstrate they are behaving in stakeholders' best interests (Gerwanski et al., 2019). The Fog index is a commonly used approach to measuring readability (Melloni et al., 2017). The formula for calculating the Fog index is $Fog = (words\ per\ sentence + percent\ of\ complex\ words) \times 0.4$. The index shows the number of years of formal education required for a reader of average intelligence to read the text once and understand that piece of writing. In the formula, the words per sentence and the percentage of complex words are measured[42] using the Chinese Readability Index Explorer[43]. The relationship between the Fog index and readability is as follows: Fog ≥ 18 (unreadable); 14–18 (difficult); 12–14 (ideal); 10–12 (acceptable); and 8–10 (childish) (Melloni et al., 2017; Caglio et al., 2019; Roman et al., 2019). Melloni et al. (2017) test the readability of integrated reports released by IIRC Pilot Programme companies in 2013 and 2014; the researchers obtain a Fog index value of 16.13. Stone and Lodhia (2019) find that the Fog index values of integrated reports of IIRC examples database companies in 2014 and 2015 are 16.1 and 15.6, respectively. Gerwanski et al. (2019) investigate the readability of the integrated reports of 352 cross-national sample companies between 2013 and 2016; the average Fog index vale across the 4 years is 17.2. Roman et al. (2019) find that the Fog index value of the integrated reports of 29 international companies in 2017 is 10.95. In addition, Barth et al. (2017) find the average Fog index value of integrated reports of South African sample companies across the 4 years (2011 to 2017) is 16.34. Similarly, Caglio et al. (2019) find that the Fog index value of integrated reports of South African sample companies in 2015 is 23.34. In comparison, Table 7.4 shows that the Fog index value of corporate reports from Chinese companies grows from 16.4895 in 2014 to 17.1150 in 2018, with an average Fog index value of 16.8160. This result indicates that the readability of corporate reports of Chinese companies is in the "difficult" zone and is on a worsening trend. These corporate reports are similar to academic journal papers and only accessible to a reader with at least 16 years of education (a college senior) (Courtis, 1986; Du Toit, 2017). According to the OECD (2019, p.2), "in 2010, only 9% of adults in China hold a tertiary degree". This figure suggests that

[42] Auditor's report, financial statements and notes to the financial statements contained in annual report are not tested.
[43] http://www.chinesereadability.net/CRIE/index.aspx?LANG=CHT

these corporate reports may not be well understood by the normal public in China because of their low readability.

Table 7.4 Other IR attributes

Attribute	Year					
	2014	2015	2016	2017	2018	Average
Conciseness	282	284	304	318	340	305
Readability	16.4895	16.6244	16.8098	17.0413	17.1150	16.8160

7.9 Chapter summary

In this chapter, the extent and quality of IR disclosure by Chinese listed companies are investigated in terms of items, themes, companies, listing status, and ownership structure. The IR disclosure practices of Chinese companies improve over the period 2014-2018. The extent of IR disclosures in China is not disappointing considering it has reached the worldwide average level and is near the level of developed countries. However, the quality of IR disclosures of Chinese listed companies still has considerable room for improvement in the future. There are a number of IR disclosure items that show a gap between stakeholders' expectations and actual IR disclosure practices. These disclosure items are weighted as at least moderately important by the stakeholders. In order to satisfy stakeholder information needs, improving IR disclosure practices is necessary. From a theoretical point of view, the findings of this chapter strengthen stakeholder, legitimacy, and institutional theories.

CHAPTER EIGHT
HYPOTHESIS DEVELOPMENT

8.1 Introduction

This chapter develops seventeen hypotheses regarding IR disclosure practices, based on a review of previous studies. The objective of this chapter is to describe the formulation of hypotheses addressing the relationships between seventeen variables and IR disclosure practices. IR disclosure practices (extent and quality) are the dependent variables for sixteen hypotheses and the independent variable for one hypothesis.

This chapter is structured in the following manners. Section 8.2 develops hypotheses based on prior literature and theories. Section 8.3 summarizes the chapter.

8.2 Hypothesis development

Relationship between leverage and IR disclosure practice

According to agency theory, highly leveraged companies tend to show a higher quality and extent of disclosures to mitigate information asymmetry between management and creditors and to reduce agency costs (An, 2012; Jensen & Meckling, 1976). Signalling theory posits that a higher quality and extent of disclosures is a signal to creditors in order to emphasize a firm's quality and attract funds from potential investors (An, 2012; Oliveira et al., 2006). According to stakeholder theory, the higher financial leverage of a firm, the higher is the power of creditors "to recall loans or prevent the extension of further credit" (Huang & Kung, 2010, p. 439). Creditors are highly concerned about the social and environmental aspects of a firm because when the firm's activities negatively affect society and the environment, creditors will consider the extent of the risks the firm faces (Huang & Kung, 2010; Liu & Anbumozhi, 2009). Consistent with these arguments, Bradbury (1992) finds a positive relationship between leverage and the extent of voluntary segment disclosures. Iatridis (2013) indicates that leverage positively impacts on the quality of environmental disclosures. Some studies find that there is a positive association between leverage and the extent of intellectual capital disclosures (Singh & Mitchell Van der Zahn, 2008; White et al., 2007). Pavlopoulos et al. (2017) report that highly leveraged companies are likely to show a greater extent of IR disclosures.

However, some studies have shown an inverse relationship between the two factors. Ahmed Haji and Anifowose (2016a) observe that leverage negatively impacts on the extent of IR disclosures in South Africa. Similarly, based on an analysis of an international sample of companies, Kılıç and Kuzey (2018b) also find that leverage negatively impacts on the extent of forward-looking disclosures in the integrated reports. Boubaker et al. (2011) provide explanations for the negative association between leverage and voluntary disclosure practices. Highly leveraged companies tend to offer debt holders more private information, which weakens the need for additional disclosures. Furthermore, according to Boubaker et al. (2011, p. 133), "the agency costs of free cash flow could be controlled by debt, which plays here a substitutive role for the monitoring of management. As a consequence, the control effect of debt shrinks the control effect of voluntary disclosure."

In line with prior studies (Liu & Anbumozhi, 2009; Huang & Kung, 2010), the ratio of total liabilities to total assets is used as a proxy for the level of leverage in this study. Also, financial leverage represents the creditors' power (Huang & Kung, 2010; Liu & Anbumozhi, 2009). This study examines the following hypotheses:

Hypothesis 1a (H1a): Financial leverage affects the extent of IR disclosures.

Hypothesis 1b (H1b): Financial leverage affects the quality of IR disclosures.

Relationship between firm size and IR disclosure practice

Firm size is one of the most widely used variables to explain disclosure practices (Kılıç & Kuzey, 2018b; Menicucci, 2018). Some studies (e.g., Gul & Leung, 2004; Xiao & Yuan, 2007; Yuen et al., 2009) show that firm size impacts the extent of voluntary disclosures positively. Yuen et al. (2009) and Xiao and Yuan (2007) find that larger Chinese listed companies have a greater extent of voluntary disclosures, supporting similar findings by Liu and Anbumozhi (2009) and Li et al. (2013). Liu and Anbumozhi (2009) investigate the relationship between the quality of environmental disclosures and firm size while Li et al. (2013) examine the relationship between the quality of CSR disclosures and firm size. Several prior studies also verify the positive association between firm size and intellectual capital disclosure practices (An, 2012; García-Meca et al., 2005)[44]. Several IR stuides (e.g., Frías-Aceituno et al., 2013b; Frías-Aceituno et al., 2014; García-Sánchez & Noguera-Gámez, 2018) find that larger companies are more likely to adopt IR; Ahmed Haji and Anifowose (2016a) find that a larger company leads to a higher quality of IR disclosures.

[44] An (2012) examines the quality of intellectual capital disclosures while García-Meca et al. (2005) examine the extent of intellectual capital disclosures.

There are five reasons for the positive association between company size and information disclosure practices. Firstly, according to agency theory, larger companies face higher agency costs associated with higher information asymmetry (An, 2012; Celik et al., 2006; Kılıç & Kuzey, 2018b). Thus, larger companies tend to engage in higher disclosure practices to reduce agency costs (Frías-Aceituno et al., 2014). Secondly, larger companies are likely to face more scrutiny from the public and government (Watts & Zimmerman, 1986); thus, larger companies tend to have higher disclosure practices to reduce political costs and to attract funds (Xiao & Yuan, 2007). Thirdly, according to stakeholder theory, larger companies have a broad range of stakeholder participation, and therefore engage in higher disclosure practices as a means of discharging their accountability to different stakeholders (An, 2012). Fourthly, according to signalling theory, larger companies depend on more extensive use of capital markets for financing; thus, higher disclosure practices convey positive signals to various investors so as to attract funds (Frías-Aceituno et al., 2014). Fifthly, lower information production costs enable larger companies to engage in higher disclosure practices (Ferguson et al., 2002).

In line with prior studies (Ho et al., 2012; Nicolò et al., 2020a), the number of employees is used as a proxy for firm size in this study. Also, the number of employees can represent the pressure exerted on the company by its employees (Huang & Kung, 2010; Fernandez-Feijoo et al., 2014; Vitolla et al., 2019c), because the employees in large firms are usually organised well and their views more easily influence the decisions of top management (Huang & Kung, 2010). Consistent with prior studies, it is anticipated that there is a relationship between firm size and IR disclosure practices (both extent and quality). This study examines the following hypotheses:

Hypothesis 2a (H2a): Firm size affects the extent of IR disclosures.

Hypothesis 2b (H2b): Firm size affects the quality of IR disclosures.

Relationship between audit quality and IR disclosure practice

According to agency theory, auditing is a mechanism for reducing agency problems (Watts & Zimmerman, 1986). Large auditing firms (such as Big N) set more stringent and extensive information disclosure standards for their client companies in order to maintain their reputation, enhance their expertise, and retain their existing clients (Oliveira et al., 2006). Signalling theory suggests that companies that choose large auditing firms (such as Big N) as their auditors, are likely to indicate that they are willing to follow the more stringent and extensive information disclosure standards required by large auditing firms (An, 2012; Wang et al., 2008). Consistent with the theories, some studies observe a positive relationship between audit quality (Big N selection) and the extent of voluntary disclosures (Raffournier, 1995; Wang et al., 2008; Xiao et al., 2004). Similarly, Oliveira et al. (2006) find that companies that are audited by Big Four[45] auditors are likely to have a higher extent of intellectual capital disclosures. However, Rivera-Arrubla et al. (2017) adopt international companies as samples and find that the audit quality (i.e., the use of a Big Four auditor) has no association with the extent of IR disclosures.

Similar to the approach used by Oliveira et al. (2006), a dummy variable is adopted to proxy audit quality in this study, with a value of 1 if a company is audited by a Big N (Four International Accounting Firms); and 0 otherwise. This variable also represents the auditors' power (Huang & Kung, 2010). The following hypotheses are tested in this study:

Hypothesis 3a (H3a): Audit quality affects the extent of IR disclosures.

Hypothesis 3b (H3b): Audit quality affects the quality of IR disclosures.

Relationship between profitability and IR disclosure practice

Based on signalling theory, when a company's management has an information advantage over its investors, highly profitable companies tend to provide a higher quality and extent of disclosures in order to portray the company's superior quality, thereby distinguishing themselves from less successful ones and improving investors' confidence in them (García-Meca et al., 2005; Singhvi & Desai, 1971). Agency theory posits that the managers of highly profitable companies are stimulated to release high quality and extent of disclosures to investors to show their performance in operating the firm, thereby maintaining their performance-based positions and remuneration levels (Frías-Aceituno et al., 2014; Oliveira et al., 2006). A number of studies examine the relationship between disclosure practices and profitability, and their findings support these theories. Wang et al. (2008) find a positive association between the extent of voluntary disclosures and profitability whereas Li et al. (2013) find a positive association between the quality of CSR disclosures and profitability. Some studies also indicate that the extent of intellectual capital disclosures has a positive association with profitability (García-Meca et al., 2005; Li et al., 2008). In prior IR literature, García-Sánchez et al. (2013), Frías-Aceituno et al.

[45] either Deloitte, KPMG, PricewaterhouseCoopers, or Ernst and Young

(2014) and García-Sánchez and Noguera-Gámez (2018) find that profitability has a positive impact on IR adoption. Similarly, Menicucci (2018) concludes that profitability positively influences the extent of forward-looking disclosures in integrated reports.

Conversely, Celik et al. (2006) indicate that there is a negative association between the extent of forward-looking information disclosures and profitability. Sonnier et al. (2007) show a negative association between the extent of intellectual capital disclosures and profitability. Similarly, Pavlopoulos et al. (2017) find that profitability negatively influences the extent of IR disclosures. Sonnier et al. (2007) explain that highly profitable companies resist high information disclosure practices to protect their confidential and strategic information and to maintain their comparative advantages.

On the basis of the above discussions, the current study postulates that there is a relationship between profitability and IR disclosure practices (both extent and quality). Based on prior studies (Frías-Aceituno et al., 2014; García-Sánchez et al., 2013), ROA is the proxy for the variable of profitability. Thus, this study examines the following hypotheses:

Hypothesis 4a (H4a): Profitability[46] affects the extent of IR disclosures.

Hypothesis 4b (H4b): Profitability affects the quality of IR disclosures.

Relationship between industry type and IR disclosure practice

Disclosure practices[47] vary between sectors (Cooke, 1992; Meek et al., 1995; Raffournier, 1995). Some scholars, such as Verrecchia (1983), Meek et al. (1995), and García-Meca et al. (2005), attribute the differences to varied proprietary costs (e.g., competitive and political costs) across sectors. The difference between sectors can be explained as follows. Firstly, companies are subject to industrial regulations; a company that operates in an industry in which there are rigid industrial regulations tends to exhibit high disclosure practices (Md Zaini, 2017; Owusu-Ansah, 1998). For instance, Chinese mining companies must comply with “the law on the prevention and control of environmental pollution by solid waste” and “mineral resources law”. Secondly, companies operating in the same industry generally have similar disclosure practices and vary from companies in other industries. If a company does not employ similar disclosure practices to others in

[46] net profit (after interest and taxation) divided by the total assets at the end of each fiscal year

[47] Cooke (1992) investigates the extent of both voluntary and mandatory disclosures; Meek et al. (1995) analyse the extent of voluntary disclosures; Raffournier (1995) examines the extent of voluntary financial disclosures.

its industry, it might be perceived by stakeholders as a failure of the company, which would jeopardize the relationship between the company and its stakeholders and negatively impact the company's legitimacy (Liu, 2014). Thirdly, according to institutional theory, mimetic isomorphism happens when firms operating in the same industry sector mimic the disclosure practices of the industry leader, aiming to avoid uncertainty and obtain legitimacy (Nicolò et al., 2020b).

(1) Financial sector and IR disclosure practice

The financial sector is highly risky and is the first sector to be influenced if the economy goes down (Sofian & Dumitru, 2017). Furthermore, financial companies also play an important role in society because they support job and business creation, provide funds and risk protection and attract savings (Sofian & Dumitru, 2017). Such characteristics of the financial sector demand that financial companies exhibit more transparency in disclosing non-financial information (Sofian & Dumitru, 2017). Furthermore, financial companies are subject to more rigorous regulation and supervision (Gerwanski et al., 2019), which affects their disclosure practices (Owusu-Ansah, 1998). Pursuant to legitimacy theory, a firm belonging to the financial sector would make great efforts to report both financial and non-financial disclosures in order to reduce pressures from stakeholders and avoid damaging its legitimacy (Nicolò et al., 2020a). Liu (2014) indicates that Chinese financial companies are likely to present higher quality of corporate internet reporting disclosures than non-financial companies. An (2012) suggests that Chinese companies in the service sector (including financial companies) have a higher quality of intellectual capital disclosures than those in the industrial sector because companies in the service sector have fewer tangible assets; thus, they have to report better quality of intellectual capital disclosures to demonstrate their legitimacy and signal their quality. These above-mentioned studies indicate that financial companies tend to exhibit higher disclosure practices compared to their non-financial counterparts.

However, there is hardly any research that examines the relationship between the financial sector and IR disclosure practices for Chinese companies. In the current study, the financial sector is a dummy variable with a value of "1" if companies belong to the financial sector, otherwise "0" (Sierra-García et al., 2015). The hypotheses examined are:

Hypothesis 5a (H5a): Being in the financial sector affects the extent of IR disclosures.

Hypothesis 5b (H5b): Being in the financial sector affects the quality of IR disclosures.

(2) Environmentally sensitive sector and IR disclosure practice

For a firm operating in an environmentally sensitive industry, the activities of the firm significantly affect the environment (Liu & Anbumozhi, 2009; Fernandez-Feijoo et al., 2014). An environmentally sensitive industry attracts attention from the public and is exposed to the scrutiny of stakeholders (Lai et al., 2016; Nicolò et al., 2020a). Thus, a firm operating in an environmentally sensitive industry, according to legitimacy theory, would make efforts to provide non-financial information explaining how they operate in a sustainable way so as to "reduce pressure from stakeholders and maintain the legitimacy of their operations" (Nicolò et al., 2020a, p. 4). Marrone and Oliva (2019) find that companies belonging to environmentally sensitive industries have a higher quality of IR disclosures. Ahmed Haji and Anifowose (2016a) categorize industry types into the environmentally sensitive and non-environmentally sensitive and use a dummy variable as a proxy for the industry type. They find that industry type is a determinant of IR disclosure practices (both extent and quality). In the current study, a dummy variable equaling "1" is applied if a firm belongs to an environmentally sensitive industry[48] and "0" if it belongs to a non-environmentally sensitive industry. This variable represents the environmental protection organisations' power (Vitolla et al., 2019c). The following hypotheses are tested in this study:

Hypothesis 6a (H6a): Being in the environmentally sensitive sector affects the extent of IR disclosures.

Hypothesis 6b (H6b): Being in the environmentally sensitive sector affects the quality of IR disclosures.

(3) Consumer-based sector and IR disclosure practice

In an integrated report, customers are concerned about both financial and non-financial information (Vitolla et al., 2019c). IR disclosure practice is seen as a demonstration of a company's image and reputation, thereby influencing consumers' purchasing decisions (Vitolla et al., 2019c). Fernandez-Feijoo et al. (2014) report that companies in consumer-based industries have higher CSR disclosure practices than companies in non-consumer-based industries. Vitolla et al. (2019c) find that IR quality is positively affected by a firm being in a consumer-based sector. In the current study, firms in the consumer-based sector

[48] Based on the sector classification for environmentally sensitive industries by SEPA (State Environmental Protection Administration) and related IR studies, such as those by Roman et al. (2019), Melloni (2015), Vitolla et al. (2019b) and Beretta et al. (2018).

take a value of “1” if a firm belongs to a consumer-based industry[49] and “0” if it belongs to a non-consumer-based industry. This variable also represents the customers’ power (Vitolla et al., 2019c). The following hypotheses are tested in this study:

Hypothesis 7a (H7a): Being in the consumer-based sector affects the extent of IR disclosures.

Hypothesis 7b (H7b): Being in the consumer-based sector affects the quality of IR disclosures.

Relationship between listing status and IR disclosure practice

Many studies investigate the correlation between listing status and voluntary disclosure practices. Cooke (1989) provides evidence that companies listed on multiple stock exchanges (local Stockholm Stock Exchange and international stock exchange) have a higher extent of disclosures compared to companies solely listed on the local Stockholm Stock Exchange. Cooke (1992) finds that compared with companies solely listed on the local Tokyo Stock Exchange, companies listed on multiple stock exchanges have a higher extent of both voluntary and mandatory disclosures. Three reasons explain these findings. In order to raise money at a low cost of capital, companies listed on multiple stock exchanges comply with both domestic and foreign rules and regulations on information disclosure (Cooke, 1992). The second reason, pursuant to stakeholder theory, is that companies listed on multiple stock exchanges are exposed to more stakeholders than solely listed companies. Thus, companies listed on multiple stock exchanges face higher pressure for greater disclosure practices (An, 2012). Other researchers indicate similar findings in several other jurisdictions (Meek et al., 1995; Raffournier, 1995)[50]. The third reason, according to institutional theory, is that firms listed on the same stock exchange tend to mimic the disclosure practices of the best firms in the stock exchange in order to acquire legitimacy, via mimetic isomorphism (Nicolò, et al., 2020b).

Listing status is important to the Chinese context (An, 2012; Liu, 2014). An and Davey (2010) believe that dual-listed A- and H-share companies face investors from both mainland China and overseas and the majority of them are large and reputable. Thus, compared with solo-listed A-share companies, dual-listed A- and H-share companies are more likely to be active in exhibiting a high level of information disclosures (An, 2012).

[49] Based on previous studies, such as Sweeney and Coughlan (2008), Branco and Rodrigues (2008), and Vitolla et al. (2019b).

[50] Meek et al. (1995) analyse the extent of voluntary disclosures while Raffournier (1995) examines the extent of voluntary financial disclosures.

According to Xiao and Yuan (2007), dual-listed A- and H-share companies have to comply with rules and regulations in both mainland China and Hong Kong simultaneously, and they must be audited by international audit companies, which increases the extent of voluntary disclosures. However, Liu (2014) finds that the quality of corporate internet reporting disclosures from dual-listed A- and H-share companies show no significant differences with those of solo-listed A-share companies. Liu (2014) believes that this is because Chinese society makes a comparison between solo-listed A-share companies and dual-listed A- and H-share companies, resulting in institutional pressure for both dual-listed A- and H-share companies and solo-listed A-share companies. Therefore, these two kinds of companies tend to imitate each other's corporate reporting behaviour in order to respond to institutional pressure.

Consistent with prior studies, in the present study, listing status is a dummy variable with a value of "1" if a company is listed on the Hong Kong Stock Exchange and Chinese mainland Stock Exchange simultaneously, and a value of "0" if a company is only listed on the Chinese mainland Stock Exchange. The following hypotheses are examined in the current study:

Hypothesis 8a (H8a): Listing status affects the extent of IR disclosures.

Hypothesis 8b (H8b): Listing status affects the quality of IR disclosures.

Relationship between independent directors and IR disclosure practice

According to the Code of Corporate Governance issued by the China Securities Regulatory Commission (CSRC), director independence refers to directors who are independent of the listed company that employs them and the company's major shareholders (Conyon & He, 2011). In 2001, the CSRC issued the *Guidelines of Establishing the Independent Director System in Listed Companies,* in which all Chinese listed companies were required to confirm that their board of directors would consist of no less than one-third independent directors by 30 June 2003 (Firth et al., 2016). There are some initiatives aimed at ensuring the independence of independent directors to some extent. Firstly, many independent directors in China are scholars or professional experts who have a Communist Party or government background. Compared to internal directors, the independent directors do not fully obey the controller of the company when the controller tries to force independent directors to agree to "pass unjustified corporate policies and egregious transactions" (Kang, 2016, p. 155). Secondly, the CSRC requires that independent directors and relatives of independent directors do not hold positions in the listed company or its subsidiaries, do not directly or indirectly hold more than 1% of the issued shares of the listed company, do not rank in the top ten shareholders, and do not hold positions in organisations that directly or indirectly hold not less than 5% of the issued shares of the listed company or that rank in the top five shareholders of the listed company (Kang, 2016). Thirdly, in terms of the nomination of independent directors, a listed company must submit the relevant information about an independent director candidate to the CSRC, which then checks and scrutinizes the candidate's independence or qualification (Kang, 2016).

Agency theory posits that an independent director is an important tool for monitoring management (Bowrin, 2018; Fama & Jensen, 1983). The existence of independent directors can reduce information asymmetry and agency problems (Akhtaruddin et al., 2009; Kelton & Yang, 2008). A company is expected to release more voluntary disclosures if there is a higher proportion of independent directors (Yuen et al., 2009). Ibrahim et al. (2003) believe that independent directors tend to employ a stakeholder perspective. Therefore, independent directors can foster high voluntary disclosure practices in order to discharge their accountability to various stakeholders (Bowrin, 2018).

Consistent with the theories, a number of studies report that a higher proportion of independent directors leads to a greater extent of voluntary disclosures (Adams & Hossain, 1998; Xiao et al., 2004). Xiao and Yuan (2007) state that independent directors have incentives to enhance their expert reputations, which motivates them to facilitate the quantity and quality of disclosures. The researchers further establish that there is a positive association between the proportion of independent directors and the extent of voluntary disclosures of listed companies in China. Li et al. (2010) find a positive association between independent directors and the extent of CSR disclosures. Some studies observe a significantly positive association between the quality and extent of intellectual capital disclosures and the proportion of independent directors (An, 2012; White et al., 2007). In the extant IR literature, Pavlopoulos et al. (2017) conclude that a higher proportion of independent directors on the board leads to a greater extent of IR disclosures.

However, the findings of previous studies are inconclusive. Some studies indicate that a negative relationship exists between the extent of voluntary disclosures and the proportion of independent directors (Barako et al., 2006; Eng & Mak, 2003; Gul & Leung, 2004). Eng and Mak (2003) believe that three aspects may explain the inverse association. Firstly, independent directors may be elected by blockholders and thus may represent the interests of blockholders. Secondly, independent directors can access information directly instead of using corporate reports. Thirdly, an independent director is a monitoring mechanism and can become a substitute for information disclosure which is another monitoring mechanism. Thus, the need for a higher corporate reporting disclosure practice is decreased.

However, in contrast to the above studies, Haniffa and Cooke (2002) find that there is no association between the extent of voluntary disclosures and the proportion of independent directors. Similarly, Frías-Aceituno et al. (2013) suggest that there is no association between the percentage of independent directors on the board and IR adoption.

Most empirical evidence provided by previous studies supports a significant association between the proportion of independent directors on the board in a company and the level of information disclosures, although the empirical results are mixed. In the present study, the variable of independent directors is proxied by the proportion of independent directors to the total number of directors (Kılıç & Kuzey, 2018b). Thus, this study postulates and tests the following hypotheses:

Hypothesis 9a (H9a): The proportion of independent directors on the board affects the extent of IR disclosure.

Hypothesis 9b (H9b): The proportion of independent directors on the board affects the quality of IR disclosure.

Relationship between ownership concentration and IR disclosure practice

According to Jensen and Meckling (1976), separation between ownership and management results in agency problems. The wider a firm's share dispersion, the greater the agency problems in the firm (Fama & Jensen, 1983). Information disclosure can be used as a tool to reduce agency problems (Jensen & Meckling, 1976). Controlling shareholders tend to rely less on information disclosure from public channels because they can obtain information from internal channels (Fasan et al., 2016; Yuen et al., 2009). Companies that have lower ownership concentration tend to present a higher quality and extent of disclosures in order to reduce agency costs and information asymmetry (An, 2012). In line with the above arguments, Garcia-Meca and Sanchez-Ballesta (2010) show that companies that have higher ownership concentration are likely to report fewer voluntary disclosures. Brammer and Pavelin (2006) conclude that companies with more dispersed ownership concentration have a higher extent of voluntary environmental disclosures. Gamerschlag et al. (2011) indicate that companies with more dispersed ownership concentration have a higher extent of voluntary CSR disclosures. Jensen and Berg (2012) indicate that the level of ownership concentration negatively impacts IR adoption. Liu and Anbumozhi (2009) support this argument and find that the degree of ownership concentration negatively impacts the extent of environmental information disclosures. Moreover, dispersed ownership usually means that a broader range of stakeholders hold the shares; thus, firms face higher pressures from the public (Raimo et al., 2020; Vitolla et al., 2019c). Raimo et al. (2020) point out that IR can be used as a tool to reduce pressures and empirically verify that ownership concentration has a significant negative effect on IR quality. In addition, share concentration presents the shareholders' power (Liu & Anbumozhi, 2009; Huang & Kung, 2010). Thus, the following hypotheses are introduced, and the percentage of shares possessed by the top 10 shareholders is used to proxy share concentration:

Hypothesis 10a (H10a): Ownership concentration affects the extent of IR disclosure.

Hypothesis 10b (H10b): Ownership concentration affects the quality of IR disclosure.

Relationship between state-owned shares and IR disclosure practice

Differences in ownership structure have an impact on the disclosure practices of corporate reports (Van der Laan Smith et al., 2005). The Law of China on the State-Owned Assets of Enterprises indicates that state-owned assets are owned by the whole population, which suggests that companies with state-owned shares are accountable to all Chinese citizens. Based on stakeholder theory, companies with state-owned shares discharge accountability to all stakeholders. Thus, companies with state-owned shares are likely to show higher disclosure practices (An, 2012). Zu and Song (2009) argue that compared with private firms, SOEs tend to embrace CSR reporting. Firstly, unlike private companies, SOEs shoulder responsibilities for some social functions of the government (Kuo et al., 2012; Li et al., 2013). Secondly, the government offers more political and financial support for SOEs, such as listing privileges and debt financing (Aharony et al., 2000; Brandt & Li, 2003; Li & Zhou, 2005; Sapienza, 2004); thus, SOEs, according to legitimacy theory, tend to be more transparent in disclosing their CSR activities in order to legitimize themselves (Li et al., 2013; Nicolò et al., 2020a). Thirdly, considering SOEs are supervised and frequently scrutinized by the government, SOEs tend to use CSR to signal their performance in socially responsible activities (Li et al., 2013). Wang et al. (2008)

find that the extent of voluntary disclosures for Chinese B-share companies is positively related to the proportion of state ownership. Amran and Haniffa (2011) find that the percentage of state ownership is positively associated with a higher extent of sustainability reporting disclosures. Similarly, in IR studies, Fasan et al.'s (2016) findings indicate that the level of state-owned share concentration is associated with a higher quality of IR disclosures. They explain that state-owned companies face stricter governmental requirements and scrutiny and are also seen as good examples for other companies.

However, many studies (e.g., Li et al., 2013; Xiao & Yuan, 2007; Yuen et al., 2009) do not find evidence of a significant correlation between the extent of voluntary disclosures or CSR disclosures and the proportion of state ownership. In addition, some scholars claim that state-owned shares reduce the level of information disclosures because state shareholders can access information from other channels rather than corporate reports, and companies with state-owned shares can raise finance more easily than non-state-owned companies (Xiao & Yuan, 2007). An (2012) finds that a higher level of state-owned share concentration results in a lower quality of intellectual capital disclosures. Moreover, based on the investigation of 152 international companies that have adopted IR, Raimo et al. (2020) conclude that state ownership negatively affects IR quality.

In this study, state-owned share concentration is associated with the quality and extent of IR disclosures, taking into account the above conflicting arguments. Similar to An (2012), in this research, the variable of the level of state-owned share concentration is proxied by the proportion of state-owned shares among the top 10 largest shareholders within a company. The state-owned share also presents the central government's power (Dong et al., 2014). This study postulates and tests the following hypotheses:

Hypothesis 11a (H11a): State-owned shares affect the extent of IR disclosure.

Hypothesis 11b (H11b): State-owned shares affect the quality of IR disclosure.

Relationship between the board of directors and IR disclosure practice

According to agency theory, controlling and monitoring the work of management are the main functions of the board of directors (Fama & Jensen, 1983). Directors with different types of expertise, skill and competencies are more common in larger boards; thus, a larger board of directors has a better ability to control and monitor and accordingly fosters transparency and accountability (Nicolò et al., 2019). Due to the nature of the interconnections between the different types of information in IR, the preparation of a high-quality integrated report requires the input of directors with different backgrounds (Alfiero et al., 2018; Frías-Aceituno et al., 2013b; Vitolla et al., 2020a). Therefore, a larger board size helps a firm improve its IR disclosure practice (Vitolla et al., 2020a). Prior studies have similar findings with regard to the relationship between the board size and the adoption of IR or IR disclosure practices. For instance, Frías-Aceituno et al. (2013b) and García-Sánchez and Noguera-Gámez (2018) verify that board size positively and significantly affects the adoption of IR. Moreover, Vitolla et al. (2020a) and Raimo et al. (2020) report that board size has a significant and positive impact on IR quality. Therefore, this study postulates and tests the following hypotheses:

Hypothesis 12a (H12a): Board size[51] affects the extent of IR disclosure.

Hypothesis 12b (H12b): Board size affects the quality of IR disclosure.

Relationship between CEO duality and IR disclosure practice

Agency theory suggests that a board ought to have separate positions for the chairman of the board of directors and the CEO (Fama & Jensen, 1983; Pavlopoulos et al., 2017). CEO duality hampers board independence and downgrades the board's capacity for corporate governance (Gul & Leung, 2004), resulting in lower disclosure practices (Ho & Wong, 2001). Regulators and investors prefer to separate the role of CEO from that of chairman of the board (Yuen et al., 2009). For instance, the CSRC (China Securities Regulatory Commission) in 2001 advocated that large companies should separate the roles of CEO and chairman of the board. Xiao and Yuan (2007), using 559 Chinese companies in 2002 as their sample, find that CEO duality is associated with a lower extent of voluntary disclosures. In addition, although Yuen et al. (2009) do not find empirical evidence to support the association between CEO duality and the extent of voluntary disclosure by 200 Chinese companies, they believe the separation of the two roles could help to increase company transparency. However, in a study by Pavlopoulos et al. (2017), CEO duality is positively associated with the extent of IR disclosures. Although the empirical evidence is mixed, the following hypotheses are still proposed:

Hypothesis 13a (H13a): CEO duality[52] affects the extent of IR disclosure.

Hypothesis 13b (H13b): CEO duality affects the quality of IR disclosure.

[51] The natural logarithm of the number of directors on the board is used to proxy board size.

[52] "CEO duality" is a dummy variable with a value of "1" if the same person serves as both CEO and chairman and a value of "0" if otherwise.

Relationship between regulatory authority and IR disclosure practice

The regulatory authority, as a stakeholder, has an impact on companies because the regulatory authority will punish and fine firms that violate laws and regulations (Huang & Kung, 2010). Huang and Kung (2010) investigate whether the regulatory authority, proxied by fines and penalties, influences the environmental disclosure practices of firms listed on the Taiwan Stock Exchange from 2003 to 2005. They find that fines and penalties imposed by the regulatory authority on a firm positively affect the firm's environmental disclosure practices. When a firm receives fines and penalties and thus its corporate image is impaired, higher environmental disclosure practices tend to be used by the firm to improve its corporate image. Moreover, if a firm receives fines and penalties, higher environment disclosure practices can be used to show its stakeholders that it has been discharging its corporate social responsibility, thereby improving its legitimacy (Cho & Patten, 2007). In a similar vein, because IR covers environmental and social disclosures, this study postulates and tests the following hypotheses:

Hypothesis 14a (H14a): Regulatory authorities[53] affect the extent of IR disclosure.

Hypothesis 14b (H14b): Regulatory authorities affect the quality of IR disclosure.

Relationship between community and IR disclosure practice

According to Roberts (1992), the community demands that firms improve their corporate social and environmental responsibility, and disclosures can be used as a strategy to manage such demands. Taylor and Shan (2007) examine whether communities influence the extent and quality of CSR disclosures by Chinese firms listed on the Hong Kong Stock Exchange. They find a positive relationship between the donations of sample firms and their disclosure practices. Dong et al. (2014) explore whether the community impacts the CSR disclosure practices of Chinese mining and minerals firms in 2010. They use the donations of a firm to proxy community pressure on the firm. The results indicate that the association between communities and CSR disclosure practices is not significant, suggesting communities' power to affect mining companies' CSR disclosure practices is minimal. However, the study by Dong et al. (2014) is limited to the mining and mineral sector in 2010. To date, there is hardly any research investigating the relationship between the community and the IR disclosure practices of Chinese companies. Therefore, this study postulates and tests the following hypotheses:

[53] "Regulatory authorities" is a dummy variable with a value of "1" if the company violates regulations prescribed by the government and a value of "0" if otherwise.

Hypothesis 15a (H15a): Community pressure[54] affects the extent of IR disclosure.
Hypothesis 15b (H15b): Community pressure affects the quality of IR disclosure.

Relationship between overseas customer and IR disclosure practice

In the overseas market, a firm needs to show that it is adopting good international practices so as to achieve ongoing legitimacy and maintain a competitive edge (Dong et al., 2014). Some studies, such as those of Azizul Islam and Deegan (2008) and Belal and Owen (2007) find that Bangladeshi firms report social and environmental disclosures in order to respond to pressure from overseas customers. Dong et al. (2014) use the overseas income of a firm to proxy the pressures of overseas customers on the firm and find a significant positive association between overseas income and the CSR disclosure practices of Chinese mining and minerals firms, indicating the influence of overseas consumers on CSR disclosure practices by Chinese mining companies is profound. They believe that because Chinese firms are criticized by overseas customers for their lack of social and environmental responsibilities for overseas markets, CSR disclosure practices by Chinese firms can be seen as compensation for overseas customers' "expectation of responsible practice and demands for information" (p. 66). Considering IR is a globally recognised corporate reporting, it may help Chinese firms to satisfy the information demands of their overseas customers and to show their practices in fulfilling social and environmental responsibilities. Thus, this study postulates and tests the following hypotheses:
Hypothesis 16a (H16a): Overseas customers[55] affect the extent of IR disclosure.
Hypothesis 16b (H16b): Overseas customers affect the quality of IR disclosure.

Relationship between agency costs and IR disclosure practice

The combination of monitoring costs, bonding costs and residual loss represents agency costs (Jensen & Meckling, 1976). According to LaFond and Watts (2008. p, 450), "information asymmetry generates agency cost". In other words, information asymmetry between investors and managers aggravates agency problems (Barako & Brown, 2008; Scott, 1997). Specifically, managers have an information advantage over investors, enabling management to operate against the interests of investors (Donnelly & Mulcahy, 2008). Information disclosure can be used as a monitoring mechanism which enables

[54] "Community pressure" is a dummy variable with a value of "1" if the company donates to the community and a value of "0" if otherwise.
[55] "Overseas customers" is a dummy variable with a value of "1" if the company has overseas income and a value of "0" if otherwise.

investors to supervise managers' operations (Frías-Aceituno et al., 2014); meanwhile, managers can choose information disclosure to present their willingness for transparency (e.g., revealing managers' performance) toward investors, in order to reduce investors' uncertainty (Briem & Wald, 2018; Girella et al., 2019; Raimo et al., 2020). Disclosing information can be used to maintain good relations with investors, reducing the cost of capital and allowing the company to be more competitive in the capital market (Frías-Aceituno et al., 2014). Thus, information disclosure can mitigate agency costs by decreasing information asymmetry (Agyei-Mensah, 2016; Barth et al., 2017; De Villiers & Maroun, 2017). Increasing the extent and quality of information disclosures, such as IR, may thus mitigate the information asymmetry and reduce agency costs (Bowrin, 2018; Dilling & Caykoylu, 2019; Leuz & Wysocki, 2016; Li et al., 2008; Raimo et al., 2020; Vitolla et al., 2020c). An integrated report with a high disclosure practice is concise, comprehensive, integrated, and future-oriented (IIRC, 2013; Muttakin et al., 2020), enabling a firm to present a holistic picture of itself to investors, especially in terms of how the company creates value in the short, medium and long term (Raimo et al., 2020). Some researchers have provided preliminary evidence of the impact of IR on agency costs. For instance, García-Sánchez and Noguera-Gámez (2017b), using 995 international listed companies for the years 2009 to 2013 as a sample, report that IR adoption negatively affects information asymmetry. The researchers claim that companies that adopt IR provide a higher level and scope of information to the market, thereby reducing the information asymmetry. Obeng et al. (2020a) report that IR practices significantly mitigate agency costs. Similarly, Pavlopoulos et al. (2017) observe that the extent of IR disclosures negatively and significantly impacts agency costs. This study postulates and tests the following hypothesis:

Hypothesis 17a (H17a): The extent of IR disclosures affects agency costs.

Hypothesis 17b (H17b): The quality of IR disclosures affects agency costs.

8.3 Chapter summary

Many studies of IR disclosure practices have been carried out in varied contexts, including South Africa (Barth et al., 2017), Turkey (Kılıç & Kuzey, 2018), Japan (Li, 2017), and internationally (Pavlopoulos et al., 2017). However, hardly any study has been conducted in the Chinese context. In order to fill the research gap, which is the scarcity of research on hypothesis testing of IR disclosure practices in the Chinese context, the present study explores the possible relationships between the IR disclosure practices of

Chinese companies and seventeen factors drawn from the literature. Accordingly, this chapter develops relevant hypotheses based on prior literature and theories.

CHAPTER NINE

HYPOTHESIS TESTING

9.1 Introduction

This chapter investigates the relationship between the IR disclosure practices of Chinese companies and sixteen impacting factors, including leverage, firm size, audit quality, profitability, financial sector, environmentally sensitive sector, consumer-based sector, listing status, independent directors, ownership concentration, state-owned shares, board size, CEO duality, regulatory authority, community, and overseas customers. In order to explore whether Chinese companies could benefit from higher IR disclosure practices, the effect of IR disclosure practices on agency costs is then examined. Table 9.1 summarizes the hypotheses.

Table 9.1 Summary of hypotheses

H1a	Financial leverage affects the extent of IR disclosures
H1b	Financial leverage affects the quality of IR disclosures
H2a	Firm size affects the extent of IR disclosures
H2b	Firm size affects the quality of IR disclosures
H3a	Audit quality affects the extent of IR disclosures
H3b	Audit quality affects the quality of IR disclosures
H4a	Profitability affects the extent of IR disclosures.
H4b	Profitability affects the quality of IR disclosures.
H5a	Being in the financial sector affects the extent of IR disclosures.
H5b	Being in the financial sector affects the quality of IR disclosures.
H6a	Being in the environmentally sensitive sector affects the extent of IR disclosures.
H6b	Being in the environmentally sensitive sector affects the quality of IR disclosures.
H7a	Being in the consumer-based sector affects the extent of IR disclosures.
H7b	Being in the consumer-based sector affects the quality of IR disclosures.
H8a	Listing status affects the extent of IR disclosures.
H8b	Listing status affects the quality of IR disclosures.
H9a	The proportion of independent directors on the board affects the extent of IR disclosure.
H9b	The proportion of independent directors on the board affects the quality of IR disclosure.
H10a	Ownership concentration affects the extent of IR disclosure

H10b	Ownership concentration affects the quality of IR disclosure
H11a	State-owned shares affect the extent of IR disclosure
H11b	State-owned shares affect the quality of IR disclosure
H12a	Board size affects the extent of IR disclosure
H12b	Board size affects the quality of IR disclosure
H13a	CEO duality affects the extent of IR disclosure
H13b	CEO duality affects the quality of IR disclosure
H14a	Regulatory authorities affect the extent of IR disclosure
H14b	Regulatory authorities affect the quality of IR disclosure
H15a	Community pressure affects the extent of IR disclosure
H15b	Community pressure affects the quality of IR disclosure
H16a	Overseas customers affect the extent of IR disclosure
H16b	Overseas customers affect the quality of IR disclosure
H17a	The extent of IR disclosures affects agency costs
H17b	The quality of IR disclosures affects agency costs

This chapter is structured in the following manner. Section 9.2 provides the model specification, along with the results and discussion examining the determinants of IR disclosure practices. Section 9.3 presents the model specification, results and discussion for assessing the effect of IR disclosure practices on agency costs. Finally, section 9.4 summarizes the chapter.

9.2 Determinants of IR disclosure practices

9.2.1 Model specification

Based on the discussions in the course of hypothesis development in Chapter 8, sixteen impact factors of IR disclosure practices (H1-H16) are adopted as independent variables. Two regression models, including one for the extent of IR disclosures and one for the quality of IR disclosures, are developed as follows (see Equation (1)).

$$Extent_{i,t}(Totalquality_{i,t}) = \beta_0 + \beta_1 Leverage_{i,t} + \beta_2 Size_{i,t} + \beta_3 Big4_{i,t} +$$
$$\beta_4 ROA_{i,t} + \beta_5 Finance_{i,t} + \beta_6 Environmentsensitive_{i,t} + \beta_7 Customerind_{i,t} +$$
$$\beta_8 List_{i,t} + \beta_9 Boardind_{i,t} + \beta_{10} Stateshare_{i,t} + \beta_{11} Shareholder10_{i,t} +$$
$$\beta_{12} Duality_{i,t} + \beta_{13} Boardsize_{i,t} + \beta_{14} Violation_{i,t} + \beta_{15} Donation_{i,t} +$$

$\beta_{16} Overseas_{i,t} + Year + \varepsilon_{i,t}$
(1)

All variables shown in Equation (1) are defined in Table 9.2. β_0 is a constant term (intercept) which signifies the neglected factors affecting IR disclosure practices in the regression model and ε is an error term that represents the difference between the predicted and observed values of IR disclosure practices.

Table 9.2 Definitions of variables

Variables	Definitions
The extent of IR disclosures (Extent)	The extent of IR disclosures of each company
The quality of IR disclosures (Totalquality)	The quality of IR disclosures of each company
Financial leverage (Leverage)	Book value of the total liabilities of a company at the end of each fiscal year divided by the book value of the total assets of the company at the end of each fiscal year (H1)
Firm size (Size)	Natural logarithm of the total number of employees (Huang & Kung, 2010; Vitolla et al., 2019c) (H2)
Auditor type (Big4)	A dummy variable: 1 for companies audited by Big 4 accounting companies, 0 otherwise (H3)
Profitability (ROA)	Net profit (after interest and taxation) for each fiscal year divided by the book value of the total assets at the end of that fiscal year (H4)
Financial sector (Finance)	A dummy variable: 1 for companies in the financial sector, 0 otherwise (H5)
Environmentally sensitive sector (Environment)	Dummy variable equal to 1 if the activities of the company have an important impact on the environment and 0 if otherwise (Liu & Anbumozhi, 2009; Huang & Kung, 2010; Fernandez-Feijoo et al., 2014; Vitolla et al., 2019c) (H6)
Customer-oriented sector (Customer)	Dummy variable equal to 1 if the company belongs to a consumer products and services industry and 0 if otherwise (Fernandez-Feijoo et al., 2014; Vitolla et al., 2019c) (H7)
Listing status (List)	A dummy variable: 1 for dual listed A- and H-share companies, 0 otherwise (H8)
Independent directors (BoardInd)	The proportion of independent directors on the board at the end of each fiscal year (H9)
Ownership concentration (Shareholder10)	The percentage of shares possessed by the top 10 shareholders (H10)

State-owned share (Stateshare)	The proportion of state-owned shares among the top 10 largest shareholders at the end of each fiscal year (H11)
Board Size (Boardsize)	Natural logarithm of the number of directors on the board (H12)
CEO duality (Duality)	Dummy variable equal to 1 if the same person serves as both CEO and chairman and 0 if otherwise (H13)
Regulatory authorities' pressure (Violation)	Dummy variable equal to 1 if the company violates regulations prescribed by the government and 0 if otherwise (Huang & Kung, 2010) (H14)
Communities' pressure (Donation)	Dummy variable equal to 1 if the company donates to the community and 0 if otherwise (Huang & Kung, 2010) (H15)
Overseas pressure (Overseas)	Dummy variable equal to 1 if the company has overseas income and 0 if otherwise (Dong et al., 2014) (H16)

9.2.2 Results

Descriptive statistics

Table 9.3 presents the descriptive statistics for all the variables. The extent of IR disclosures ranges from 0.500 to 0.926, with a 5-year mean value of 0.755. Furthermore, the lowest quality of IR disclosures is 0.332 while the highest is 0.675, with a 5-year mean value of 0.520. The results indicate that both the extent of IR disclosures and the quality of IR disclosures amongst companies vary greatly.

Table 9.3 Descriptive statistics

Variable	N	Mean	Std.Dev.	Min	Max
Extent	500	.755	.076	.500	.926
Totalquality	500	.520	.067	.332	.675
Extent_new	500	.770	.072	.526	.930
Totalquality_new	500	.504	.070	.314	.667
Size	500	10.420	1.378	6.601	13.190
Lev	500	.704	.180	.131	.945
ROA	500	.037	.040	.001	.227
Stateshare	500	.629	.293	.000	1.000
Shareholder10	500	.231	.155	.007	.759
Boardsize	500	2.336	.282	1.609	2.944
BoardInd	500	.392	.075	.200	.800
Dummy Variables		N	Percent of sample		
List	1	224	44.8%		
	0	276	55.2%		
Big4	1	325	65%		

	0	175	35%
Duality	1	56	11.2%
	0	444	88.8%
Finance	1	170	34%
	0	330	66%
Customer	1	330	66%
	0	170	34%
Environment	1	235	47%
	0	265	53%
Donation	1	312	62.4%
	0	188	37.6%
Overseas	1	276	55.2%
	0	224	44.8%
Violation	1	71	14.2%
	0	429	85.8%

Notes: Extent is the extent of IR disclosures of each company; Totalquality is the quality of IR disclosures of each company; Leverage is the book value of the total liabilities of a company at the end of each fiscal year divided by the book value of the total assets of the company at the end of each fiscal year; Size is the natural logarithm of the total number of employees; Big4 is a dummy variable: 1 for companies audited by Big 4 accounting companies, 0 otherwise; ROA is the net profit (after interest and taxation) for each fiscal year divided by the book value of the total assets at the end of that fiscal year; Finance is a dummy variable: 1 for companies in the financial sector, 0 otherwise; Environment is a dummy variable equal to 1 if the activities of the company have an important impact on the environment and 0 if otherwise; Customer is a dummy variable equal to 1 if the company belongs to a consumer products and services industry and 0 if otherwise; List is a dummy variable: 1 for dual listed A- and H-share companies, 0 otherwise; BoardInd is the proportion of independent directors on the board at the end of each fiscal year; Shareholder10 is the percentage of shares possessed by the top 10 shareholders; Stateshare is the proportion of state-owned shares among the top 10 largest shareholders at the end of each fiscal year; Boardsize is the natural logarithm of the number of directors on the board; Violation is a dummy variable equal to 1 if the company violates regulations prescribed by the government and 0 if otherwise; Donation is a dummy variable equal to 1 if the company donates to the community and 0 if otherwise; Overseas is a dummy variable equal to 1 if the company has overseas income and 0 if otherwise.

Univariate analysis

Table 9.4 shows the results of the correlation analysis. The pair-wise correlation between variables is examined using the Pearson Correlation coefficient and Spearman correlations, respectively. The results suggest that there is no evidence supporting the existence of a multicollinearity problem for the independent variables because all the correlation coefficients are under 0.8 (An, 2012; Khanna et al., 2004). The findings indicate that all the explanatory variables except seven variables (Leverage, Finance, Customer, ROA, Stateshare, Boardsize, and Duality) have statistically significant associations with the extent of IR disclosures and the quality of IR disclosures.

Table 9.4 Correlation analysis

	Extent	Totalquality	Size	Leverage	Finance	Environment	Customer	List	ROA	BoardInd	Stateshare	Big4	Boardsize	Duality	Shareholder10	Donation	Overseas	Violation
Extent	1	0.905***	0.361***	-0.066	0.001	0.080*	0.017	0.246***	-0.057	0.230***	-0.024	0.235***	0.009	-0.057	0.092**	0.184***	0.142***	-0.096**
Totalquality	0.905***	1	0.454***	-0.113**	-0.068	0.194***	-0.105**	0.283***	-0.030	0.241***	0.006	0.226***	-0.011	-0.060	0.151***	0.176***	0.194***	-0.132***
Size	0.374***	0.458***	1	0.020	-0.141***	0.322***	-0.160***	0.463***	-0.040	0.229***	-0.049	0.430***	-0.020	0.067	0.397***	0.068	0.198***	-0.319***
Lev	-0.061	-0.105**	-0.005	1	0.684***	-0.502***	0.346***	0.121***	-0.659***	-0.159***	-0.090**	0.126***	0.392***	-0.056	-0.227***	0.190***	-0.108**	0.133***
Finance	0.021	-0.053	-0.135***	0.616***	1	-0.676***	0.515***	0.109**	-0.548***	-0.167***	-0.019	0.199***	0.466***	-0.041	-0.359***	0.243***	-0.084*	0.349***
Environment	0.076*	0.187***	0.317***	-0.416***	-0.676***	1	-0.762***	0.199***	0.334***	0.191***	0.132***	0.011	-0.283***	0.110**	0.410***	-0.138***	0.300***	-0.222***
Customer	0.032	-0.095**	-0.182***	0.320***	0.515***	-0.762***	1	-0.160***	-0.120***	-0.148***	-0.254***	0.093**	0.228***	0.121***	-0.422***	0.062	-0.129***	0.195***
List	0.236***	0.280***	0.454***	0.127***	0.109**	0.199***	-0.160***	1	-0.208***	0.135***	-0.273***	0.476***	0.186***	0.024	0.265***	0.052	0.254***	-0.090**
ROA	-0.056	-0.062	-0.015	-0.706***	-0.398***	0.163***	-0.006	-0.238***	1	0.110**	0.043	-0.153***	-0.384***	0.096**	0.161***	-0.190***	0.011	-0.049
BoardInd	0.221***	0.228***	0.248***	-0.095**	-0.220***	0.219***	-0.176***	0.040	0.076*	1	0.078*	0.156***	-0.433***	0.050	0.294***	-0.002	0.085*	-0.052
Stateshare	0.004	0.048	-0.019	-0.062	0.032	0.123***	-0.262***	-0.146***	-0.067	0.124***	1	-0.179***	-0.157***	-0.138***	0.293***	0.097**	-0.030	0.128***
Big4	0.244***	0.239***	0.432***	0.093**	0.199***	0.011	0.093**	0.476***	-0.062	0.097**	-0.123***	1	0.206***	0.021	0.125***	0.045	0.056	-0.206***
Boardsize	0.024	-0.006	-0.008	0.381***	0.465***	-0.291***	0.227***	0.173***	-0.288***	-0.516***	-0.090**	0.187***	1	-0.023	-0.279***	0.103**	-0.081*	-0.031
Duality	-0.035	-0.047	0.044	0.001	-0.041	0.110**	0.121***	0.024	0.090**	0.009	-0.147***	0.021	-0.044	1	-0.153***	-0.078*	0.103**	0.074
Shareholder10	0.132***	0.178***	0.434***	-0.242***	-0.300***	0.373***	-0.384***	0.264***	0.106**	0.242***	0.238***	0.159***	-0.219***	-0.139***	1	-0.040	-0.003	-0.229***
Donation	0.166***	0.168***	0.067	0.174***	0.243***	-0.138***	0.062	0.052	-0.213***	-0.008	0.097**	0.045	0.100**	-0.078*	0.003	1	-0.010	0.079*
Overseas	0.140***	0.193***	0.189***	-0.008	-0.084*	0.300***	-0.129***	0.254***	-0.038	0.119***	0.010	0.056	-0.094**	0.103**	-0.031	-0.010	1	0.067
Violation	-0.083*	-0.116***	-0.329***	0.127***	0.349***	-0.222***	0.195***	-0.090**	-0.090**	-0.046	0.113**	-0.206***	-0.034	0.074	-0.200***	0.079*	0.067	1

Notes: Pearson correlations reported below the diagonal and Spearman correlations above the diagonal.

The superscripts ***, ** and * denote significance at 1%, 5% and 10% respectively.

Variables definition: Extent is the extent of IR disclosures of each company; Totalquality is the quality of IR disclosures of each company; Leverage is the book value of the total liabilities of a company at the end of each fiscal year divided by the book value of the total assets of the company at the end of each fiscal year; Size is the natural logarithm of the total number of employees; Big4 is a dummy variable: 1 for companies audited by Big 4 accounting companies, 0 otherwise; ROA is the net profit (after interest and taxation) for each fiscal year divided by the book value of the total assets at the end of that fiscal year; Finance is a dummy variable: 1 for companies in the financial sector, 0 otherwise; Environment is a dummy variable equal to 1 if the activities of the company have an important impact on the environment and 0 if otherwise; Customer is a dummy variable equal to 1 if the company belongs to a consumer products and services industry and 0 if otherwise; List is a dummy variable: 1 for dual listed A- and H-share companies, 0 otherwise; BoardInd is the proportion of independent directors on the board at the end of each fiscal year; Shareholder10 is the percentage of shares possessed by the top 10 shareholders; Stateshare is the proportion of state-owned shares among the top 10 largest shareholders at the end of each fiscal year; Boardsize is the natural logarithm of the number of directors on the board; Violation is a dummy variable equal to 1 if the company violates regulations prescribed by the government and 0 if otherwise; Donation is a dummy variable equal to 1 if the company donates to the community and 0 if otherwise; Overseas is a dummy variable equal to 1 if the company has overseas income and 0 if otherwise.

Multivariate analysis

The data analysed are balanced panel data. Petersen (2009, p.458) believes that "since many panel data sets have more firms than years, a common approach is to include dummy variables for each time period (to absorb the time effect) and then cluster by firm". Thus, as shown in Table 9.4, standard errors are clustered by firm, and dummy variables for year effects are included. In terms of the multicollinearity problem, the results of collinearity diagnostics based on variance inflation factors suggest that there is no evidence supporting the existence of a multicollinearity problem because the values of the variance inflation factors for each independent variable are less than 5 (Groebner et al., 2018).

Table 9.5 presents the results of the multiple regression analysis for determinants of both the extent of IR disclosures and the quality of IR disclosures. With regard to the overall regression, the OLS model is significant at the $p< 0.01$ level. The level of leverage has a significantly negative impact on the extent of IR disclosures, which supports H1a. There is a significant positive correlation between firm size and the extent of IR disclosures. Therefore, H2a is supported. Auditing quality has no statistically significant impact on the extent of IR disclosures, which rejects H3a. There is a significantly negative association between ROA and the extent of IR disclosures. Thus, H4a is supported. It has been reported that the financial sector does not significantly affect the extent of IR disclosures. Thus, H5a cannot be supported. There is no statistically significant correlation between the environmentally sensitive sector (Environment) and the extent of IR disclosures, so there is no support for H6a. The result shows a significant and positive association between the consumer-orientated sector and the extent of IR disclosures, which supports H7a.

No statistically significant correlation is found between firms' listing status and the extent of IR disclosures. Therefore, there is no support for H8a. There is a statistically significant and positive correlation between the proportion of independent directors and the extent of IR disclosures. This result provides support for H9a. In addition, there is no statistically significant correlation between the ownership concentration (or state-owned shares, or board size) and the extent of IR disclosures; thus H10a, H11a, and H12a are rejected. There is a statistically significant and negative correlation between CEO duality and the extent of IR disclosures, providing support for H13a. Regulatory authority (Violation) is not significantly correlated to the extent of IR disclosures. Hence, H14a is rejected. Community (Donation) has a significant influence on the extent of IR disclosures. Therefore, H15a is supported. Overseas customers (Overseas) do not have a statistically significant impact on the extent of IR disclosures of Chinese firms. Thus, H16a is rejected.

Table 9.5 also shows the results of the multiple regression analysis for determinants of the quality of IR disclosures. The OLS model is significant at the $p< 0.01$ level. H1b is supported, with the level of leverage showing a significantly positive association with the quality of IR disclosure. H2b is supported. The model shows a significant and positive association between firm size and the quality of IR disclosure. Auditing quality has no impact on the quality of IR disclosure. The result rejects H3b. There is an inverse association between ROA and the quality of IR disclosure. Thus, H4b is supported. The financial sector does not appear to have a significant effect on the quality of IR disclosures. Therefore, H5b is not empirically supported. No statistically significant correlation is found between the environmentally sensitive sector (Environment) and the quality of IR disclosures, so there is no support for H6b. The positive association between consumer-orientated sector and the quality of IR disclosures is significant, which supports H7b.

The listing status has a positive but not significant effect on the quality of IR disclosure. Therefore, H8b is rejected. The proportion of independent directors has a positive and significant effect on the quality of IR disclosures, so H9b is accepted. Three variables (share concentration, state-owned shares, and board size) do not show a significant relationship with the quality of IR disclosures. Thus, H10b, H11b, and H12b are rejected. A statistically significant and negative correlation is found between CEO duality and the quality of IR disclosures. The result provides support for H13b. There is not a statistically significant correlation between regulatory authority (Violation) and the quality of IR disclosures. Therefore, the result does not provide support for H14b. There is a significantly positive correlation between community (Donation) and the quality of IR disclosures. The result therefore provides support for H15b. No statistically significant correlation is observed between overseas customers (Overseas) and the quality of IR disclosures. Thus, H16b is not supported.

Table 9.5 Regression results

	(1)	(2)
	Extent	**Totalquality**
Leverage (H1a and H1b)	**-0.137****	**-0.127*****
	(-2.52)	**(-2.82)**
Size (H2a and H2b)	**0.015*****	**0.018*****
	(3.11)	**(4.41)**
Big4 (H3a and H3b)	0.003	-0.000
	(0.23)	(-0.03)

ROA (H4a and H4b)	**-0.364****	**-0.339****
	(-2.55)	**(-2.41)**
Finance (H5a and H5b)	0.013	0.009
	(0.58)	(0.51)
Environment (H6a and H6b)	0.023	0.020
	(1.20)	(1.25)
Customer (H7a and H7b)	**0.045****	**0.025***
	(2.39)	**(1.66)**
List (H8a and H8b)	0.008	0.008
	(0.65)	(0.74)
BoardInd (H9a and H9b)	**0.214*****	**0.149****
	(3.22)	**(2.44)**
Shareholder10 (H10a and H10b)	0.001	-0.017
	(0.01)	(-0.48)
Stateshare (H11a and H11b)	0.000	0.000
	(0.04)	(0.39)
Boardsize (H12a and H12b)	0.037	0.028
	(1.58)	(1.39)
Duality (H13a and H13b)	**-0.023***	**-0.022****
	(-1.94)	**(-2.03)**
Violation (H14a and H14b)	0.003	0.002
	(0.23)	(0.25)
Donation (H15a and H15b)	**0.018****	**0.018****
	(2.16)	**(2.50)**
Overseas (H16a and H16b)	0.006	0.009
	(0.57)	(0.91)
Year	Yes	Yes
Constant	0.439***	0.233***
	(4.75)	(3.05)
N	500	500
Adj.R^2	0.344	0.400
F	14.032	15.972

Notes: The superscripts ***, ** and * denote significance at 1%, 5% and 10% respectively.

All reported t statistics are based on standard errors adjusted for clustering at the firm level.

Variables definition: Extent is the extent of IR disclosures of each company; Totalquality is the quality of IR disclosures of each company; Leverage is the book value of the total liabilities of a company at the end of each fiscal year divided by the book value of the total assets of the company at the end of each fiscal year; Size is the natural logarithm of the total number of employees; Big4 is a dummy variable: 1 for companies audited by Big 4 accounting companies, 0 otherwise; ROA is the net profit (after interest and taxation) for each fiscal year divided by the book value of the total assets at the end of that fiscal year; Finance is a dummy variable: 1 for companies in the financial sector, 0 otherwise; Environment is a dummy variable equal to 1 if the activities of the company have an important impact on the environment and 0 if otherwise; Customer is a dummy variable equal to 1 if the company belongs to a consumer products and services industry and 0 if otherwise; List is a dummy variable: 1 for dual listed A- and H-share companies, 0 otherwise; BoardInd is the proportion of independent directors on the board at the end of each fiscal year; Shareholder10 is the percentage of shares possessed by the top 10 shareholders; Stateshare is the proportion of state-owned shares among the top 10 largest shareholders at the end of each fiscal year; Boardsize is the natural logarithm of the number of directors on the board; Violation is a dummy variable equal to 1 if the company violates regulations prescribed by the government and 0 if otherwise; Donation is a dummy variable equal to 1 if the company donates to the community and 0 if otherwise; Overseas is a dummy variable equal to 1 if the company has overseas income and 0 if otherwise.

9.2.3 Robustness tests

The use of the new extent of IR disclosures and the new quality of IR disclosures is to investigate the determinants of IR disclosure practices by Chinese companies from an unbiased perspective. Table 9.6 provides the descriptive statistics for the new extent of IR disclosures and the new quality of IR disclosures.

Table 9.6 Descriptive statistics

Variable	N	Mean	Std.Dev.	Min	Max
Extent_new	500	.770	.072	.526	.930
Totalquality_new	500	.504	.070	.314	.667

Notes: Extent_new is the new extent of IR disclosures of each company; Totalquality_new is the new quality of IR disclosures of each company.

Table 9.7 exhibits the results of the robustness analysis for determinants of the extent of IR disclosures. In this robustness test, the measurement of the extent of IR disclosures is changed. The weighting of each item collected from Chinese stakeholders is used. Accordingly, the new extent of IR disclosures is adopted in the multiple regression analysis. The regression result is identical to the main finding. Table 9.7 also shows the result of the robustness analysis for determinants of the quality of IR disclosures. In this robustness test, the measurement of the quality of IR disclosures is altered. All disclosure items are assigned equal weighting. Accordingly, the new quality of IR disclosures is adopted in the multiple regression analysis. The result is consistent with the main finding. Based on the results from the robustness tests, it can be argued that the main findings of this research are reliable.

Table 9.7 Regression results

	(3)	(4)
	Extent_new	**Totalquality_new**
Leverage (H1a and H1b)	**-0.128****	**-0.131*****
	(-2.49)	**(-2.79)**
Size (H2a and H2b)	**0.014*****	**0.019*****
	(2.99)	**(4.38)**
Big4 (H3a and H3b)	0.003	-0.001
	(0.23)	(-0.06)
ROA (H4a and H4b)	**-0.327****	**-0.363****
	(-2.43)	**(-2.46)**
Finance (H5a and H5b)	0.012	0.009
	(0.57)	(0.49)
Environment (H6a and H6b)	0.024	0.018
	(1.33)	(1.12)
Customer (H7a and H7b)	**0.041****	**0.027***
	(2.32)	**(1.74)**
List (H8a and H8b)	0.006	0.010
	(0.52)	(0.86)
BoardInd (H9a and H9b)	**0.192*****	**0.164****
	(3.06)	**(2.62)**
Shareholder10 (H10a and H10b)	-0.003	-0.016
	(-0.07)	(-0.43)
Stateshare (H11a and H11b)	-0.000	0.000
	(-0.12)	(0.52)
Boardsize (H12a and H12b)	0.033	0.030
	(1.48)	(1.46)
Duality (H13a and H13b)	**-0.022****	**-0.022***
	(-2.02)	**(-1.98)**
Violation (H14a and H14b)	0.004	0.001
	(0.43)	(0.09)
Donation (H15a and H15b)	**0.018****	**0.019****
	(2.18)	**(2.55)**
Overseas (H16a and H16b)	0.007	0.007
	(0.74)	(0.74)
Year	Yes	Yes
Constant	0.487***	0.193**
	(5.57)	(2.43)
N	500	500
Adj.R^2	0.336	0.406
F	13.619	16.301

Notes: The superscripts ***, ** and * denote significance at 1%, 5% and 10% respectively.

All reported t statistics are based on standard errors adjusted for clustering at the firm level.

Variables definition: Extent_new is the new extent of IR disclosures of each company; Totalquality_new is the new quality of IR disclosures of each company; Leverage is the book value of the total liabilities of a company at the end of each fiscal year divided by the book value of the total assets of the company at the end of each fiscal year; Size is the natural logarithm of the total number of employees; Big4 is a dummy variable: 1 for companies audited by Big 4 accounting companies, 0 otherwise; ROA is the net profit (after interest and taxation) for each fiscal year divided by the book value of the total assets at the end of that fiscal year; Finance is a dummy variable: 1 for companies in the financial sector, 0 otherwise; Environment is a dummy variable equal to 1 if the activities of the company have an important impact on the environment and 0 if otherwise; Customer is a dummy variable equal to 1 if the company belongs to a consumer products and services industry and 0 if otherwise; List is a dummy variable: 1 for dual listed A- and H-share companies, 0 otherwise; BoardInd is the proportion of independent directors on the board at the end of each fiscal year; Shareholder10 is the percentage of shares possessed by the top 10 shareholders; Stateshare is the proportion of state-owned shares among the top 10 largest shareholders at the end of each fiscal year; Boardsize is the natural logarithm of the number of directors on the board; Violation is a dummy variable equal to 1 if the company violates regulations prescribed by the government and 0 if otherwise; Donation is a dummy variable equal to 1 if the company donates to the community and 0 if otherwise; Overseas is a dummy variable equal to 1 if the company has overseas income and 0 if otherwise.

9.2.4 Discussion

For leverage (H1a and H1b), the findings of this study are consistent with García-Sánchez et al. (2018), Dilling and Caykoylu (2019), and Ahmed Haji and Anifowose (2016a). A highly leveraged company tends to provide creditors with more private information (so called "information advantage") (Xiao & Yuan, 2007), such as "a firm's competitive advantages and its internal environments" (Pavlopoulos et al., 2017, p. 26), which weakens the need for higher IR disclosure practices. Also, debt itself has a control effect on agency costs, which weakens the control effect of information disclosure, as the monitoring mechanism of management, on agency costs (Boubaker et al., 2011). Therefore, the need for a higher IR disclosure practice is decreased. Furthermore, from the perspective of the creditors' power, the result suggests that pressures from debtors do not positively impact IR disclosure practices, which is contrary to the finding of Huang and Kung (2010). The findings of H1a and H1b detract from agency, signalling, and stakeholder theories.

The findings indicate that firm size is significantly and positively associated with the IR disclosure practices, which is consistent with the findings of Ahmed Haji and Anifowose (2016a), Girella et al. (2019), Vitolla et al. (2019c), and Huang and Kung (2010). Agency theory, stakeholder theory, and signalling theory provide support for this finding. Agency theory posits that a large company confronts greater information asymmetry and higher agency costs (Celik et al., 2006; An, 2012; Frías-Aceituno et al., 2014; Kılıç & Kuzey, 2018b). Therefore, in order to mitigate agency problems, large companies have incentives to offer higher IR disclosure practices (Girella et al., 2019). According to stakeholder theory, large companies are subject to greater attention and pressure from stakeholders. Thus, providing a higher IR disclosure practice is a means to meet the information demands of different stakeholders and discharge accountability to them (An, 2012; Girella et al., 2019; Hahn & Kühnen, 2013). With reference to signalling theory, large companies have a higher need for financing. In order to attract funds from capital markets, a higher IR disclosure practice can be used by large companies to convey a positive signal to investors (Frías-Aceituno et al., 2014). From the perspective of employees' power, Nicolò et al. (2020a) report that the number of employees affects the extent of IR disclosures. Similarly, Vitolla et al. (2019c) document that the quality of IR disclosures by 145 international companies that have adopted IR is significantly and positively affected by the number of employees. Employees are interested in their company's financial and non-financial information because such information is closely related to employees' rights and interests (Huang & Kung, 2010). A higher IR disclosure practice improves mutual understanding between employees and management, leading to greater employee loyalty (Guo et al., 2009). The findings of H2a and H2b provide support for agency, signalling, and stakeholder theories.

Looking at audit quality (H3a and H3b), the findings indicate that audit quality has no significant impact on IR disclosure practices. This is similar to the findings of Rivera-Arrubla et al. (2017). The reason that there is no significant association between the pressures from Big-4 auditors and IR disclosure practices is probably that IR contains many non-voluntary disclosures, which might not be influences by the type of accounting firms used (Huang & Kung, 2010). Agency and signalling theories are used as the basis for developing H3a and H3b. However, the two theories cannot be supported by the findings related to H3a and H3b.

Profitability (ROA) negatively impacts IR disclosure practices (H4a and H4b), which may be explained by the fact that profitable companies tend to reduce their IR disclosure practices to prevent the release of their sensitive information, which may be used by their competitors (Frías-Aceituno et al., 2014; Sonnier et al., 2007). The findings of H4a and H4b detract from agency and signalling theories.

With regard to H5a and H5b, the result reveals that although financial companies are subject to varied disclosure requirements in China, as compared with non-financial companies (Xiao & Yuan, 2007), whether a firm belongs to the financial sector does not affect IR disclosure practices. The findings related to H5a and H5b do not provide support for legitimacy and institutional theories.

The results do not provide empirical evidence that pressure from environmental protection organisations (Environmentsensitive) affects IR disclosure practices (H6a and H6b), confirming that the power of environmental protection organisations, while strong in western countries, is still weak in China (Yang & Chan. 2011). Stakeholder, legitimacy and institutional theories are not supported by the findings for H6a and H6b.

For H7a and H7b, the results imply that pressures from customers positively impact IR disclosure practices, which is similar to the findings of Vitolla et al. (2019c) and

Fernandez-Feijoo et al. (2014). According to Fernandez-Feijoo et al. (2014, p. 60), "companies in industries with closer proximity to customers may be trying to improve their brand image by increasing the transparency of their reports". The findings for H7a and H7b intensify signalling, stakeholder, legitimacy, and institutional theories.

Listing status (H8a and H8b) does not significantly impact IR disclosure practices, implying that whether a firm is a solo-listed A-share company or a dual-listed A- and H-share company does not influence IR disclosure practices. This is different from the findings of Xiao and Yuan (2007). Xiao and Yuan (2007) find that dual-listed on the mainland Chinese and Hong Kong stock exchanges is associated with the extent of voluntary disclosures. According to institutional theory, dual-listed A- and H-share companies and solo-listed A-share companies imitate each other's corporate reporting behaviour to respond to institutional pressure, which derives from society's comparison between solo-listed A-share companies and dual-listed A- and H-share companies (Liu, 2014). The findings for H8a and H8b cannot support stakeholder and institutional theories.

With regard to H9a and H9b, the proportion of independent directors positively and significantly affects IR disclosure practices, which supports the findings of Pavlopoulos et al. (2017) and Vitolla et al. (2020a), and claims made in agency theory. Agency theory posits that independent directors, as an important tool for monitoring management (Bowrin, 2018; Fama & Jensen, 1983), can reduce information asymmetry and agency problems (Akhtaruddin et al., 2009; Kelton & Yang, 2008). A higher proportion of independent directors seems beneficial for the improvement of a company's IR disclosure practices because these directors can use higher IR disclosure practices to produce a better governance structure, which ensures minority shareholders can access adequate information and reduces the possibility of the management withholding information (Yuen et al., 2009). Agency theory is supported by the findings related to H9a and H9b.

In terms of ownership concentration (H10a and H10b), the insignificant association between ownership concentration and IR disclosure practices may result from controlling shareholders tending to depend less on publicly available information because they are informed directly from internal sources (Fasan et al., 2016; Yuen et al., 2009). The insignificant coefficient of ownership concentration (Shareholder10) confirms that lower share concentration (dispersed ownership) does not form a higher shareholder power that can encourage a firm's IR disclosure practices (Liu & Anbumozhi, 2009). Agency and stakeholder theories cannot be supported by the findings relating to H10a and H10b.

Although H11a and H11b are rejected, the result still confirms the findings of some studies that explore the information disclosures of corporate reporting by Chinese companies, such as Xiao and Yuan (2007), Yuen et al. (2009), and Li et al. (2013). The insignificant association between state shares and IR disclosure practices might result from the fact that state shareholders can access the information they need from the firm directly, rather than relying on publicly available information (Xiao & Yuan, 2007). The insignificant relationship between IR disclosure practices and state shares demonstrates that the Chinese government does not exert strong enough pressure on the IR disclosure practices of Chinese listed companies through state-owned shares. The findings of H11a and H11b do not confirm agency and stakeholder theories.

For H12a and H12b, although the coefficient of Boardsize is positive, it is not statistically significant. This result may be because the positive effect of the increase of board size on IR disclosure practices is negated by the negative effect of the increase of board size on IR disclosure practices. The working efficiency of an excessively large board is low due to "the lack of communication and coordination…the limited capacity for supervision, discussion, and control in the decision-making process" (Cooray et al., 2020, p. 17), resulting in a negative effect on IR disclosure practices. Agency theory cannot be supported by the findings relating to H12a and H12b.

The results for CEO duality (H13a and H13b) indicate a significant relationship between CEO duality and IR disclosure practices, which is analogous to the findings of Xiao and Yuan (2007). CEO duality impedes the provision of a high level of information disclosures to stakeholders because if a CEO also serves as the chairman of the board, she/he may neglect the well-being of stakeholders as a result of her/his overly strong power in the firm's decision-making (Cooray et al., 2020). Agency theory is confirmed by the findings for H13a and H13b.

The results do not provide empirical evidence that pressures from regulatory authorities (Violation) affect IR disclosure practices (H14a and H14b), indicating the role of regulatory authorities in influencing IR disclosure practices is weak. Although regulatory authorities will propose warnings or punishments if a company violates regulations

(Huang & Kung, 2010), the pressures from regulatory authorities do not influence the IR disclosure practices. Stakeholder theory cannot be supported by the findings for H14a and H14b.

The results indicate that there is a significantly positive association between donation to communities and IR disclosure practices (both extent and quality) (H15a and H15b), meaning the pressures from communities have an impact on the IR disclosure practices. Drawing upon the argument presented by Jenkins (2004), attaining good community relationships is regarded as one of the most important drivers of IR disclosure practices by Chinese companies. Stakeholder theory is verified by the findings relating to H15a and H15b.

The insignificant coefficient of overseas customer (Overseas) suggests that Chinese listed companies have not produced higher IR disclosure practices in response to pressures from international consumers (H16a and H16b). In order to obtain a competitive edge in the global market, Chinese companies need to offer higher IR disclosure practices to show that Chinese companies are working towards internationally recognised standards and to gain ongoing ‘legitimacy’ through international consumers (Dong et al., 2014). The findings for H16a and H16b do not provide support for stakeholder theory.

Overall, the results suggest that the internal characteristics of a company (profitability, leverage, the proportion of independent directors on the board, CEO duality) and stakeholders’ pressures (customers, employees, and communities) are both drivers of IR disclosure practices in the Chinese context, indicating that IR disclosure practice is not only affected by the internal characteristics of a company, but also by stakeholders’ pressures on the company. Overall, at present, Chinese listed firms are providing IR disclosures primarily to meet the information needs of customers, employees, and communities and to show alignment with their expectations. Customers, employees, and communities, as important stakeholders in western countries, have become significant in China (Dong et al., 2014). From the perspective of stakeholder theory, IR can play a role in managing and responding to a firm’s various stakeholder groups, not only shareholders, in order to gain support that can ensure the firm’s survival (Azizul Islam & Deegan, 2008).

9.3 The effect of IR disclosure practices on agency costs

9.3.1 Model specification

In order to confirm the hypotheses developed in Chapter 8 (H17a and H17b), the following regression model (see Equation (2)) is created. All variables shown in Equation (2) are defined in Table 9.8. Standard errors are clustered by firm; Year and Industry dummy variables are included to control for fixed effects of years and industries, respectively (Caglio et al., 2019). A lead-lag approach[56] by one year for the independent variable and control variables, as adopted by Dhaliwal et al. (2011) and Lee and Yeo (2016), addresses endogeneity concerns.

$$Agencost_{i,t+1} = \beta_0 + \beta_1 Extent_{i,t}\left(Totalquality_{i,t}\right) + \beta_2 Asset_{i,t} + +\beta_3 Leverage_{i,t} + \beta_4 MTB_{i,t} + \beta_5 Stateshare_{i,t} + \beta_6 Shareholder10_{i,t} + \beta_7 Duality_{i,t} + \beta_8 ROE_{i,t} + \beta_9 Boardsize_{i,t} + \beta_{10} BoardInd_{i,t} + Industry + Year + \varepsilon_{i,t} \quad (2)$$

Table 9.8 Definitions of variables

Variables	Definitions
Agency cost (Agencost)	Tobin's Q multiplied by the operating cash flow in fiscal year t scaled by total assets at the beginning of the year t (H17) (Pavlopoulos et al., 2017).
The extent of IR disclosures (Extent)	The extent of IR disclosures of each company
The quality of IR disclosures (Totalquality)	The quality of IR disclosures of each company
Leverage (Lev)	Book value of total liabilities of a company at the end of each fiscal year divided by the book value of total assets of the company at the end of each fiscal year
Asset	Natural logarithm of book value of total assets of a company at the end of each fiscal year
Growth opportunity (MTB)	The ratio of market value of equity and book value of equity

[56] Chinese listed companies are allowed to publish their annual reports within four months after the end of the financial year. As Landau et al. (2020) point out that "...data is not available to investors before the publication of their annual report...some companies of the data sample did not publish their annual report within a 3-month period after their fiscal year-end" (p.6-7), it is not reasonable to test the effect of IR disclosure practices of corporate reports published after the fiscal year on agency costs measured based on the end of the fiscal year. Thus, the dependent variable is the agency costs measured 12 months after the fiscal year.

ROE	Net profit (after interest and taxation) for each fiscal year divided by book value of the total equity at the end of this fiscal year
Ownership concentration (Shareholder10)	The percentage of shares possessed by the top 10 shareholders
State	Dummy variable equal to 1 if a firm is a SOE and 0 otherwise
CEO duality (Duality)	Dummy variable equal to 1 if the same person serves as CEO and chairman of the board, and 0 if otherwise
Independent directors (BoardInd)	The proportion of independent directors on the board at the end of each fiscal year
Board Size (Boardsize)	Natural logarithm of the number of directors on the board

Based on the prior literature, some control variables are included to increase the goodness of the regression model. In line with some previous studies, firm size (Asset), profitability (ROE), financial leverage (Leverage), and growth opportunity (MTB) are incorporated into the regression model (Du, 2013a; Pavlopoulos et al., 2017). Agency costs has a significant relationship with firm size and financial leverage, respectively (Obeng et al., 2020a). Profitability and growth opportunity influence agency cost as well (Smith & Watts, 1982). Moreover, according to Panda and Leepsa (2017), ownership structure, board size, independent board members and CEO duality are also impact factors of agency costs; thus, following studies such as those of Du (2013a), Florackis (2008), and Singh and Davidson III (2003), ownership concentration (Shareholder10), state-control (State), board size (Boardsize), independent board members (BoardInd), and CEO duality (Duality) are adopted as control variables. By referring to industrial classification provided by industry classification benchmark (ICB), China Securities Regulatory Commission, and relevant literature (e.g., Melloni et al., 2017), 3 industry groups are distinguished: 95 firms in consumer goods, consumer service, technology, and telecommunication; 185 firms in oil and gas, basic materials, industrials, and utilities; and 220 firms in financials and real estate.

9.3.2 Results

Descriptive statistics

Table 9.9 shows the descriptive statistics for all the variables. The mean value of agency costs is 0.082.

Table 9.9 Descriptive statistics

Variable	N	Mean	Std.Dev.	Min	Max
Extent	500	.755	.076	.500	.926
Totalquality	500	.520	.067	.332	.675
Extent_new	500	.770	.072	.526	.930
Totalquality_new	500	.504	.070	.314	.667
Agencost	500	.082	.175	-.318	1.355
Leverage	500	.704	.180	.131	.945
ROE	500	.120	.066	.002	.433
Asset	500	26.549	1.566	23.782	30.952
Shareholder10	500	.231	.155	.007	.759
MTB	500	1.678	1.163	.346	11.761
Boardsize	500	2.336	.282	1.609	2.944
BoardInd	500	.392	.075	.200	.800
Dummy Variables		N	Percent of sample		
Duality	1	56	11.2%		
	0	444	88.8%		
State	1	405	81%		
	0	95	19%		

Notes: Extent is the extent of IR disclosures of each company; Totalquality is the quality of IR disclosures of each company; Extent_new is the new extent of IR disclosures of each company; Totalquality_new is the new quality of IR disclosures of each company; Agencost is the Tobin's Q multiplied by the operating cash flow in fiscal year t scaled by total assets at the beginning of the year t; Leverage is the book value of total liabilities of a company at the end of each fiscal year divided by the book value of total assets of the company at the end of each fiscal year; Asset is the natural logarithm of book value of total assets of a company at the end of each fiscal year; MTB is the ratio of market value of equity and book value of equity; ROE is the net profit (after interest and taxation) for each fiscal year divided by book value of the total equity at the end of this fiscal year; Shareholder10 is the percentage of shares possessed by the top 10 shareholders; State is a dummy variable equal to 1 if a firm is a SOE and 0 otherwise; Duality is a dummy variable equal to 1 if the same person serves as CEO and chairman of the board, and 0 if otherwise; BoardInd is the proportion of independent directors on the board at the end of each fiscal year; Boardsize is the natural logarithm of the number of directors on the board.

Univariate analysis

Table 9.10 indicates that agency costs do not correlate significantly with either the extent of IR disclosures or the quality of IR disclosures in the Spearman and Pearson Correlation triangle. However, these univariate results do not capture other factors that have a potential impact on agency costs. Therefore, multivariate analysis is used to obtain more accurate results (Magnis & Iatridis, 2017). Both correlation tests and variance inflation factor tests suggest multicollinearity appears not to be a problem.

Table 9.10 Correlation analysis

	Agencost	Extent	Extent_new	Totalquality	Totalquality_new	Asset	Leverage	MTB	State	Shareholder10	Duality	ROE	Boardsize	BoardInd
Agencost	1	0.049	0.053	0.059	0.061	-0.221***	-0.495***	0.223***	0.095**	0.134***	0.099**	0.097**	-0.101**	-0.006
Extent	0.010	1	0.996***	0.905***	0.908***	0.277***	-0.066	-0.192***	0.063	0.047	-0.057	-0.130***	0.009	0.230***
Extent_new	0.017	0.997***	1	0.901***	0.901***	0.249***	-0.088**	-0.181***	0.051	0.042	-0.056	-0.137***	-0.006	0.227***
Totalquality	-0.008	0.905***	0.903***	1	0.998***	0.300***	-0.113**	-0.252***	0.102**	0.117***	-0.060	-0.148***	-0.011	0.241***
Totalquality_new	-0.010	0.911***	0.905***	0.998***	1	0.318***	-0.098**	-0.258***	0.114**	0.119***	-0.062	-0.147***	-0.002	0.243***
Asset	-0.295***	0.242***	0.215***	0.278***	0.296***	1	0.658***	-0.495***	0.138***	0.037	-0.071	0.037	0.355***	-0.010
Leverage	-0.548***	-0.061	-0.074*	-0.105**	-0.093**	0.612***	1	-0.241***	-0.023	-0.238***	-0.056	0.095**	0.392***	-0.159***
MTB	0.485***	-0.151***	-0.139***	-0.228***	-0.233***	-0.438***	-0.305***	1	-0.124***	-0.121***	0.119***	0.326***	-0.141***	-0.018
State	0.001	0.042	0.031	0.101**	0.111**	0.116***	-0.043	-0.097**	1	0.176***	-0.087*	-0.101**	-0.025	0.073
Shareholder10	0.076*	0.082*	0.074*	0.140***	0.142***	0.088**	-0.245***	-0.062	0.158***	1	-0.118***	-0.040	-0.302***	0.243***
Duality	0.045	-0.035	-0.032	-0.047	-0.048	-0.072	0.001	0.074*	-0.087*	-0.114**	1	0.082*	-0.023	0.050
ROE	0.413***	-0.122***	-0.122***	-0.150***	-0.152***	-0.027	-0.091**	0.452***	-0.106**	-0.037	0.146***	1	0.058	-0.052
Boardsize	-0.170***	0.024	0.011	-0.006	0.002	0.431***	0.381***	-0.146***	-0.029	-0.260***	-0.044	-0.004	1	-0.433***
BoardInd	0.041	0.221***	0.216***	0.228***	0.233***	-0.034	-0.095**	-0.009	0.086*	0.213***	0.009	-0.021	-0.516***	1

Notes: Pearson correlations reported below the diagonal and Spearman correlations above the diagonal.

The superscripts ***, ** and * denote significance at 1%, 5% and 10% respectively.

Variables definition: Extent is the extent of IR disclosures of each company; Totalquality is the quality of IR disclosures of each company; Extent_new is the new extent of IR disclosures of each company; Totalquality_new is the new quality of IR disclosures of each company; Agencost is the Tobin's Q multiplied by the operating cash flow in fiscal year t scaled by total assets at the beginning of the year t; Leverage is the book value of total liabilities of a company at the end of each fiscal year divided by the book value of total assets of the company at the end of each fiscal year; Asset is the natural logarithm of book value of total assets of a company at the end of each fiscal year; MTB is the ratio of market value of equity and book value of equity; ROE is the net profit (after interest and taxation) for each fiscal year divided by book value of the total equity at the end of this fiscal year; Shareholder10 is the percentage of shares possessed by the top 10 shareholders; State is a dummy variable equal to 1 if a firm is a SOE and 0 otherwise; Duality is a dummy variable equal to 1 if the same person serves as CEO and chairman of the board, and 0 if otherwise; BoardInd is the proportion of independent directors on the board at the end of each fiscal year; Boardsize is the natural logarithm of the number of directors on the board.

Multivariate analysis and discussion

Table 9.11 demonstrates the regressions of agency costs on the IR disclosure practices. Specifically, model 1 shows the regressions of agency costs on the extent of IR disclosures whereas model 2 exhibits the regressions of agency costs on the quality of IR disclosures. In model 1, the coefficient on the extent of IR disclosures is negative and significant (at 5% level). Thus, H17a is accepted. In model 2, the regression analysis presents a significant negative association (at 5% level) between agency costs and the quality of IR disclosures. This result provides strong support for H17b.

Table 9.11 Regression results

	Model (1)	Model (2)
	Agencost	**Agencost**
Extent (H17a)	**-0.216****	
	(-1.98)	
Totalquality (H17b)		**-0.323****
		(-2.52)
Asset	0.025***	0.028***
	(3.36)	(3.64)
Leverage	-0.407***	-0.421***
	(-4.40)	(-4.56)
MTB	0.048***	0.047***
	(5.19)	(5.21)
State	0.012	0.013
	(0.51)	(0.56)
Shareholder10	-0.029	-0.035
	(-0.54)	(-0.66)
Duality	-0.021	-0.022
	(-0.95)	(-1.00)
ROE	0.551***	0.544***
	(3.51)	(3.50)
BoardInd	0.025	0.023
	(0.66)	(0.62)
Boardsize	0.027	0.033
	(0.25)	(0.31)
Constant	-0.284**	-0.344***
	(-2.47)	(-3.02)
Year	Yes	Yes
Industry	Yes	Yes
N	500	500
Adj.R^2	0.521	0.524
F	22.173	22.782

Notes: The superscripts ***, ** and * denote significance at 1%, 5% and 10% respectively.

All reported t statistics are based on standard errors adjusted for clustering at the firm level.

Variables definition: Extent is the extent of IR disclosures of each company; Totalquality is the quality of IR disclosures of each company; Agencost is the Tobin's Q multiplied by the operating cash flow in fiscal year t scaled by total assets at the beginning of the year t; Leverage is the book value of total liabilities of a company at the end of each fiscal year divided by the book value of total assets of the company at the end of each fiscal year; Asset is the natural logarithm of book value of total assets of a company at the end of each fiscal year; MTB is the ratio of market value of equity and book value of equity; ROE is the net profit (after interest and taxation) for each fiscal year divided by book value of the total equity at the end of this fiscal year; Shareholder10 is the percentage of shares possessed by the top 10 shareholders; State is a dummy variable equal to 1 if a firm is a SOE and 0 otherwise; Duality is a dummy variable equal to 1 if the same person serves as CEO and chairman of the board, and 0 if otherwise; BoardInd is the proportion of independent directors on the board at the end of each fiscal year; Boardsize is the natural logarithm of the number of directors on the board.

9.3.3 Robustness tests

The use of the new extent of IR disclosures and the new quality of IR disclosures is to investigate the effect of IR disclosure practices on agency costs from an unbiased perspective. Table 9.12 shows the results of the robustness analysis for the effect of IR disclosure practices on agency costs. In this robustness test, the measurement of the extent of IR disclosures is changed. The weighting of each item collected from Chinese stakeholders is used. Accordingly, the new extent of IR disclosures is adopted in multiple regression analysis. The regression result is identical to the main finding. Table 9.12 also exhibits the result of the robustness analysis for determinants of the quality of IR disclosures. In this robustness test, the measurement of the quality of IR disclosures is altered. All disclosure items are assigned equal weighting. Accordingly, the new quality of IR disclosures is adopted in multiple regression analysis. The result is consistent with the main finding. Based on the results from the robustness tests, it can be argued that the main findings of this research are reliable.

Table 9.12 Regression results

	Model (3)	Model (4)
	Agencost	**Agencost**
Extent_new (H17a)	**-0.230****	
	(-2.07)	
Totalquality_new (H17b)		**-0.302****
		(-2.42)
Asset	0.025***	0.028***
	(3.35)	(3.63)
Leverage	-0.406***	-0.420***
	(-4.40)	(-4.55)
MTB	0.048***	0.047***
	(5.20)	(5.20)
State	0.012	0.014
	(0.49)	(0.59)
Shareholder10	-0.029	-0.034
	(-0.55)	(-0.64)
Duality	-0.021	-0.022
	(-0.96)	(-0.99)
ROE	0.551***	0.543***
	(3.49)	(3.50)
BoardInd	0.025	0.024
	(0.65)	(0.62)
Boardsize	0.025	0.035
	(0.24)	(0.32)
Constant	-0.263**	-0.361***
	(-2.22)	(-3.17)
Year	Yes	Yes
Industry	Yes	Yes
N	500	500
Adj.R^2	0.521	0.524

F	22.275	22.691

Notes: The superscripts ***, ** and * denote significance at 1%, 5% and 10% respectively.

All reported t statistics are based on standard errors adjusted for clustering at the firm level.

Variables definition: Extent_new is the new extent of IR disclosures of each company; Totalquality_new is the new quality of IR disclosures of each company; Agencost is the Tobin's Q multiplied by the operating cash flow in fiscal year t scaled by total assets at the beginning of the year t; Leverage is the book value of total liabilities of a company at the end of each fiscal year divided by the book value of total assets of the company at the end of each fiscal year; Asset is the natural logarithm of book value of total assets of a company at the end of each fiscal year; MTB is the ratio of market value of equity and book value of equity; ROE is the net profit (after interest and taxation) for each fiscal year divided by book value of the total equity at the end of this fiscal year; Shareholder10 is the percentage of shares possessed by the top 10 shareholders; State is a dummy variable equal to 1 if a firm is a SOE and 0 otherwise; Duality is a dummy variable equal to 1 if the same person serves as CEO and chairman of the board, and 0 if otherwise; BoardInd is the proportion of independent directors on the board at the end of each fiscal year; Boardsize is the natural logarithm of the number of directors on the board.

9.3.4 Discussion

The results suggest that IR disclosure practices can reduce agency costs, which provides support for agency theory. This confirms the finding of Pavlopoulos et al. (2017). The information asymmetry between stakeholders and managers aggravates agency costs (Barako & Brown, 2008; LaFond & Watts, 2008; Scott, 1997). Companies that release corporate reports with higher quality of IR disclosures will deliver more transparent financial and non-financial information (Cooray et al., 2020). IR, as a tool that can enhance the level of information disclosures, can reduce the information asymmetry between stakeholders and managers, leading to lower agency costs (Pavlopoulos et al., 2017). For instance, a higher IR disclosure practice gives investors better monitoring ability to verify the behaviour of the management (Obeng et al., 2020a). Moreover, a higher IR disclosure practice means the provision of strategy-focused, future-oriented, and multi-capital-embedded information as well as a better compensation contract (a much wider range of metrics compared with traditional accounting metrics) (Obeng et al., 2020a). Also, for managers, IR can reduce managerial myopia, improve the quality of decision making, and increase discussion about multiple aspects of the firm, thereby enhancing managers' insights about creating and sustaining value (Obeng et al., 2020a). All these features of IR can allow for better interest alignment between investors and managers. Thus, this finding verifies that reducing information asymmetry between the organisation and all stakeholders is one of the motivations to encourage companies to improve their IR disclosure practices.

9.4 Chapter summary

This chapter firstly examines the determinants of IR disclosure practices. The results reveal that four internal characteristics of firms: profitability, leverage, the proportion of independent directors on the board, and CEO duality, are impact factors of IR disclosure practices. Specifically, three factors (profitability, leverage, and CEO duality) negatively affect IR disclosure practices while an increasing proportion of independent directors on the board positively affects IR disclosure practices. In addition, the pressures from customers, employees, and communities impact IR disclosure practices. IR disclosure practices are not only affected by the internal characteristics of a company, but also by stakeholders' pressures on the company. This chapter investigates the association between IR disclosure practices and agency costs, and finds that the IR disclosure practices can reduce agency costs. A summary of the findings is provided in Table 9.13.

Table 9.13 A Summary of the findings

Hypothesis	Findings
H1a and H1b	Financial leverage negatively affects IR disclosure practices
H2a and H2b	Firm size positively affects IR disclosure practices
H3a and H3b	Audit quality does not affect IR disclosure practices
H4a and H4b	Profitability negatively affects IR disclosure practices
H5a and H5b	Financial sector does not affect IR disclosure practices
H6a and H6b	Environmentally sensitive sector does not affect IR disclosure practices
H7a and H7b	Consumer-based sector positively affects IR disclosure practices
H8a and H8b	Listing status does not affect IR disclosure practices
H9a and H9b	The proportion of independent directors on the board positively affects IR disclosure practices
H10a and H10b	Ownership concentration does not affect IR disclosure practices
H11a and H11b	State-owned share does not affect IR disclosure practices
H12a and H12b	Board size does not affect IR disclosure practices
H13a and H13b	CEO duality negatively affects IR disclosure practices
H14a and H14b	Regulatory authority does not affect IR disclosure practices

H15a and H15b	Community positively affects IR disclosure practices
H16a and H16b	Overseas customers do not affect IR disclosure practices
H17a and H17b	IR disclosure practices negatively affects agency costs

From a theoretical point of view, the theoretical framework consisting of five theories is explanatory in interpreting firms' decisions to engage in high IR disclosure practices. The incentives for high IR disclosure practice are manifold, framed both by economic and societal considerations. The findings of this chapter intensify or refute stakeholder, agency, signalling, legitimacy and institutional theory to some extent. Specifically, the findings of this chapter provide supporting evidence for socio-political theories (stakeholder theory, legitimacy theory, institutional theory). However, economics-based theories (agency theory and signalling theory) are both supported and refuted by the findings of this chapter.

CHAPTER TEN
CHINESE STAKEHOLDERS' PERSPECTIVES ON IR PRACTICES

10.1 Introduction

This chapter examines the perceptions of Chinese stakeholders on the barriers to the adoption of IR and recommendations for IR implementation. The analysis undertaken in this chapter is based on the findings of the third-round questionnaire survey of the 51 stakeholders who participated in the construction of the IR disclosure index (as discussed in Chapter six). Two open-ended questions posed to the stakeholders include: "If IR is to be adopted in China, what are the barriers to IR adoption and challenges to IR adoption?" and "What are your recommendations on the implementation of IR in China?" The findings of the content analysis in Chapter seven reveal some of the shortcomings in IR disclosure practices. The views expressed by the stakeholders supplement the findings of Chapter seven by providing additional insights on how the barriers are possible causes for low IR disclosure practices in China. Also, the views held by participants in regard to the recommendations for the implementation of IR in China can provide insights into how to alleviate poor IR disclosure practices of some companies and improve the overall IR disclosure practices of Chinese companies. Additionally, as Chapter nine deals with hypothesis testing to determine some factors that affect IR disclosure practices and some factors that are affected by IR disclosure practices, this chapter provides some insights for understanding whether these factors can influence some of these barriers or alternatively be influenced by the barriers.

The remainder of the chapter is structured as follows. Section 10.2 presents the findings and analysis of the first question. Section 10.3 presents the findings and analysis of the second question. Section 10.4 summarises the chapter.

10.2 The barriers to IR adoption and challenges to IR adoption: Chinese stakeholders' perspectives

A sample of 51 participants from various stakeholder groups was chosen to provide their insights on two questions. 39 participants responded and provided answers while the other 12 of the total of 51 participants did not provide any comments. The summaries about barriers to IR adoption and the identities of participants are listed in Table 10.1. There are eleven potential barriers to IR adoption.

Table 10.1 Barriers to IR adoption

Barrier	Participant
Being used as a marketing tool	P5, P47
Lack of integrated thinking	P1, P11, P16, P19
Lack of usefulness	P48
Cost constraints	P12, P13, P17, P26, P50
Varied interpretations of IR	P4, P9, P38
Lack of connected information	P3, P15, P27
Regarding it as a mere formality	P2, P39
Tension between conciseness and completeness	P31, P45
The relative importance of the six capitals	P10, P49
Missing some important information	P8, P32, P35, P36
Mandatory vs voluntary IR adoption	P7, P14, P20, P21, P22, P25, P28, P33, P34
Country- and industry-specific frameworks	P6, P40

Being used as a marketing tool

The management of an organization may use IR as a marketing tool intentionally to build the image (Gerwanski, 2020). If IR becomes a marketing tool, it means IR is used as a tool to improve a firm's reputation rather than providing reliable and credible information to improve decision usefulness and the firm's transparency (Solomon & Maroun, 2012). In this study, some participants were concerned that IR will become just a marketing tool. A participant stated that:

Companies may use integrated reports as marketing tools. (P5, an accounting scholar)

Another participant expresses a similar concern. This participant believed that:

Unless integrated reporting can overcome weaknesses in both financial and sustainability reporting and can provide reliable and credible information, otherwise it may become a mere 'marketing tool'. (P47, a financial analyst in an investment company)

The opinions held by participants in this research who asserted that IR may become a mere marketing tool for companies are similar to views in previous studies, such as those of Attanayake Mudiyanselage (2018), Gerwanski et al. (2019) and Vitolla et al. (2019a). Vitolla et al. (2019a) argue that being used as a marketing tool is a potential risk linked to the implementation of IR. Referring to the study by Stubbs and Higgins (2018), Attanayake Mudiyanselage (2018) believes the reason that companies use integrated reports as marketing tools to manage their image and reputation is that they adopt a weak accountability approach towards stakeholders. Relying on integrated thinking is one of the important cures for this problem; otherwise, IR will not improve transparency and decision usefulness (Gerwanski et al., 2019).

Lack of integrated thinking

According to Dumay and Dai (2017), integrated thinking is "the crux of IR" (p. 579). Integrated thinking is a necessary condition of IR (Black Sun, 2012). Integrated thinking is defined by the IIRF as "the active consideration by an organisation of the relationships between its various operating and functional units and the capitals that the organisation uses or affects. Integrated thinking leads to integrated decision-making and actions that consider the creation of value over the short, medium and long term" (IIRC, 2013, p.33). Piermattei and Venturini (2016) describe the relationship between IR and integrated thinking as a "chicken and egg" relationship. The lack of integrated thinking can be a barrier to IR practices. Two participants believed that the lack of integrated thinking will become a barrier to IR adoption. One participant indicated that:

No integrated thinking, no IR. It is important for every ordinary employee to obtain an in-depth understanding of what integrated thinking is because ordinary staff are the participants of IR preparation. More importantly, I believe that integrated thinking must be embedded into top management's thinking because the support from top management is the internal driver of IR adoption. (P11, a financial manager)

Another participant emphasized that:

The lack of integrated thinking will be a barrier to IR adoption. I believe if integrated thinking is embedded in the activities of the company, various information will be inevitably infiltrated into the integrated report. Therefore, advocating the use of *integrated thinking within the organisation can facilitate the development of integrated reporting. (P19, a financial analyst in a bank)*

These views indicate the necessity of embedding integrated thinking in the understanding of every employee and in the activities of a company. This viewpoint supports previous studies. Incorporating IR in the company needs to permeate all layers of the company through integrated thinking (Al-Htaybat & von Alberti-Alhtaybat, 2018). Implementing integrated thinking successfully needs deep employee participation (Attanayake Mudiyanselage, 2018; Feng et al., 2017), top management support (Attanayake Mudiyanselage, 2018; Gunarathne & Senaratne, 2017; Robertson & Samy, 2015), and embedding integrated thinking into the organisation's activities (Hsiao & Kelly, 2018; IIRC, 2013). According to Atkins and Maroun (2015), top management needs to be more involved in IR preparation; otherwise, nothing can be really changed. Moreover, in accordance with the IIRC (2013, p. 2), "the more that integrated thinking is embedded into an organisation's activities, the more naturally will provide the connectivity of information flow into management reporting, analysis and decision making, and subsequently into the integrated report."

A participant stated that:

The separated departments will impede the process of integrated thinking, resulting in difficulty in implementing IR. This is because the silo effect[57] *will cause the loss of linkage between the annual reports and sustainability reports. Therefore, cross-departmental cooperation related to the company's corporate reporting compilation is important. I suggest establishing a cross-departmental team to foster integrated thinking. (P1, an accounting scholar)*

In a similar vein, Robertson and Samy (2015) believe that the silo effect existing between different departments within a company may create a barrier to IR adoption. In order to implement integrated thinking successfully, cross-departmental collaboration is needed (Cosma et al., 2018; Robertson & Samy, 2015).

However, a participant stated that:

[57] The silo effect is a phrase which describes a lack of communication and mutual objectives between departments in an organisation (Chopra & Meindl, 2007).

It is hard to understand the meaning of integrated thinking. (P16, a financial analyst in a bank)

According to this participant's feedback, the concept of integrated thinking is difficult to understand. IIRC is the only professional organisation that has formally offered a definition of integrated thinking (Al-Htaybat & von Alberti-Alhtaybat, 2018). However, although IIRC has given a definition, it does not explain the definition well (Feng et al., 2017).

Lack of usefulness

There is a concern about the lack of usefulness of IR itself. Hsiao and Kelly (2018) indicate that Taiwanese investors doubt the usefulness of IR in investment decision making. Slack and Tsalavoutas (2018) also find IR to be of little use to fund managers and equity analysts. In addition, Abhayawansa et al. (2019) report that IR has low usefulness to sell-side analysts. A participant doubted the usefulness of IR. In a similar vein, a participant of this study asserted that:

I do not know why I need IR because it seems the annual report is sufficient for me. It seems investors do not perceive IR as relevant to their information needs. (P48, a financial analyst in an investment company)

The participant believed that IR is irrelevant to investors' information needs. This participant further pointed out that:

IR has to add values to me; otherwise, it is only another cluttered corporate reporting. However, IR is still welcomed by me because no investor will reject an additional source of information. (P48, a financial analyst in an investment company)

The participant emphasized that IR must be seen to add value for users. This argument supports Haller and van Staden (2014), who stated that value-added information contributes considerably to the usefulness of IR.

Cost constraints

Cost constraints constitute a barrier to IR adoption. Preparing IR is time- and money-consuming for companies. For this reason, whether the advantages of IR can provide direct benefits, especially economic benefits, will determine the willingness of Chinese companies to adopt IR. Similarly, interviewees in Adhariani and De Villiers's study (2018) also assert that the costs of preparation are one of the top challenges in IR implementation.

Compiling an integrated report needs a vast amount of information (Gunarathne & Senaratne, 2017). In this present study, a participant admitted that:

> *In addition to daily work, preparing IR, such as collecting necessary information, will cost abundant time. (P17, a financial manager)*

Another participant stated that:

> *We are willing to embrace IR if it is seen as overcoming the shortcomings of existing corporate reporting rather than only generating additional costs. The corporate report preparer may be reluctant to produce an annual report, a sustainability report, and an integrated report simultaneously. (P12, a financial manager)*

A firm will adopt IR only when it perceives that the benefits of IR exceed the costs of IR (Kannenberg & Schreck, 2018). A participant asked:

> *Whether the benefits of IR outweigh its costs? If it does, companies may be willing to adopt IR. As I know, the cost of preparing integrated reports is high, including the human costs, the financial cost, the compliance cost, etc., but it cannot produce immediate benefits.* (*P50, a financial analyst in an investment company)*

Another participant emphasized that:

> *The willingness of a company for adopting IR depends on the competitive advantages of IR, especially whether the economic value of IR exceeds that of existing types of corporate reporting. (P26, an auditor)*

A third participant acknowledged that:

> *In recent years, the economic development of companies has not been good. It is difficult for companies to make profits, so it is more difficult for companies to commit to the costs incurred by the preparing IR, although IR is a trend of the future. (P13, a financial manager)*

The participants' responses are in line with concerns expressed in several studies that direct costs discourage firms from making higher IR disclosure practices (Grassmann et al., 2019; Fuhrmann, 2019).

<u>Varied interpretations of IR</u>

Rowbottom and Locke (2015) believe that the varied interpretations of IR cause misunderstandings. Many studies, such as those of Fasan (2013), Lodhia and Stone (2017), and Steenkamp (2018) support the perception that IR is not simply an evolution of sustainability reporting, but an evolution of corporate reporting. One of the interviewees in Rowbottom and Locke's (2015) study contends that IR is not an evolution of sustainability reporting while sustainability reporting is one element of IR. However, by examining the GRI Sustainability Disclosure Database, Rowbottom and Locke (2015) find that some companies do interpret IR as the evolution of sustainability reporting. Adhariani and De Villiers (2018) challenge the perception that sustainability reporting is a subset of IR. Although 34% of interviewees in Adhariani and De Villiers's (2018) research view sustainability reporting as a subset of IR, Adhariani and De Villiers (2018) believe that it is a misconception. Adhariani and De Villiers (2018) assert that sustainability reporting and IR are overlapping approaches. Hence, mixing up sustainability reporting and IR is one of the barriers to IR adoption. A participant in the present study said:

> *One barrier is that many practitioners cannot distinguish between IR and sustainability reporting. In my opinion, IR is not simply an evolution of the sustainability reporting, but an evolution of corporate reporting (P4, an accounting scholar)*

Another participant contended that:

> *Most people do not know the difference between sustainability reporting and IR. I personally see the sustainability report as a subset of the integrated report. (P38, an industry analyst in a consultant company)*

Adams (2015) believes that sustainability reporting and IR can coexist, which is consistent with a participant's view:

> *There will be a situation where the integrated report coexists with the financial report and the sustainability report. However, IR is the only avenue for the future development of sustainability reporting. (P9, an editor in financial media)*

Lack of connected information

The essence of IR is the connectivity of information (Eccles et al., 2015a). Hence, the lack of connected information may impede the process of IR adoption in China. Three participants expressed that the lack of connected information will become a barrier to IR adoption. The first participant contended that:

> *In China, the independent appearance of all kinds of financial and non-financial reports makes the content of each report overlapped; the problem of redundant information is more prominent and some key information is not effectively connected, which not only reduces the effectiveness of corporate reporting decision-making but also increases compiling costs of corporate reporting and the difficulty of reporting users' reading and understanding, leaving information users to easily overlook material information. I wish IR can bring a real change. (P27, an auditor)*

A similar view was held by another participant. This participant indicated that:

> *The essence of an integrated report is not only a presentation of various information but to integrate various information that affects the company. The main challenge is not to simply increase the amount of information provided inside the annual reports, but to increase their relevance through new, comprehensive and condensed reporting practices, which combine and interconnect financial and non-financial data. (P15, a financial manager)*

Another participant expressed that:

> *Establishing a clear link between the key elements of the IR framework is the core of IR. This advantage of IR transcends the existing corporate reporting boundaries and represents a shift to integrated thinking. However, how to accomplish the advantage is a challenge. (P3, an accounting scholar)*

Regarding IR as a mere formality

In the study by Stubbs and Higgins (2014), an interviewee admits that their company's first integrated report was only tacking the sustainability report and financial report together and renaming it as an "integrated report". Ahmed Haji and Hossain (2016) find that although the terms relating IR have been applied in integrated reports by companies, the quality of disclosures in integrated reports has not actually increased, and companies continue to report symbolic disclosures. However, IR is more than just assembling a financial report and a sustainability report into a single report (Perez, 2018). In the current study, some participants are concerned that IR may become a mere formality. A participant stated that:

> *I doubt the credibility of integrated reports, especially the accuracy, authenticity, sufficiency, objectivity, reliability, verifiability, completeness and traceability of the information disclosures in integrated reports. IR may become a mere formality. (P2, an accounting scholar)*

Another participant argued that:

> *I think some companies may just copy information which they have been publishing in the CSR report into the annual report, which results in no real interaction between the information. (P39, an industry analyst in a consultant company)*

Tension between conciseness and completeness

IIRC (2013) support the argument that there is an apparent tension between conciseness and completeness. In a study by Guthrie et al. (2017), an interviewee complains that in order to ensure completeness, the integrated report is too long and contains too much information. A participant in the current study also clearly pointed out that there is a tension between conciseness and completeness in IR. This participant questioned:

> *I do not know how to ensure the conciseness and completeness of the information in IR simultaneously. (P31, an auditor)*

Materiality plays a crucial role in the balance between completeness and conciseness (Steenkamp, 2018). Another participant believed that:

> *A genuine integrated report should be concise, which allows users to find the information they need easily. The integrated report begins with identifying the material issues of the company, which is the key to reaching conciseness. I think a set of processes to identify material issues is needed and there are three key points in the processes. The first one is to place the focus on the information needs of stakeholders. The second one is to discuss material issues at the senior management and board level. The last one is to make a clear statement about material issues within the integrated reports. (P45, a financial analyst in an investment company)*

The relative importance of six capitals

Vitolla et al. (2019a) suggest that IR implementation may create conflicts of interest among different stakeholders. Abhayawansa et al. (2019) find that financial analysts believe that financial capital is the most important because financial analysts see themselves as the representatives of investors and most of their model valuation is driven by financial capital. In addition, non-financial capitals are not popular in financial analysts' model valuations since non-financial capitals are hard to quantify (Abhayawansa et al., 2015). Van Bommel (2014) argues that there is a risk that integrated reports are mainly to satisfy investors' demands rather than to meet a range of stakeholders' needs. Chapter six verified that stakeholders believe the importance of the six capitals is different. Chinese stakeholders value financial capital most but value human capital least.

In the current study, participants have varied opinions about the importance of the six capitals within IR. One participant highlighted human capital, stating that:

> *Different stakeholders may have varied views on the importance of different capitals, which causes conflicts of interest among stakeholders and becomes a barrier for IR implementation. In my opinion, what dictates a company's long-term future is human capital because I remember Andrew Carnegie said that "Take away my people, but leave*

my factories, and soon grass will grow on the factory floors. Take away my factories, but leave my people, and soon we will have a new and better factory." (P10, an editor in financial media)

Another participant expressed a view that:

The six forms of capital do not mean the same importance for each stakeholder. From the perspective of an investor, the most important information is financial capital because the model valuation is primarily driven by financial capital. However, that's not to say other information is not important. The key non-financial information, especially those in human capital, relational capital and intellectual capital are considered as well to some extent. What I care about is whether the key non-financial information can be linked with financial information, in other words, whether the key non-financial information can be summarized by monetary numbers. (P49, a financial analyst in an investment company)

Missing some important information

Adhariani and De Villiers (2018) find that the fear of releasing sensitive information is one of the top challenges in IR implementation. Companies are not willing to divulge sensitive information in their integrated reports (Cosma et al., 2018; Dumay et al., 2018). The IIRC (2013) also recognizes that one of the constraints on IR is the divulgence of sensitive information that may harm companies' competitive advantage. The sensitive information that companies are reluctant to reveal includes the business model (Silvestri et al., 2017), negative information (Ahmed Haji & Anifowose, 2016b), and forward-looking information (Attanayake Mudiyanselage, 2018). For instance, the provision of negative information in the current CSR reports of Chinese companies is insufficient. According to GoldenBee (2017), only 24.27% of CSR reports contain negative information. Although the IIRF emphasizes the importance of releasing negative information, failing to disclose negative information can be explained on the basis that companies have limited incentives to signal negative matters (Fuhrmann, 2019); thus, they use symbolic management (symbolic disclosures) to obtain/maintain legitimacy, such as disguising, dismissing or minimizing negative information (Ahmed Haji & Hossain, 2016; Neu et al., 1998). Companies are reluctant to disclose any negative information unless they perceive the benefits outweigh the perceived costs (Adams, 2002; Casonato et al., 2018; Fuhrmann, 2019).

Some participants in the current study believed that Chinese companies are reluctant to reveal too much information, especially sensitive information, which is in line with the finding of Adhariani and De Villiers (2018). Many participants believed that omitting some important information will be a barrier to IR adoption. A participant indicated that:

> *Some companies are not willing to report too much information, such as their business model. These kinds of information are often sensitive and seen as commercial secrets by companies. Because a large amount of information needs to be disclosed in integrated reports, the company may be afraid of leaking business secrets, jeopardizing its core competitiveness. (P32, an official in a government agency)*

Another participant also stated that:

> *Companies will be resistant to disclosing too much information in integrated reports. (P35, an official in a government agency)*

Moreover, another participant stated that:

> *Chinese companies usually avoid releasing negative information in their CSR reports. (P36, an official in a government agency)*

A fourth participant felt that:

> *The current corporate reporting has not sufficiently reflected a forward-looking picture, which may still occur in future integrated reports. Information about future prospects should be clearly stated in the integrated reports. (P8, an accounting scholar)*

What participants conveyed is consistent with one of the reasons for lower IR disclosure practices of organisations; that is, indirect costs prevent firms from engaging in higher IR disclosure practices (Fuhrmann, 2019; Grassmann et al., 2019).

<u>Mandatory vs voluntary IR adoption</u>

There is a divergence on whether IR should be adopted mandatorily or voluntarily, which may become a barrier to IR adoption. Many participants support mandating IR from different perspectives. One participant admitted that:

> *Without the mandatory requirements for IR, some companies are reluctant to disclose too much information and evade the crucial information in their integrated reports. In addition, the information provided by the company may also be distorted. Some companies may only disclose the information that is beneficial to their company. In other words, IR may be used by companies to prettify themselves. (P21, a financial analyst in a bank)*

Another participant acknowledged that:

Companies will cut the cost of preparing integrated reports if there is no mandatory requirement for IR adoption. (P28, an auditor)

In addition, a participant noted that:

The competition between IR and other non-financial reporting is another barrier to the voluntary adoption of IR. There are a number of guidelines for IR and other non-financial reporting; thus, a mandatory standard for IR is needed. Otherwise, inter-competed reporting and their guidelines leave companies undecided about which direction to choose. (P7, an accounting scholar)

Similarly, a participant asserted that:

W*ithout pressure from regulation, companies may take a long time to adopt IR, and the lack of uniformity or convergence may become an issue. (P33, an officer in a government agency)*

Another participant emphasized that:

The Chinese government must provide normative guidance and the company must strictly abide by it in the whole process of compiling integrated reports to prevent the phenomenon of discretion. (P25, a financial analyst in a bank)

A participant offered an interesting view on mandating IR. This participant argued that:

Voluntary IR guidelines may confuse the preparer. What an ordinary employee needs is a clear IR standard to follow. (P14, a financial manager)

Consistent with the participants who supported mandating IR, some academics (e.g., Eccles & Krzus, 2010; Fasan, 2013) have made calls for mandating it. Bhasin (2017) believes that IR should become a universal reporting practice for all global listed companies within the next 5-10 years. Fasan (2013) states that voluntary IR is not complete and not easily comparable. Moreover, Gore and Blood (2010) contend that although voluntary IR is gaining momentum, it must be mandated by appropriate agencies such as stock exchanges and securities regulators to ensure swift and broad adoption. In fact, the evidence shows that mandatory compliance is the main driver for IR adoption among South African companies (Steyn, 2014). Vaz et al. (2016) also find that companies from countries that mandate IR on an “apply or explain” basis are more likely to adopt IR. According to Rivera-Arrubla et al. (2017), the extent of IR disclosures is significantly associated with the specific country of origin of organisations and the extent of IR disclosures is notably higher in South Africa than other regions. Their findings indicate that IR disclosure practices are significantly higher in regions where IR is mandatory. In a study by Stubbs and Higgins (2018), interviewees believe that mandatory IR can enhance the quality of disclosures. In addition, Dumitru and Guşe (2017) indicate that interviewees believe that companies might not use IR if mandatory IR is absent. Additionally, from the perspective of Chinese culture, strong uncertainty avoidance[58] is one of the characteristics of Chinese society (Chow et al., 1995). Companies that operate in countries where uncertainty avoidance is strong, such as China, prefer a structured environment (e.g., government prescriptions) to minimize the uncertainty (García-Sánchez et al., 2013; Ho et al., 2012). Chinese people are very likely to abide by rules and regulations (Xiao & Yuan, 2007), and there is evidence that Chinese listed companies show a high level of compliance with government prescriptions on mandatory information disclosures (Xiao, 1999). Thus, the adoption of IR in China can be promoted via mandatory requirements (García-Sánchez et al., 2013). Wahl et al. (2020) argue that IR has enormous potential for creating value for investors, but only when IR is mandatory. According to institutional theory, coercive isomorphism often takes place when an organisation is forced into a course of action as a result of external pressure from regulations (Dacin, 1997; Vaz et al., 2016). If IR is mandatory, forces for coercive isomorphism will be formed and it is believed that IR will be widely facilitated in China.

Conversely, some participant proposed opposing views. One participant contended that:

> *It is unrealistic to mandate listed companies to release all IR disclosure items. I suggest that the first initiative for implementing IR in China can be issuing a Chinese IR guideline to encourage and to guide listed companies to implement IR on a voluntary basis, which may be a wiser way. (P34, an official in a government agency)*

Another participant acknowledged that:

> *If IR replaces the existing corporate reporting, it is necessary to amend the extant regulatory rules and listing rules, which is difficult. (P20, a financial analyst of a bank)*

A third participant stated that:

> *I support voluntary IR disclosures because it is a challenge to adopt the same mandatory IR framework in companies from different industrial sectors. I think a degree of flexibility can enable companies to identify the most sensible way to report for their company. (P22, a financial analyst of a bank)*

Similarly, in a study by Stubbs and Higgins (2018), although a number of stakeholders support mandatory IR, the majority of participants support voluntary IR adoption.

[58] According to Kimbro (2002, p. 333), “uncertainty avoidance is the degree to which individuals prefer structured, predictable, and clear guides over unstructured, flexible, and contingent frameworks.”

A country- and industry-specific frameworks

Country-specific and industry-specific factors are relevant to information disclosure in integrated reports (De Villiers & Maroun, 2017). Based on stakeholder theory, there is an implicit contract between society and the company, by which the company consumes various types of resources in society (Donaldson & Preston, 1995; Kannenberg & Schreck, 2018). Based on this contract, the company's success relies on managing its local stakeholders effectively, and therefore it might release an integrated report based on the country-specific IR framework to satisfy local stakeholders' information demands (Kannenberg & Schreck, 2018). From the perspective of institutional theory, there are industry-related structures and norms with which a company has to comply in order to survive (Kannenberg & Schreck, 2018). Under institutional mimetic isomorphism, companies operating in the same industry may apply similar norms and behaviours, such as releasing an integrated report based on an industry-specific IR framework (DiMaggio & Powell, 1983).

Adopting a unified IR framework for all companies is likely to be a barrier to IR adoption. A participant pointed out that:

> *An IR framework, no matter voluntary or mandatory, must be country-specific. Formulating a Chinese-specific IR framework will make IR adapt to the Chinese context because legal environments, investment environments and information needs of users are different in various countries. The international integrated reporting framework cannot be used indiscriminately in China but can be adopted as one of the references when establishing a Chinese-specific IR framework. (P6, an accounting scholar)*

A similar finding is presented by Dumitru and Guse (2017); most of their interviewees agree with the IIRF and specify that it is just a beginning, a first draft or a good starting point.

Another participant believes that:

> *Industrial factors need to be considered when establishing an IR framework. I suggest classifying IR framework according to the industrial sectors. (P40, a financial analyst in an investment company)*

10.3 Recommendations on the implementation of IR in China: Chinese stakeholders' perspectives

In total, 27 participants answered this question in varying degrees of detail, while the remaining 24 participants did not make any comments. In particular, one participant acknowledged that:

> *I am not familiar with IR like most people; thus, I can't provide specific suggestions. (P35, an official in a government agency)*

The summaries of recommendations for IR adoption and the identities of participants are listed in Table 10.2. Overall, there were six recommendations proposed by participants.

Table 10.2 Recommendations for IR adoption

Recommendations	Participant
Governmental support	P4, P9, P21, P18, P23, P24, P37, P43, P46
Education	P2, P3
Organisation	P5, P18, P32, P34
Technology	P6, P17, P33
Assurance	P7, P29, P30, P44, P51
Activities	P8, P31, P41, P42

<u>Governmental support</u>

Many participants emphasized the importance of governmental support for IR implementation in China. A participant stated:

> *To implement IR in China, we must seek support from the Ministry of Finance, the China Securities Regulatory Commission, Asset Management Association of China, China Association for Public Companies, the Shanghai Stock Exchange, and the Shenzhen Stock Exchange. (P4, an accounting scholar)*

Considering the popularity of IR in China is not high, another participant suggested that:

> *The government can provide support for promoting the popularity of IR. (P9, an editor in financial media)*

Furthermore, a participant suggested that:

A series of relevant IR policies should be issued by the government to support IR implementation in China. In addition, the government should be responsible for supervising the implementation of IR in China (P21, a financial analyst in a bank)

Similar to the above arguments, Sierra-García et al. (2015) highlight the importance of the government in promoting IR. Eccles and Serafeim (2011) propose three ways to accelerate IR implementation from the government's perspective. The first is via legislation. For instance, South Africa is the first country to have mandated IR for listed companies. In April 2014, the European Parliament passed a new European directive regarding the disclosure of non-financial and diversity information (Amendments to Directive 2013/34/EU), requiring about 6000 companies with more than 500 employees each to disclose information on ESG (Simnett & Huggins, 2015; Stubbs & Higgins, 2018; Wulf et al., 2014). The second is via a securities regulator, such as the China Securities Regulatory Commission (Eccles & Serafeim, 2011). The third is via the requirements of the stock exchange, such as the Shanghai Stock Exchange and the Shenzhen Stock Exchange (Eccles & Serafeim, 2011). Many stock exchanges, including those in Sao Paulo, Singapore, Kuala Lumpur and Copenhagen, have mandated listed companies to disclose information on ESG (Simnett & Huggins, 2015). In addition, Simnett and Huggins (2015) point out that NGOs and industry associations (e.g., the Asset Management Association of China and the China Association for Public Companies) can accelerate the IR implementation by exerting influence on governments, securities regulator and stock exchanges. In a study by Adhariani and De Villiers (2018), their Indonesian respondents also highlight the importance of getting support from governments, governmental agencies and industry associations when implementing IR.

Education

A participant said that:

It is necessary to change the focus of accounting education in colleges and universities and pay close attention to other areas related to accounting, such as sustainable accounting and integrated thinking, rather than just focusing on accounting entries. It is necessary to fully emphasize the importance of cultivating students with the concept of "integrated accounting" in the future, which allows students to learn widely and to deal with the complexity of the modern business. (P2, an accounting scholar)

Another participant believed that:

The extant university education of the accounting major is backward because modern science and technology (especially advanced mathematics) have not well applied in the field of accounting theory. The focus of the next step of the IR implementation in China is to in-depth study the theory that can thoroughly explain IR. (P3, an accounting scholar)

Kılıç and Kuzey (2018b) argue that the development of IR will significantly impact accounting education. Velte and Stawinoga (2017) point out that sustainable accounting had a limited impact on accounting education in the past, resulting in accounting students not being familiar with the development of IR. In addition, current accounting theory gives little consideration to the wider financial, social and environmental influences of business decisions (Brown & Dillard, 2014). Furthermore, Vitolla et al. (2019c) contend that universities play an important role in cultivating a culture of integrated thinking, and should highlight skills in relation to integrated thinking rather than focusing solely on financial knowledge. From the perspective of institutional theory, formal education offered by university specialists, setting standards for legitimate organisational practices, is one of the important sources of isomorphic pressure known as normative isomorphism (DiMaggio & Powell, 1983). Jensen and Berg (2012) believe that if IR has not been introduced in business schools' curricula, the isomorphic pressure exerted by educational authority is negligible. Thus, considering IR is new in China, it can be inferred that embedding IR into Chinese accounting education will exert isomorphic pressure on organisations and thus facilitate IR implementation in China.

Organisation

A participant believed that:

A China IR Research Centre led by the Accounting Department of the Ministry of Finance can be established in China. The research members in there are experts and scholars from various universities. In the meantime, the participation of departments of environmental protection and departments of social security is being called for. The China IR Research Centre can be the leader of China's IR research. (P32, an official in a government agency)

In fact, the research concentrated on IR is still scant (Dumay et al., 2016; Dumay & Dai, 2017; Wild & Van Staden, 2013). The establishment of an IR research centre may promote IR studies in China.

Similarly, another participant suggested that:

In order to improve the understanding of Chinese companies on IR and to promote the implementation of IR in China, the Chinese Institute of Certified Public Accountants can also set up an organisation specializing in IR. (P5, an accounting scholar)

One participant also proposed that:

I suggest establishing an IR steering committee in China. An IR steering committee can provide training programmes, organize conferences, seminars and forums, and offer guidance for the company's preparing the integrated report. (P34, an official in a government agency)

Institutional theory posits that professional bodies that set standards for legitimate organisational practices (e.g., the Chinese Institute of Certified Public Accountants and Chinese IR steering committee) are the sources of isomorphic pressure known as normative isomorphism (DiMaggio & Powell, 1983). Organisations apply the structures and procedures promulgated by these professional bodies (Attanayake Mudiyanselage, 2018). Thus, based on institutional theory, establishing professional bodies related to IR may facilitate IR implementation in China.

According to Eccles et al. (2010), companies that are industry leaders will strive to maintain high ratings from credit rating agencies. A participant who held a similar view argued that:

I would like to see some IR credit rating agencies established in China. IR credit rating agencies can build an IR practice assessment system to conduct a comprehensive evaluation of the content, form and quality of the integrated reports issued by companies. Furthermore, IR credit rating agencies are also encouraged to publish credit rating rankings on a regular basis. (P18, a financial analyst in a bank)

Technology

One participant highlighted using IR and XBRL together. The participant stated:

I think that integrated reports and the eXtensible Business Reporting Language (XBRL) can be used together. XBRL users can obtain information in standard electronic format directly from the source of information, and can analyze the data by themselves, which not only greatly improves the efficiency of using integrated reports, but also provides users with more systematic information. (P6, an accounting scholar)

The participant's view is supported by previous studies, such as those of Monterio (2013, 2014), Songini and Pistoni (2015), and La Torre et al. (2018). Songini and Pistoni (2015) believe that XBRL can enhance communicative effectiveness with the stakeholders of the IR. Moreover, La Torre et al. (2018) find that compared with static corporate reports, XBRL can offer dynamic IR disclosures for stakeholders and enhance the relevance of information. Monterio (2014) argues that the connectivity of information in an integrated report is closely related to XBRL. XBRL can provide connected information to various stakeholders (Monterio, 2014). Monterio (2013) summarizes some benefits of XBRL to integrated reporting, including 1) enabling IR data to be easily applied and read by information technologies; 2) ensuring integrity, credibility, correctness and comparability of IR data; 3) reusing IR data; 4) preserving the structure and context of IR data; and 5) allowing complex business logic to be embedded within IR data.

Another participant proposed that:

> *It is possible to build an IR big data platform for Chinese companies and encourage Chinese companies to actively participate in platform construction. (P33, an official in a government agency)*

Establishing an IR big data platform would have many benefits for companies. According to Maroun (2019b), an IR data platform could be used in the area of IR assurance by developing sophisticated models. An IR data platform can also support and significantly enhance integrated thinking within a company (Al-Htaybat & von Alberti-Alhtaybat, 2018).

Similarly, another participant suggested that:

> *Developing an IR information system in which the characteristics of IR in the context of big data are fully considered and a large number of corporate users are fully consulted. This set of technologically advanced and user-friendly information systems can promote the implementation of IR in Chinese companies. (P17, a financial manager)*

The IIRC (2011b) specifies that companies need to upgrade their information systems to satisfy the requirement of IR implementation. This information system needs to facilitate identifying the interrelations between financial and non-financial information (Lodhia & Stone, 2017). Similarly, Steyn (2014) believes that companies' information systems need to be adjusted in order to fill the data gaps caused by IR's requirement for new data and new methodologies.

<u>Assurance</u>

A participant suggested that:

> *It is necessary to promote the development of the IR audit and assurance services in China. There are basically three steps for the establishment of an IR audit and assurance system. The first step is to issue a draft for comments to be discussed by a wide range of stakeholders, and then the second step is to summarize the opinions of all participants. The final step is to prepare detailed rules for IR audit and assurance. (P7, an accounting scholar)*

IR assurance is important. Briem and Wald (2018) find that German companies, in the process of external assurance, use responses from auditors to guide their understanding and application to the IR framework. Moreover, in order to respond to the coercive, normative and mimetic pressures exerted by stakeholders for integrated reports, external assurance is called for (Maroun, 2019b). When considering stakeholder accountability, external assurance is important to ensure the accuracy, completeness and reliability of an integrated report (Maroun, 2019b). External assurance drives accountability towards a higher level and enlarges the advantages of high-quality IR; thus, Maroun (2019b) indicates that there is an incentive to develop a new external assurance system to maximize the benefits of stakeholders. In addition, the participant's suggestion is in line with the findings of Goicoechea et al. (2019). Traditional methodology and methods of assurance do not suit integrated reports well because integrated reports include greater non-financial information, in the form of a mix of qualitative and quantitative data (Goicoechea et al., 2019; Maroun, 2017).

<u>Activity</u>

A participant stated that:

> *An IR pilot programme can be conducted in China and some qualified companies can be encouraged to participate. In the pilot programme, the companies can summarize their experience and problems of IR implementation. (P8, an accounting scholar)*

Another participant believed that:

> *The IR pilot programme can set benchmarking companies that have a higher level of IR disclosures quality as role models. (P41, an industry analyst in a consultant company)*

Participants encouraged conducting an IR pilot programme in China. Similar to this proposal, the IIRC pilot program was launched in 2011 to test the robustness of the International IR Framework (IIRF) (Izzo & Fiori, 2016; Steyn, 2014). Interviewees in a study by Attanayake Mudiyanselage (2018) indicate that the IIRC pilot program stimulates Sri Lankan firms' enthusiasm for adopting IR.

In addition to the pilot programme, another participant stated that:

> *Incentives are critical to encouraging companies to make progress in IR. Incentives include IR award programmes or the IR stock market index. The IR stock market index is designed to stimulate listed companies to enhance the quality of IR practices. (P31, an auditor)*

This statement is consistent with the argument of Gunarathne and Senaratne (2017) for the organisation of IR competitions or IR award programmes. There are several IR award programmes worldwide, such as the EY excellence in IR awards, the CSSA IR awards, the Nikonki top 100 JSE listed companies IR awards, and the WICI (Japan) Awards for IR. In addition, the IR stock market index is similar to the SHSE corporate governance index. To date, except for some CSR indices (e.g., Dow Jones Sustainability Index and FTSE4Good Index), an IR stock market index has not been built in any country. Companies who are industry leaders will strive to stay on top of IR rankings and to be included in IR stock market indexes (Eccles et al., 2010).

10.4 Chapter summary

Compared with Chapters seven and nine, which use quantitative analysis, this chapter uses a qualitative analysis, aiming to enhance the breadth and depth of understanding about IR disclosure practices in China. In addition to quantitative methods, qualitative methods are the other important part of the mixed-method approach adopted in this study. This chapter complements Chapters seven and nine in an interpretive way by providing additional insights into the causes of the current status of and changes in the IR disclosure practices of Chinese firms; the reasons for the information gap in corporate reports; how pressure from stakeholders affects IR disclosure practices; and how IR disclosure practices lead to a transparent firm.

Stakeholders' perceptions are obviously influenced by Chinese contextual factors such as culture and politics. Firstly, Chinese stakeholders are cautious and conservative. The cultural attributes of conservatism and secrecy may impede the diffusion of IR in China and limit higher IR disclosure practices. Secondly, the results show that many Chinese stakeholders are sceptical of the benefits of IR but very concerned about its costs, which may be due to the high level of uncertainty avoidance in Chinese culture. Thus, helping Chinese stakeholders explicitly understand whether the adoption of IR can really reward IR adopters, and reversing the perceptions of stakeholders who are wary of IR, are critical factors in the spread of IR in China and the enhancement of higher IR disclosure practices. The high uncertainty avoidance in Chinese culture leads to the need for clear IR guidelines and a mandatory IR regime. Thirdly, the results reflect that IR practices tend to be policy-driven rather than market-driven in China. Therefore, successfully spreading IR and improving IR disclosure practices relies heavily on the Chinese government's policies and initiatives. From a theoretical point of view, stakeholders' perceptions also explicitly or implicitly reflect the features of some theories, including stakeholder, legitimacy, institutional, agency and signalling theories.

The questionnaire findings increase our understanding of Chinese stakeholders' perspectives of the barriers to IR adoption and considerations of IR implementation, which help to prompt IR development in China. This chapter represents the final stage of the present study and focuses on investigating the implementation of IR in China through the stakeholder's lens. The answers to the first question show that eleven factors (being a marketing tool; a lack of integrated thinking; lack of usefulness; cost constraints; varied interpretations of IR; a lack of connected information; being a mere formality, the tension between conciseness and completeness, the relative importance of the six capitals; missing some important information; the adoption basis; and country- and industry-specific IR frameworks) are the barriers or challenges to implementing IR in China. The answers to the second question suggest that successful implementation of IR practices in China requires the support of the government. In addition, the future focus of IR implementation in China is suggested to be centred on education, organisations, technologies, assurance, and activities.

CHAPTER ELEVEN

CONCLUSION

11.1 Introduction

This chapter provides a summary and conclusions for the thesis. Section 11.2 provides a review of the study. Section 11.3 outlines the theoretical implications and practical implications of the study. Section 11.4 explains the contribution of this thesis. Section 11.5 presents the reflections on this study. Section 11.6 explains the lessons learnt in carrying out the research. Section 11.7 suggests opportunities for future research based on the limitations of this study. Section 11.8 concludes the chapter.

11.2 Review of the study

Financial reporting and sustainability reporting are two major strands of current corporate reporting, but their isolated focuses cause a disconnection between financial information and non-financial information (Lodhia, 2015; Robertson & Samy, 2015). IR is perceived as a potentially useful tool to overcome this limitation by emphasizing the integration of various types of information (Reimsbach et al., 2018). If IR can be widely used in China – the world's second-largest economy – it can demonstrate China's serious commitment to building a sustainable country (Eccles & Lee, 2015). IR is regarded as one of the few management tools available for addressing social and environmental problems in China (Eccles & Lee, 2015). Additionally, the IIRC (2019) listed China as one of its two key markets and believed that the slower spread of IR in China could hinder the global adoption of IR.

There were four main research objectives for the current research:

- Design a Chinese IR disclosure index that includes a list of IR disclosure items and a weighting system.
- Assess IR disclosure practices of Chinese listed companies using a scoring system and the above IR disclosure index.
- Develop and test several hypotheses with respect to the determinants of IR disclosure practices and the effect of IR disclosure practices on agency costs.
- Make recommendations for the implementation of IR practices in China.

11.2.1 The development of IR disclosure index

A preliminary list of 54 IR items was identified by reviewing instruments for mandatory disclosure in mainland China (as well as Hong Kong); previous literature on voluntary disclosure in China; extant studies relating to IR disclosures; jurisdictional factors that are context-specific to China; and a number of corporate reports that have been released by Chinese companies. In order to check, revise, and validate the preliminary list of IR disclosure items from the Chinese stakeholders' perspectives, a questionnaire survey with a panel of 51 stakeholders (the first-round questionnaire survey) was then conducted. The 51 stakeholders were from eight groups: officials in government agencies in charge of supervising Chinese companies; industry analysts in consultant companies; financial analysts in investment companies; scholars in accounting; editors in financial media; financial managers; financial analysts in banks; and auditors. Stakeholders added 14 new disclosure items to the preliminary list of IR disclosure items and adjusted the categories of some disclosure items. Thus, the final list of IR disclosure items, containing 68 IR disclosure items classified into eleven themes, was developed. These IR disclosure items were seen to be applicable to the Chinese context.

In order to identify the weighting of each IR disclosure item, a second-round stakeholder survey was carried out. A five-point Likert-like scale (1-5) was used to gather opinions from the stakeholders on the importance of each disclosure item. The responses (weightings) from 51 stakeholders for each disclosure item were summed and then divided by 51 to obtain a mean score, which represented the weighting for the disclosure item. All the disclosure items were weighted as being at least moderately important. Of all the disclosure items, "present financial KPIs" had the highest weighting. Another disclosure item, "the linkage between past and present financial KPIs" was the second highest weighted item. Participants in this study valued traditional financial information most highly. Three disclosure items: "Chinese Communist Party-building"; "employee care"; and "industry association relations", were the least weighted disclosure items.

After the first and second-round of questionnaire surveys, the IR disclosure index was constructed. The IR disclosure index in this study was classified into two categories. The first category involved a two-point scale (0-1) scoring system without quality criteria and was used to assess the extent of IR disclosures. The other category of the

IR disclosure index involved a five-point scale (0-4) scoring system with quality criteria to assess the quality of IR disclosures. At this stage, the first research objective: designing a Chinese IR disclosure index that includes a list of IR disclosure items and a weighting system was completed.

11.2.2 Extent and quality of IR disclosures by Chinese companies

In order to achieve the second research objective, the Chinese IR framework was used to conduct content analysis to the corporate reports of the selected Chinese companies. In order to improve the reliability of the content analysis, a pilot test was independently initiated by two coders, using ten corporate reports from the sample companies, selected on a random basis. The results of the pilot test were examined using Krippendorff's alpha coefficient. After the pilot test, content analysis to corporate reports released by the top 100 Chinese A-share listed companies in 2014-2018 was conducted and the data collected from content analysis were then recorded, organized, calculated, and analyzed.

<u>IR disclosure practices by items</u>

The extent of disclosure of IR items was good in general and improved for the majority of IR items from 2014 to 2018. Over the five-year period, "business model" was the most strikingly improved item in the extent of disclosure while "warnings and penalties" fell most noticeably.

Although the quality of disclosure of IR items varied, most IR items improved from 2014 to 2018. "Business model" and "Chinese Communist Party-building" showed the greatest improvement in the quality of disclosure over the five-year period. In 2018, the number of items whose quality score exceeded 0.500 accounted for most of the total items.

In 2018, there were 31 items (45% of the total) that failed to meet the Chinese stakeholders' expectations, indicating that there is an information gap between the disclosure practices of these 31 IR items by Chinese companies and the views of Chinese stakeholders on the importance of these IR items.

<u>IR disclosure practices by themes</u>

Of the 11 themes, “outlook” and “corporate overview and external environment” showed the greatest extent of IR disclosures and the highest quality of IR disclosures, respectively. “Manufacturing capital” had both the lowest extent and the lowest quality of IR disclosures. There was an increasing trend for all IR themes in terms of the extent and the quality of disclosures from 2014 to 2018.

IR disclosure practices by companies

None of the companies analyzed disclosed all the IR items. In 2014, the average number of IR items disclosed per company was 49 out of a maximum possible of 68. In 2018, the indicator reached near 55. Comparing the data for 2014 and 2018, the extent of IR disclosures of 90 companies (90% of the total) improved.

In 2014, there were 41 companies (41%) scoring over 0.5000 for the quality of overall IR disclosures. In 2018, the number of companies that scored over 0.5000 increased to 78. Comparing the 2014 and 2018 datasets showed that the quality of IR disclosures of 91 companies (91% of the total) was enhanced.

IR disclosure practices by trend

The extent of overall IR disclosures increased gradually year by year. Statistical analysis confirmed that this increase in the extent of overall IR disclosures between years was significant. The quality of overall IR disclosures also improved from 2014 to 2018. Statistical analysis confirmed that this increase in the quality of overall IR disclosures between years was significant.

IR disclosure practices by listing status and ownership structure

First, the 5-year average extent and quality of overall IR disclosures by dual-listed A- and H-share companies were significantly higher than those by solo-listed A-share companies. Second, the 5-year average quality of overall IR disclosures by state-owned companies was significantly higher than those by non-state-owned companies.

IR disclosure practices in China and in the international level

Many Chinese companies have already used three forms, involving monetary, numerical and narrative descriptions, to report a particular disclosure item, which indicates that these companies are aware of using an IR approach for presenting disclosures in their corporate reports. Their corporate reports are on the way to being real integrated reports. However, IR disclosure practices of some Chinese companies are at a low level. In addition, no company incorporated its sustainability report into its annual report and no company mentioned the term ‘integrated reporting’ in its annual report and sustainability report, which indicates that Chinese companies’ understanding and appreciation of IR are not comprehensive.

The extent of IR disclosures in China is not disappointing considering it has reached the worldwide average level and is near the level found in developed countries. However, the quality of IR disclosures by Chinese listed companies still has significant room for improvement in the future.

Conciseness and readability

The 5-year (2014 to 2018) average number of pages in corporate reports was 305. The length of corporate reports from Chinese companies increased gradually year by year, indicating the conciseness of corporate reports was on a downward trend. In terms of the readability of corporate reports, the corporate reports written by Chinese companies were difficult to read.

11.2.3 Determinants and an effect of IR disclosure practices

For the third research objective, firstly, a series of hypotheses about the associations between IR disclosure practices by Chinese companies and a number of influencing factors were developed based on prior literature and theories. Seven factors, comprising firm size, leverage, profitability, the proportion of independent directors on the board, CEO duality, customer-oriented sector, and communities, had a significant impact on IR disclosure practices in multiple regression analysis. However, it seems that the other nine factors (auditor type, financial sector, environmentally sensitive sector, listing status, ownership concentration, state-owned shares, board size, regulatory authority, and overseas customers) did not impact IR disclosure practices significantly. Secondly, this study explored the effect of IR disclosure practices on agency costs and found that both the extent and the quality of IR disclosures negatively affected agency costs.

11.2.4 The implementation of IR in China

In order to accomplish the fourth research objective – making recommendations for the implementation of IR in China – a third-round questionnaire survey with a panel of 51 stakeholders was conducted. There were two questions: “If IR is to be adopted in China, what are the barriers to IR adoption and challenges to IR adoption?” and “What are your recommendations on the implementation of IR in China?”. The responses to the first question showed that eleven factors (being a marketing tool; a lack of integrated thinking; lack of usefulness; cost constraints; varied interpretations of IR; a lack of connected information; being a mere formality, the tension between conciseness and completeness, the relative importance of the six capitals; missing some important information; the adoption basis; and country- and industry-specific IR frameworks) will provide barriers or challenges to implementing IR in China. Furthermore, the responses to the second question suggest that the successful implementation of IR practices in China will require the support of the government. In addition, the future focus of IR implementation in China is suggested to be on education, organisations, technologies, assurance, and activities.

11.2.5 IR framework for China

This thesis has established an IR framework for China. The IR framework is a broad package including the theoretical framework; the Chinese context; the evaluation instrument, which consists of a list of IR disclosure items (an unweighted IR disclosure index), a weighting system and a scoring system; and stakeholders’ concerns and recommendations. A description of the IR framework for China is provided in Figure 11.1.

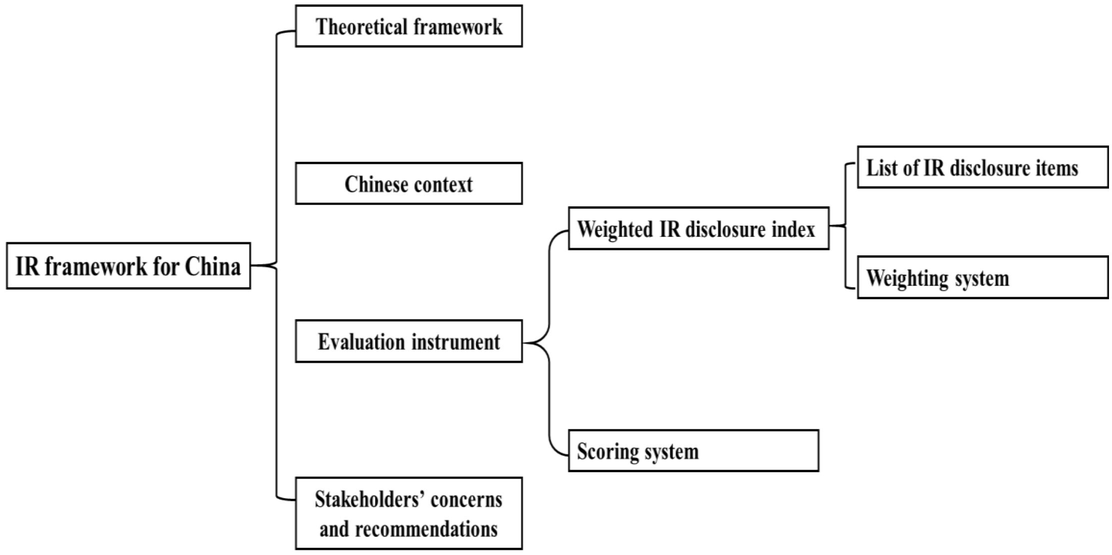

Figure 11.1 IR framework for China

Source: Author's design

11.3 Implications of the study

Theoretical implications

This study gives rise to several theoretical implications. Five theories (stakeholder theory, agency theory, signalling theory, legitimacy theory, and institutional theory) were incorporated to establish a theoretical framework for IR. This theoretical framework suggests the organisational motives behind higher disclosure practices. It was also applied to guide the methodology of this thesis, to make sense of the analysis, and to provide reflections on the findings of this study (see section 2.7.2 for details). Features of stakeholder, legitimacy, institutional, agency, and signalling theories were present in the Chinese stakeholders' views, indicating the five theories are applicable to the context of China.

The findings of this study provided supporting evidence for stakeholder, legitimacy, institutional, agency, and signalling theories, although agency and signalling theories were challenged in some situations. Specifically, first of all, stakeholder theory was confirmed by the finding that the information expectations of varied stakeholder groups were dissimilar while legitimacy theory was supported by identifying the stakeholder groups that were sensitive to IR disclosures. Secondly, IR disclosure practices between years were different, indicating the dynamic attributes of the legitimation and institutionalisation processes of IR. Thirdly, the increasing trend of IR disclosure practices in line with stakeholder theory. Fourthly, this study indicates that there were differences in IR disclosure practices between A-share firms and dual A- and H-share firms, between SOEs and non-SOEs, and between firms in China and firms in other countries. This confirmed that contextual factors influence IR disclosure practices, supporting both institutional theory and legitimacy theory. Fifthly, the findings of hypothesis testing on the determinants of IR disclosure practices supported socio-political theories (stakeholder theory, legitimacy theory, institutional theory). The economics-based theories (agency theory and signalling theory) were supported as well as refuted by the hypothesis testing. Sixthly, the analysis showed that IR disclosure practices can create a more transparent firm by mitigating the information asymmetry between the firm and its stakeholders. This finding is consistent with the assumption of information asymmetry held by agency theory and signalling theory. Lastly, the study showed that IR practices tend to be policy-driven and culturally-embedded in China. Overall, the findings of this study are unique to China, indicating the nature of IR practice in China is different from that in other jurisdictions.

Practical implications

This study also has several practical implications. In particular, it proposes some recommendations for China to proceed with IR implementation and strategy, drawing on the findings of this study in combination with a number of previous IR studies. Firstly, it needs to be realized that there were 31 IR disclosure items, such as "insurance" and "overseas CSR (environmental aspects)", that showed a gap between the stakeholders' expectations and the actual IR disclosure practices. These disclosure items were weighted as at least moderately important by the stakeholders. In order to satisfy stakeholder information needs, improving IR disclosure practices is necessary; thus, it is recommended that five dimensions of "integration" need to be paid attention to, including time (past-present-future), qualitative and quantitative information, financial and non-financial information, positive and negative information, and internal and external stakeholders.

Secondly, this study suggests that IR practices tend to be policy-driven rather than market-driven in China. In the initial stages, the Chinese government (e.g., the Ministry of Finance; the China Securities Regulatory Commission) could publish some policies to encourage voluntary IR adoption. The Accounting Department of the Ministry of

Finance, the Shanghai Stock Exchange, and the Shenzhen Stock Exchange could then prescribe general IR guidelines for fostering voluntary IR adoption. However, the market force is voluntary in nature and thus slows the penetration of IR (Eccles & Serafeim, 2011). Therefore, at a later stage, the Chinese government could issue policies and regulations to mandate IR adoption. Various stakeholder groups should participate in the designing of policies and regulations for IR in China. Specific policies and regulations for certain sectors, for SOEs as well as non-SOEs, and for A- and H-share firms could also be designed.

Thirdly, considering that Chinese listed companies currently release an annual report and a stand-alone sustainability report separately, it is suggested that a company can incorporate its sustainability report into its annual report to reach weak aggregation and then gradually integrate the contents of the two parts to achieve the best aggregation (Paternostro, 2013). Fourthly, considering IR disclosure practices in some countries and regions are better than those in China, learning from the experience of leading foreign counterparts, such as Japan and Europe, is suggested.

Fifthly, based on the results of the investigation for IR attributes in Chapter seven, Chinese companies, in order to achieve conciseness, may consider shortening the pages of corporate reports and removing cluttered and overlapping information. Materiality is the key to realizing conciseness and completeness simultaneously. The IIRF stresses the importance of “plain language over the use of jargon or highly technical terminology” (IIRC, 2013, p. 21). Considering the current corporate reports released by Chinese companies are difficult to read, it is recommended that Chinese companies avoid using verbose, convoluted language and jargon in their corporate reports.

Sixthly, with regard to accounting education, sustainable accounting and integrated thinking need to be given greater importance. Also, knowledge and theory of modern science and technology should be incorporated into IR theory. Seventhly, some institutions should be established, such as an IR Research Centre, an IR steering committee, and an IR credit rating agency. Eighthly, the results of this study suggest combing IR and XBRL, constructing an IR big data platform, upgrading the current accounting information system or developing an IR information system. Ninthly, promoting the development of IR audit and assurance services is necessary; thus, a new external assurance system that is adaptive to IR needs to be developed. Tenthly, IR related activities, such as IR pilot programmes, IR competitions, and IR award programmes should be organised.

Lastly, it is strongly recommended that Chinese firms provide online integrated reports. Some well-known firms such as Mitsui & Co., Ltd[59] and Tsogo Sun Group[60] have published online integrated reports. In addition to providing a PDF file for users, an online integrated report is a highly interactive, website-based integrated report, allowing a user to access the contents directly from the firm's website and generate a personalized report according to the user's requirements. Also, considering that more and more Chinese firms engage in international trade and international investment or choose to list on foreign stock exchanges, a bilingual online integrated report (in both Chinese and English) could be used by a firm to improve the relationship with their overseas stakeholders and to attract overseas capital and customers.

11.4 Contributions of the study

Company disclosures (such as financial, non-financial, voluntary, CSR and sustainability disclosures) have been widely investigated in many jurisdictions worldwide. However, there is a scarcity of studies investigating IR disclosure practices (Manes-Rossi et al., 2020; Marrone & Oliva, 2019). This is not surprising because IR is a recent development that emerged with the publication of the King report in the last decade. Many studies tend to examine relationships that implicate CSR or sustainability as these concepts have evolved over many decades with several international guidelines and framework that researchers can adopt as a framework for their studies. Researchers have become comfortable with terms like CSR, sustainability and voluntary disclosures and have shied away from using the term IR or engaging in IR research to avoid the risk of rejection by the academic community who favours the conventional ideologies. The current study takes up the challenge avoided by previous studies.

In the Chinese context, there has been a proliferation of CSR and sustainability studies. However, IR-related studies in the Chinese context are scarce. To the best of the

[59] Mitsui & Co., Ltd. as part of the Mitsui Group, is one of the largest general trading companies in Japan.
[60] Tsogo Sun is a South African hotel, gaming and entertainment group.

author’s knowledge, the current study is the first to extensively investigate IR practices in China. China has been listed as one of the IIRC’s two key markets globally (IIRC, 2019). The IIRC believed that the slower spread of IR in China could hinder the global adoption of IR, and has started focusing on accelerating the application of IR in China (Tho, 2019). Therefore, this study can be seen as an active response to the recent strategic objective of the IIRC. Moreover, according to Robert Eccles, a leading advocate for IR, “In China, we are seeing increased interest from companies…I think Hong Kong and China have a great opportunity to show leadership” (HKICPA, 2017, p. 31). Hence, this study can also be viewed as a presentation of the development of IR in China.

The originality of the current study is premised on a holistic methodology of evaluating IR disclosure practices comprising a combination of a weighted IR disclosure index and a scoring system that are specifically designed for the Chinese context. Previous studies have adopted some features of such methodology, such as using the GRI guidelines and the binary scoring system. However, unlike the current study, the prior studies did not design a context-specific methodology that comprehensively considered the cultural, economic, political, legal, international relational, social, and environmental factors that are inherent in the jurisdictions they investigated. In that sense, the current study contributes to the extant literature in several ways. First, it constructs an IR disclosure index from a comprehensive set of literature to draft a preliminary disclosure index, rather than relying on a single framework, such as the GRI guidelines and the King report, as prior studies did. Second, the preliminary disclosure index is amended to incorporate the views of Chinese stakeholders and contextual factors that are unique to China. Third, the weighting system for measuring the value of the variables considers the weights that are assigned by the Chinese stakeholders. The final IR disclosure index reflects a context-specific index that incorporates jurisdictional factors deemed to affect IR disclosures in China. The stakeholder consultation process, though time-consuming, justifies the ingenuity of the context-specific disclosure index. Although several scholars provide theoretical justifications and prescriptions for the inclusion of jurisdiction or context-specific factors in the design and implementation of CSR framework (such as Visser et al., 2007), context-specific analysis has seldom been adopted in prior IR studies. The current study is the first to provide a holistic contextual analysis of IR practices and more specifically in the Chinese context.

Compared with prior studies that solely investigated the extent of IR disclosures or the quality of IR disclosures, this study uses both the extent and the quality of IR disclosures to examine the relationship between a set of factors and IR disclosure practices by Chinese firms. As argued above, IR disclosure practice is measured in a unique way. Different ways of measuring IR disclosure practices may lead to different results from hypothesis testing. The unique procedures adopted for measuring IR disclosure practices to form variables (dependent or independent), which led to hypotheses and their testing, have seldom been used before and thereby can be considered a contribution to the literature.

Exploring the possible explanatory factors of IR disclosure practices provides insights about which factors determine IR disclosure practices and which do not. The findings of this study also help Chinese stakeholders make predictions about which kinds of companies are more likely to exhibit higher IR disclosure practices. Furthermore, the findings of this study also provide an opportunity to compare the difference between this and similar studies in different jurisdictional contexts. In other words, some factors are determinants of IR disclosure practices in other countries, but maybe not in China, reflecting the different effects of varied national backgrounds on IR disclosure practices. Also, the hypotheses tested in this study are developed based on a number of theories, thus providing an opportunity to verify whether those theories are correct in interpreting the relationships between possible explanatory factors and IR disclosure practices. Additionally, in order to enhance IR disclosure practices, the top management of a firm may be able to adjust their strategies based on the findings of this study. Lastly, compared to previous IR studies that tested a lesser number of impact factors, the factors examined in this study are multiple. Although the models used to verify the hypotheses have some similarities to those in previous IR studies in other jurisdictional contexts, this study provides some extensions. For instance, the same independent variables are adopted, but some different independent variables that have a potential relationship with IR disclosure practices and could reflect some features of Chinese firms are adopted as well.

This study is beneficial for the penetration of IR in China as it provides direct evidence by verifying the positive effect of IR disclosure practices on mitigating agency costs, allowing Chinese practitioners to be aware of the benefit of IR. A high IR disclosure practice represents a more transparent way of disclosing information relating to corporates' operation and performances. However, indirect costs caused by "transparency" are inevitable. Hence, companies may resist adopting IR due to this potential negative effect. If higher IR disclosure practices can generate lower agency costs, implying a more transparent firm can really be rewarded, management may be more motivated to enhance their firms' IR disclosure practices. Stakeholders also pay attention to firms' agency costs. If it can be verified that improved IR disclosure practices can reduce agency costs, stakeholders may accept the usefulness of IR. As Eccles and Lee (2015) stated, no country needs IR more than China because it is one of the few management tools that can effectively solve China's social and environmental problems; thus this study is expected to make contributions to addressing China's social and environmental problems to some extent, considering the sample companies in this study are the largest firms in China, including environmentally sensitive industries as well as socially sensitive industries. This study links organisations, society, and environment. If these benchmarking companies can realise the benefits brought by IR, other Chinese firms may follow the example set by their successful peers. Eventually, society and the environment in China may be significantly improved, forming a benign circle of sustainability.

The analysis of stakeholder perceptions can be used to inform Chinese practitioners and policymakers about hindrances to the adoption of IR and provide them with recommendations about IR implementation and diffusion. Although some challenges to the adoption of IR have been identified in a small number of previous studies, this study captures empirical evidence on challenges to the adoption of IR, which verifies prior studies and complements the literature by identifying more challenges that may occur. Also, this study collects empirical evidence on how to implement IR in China, which supplements the currently sparse literature.

From the point of view of theoretical contributions, this study shows how a theoretical framework comprising several theories could be expanded in the Chinese context-specific situation. The IR theoretical framework constructed in this study can be used as a theoretical basis to interpret IR disclosure practices in companies, to survey the views of various stakeholder groups on IR disclosures, and to examine the determinant factors of IR disclosure practices and the effects of IR disclosure practices. Thus, the thesis contributes to a theoretical understanding of IR practices.

11.5 Critical reflections

Reflections on the choice of methodology

Methodological choices are framed by the researcher's worldview, training and experience, the nature of the research problem, and the audience for the study (Creswell, 2003). IR practices in China are complex and multifaceted, requiring comprehensive attention to many aspects. Thus, in order to conduct an in-depth study focusing on IR practices in China, this thesis has multiple objectives. In this thesis, the author as a pragmatist researcher uses the mixed methods approach (pragmatic approach: a combination of both the quantitative approach (positivistic approach) and the qualitative approach (interpretivist approach)).

As suggested by Creswell (2007), a pragmatist researcher will "…use multiple methods of data collection to best answer the research question, …employ both quantitative and qualitative sources of data collection, and … emphasize the importance of conducting research that best addresses the research problem" (p. 23). Given that different approaches are appropriate for different objectives, both quantitative data and qualitative data are collected, processed, analysed and interpreted in this study. This study uses the positivistic approach and the interpretivist approach separately to achieve different research objectives, and also combines positivistic and interpretivist approaches where appropriate. In order to fulfil the first objective, the interpretivist approach and positivistic approach are used sequentially to form a Chinese IR disclosure index. Specifically, the selection of IR disclosure items relies on interpretive analysis of the first round of the questionnaire survey, while assigning weightings to different IR disclosure items depends on statistical analysis of the second round of the questionnaire survey. In order to complete the second objective, content analysis, which focuses on interpretation, is used to analyze the qualitative data contained in corporate reports and generate quantifiable data. The positivistic approach is then applied to conduct statistical analysis of these quantitative data. Moreover, due to the nature of the third and fourth objectives, the author determines that the positivistic approach and the interpretivist approach are most appropriate for the third objective (statistical analysis of quantitative data generated from content analysis and the financial database) and the fourth objective (interpretive analysis of qualitative data obtained from the third round questionnaire survey) of this study, respectively.

The mixed methods approach is important to the multi-objective nature of the thesis. As the mixed methods approach allows the use of both the positivistic and the interpretivist approaches, the outcome of exploring IR practices in the Chinese context produced in this study is comprehensive (Liu, 2014). The adoption of the positivistic approach enhances the understanding obtained from the interpretivist approach. Similarly, the adoption of an interpretivist approach generates complementary insights with the positivistic approach, leading to an improved holistic understanding of IR practices in the Chinese context (Fernando, 2013).

Reflections on the choice of theories

Many different theories have been applied in prior information disclosure studies, including the diffusion of innovation theory, actor-network theory, stewardship theory, stakeholder theory, agency theory, signalling theory, legitimacy theory, and institutional theory. Faced with so many choices, the author needs to decide which theories should be focused on. The first consideration is that these theories should adapt to the nature of IR. Cotter et al. (2011, p.1) believe that "the choice of a suitable theory to underpin the research depends on the type of information disclosure being examined and the external parties considered". Compared with financial or corporate social responsibility reporting, IR "is not exclusively addressed either to shareholders or to stakeholders but to both of them" (Girella et al., 2019, p. 3). Thus, stakeholder theory, agency theory, signalling theory, legitimacy theory, and institutional theory, which are generally adopted in IR studies and are regarded as theories that are consistent with the nature of IR, are chosen. The second consideration is that these theories should have internal connections. For instance, the notion of "signalling legitimacy" stemmed from legitimacy theory and can be borrowed by signalling theory (Watson et al., 2002). The last consideration is that these theories should be applicable to the context of China. During the analysis, the author constantly examines whether features of the theories are presented in the Chinese stakeholders' views. The above-mentioned consideration, in combination with the argument in section 2.7.2 of this study, suggests that the five theories that are selected in this study are appropriate in the context of China.

Reflections on the contextual approach

As suggested by the objectives and findings of this study, the nature of IR practices differs from one context to another and from one society to another. For this reason, a contextual approach that can reflect contextual features is advocated by this thesis. Compared with adopting a universal approach that does not consider contextual features, the importance of the contextual approach to the contextual nature of IR has been discussed by scholars such as Baldini et al., (2018), Deegan (2018), Fuhrmann (2019), Shareef et al. (2014), and Visser (2008). From a theoretical perspective, the findings obtained from a contextual approach are unique to the context being investigated. For instance, motives indicated by the theoretical framework of this study are inconclusive in different contexts. From a practical perspective, the contextual approach is more purposive and efficient than a universal approach because it is targeted to a specific context. The contextual approach is likely to be more easily accepted by other jurisdictions. However, a contextual approach might be subject to manipulation by local practitioners to show the positives and marginalize the negatives. For instance, if a food firm treats its animals cruelly, it may use "releasing such disclosures does not suit its national conditions" as an excuse to evade reporting disclosures on animal welfare.

Reflections on the concept of IR

As Schaper et al. (2017, p. 88) point out, "companies most likely would prefer not to disclose value relevant information". Many sample firms in this study fail to tell the story about value creation well for stakeholders. Du Toit et al. (2017) note that "the users of integrated reporting should bear in mind that the purpose of an integrated report is to tell a story of the organisation" (p. 658). In fact, IR is a new corporate reporting approach to telling a story to stakeholders about a broader, holistic view of organisational value creation (Setia et al., 2015). According to Al-Htaybat and von Alberti-Alhtaybat (2018), all activities a firm undertakes will ultimately impact value for stakeholders. Telling the story of organisational value creation for all stakeholders is the primary aim of IR and the reason for the existence of IR. Thus, the author believes that all the principles underpinning the preparation of an integrated report, such as "connectivity of information" are to tell the story of organisational value creation well and effectively. It is worth noting that IR is also called "value creation reporting" in China. Value creation is defined as "the process that results in increases, decreases or transformations of the capitals caused by the organisation's business activities and outputs" (IIRC, 2013, p. 33). Thus, a firm should not solely tell the story about value creation because the story about value destruction is also needed (Dumay et al., 2017).

Reflections on IR practices in China

The top management ultimately decides the extent and quality of disclosures of the firm (Gal & Akisik, 2020; Pavlopoulos et al., 2017). The author argues that the decision by top management to adopt IR or to change IR disclosure practices depends on three factors: external pressures from stakeholders (e.g., legitimacy pressures, institutional pressures and pressure from other stakeholders), external incentives (e.g., reducing information asymmetry among stakeholders relative to the management for lower agency costs), and internal incentives (e.g., discharging accountability to stakeholders for a moral and ethical purpose). These factors intertwine, making IR practices a complex and multifaceted phenomenon.

It is obvious that Chinese contextual factors impact the perceptions of Chinese stakeholders and further influence the IR disclosure practices of Chinese companies. However, there are some tensions between the factors. In particular, as traditional Chinese culture emphasizes doing business ethically and morally, embracing IR is consistent with the principles advocated in Chinese culture. In contrast, the traditional Chinese culture also features conservatism and secrecy, impeding the creation of more transparent firms led by higher IR disclosure practices, and reducing the spread of IR in China. However, it is important to be aware that Chinese contextual factors, such as Chinese culture, have been changing. Therefore, their impacts on IR practices are dynamic.

In this thesis, the study period is from 2014 to 2018, before the Covid-19 crisis. In 2020, irreversible changes have taken place in the world as a result of the Covid-19 pandemic. The Covid-19 pandemic has affected firms globally. IR is viewed as a key approach to helping enterprises cope with future risks caused by the Covid-19 pandemic (ACCA, 2020; IRCSA, 2020). In view of the economic, social and environmental challenges posed by Covid-19, IR is in transition to a new format that gives priority to reporting on how organisations can participate in overcoming the crisis the pandemic has caused (Biondi et al., 2020).

In order to recover from the Covid-19 pandemic and boost its economy, the Chinese government has initiated a long-term economic development strategy called “dual circulation” which focuses on the domestic market and cuts its dependence on overseas markets (Cheng, 2020; Yao, 2020). Since the economic reform in 1978, with the rise in foreign trade and investments, China has been opening up itself to the outside world, and the ways of life of Chinese people have been influenced by Western society and culture in many aspects (Qu & Leung, 2006). Thus, if China reduces reliance on overseas markets, the diffusion of IR – an exotic corporation reporting format – may be negatively affected.

11.6 Lessons learnt

At first, the author struggled to locate the primary objective of this study. When constructing the initial IR disclosure index, a large number of disclosure items from IR studies (and CSR/sustainability reporting studies as well), which focus on specific industries, could be chosen to form the IR disclosure index. The author then, however, realized that including all the possible disclosure items in the IR disclosure index is unrealistic and this thesis is not aiming to compile a detailed IR guideline for Chinese firms. In other words, since this thesis is concerned with the general state of IR practices in China rather than focusing on a particular industry, the IR disclosure index does not need to be too exhaustive. If designing an IR disclosure index for a sector in the future, industry-specific disclosures could be considered. For instance, for food firms, disclosures on animal welfare should be considered, while disclosures on biodiversity protection should be considered for energy firms.

Conducting content analysis to corporate reports (including annual reports and CSR/sustainability reports) from 500 firm observations was quite a challenging experience. Analysing so many corporate reports was quite time-consuming; although the author initially attempted to use qualitative coding techniques in the Nvivo 11 software, it was of limited use since the interpretative content analysis adopted in this study is more concerned with the meaning of the narrative rather than looking for exact words. Thus, the author had to read each corporate report thoroughly sentence by sentence. The author argues that the difficulty of content analysis limits the production of studies relating to IR disclosure practices, which may explain the scarcity of such studies (Manes-Rossi et al., 2020; Marrone & Oliva, 2019).

Recruiting participants in China for the questionnaire survey was another challenging experience for the author. Chinese society is an acquaintances society (China Daily, 2013). Some cultural attributes in China, such as power distance and uncertainty avoidance, may prevent a researcher from successfully approaching unfamiliar stakeholders. Initially, the author contacted 34 potential participants who were unknown to the author, such as managers in listed company associations, NGOs and industry associations, and sent them invitation letters via email (their email addresses were provided by their organisations' official websites). However, none of them responded. Thus, as other Chinese researchers often do, the author turned to his own relationship network. The author learned from the challenging experience that when doing such a survey study in China, recruiting participants who are in the researcher(s)' relationship network is probably more applicable to the Chinese context.

Lastly, the author admits that the establishment of an IR framework for China in this study is just a beginning. With the social changes likely in China in the future, it will need to be adjusted and revised accordingly. A prior "legitimate behaviour" might be not considered legitimate in future as social values change. For instance, as indicated by Deegan (2018, p. 205), "…within Australia approximately 30 years ago there were many retail stores that sold clothes that were made from the fur of animals. With changing community attitudes towards the wearing of animal skins, and in particular, the treatment of animals from which the furs and skins were sourced, the demand for fur coats in Australia declined".

11.7 Research limitations and directions for future research

The research limitations are introduced in section 1.9. However, although this study is subject to these limitations, they may form the basis for future studies and suggest valuable directions for them. The first normative research opportunity that can be considered is to investigate how to shift the current corporate reports to become real integrated reports. Paternostro (2013) has provided ideas in this direction to some extent. The second normative research opportunity that can be considered is to explore integrated thinking by focusing on discriminating and mining the essence of comprehensive thinking. In addition, the theoretical framework constructed in this research can be further refined by incorporating other theories, such as the diffusion of innovation theory (Robertson & Samy, 2015), actor-network theory (Rowbottom & Locke, 2015) and stewardship theory (Adams et al., 2016).

In terms of empirical research opportunities, firstly, in the future, the IR disclosure practices of small and medium-sized companies could be investigated in order to obtain a more in-depth understanding of IR disclosure practices in the Chinese context. For instance, the sample companies for future research could be extended to include all Chinese listed companies. Secondly, a comparative study of IR disclosure practices between different boards (i.e., the second board vs the main board) or between two stock exchanges (the Shanghai Stock Exchange vs the Shenzhen Stock Exchange) could be conducted in the future. Thirdly, the IR disclosure practices of a specific company, an industrial sector or public sector (e.g., higher education institutions, government and non-profit organisations) in the Chinese context could be investigated using fieldwork or case studies. In particular, IR practices in the public sector are underexplored (Dumay et al., 2016; Marasca et al., 2020). Fourthly, a comparative study with other countries could be conducted in order to attain an international perspective for IR disclosure practices. Fifthly, there is no empirical research on the relationship between IR and integrated thinking. In view of this, future empirical research could be considered to examine the impact of the level of integrated thinking within the company on IR practices (such as adoption or disclosure practices). Sixthly, in future studies of the influencing factors and effects of IR disclosure practices, the moderator and mediator variables could be investigated using an econometric model on the basis of theoretical or phenomenological observation. Seventhly, as indicated by this thesis, a contextual approach has seldom been adopted in prior IR studies. To fill this research gap, this thesis calls for more research focusing on IR practices in a specific jurisdiction using a contextual approach.

11.8 Chapter summary

IR practices in the context of Chinese companies are huge in scope and require comprehensive attention to a number of aspects. The wide coverage of the current study involves, among other aspects, the design of an IR framework for China where no framework currently exists, stakeholder consultation, content analysis, hypothetical testing, and analysis of stakeholder perceptions.

This study constructs a comprehensive theoretical framework by linking the key theoretical underpinnings of the stakeholder, agency, signalling, legitimacy, and institutional theories to interpret IR disclosure practices of organisations. This study suggests that there are three incentives motivating Chinese companies to adopt an IR approach: (1) to mitigate information asymmetry between the organisation and all stakeholders; (2) to signal superior quality, legitimacy and conformity to all stakeholders; and (3) to discharge accountability to all stakeholders. All these motivations drive strong performance by Chinese firms with regard to IR disclosure practices.

A mixed methods approach (i.e., quantitative and qualitative methodology) is applied in this research. After two rounds of questionnaire surveys, a weighted IR disclosure index consisting of 68 items is developed in consultation with 51 participants who represent Chinese stakeholders. The weighted index takes into consideration the political, cultural, economic, social, and other factors that are idiosyncratic to China. The weighted IR disclosure index and a scoring system are then applied, as instruments for content analysis, to the top 100 Chinese listed companies' corporate reports for the years 2014-2018. The collected data are quantified and analysed to gauge the extent and quality of IR disclosures. Following the evaluation of IR disclosure practices, the study also conducts a number of hypothesis tests to examine the determinants of IR disclosure practices and the effect of IR disclosure practices on agency costs. Lastly, the third round of questionnaire survey is carried out to gain the opinions of 51 participants representing Chinese stakeholders on the barriers to the adoption of IR and their recommendations for IR implementation in China. All these surveys, evaluations and tests form a basis for recommendations for a framework of best IR practice in China.

The findings of this study indicate that the IR disclosure practices of Chinese companies improve over the period 2014-2018. The extent of IR disclosures by Chinese listed companies is sound, but the quality of IR disclosures still has significant room for improvement. Furthermore, there are many IR disclosure items where there is a gap between the stakeholders' expectations and the actual IR disclosure practices. This study indicates that there are differences in IR disclosure practices between A-share firms and dual A- and H-share firms, between SOEs and non-SOEs, and between firms in China and firms in other countries. This study also finds that there are anomalies in the conciseness and readability of corporate reports of Chinese listed companies. The findings indicate that many Chinese companies have already initiated the adoption of an IR approach for presenting disclosures in their corporate reports; their corporate reports are on the way to becoming genuine integrated reports. However, IR disclosure practices by some Chinese companies are at a low level.

It is also found that pressures from customers, employees, and communities drive IR disclosure practices. Financial leverage, independent directors, CEO duality, and profitability are factors that influence the IR disclosure practices of Chinese firms. Both the extent and the quality of IR disclosures negatively affect agency costs. Additionally, the analysis of stakeholder perceptions reveals that eleven factors are the barriers or challenges to implementing IR in China, and successful implementation of IR practices in China requires the support of the government, as well as initiatives on education, organisations, technologies, assurance, and activities.

This research provides readers with fresh knowledge and a comprehensive understanding of the evolution of the IR disclosure practices of Chinese firms, which will attract a wide-ranging audience of practitioners as well as academicians. It is hoped that this study can facilitate the disclosure practices of corporate reporting and promote greater transparency and accountability in the capital market.

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APPENDICES

Appendix A Previous IR studies relating stakeholder consultation

Author	Method	Recipients	Main questions
Higgins et al. (2014)	interview	managers	How did the early adopters among Australian companies contribute to the institutionalization of IR?
Steyn (2014)	questionnaire	senior managers	1. Benefits of IR implementation; 2. Challenges of IR implementation; 3. Motives for preparing an integrated report
Stubbs and Higgins (2014)	interview	managers	The internal mechanisms of IR adopting process and whether IR can create an innovative disclosure mechanism
Stubbs et al. (2014)	interview	IR preparers	Objectives of IR; Benefits and outcomes of IR; Barriers to and challenges of IR; Use of IR and six capitals in decision-making
Van Bommel (2014)	interview	IR interest groups	1. The understanding of IR; 2. The users of IR; 3. The purpose of IR; 4. Important or critical moments in the development of IR; 4. Conflicts or problems; 5. How to overcome conflicts or problems?
Atkins and Maroun (2015)	interview	investor, standard setter, analyst, consultant	1. What are the drivers of IR? 2. What is the understanding of institutional investors of IR? 3. What is the response of institutional investors to IR? 4. What are the obstacles to the development of IR? 5. What are the recommendations for improving IR?
James (2015)	questionnaire	accounting major students	Benefits of IR
Lodhia (2015)	interview	managers	1. What are the benefits and challenges of IR? 2. What is the organisation's view on the future of IR? 3. What are the key success factors for the adoption of IR?
Robertson and Samy (2015)	interview	senior manager	1. The limitations of current reporting practices; 2. How does IR provide a relative advantage over existing reporting practices?
Rowbottom and Locke (2015)	interview	senior manager	1. What does IR mean? 2. Who are IR's users? 3. Where would IR fit within extant corporate reporting processes?

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Author	Method	Recipients	Main questions
Strong (2015)	interview	IR interest groups	Can IR be the solution for addressing shortcomings in financial reporting and sustainability reporting?
Burke and Clark (2016)	interview	speakers at Symposium	The future of IR
Lueg et al. (2016)	interview	manager	How standards and guidelines for CSR can help a company step towards IR.
Perego et al. (2016)	interview	academics	1. What aspects of IR are revealed in the academic literature? 2. How do experts understand the current strengths and weaknesses of IR from a management perspective?
Wee et al. (2016)	interview	reports preparers	1. What is the status quo of the participant's company's integrated report? 2. Who are the users of the report? 3. Which people or sections are involved in preparing the report? 4. How to decide what is included in the report? 5. How to determine whether an item is material or not? 6. How to achieve conciseness in the report? 7. In what ways do legal and regulatory requirements affect the preparation of the report? Do listing requirements affect the preparation of the report? 8. What challenges exist in preparing the report?
Beck et al. (2017)	interview	report preparers	How has the trend of non-financial reporting over the years led companies to publish IR?
Camodeca and Almici (2017)	interview	managers	1. The reasons for the companies' stepping towards IR; The main steps of this process; 3. The changes occurred in companies' thinking after the transition to IR.
Chaidali and Jones (2017)	interview	managers and consultants	1. The trustworthiness of IR; 2. The status of IR; 3.IR and sustainability; 4. The benefits of IR; 5. The adequacy and clarity of the IR guidelines; 6. The cost of preparation of IR; 7. The format and length of IR
Dumay and Dai (2017)	interview	senior managers	How does integrated thinking operate as cultural control?
Feng et al. (2017)	interview	managers	1. How do key stakeholders interpret integrated thinking? 2.To what extent do practitioners achieve "integrated thinking" in practice?

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Author	Method	Recipients	Main questions
Gunarathne and Senaratne (2017)	interview	internal managers and external managers	1. What are the internal drivers to adopt IR? 2. What are the external drivers to adopt IR? 3. What sort of support does top management provide when following IR? 4. What are the processes and systems in-house to prepare integrated reports? 5. What are the challenges in preparing integrated reports? 6. What is the participant's impression of the current trend of IR in the country? 7. What factors really motivate companies to follow IR? 8. What are the weaknesses in the integrated reports?
Guthrie et al. (2017)	interview	managers	How do the internal mechanisms of change that can lead organisations to adopt IR impact integrated thinking internally?
Lai et al. (2017)	interview	IR preparers	How is the principle of materiality implemented in IR?
Macias and Farfan-Lievano (2017)	interview	IR preparers	1. The reason for using the IR framework; 2. Challenges and difficulties of the implementation process; 3. Internal impact on stakeholders, organisational structure and decision-making; 4. Benefits of the application and future use of the IR framework
Maroun (2017)	interview	auditor and report preparers	The limitations of existing assurance standards and alternate approaches for assuring the integrated report.
McNally et al. (2017)	interview	IR preparers	1. The reasons for preparing an integrated report; 2. How the IIRF is applied and challenges encountered.
Silvestri et al. (2017)	interview	managers, employees and consultants	How to evaluate the degree of accountability of IR?
Adhariani and De Villiers (2018)	questionnaire	report preparers, auditors, investors, analysts, academics, consultant, regulator, civil servant	1. What is the current level of IR knowledge in Indonesia? 2. What are the challenges and benefits faced by report preparers and stakeholders? 3. If IR is adopted in Indonesia, what form is it and what is needed to support widespread adoption?
Al-Htaybat and Von Alberti-Alhtaybat (2018)	interview	employees	The link between integrated thinking and IR
Argento et al. (2018)	interview	managers	The process of introducing the IR and the role played by crucial and key actors engaged in IR, particularly considering the changes achieved, the tensions that emerged in the process and how those were resolved and by whom.

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Author	Method	Recipients	Main questions
Attanayake Mudiyanselage (2018)	interview	managers	1. Why do Sri Lankan companies adopt IR? 2. What challenges are faced by Sri Lankan companies during the implementation of IR? 3. Has the management of Sri Lankan companies achieved the expected benefits from adopting IR?
Briem and Wald (2018)	interview	auditors	1. Why do companies assure their integrated reports voluntarily? 2. What role do auditors play in the IR assurance process?
Engelbrecht et al. (2018)	interview	auditor	1. What is the role of the internal audit function in IR? 2. What are the potential challenges and barriers to internal audit's involvement in IR?
Hsiao and Kelly (2018)	interview	investors	What is the relationship between investment considerations of Taiwanese investors and IIRF?
Lai et al. (2018)	interview	IR preparers	How do IR preparers' modes of cognition affect the patterns of accountability related to IR?
Maroun (2018)	interview	audit experts and report preparers	1. The parts of the integrated reports currently being assured and the challenges of assuring the integrated report; 2. How preparers ensure the reliability of their integrated reports; 3. The need for assurance of the integrated report; 4. Recommendations on how to provide some level of assurance over an integrated report.
McNally and Maroun (2018)	interview	managers and employees	1. The reasons for preparing an integrated report; 2. How the IIRF is applied and challenges encountered?
Montecalvo et al. (2018)	interview	managers	1. Evolution of the content of sustainability disclosures; 2. Reasons for adopting reporting frameworks; 3. External assurance
Slack and Tsalavoutas (2018)	interview	investor and analysts	1. The decision usefulness of IR; 2. What are the barriers when using IR?
Stacchezzini et al. (2018)	interview	managers and employees	The process of IR preparation, the function that IR preparers assign to intellectual capital elements and the role of integrated thinking in this process.
Stubbs and Higgins (2018)	interview	regulators, standard setters, auditor, investor	The role of regulation, standards and guidelines in the spread of IR

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Author	Method	Recipients	Main questions
Vesty et al. (2018)	interview	senior manager	1. The senior manager's engagement with IR; 2. The impact of IR practice; 3. The challenge for IR.
Abhayawansa et al. (2019)	interview	sell-side analysts	How and why are integrated reports relevant to analysts?
Badia et al. (2019)	interview	managers and external consultants	1. Adoption of IR; 2. Contribution of IR to a more effective system of governance and management; 3. Role of intellectual capital for the company and in the integrated report; 4. Effects of IR and its role in the mobilization of intellectual capital.
Bananuka et al. (2019)	interview	senior managers	Why companies in developing countries are slow to adopt IR and what needs to be done to ensure such companies embrace IR.
Corbella et al. (2019)	interview	managers and employees	The process of IR preparation and how intellectual capital elements are mobilized within this process.
Doni et al. (2019)	interview	managers	1. IR within the company; 2. Key stakeholders and the competitive context; 3. Strengths and weaknesses of the IIRF; 4. Corporate reporting procedures; 5. The internal and external assurance system; 6. The company's ability to improve corporate reporting; 7. Future challenges.
Goicoechea et al. (2019)	questionnaire	auditors and users	1. The importance of assuring the content of IR; 2. The form and content of an audit report on IR; 3. The challenges of assuring IR.
Maroun (2019b)	interview	preparers and assurance experts	1. The reasons for having select elements of an integrated report assured; 2. The type of assurance and the rationale for selecting specific assurance services; 3. The challenges encountered when seeking to have parts of an integrated report assured; 4. How these challenges were overcome and any recommendations for how to change current assurance practices; 5. Challenges encountered when preparing an integrated report; 6. Whether or not assurance was seen as adding value for organisations and their stakeholders; 7. Changes to professional standards; 8. The role of regulators/standard setters in driving IR and related assurance practice.

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Author	Method	Recipients	Main questions
Petcharat and Zaman (2019)	interview	senior managers	1. From IR perspectives, how do Thai- listed firms integrate all kinds of business information? 2. How does IR create communicative value for Thai- listed firms while satisfying information needs to stakeholders? 3. How is the SR of Thai companies related to the IR for value creation?
Robertson and Samy (2019)	interview	senior managers	1. The company's current SR practices; 2. The level of cross-functional activity in relation to the company's reporting process; 3. The factors which may influence IR diffusion; 4. The drivers for voluntary adoption of SR; 5. Mandatory reporting.
Cerbone and Maroun (2020)	interview	preparers	1. Reasons for preparing an integrated report; 2. The role of existing reporting guidelines; 3. How to approach disclosures in integrated reports; 4. Materiality in IR and how this differs from financial reporting; 5. How to adapt materiality to businesses; 6. The impact of stakeholders on the integrated report and materiality.

Source: Own elaboration

Appendix B Instruments on mandatory disclosure

<u>Shanghai Stock Exchange: Notice of Doing a Better Job for Disclosing 2008 Annual Reports:</u> Companies selected in the "Shanghai Stock Exchange Corporate Governance Index", companies that have shares listed overseas and companies in the financial sector should disclose the internal control report and CSR report when releasing 2008 annual report. All listed companies are required to explain the status of the company's internal control system in the following areas: (1) the status of the establishment of the company's internal control, (2) the operation of the company's internal control inspection and supervision mechanism, (3) the guidance gained from the company's board of directors and its audit committee on the company's internal control work, (4) the company's plan for implementing the Basic Standards for Enterprise Internal Control
<u>Shanghai Stock Exchange: Guidelines for Environmental Information Disclosure of Listed Companies:</u> Companies selected in the "Shanghai Stock Exchange Corporate Governance Index", companies that have shares listed overseas and companies in the financial sector must disclose: (1) **The company's work in promoting social sustainable development**, such as the protection of employees' health and safety, the protection and support of their communities, and the quality control of products. (2) **The company's work in promoting environmental and ecological sustainable development**, such as how to prevent and reduce environmental pollution, how to protect water resources and energy, how to ensure the livability of the region, and how to protect and improve the biodiversity of the region. (3) **The company's work in promoting sustainable economic development**, such as how to create value for customers through its products and services, how to create better job opportunities and future development for employees, and how to bring high economic returns to its shareholders. (4) **Environmental information**: company 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; the environmental improvement agreement (signed voluntarily by the company) that the company has entered into with the Ministry of Environmental Protection; awards the company has received from the Ministry of Environmental Protection; other information disclosed at the discretion of the company.
<u>China Securities Regulatory Commission: Regulations on Information Disclosure of Listed Companies:</u> Ten parts must be contained in an annual report, namely (1) basic information of the company, (2) major accounting figures and financial indexes, (3) company stock and bond issuance and changes, (4) the number of shares, the number of bonds, the number of shareholders, top 10 shareholders (at the end of the reporting period); (5) shareholders who have stakes of 5% or above, controlling shareholders and actual controllers, (6) positions, stock holding changes and annual remunerations (directors, supervisors and senior managers), (7) board of directors' report, (8) management discussion and analyses, (9) major incidents and their influence on the company during the reporting period, (10) financial reports and full text of audit report

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<u>**Shenzhen Stock Exchange: Notice of Doing a Better Job for Disclosing 2008 Annual Reports:**</u> Companies selected in the "Shenzhen 100 index" should follow "corporate social responsibility guidelines" referring to Annex 3—CSR disclosure requirements to disclose CSR report. The CSR reports should include: **(1) Overview** Briefly explain the company's purpose and philosophy on CSR; Explain the system construction and organisational arrangement for ensuring social responsibility performance; the company's ideas and plans for fulfilling social responsibilities; explain the important activities, work and achievements of the company in fulfilling its social responsibilities; the company was rewarded by the relevant departments and won the honorary title (in terms of social responsibility). **(2) Implementation of social responsibility** **I. Protection of the interests of shareholders and creditors** **II. Protection of workers' rights**. It should clearly state whether the employment system complies with the requirements of laws and regulations such as the Labour Law and the Labour Contract Law, and whether the company strictly enforces national regulations and standards in terms of labour safety and health systems and social security; explain the company's specific measures and improvements in employee benefits, safety production, vocational training, and employee benefits. **III. Protection of suppliers, customers and consumers.** It should clearly state measures for the company's anti-bribery and explain the specific measures taken by the company in terms of product quality and safety control. **IV. Environmental protection and sustainable development** Explain the company's specific measures in environmental protection investment and technology development, construction of environmental protection facilities, and reduction of energy consumption, pollutant emissions, waste recycling and comprehensive utilization; compare with national standards, industry standards, and past indicators; use specific numerical indicators to illustrate current conditions and the effects of improvements. **V. Public relations and social welfare services** State the work done by the company in disaster relief, donation, post-disaster reconstruction, etc. **(3) Problems and rectification plans of the company in fulfilling its social responsibilities** All listed companies are required to issue the internal control assessment report which should include: **(1) Overview:** explain the organizsational structure of the company's internal control, the establishment of the internal control system, the establishment of the internal audit department that is responsible for supervision and inspection, the staff of the department and their duties, the important activities and work in order to establish and improve internal control and the corresponding results, and an overall assessment of the company's internal control. **(2) Key control activities** Provide the chart which shows the subsidiaries of listed companies (including the corresponding share ratios); inspect the internal control on six aspects, including subsidiaries, related transactions, external guarantees, use of raised funds, major investments and information disclosure, by referring to the specific requirements of the "Guidelines for Internal Control of Listed Companies". **(3) Problems in key control activities and rectification plans**

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<u>Notice of the China Securities Regulatory Commission on Promulgating the Standards Concerning the Contents and Formats of Information Disclosure by Companies Offering Securities to the Public No.2—Contents and Formats of Annual Reports (2017 Revision):</u>

(1) Basic Information on the Company

(2) Summary of Accounting Data and Financial Indicators

…the main accounting data and financial indicators of the company for the past three years, including but not limited to: total assets, operating income, net profit attributable to shareholders of listed companies, net profit attributable to shareholders of listed companies that deducts non-recurring gains and losses, net assets attributable to shareholders of listed companies, net cash flow from operating activities, ROE, Earnings per share…

(3) Summary of Company's Business

…the company's main business, major products and their uses, business models, major performance drivers and other content. It should focus on the major changes that occurred during the reporting period…the development stage and cyclical characteristics of the company's industry and the competitive position of the company…Significant changes in the company's major assets…core competitiveness (including core management team, key technical staffs, patents, non-patented technology, franchise agreements, exploration rights, mining rights, unique business and profit models and so on)…Implementation and future plans about major investment projects, asset purchases, mergers and acquisitions, construction in progress, research and development projects, staff training and reserves…

(4) Discussion and analysis on Company's Business

company's external operating environment and internal capitals…company's management policies…main business…non-primary business…status of assets and liabilities…investment status…the sale of major assets and equity…analysis on major subsidiaries…patterns and trends of the industry…company development strategies…future business plan…risks (e.g. policy risk, industry-specific risk, business model risk, operational risk, environmental risk, exchange rate risk, interest rate risk, technology risk, product price risk, raw material price and supply risk, financial risk and so on)

(5) Important Matters

…major lawsuits and arbitrations during the reporting period…For companies in polluting industries: pollutant discharge information; construction and operation of pollution prevention facilities; environmental impact assessment of construction projects and other environmental protection administrative licenses; emergency plan for sudden environmental incidents; environmental self-monitoring program.

(6) Share Change and Information on Shareholders

Changes in company shares; securities issuance and listing; the number of shareholders and shareholdings of the company; the situation of the controlling shareholder of the company; the actual controller of the company

(7) Information on Preferred Shares

(8) Information about Directors, Supervisors, Senior Executives and Employees

Basic information on directors, supervisors and senior management…educational background, occupational experiences and duties of current directors, supervisors and senior management…decision-making procedures for the remuneration of directors, supervisors and senior executives; the basis for determination and actual payment of remuneration…Employees of the parent company and major subsidiaries, including the number of employees, professional composition, education level, employee compensation policy and training plan…

(9) Corporate Governance

Explain whether there is a significant difference between the actual situation of corporate governance and the regulatory documents issued by the China Securities Regulatory Commission on the governance of listed companies; internal control report;

(10) Information on Corporate Bond

(11) Financial Report

(12) Catalogue of Reference Documents

(Continued)

(Continued)

<u>Hong Kong Stock Exchange: Corporate governance code ("Comply or explain" basis):</u> (1) corporate governance practices; (2) directors' securities transactions; (3) board of directors; (4) chairman and chief executive; (5) non-executive directors; (6) board committees; (7) auditor's remuneration; (8) company secretary; (9) shareholders' rights; (10) investor relations; (11) risk management and internal control
<u>Hong Kong Stock Exchange: the revised guidelines for ESG reporting ("Comply or explain" basis):</u> **(1) Emissions:** the policies and compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste; The types of emissions and respective emissions data; Greenhouse gas emissions in total and, where appropriate, intensity; Total hazardous waste produced (in tonnes) and, where appropriate, intensity; Total non-hazardous waste produced (in tonnes) and, where appropriate, 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. **(2) Use of Resources:** policies on the efficient use of resources, including energy, water and other raw materials; direct or/and indirect energy consumption by type in total and intensity; Water consumption in total and intensity; Description of energy use efficiency initiatives and results achieved; Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency initiatives and results achieved; Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced; **(3) The Environment and Natural Resources:** policies on minimising the issuer's significant impact on the environment and natural resources; Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them; **(4) Employment** Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare; **(5) Health and Safety** Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards. **(6) Development and Training** Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities. **(7) Labour Standards** Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labour. **(8) Supply Chain Management:** policies on managing environmental and social risks of the supply chain. **(9) Product Responsibility** Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labelling and privacy matters relating to products and services provided and methods of redress. **(10) Anti-corruption** Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering. **(11) Community Investment:** policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.

Appendix C Ethical approval

WAIKATO MANAGEMENT SCHOOL
TE RAUPAPA

THE UNIVERSITY OF WAIKATO
Te Whare Wānanga o Waikato

Waikato Management School
The University of Waikato
Private Bag 3105
Hamilton 3240
New Zealand

Amanda Sircombe
Research and Postgraduate Manager
Phone +64 7 838 4376
Email amandas@waikato.ac.nz
www.management.ac.nz/research

Yanqi Sun
3/121 Queens Avenue
Frankton
Hamilton

11 March 2019

Dear Yanqi

Ethical Application WMS 19/13
Towards an Integrated Reporting Framework for China

The above research project, as outlined in your submitted application, has been granted Ethics Approval for Research by the Waikato Management School Human Research Ethics Committee.

Please note: should you make changes to the project outlined in the approved ethics application, you may need to reapply for ethics approval.

Best wishes for your research.

Kind regards,

Amanda Sircombe

Amanda Sircombe
WMS Research and Postgraduate Manager

Appendix D

Participant Information Sheet

Participant Information Sheet

Waikato Management Schoo

Te Raupapa

THE UNIVERSITY OF WAIKATO
Te Whare Wānanga o Waikato

PARTICIPANT INFORMATION SHEET

TITLE OF THE PROJECT

Towards an Integrated Reporting Framework for China

AN INVITATION

I would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take time to read the following information carefully. Ask questions if anything you read is not clear or if you would like more information. Take time to decide whether or not to take part. Your agreement to take part in this study would be greatly appreciated.

WHO I AM?

My name is Yanqi Sun and I am a PhD student in Accounting at the University of Waikato.

WHO ARE MY SUPERVISORS?

My chief supervisor's name is Professor Howard Davey, a Professor in the department of accounting at the University of Waikato. My second supervisor is Dr. Murugesh Arunachalam, a senior lecturer in the department of accounting at the University of Waikato.

WHAT IS THE PURPOSE OF THIS PROJECT?

The overall research objective of this thesis is to develop an integrated reporting framework for China and apply the framework to evaluate integrated reporting practices of Chinese listed companies. This research objective comprises of the following sub-objectives:

- Design a Chinese IR framework that includes a list of IR disclosure items, a weighting system and a scoring system for evaluating IR disclosure practices in China.
- Assess IR disclosure practices of Chinese listed companies using the above IR framework.
- Develop and test several hypotheses with respect to the determinants of IR disclosure practices and the effect of IR disclosure practices on agency costs.
- Make recommendations for the implementation of IR practices in China.

WHAT YOU WILL BE ASKED TO DO IF YOU PARTICIPATE?

The researcher will want to you complete three questionnaire surveys. In the first-round questionnaire survey, you will be inquired about a list of disclosure items of integrated reporting. In the second-round questionnaire survey, you will be inquired on the importance of each disclosure item. In the third questionnaire survey, you will be inquired on the recommendations for the implementation of integrated reporting in China. If you participate in the questionnaire surveys, the questionnaires will be sent to you by email. No parts will be taken longer than 45 minutes in most cases.

DO YOU HAVE TO PARTICIPATE?

It is up to you to decide whether or not to take part. If you do decide to take part, you will be able to keep a copy of this information sheet and you should indicate your agreement to the consent form. You can still withdraw at any time until 31 August 2020. You do not have to give a reason.

WHY HAVE YOU BEEN INVITED TO TAKE PART?

You have been chosen because you as a stakeholder of Chinese companies are important to construct Chinese integrated reporting framework and give recommendations for the implementation of integrated reporting in China. You are a Chinese resident, familiar with corporate reporting, and are conversant with Chinese contextual factors.

IF YOU PARTICIPATE, HOW WILL YOUR DATA BE MANAGED AND STORED?

All the information that I collect about you during the course of the research will be kept strictly confidential. For the data collected from questionnaire surveys, it will only be used aggregately. Thus, you and your organisation will not be identified by name or by any other means. To protect your identities, any parts of questionnaire survey will not be directly quoted under all circumstances without your specific written consent. In addition, the researcher may give a code number (for example, A1, B1, C1) instead of your name and organisation in the thesis and any publications. Through this method, you and your organisation will not be identified by name as well. Merely the researcher and the researcher' supervisors have access to the information/data collected from you. All the transcriptions of the responses/results of questionnaire surveys will be kept securely and will not be disclosed to any third party. And all the materials will be securely destroyed after the conclusion of the research.

WHAT WILL HAPPEN TO THE RESULTS OF THE RESEARCH PROJECT?

Results of the research is expected to be published in the academic publication.

WHAT ARE THE POSSIBLE BENEFITS OF TAKING PART?

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will have a beneficial impact on the integrated reporting practices in China. When the project is concluded, an Executive Summary of the final report will be shared with you in order to inform your professional work.

IF YOU PARTICIPATE, WHAT ARE THE RISKS OF BEING INVOLVED?

There is no risk to you resulting from this research since you will be fully informed all the time during the research. The researcher was formerly an accounting major student and subsequently a financial manager in a state-owned company in China. The researcher may have a lot in common (e.g., academic background, language, and culture) while communicating with you. This may positively impact the investigation of the research. However, there is no way the researcher might influence the ethical appropriateness of conducting this research because there is no dependent relationship existing between the researcher and you at the moment. No possible conflict is anticipated by this research. Nevertheless, the researcher will always adhere to professional ethical principles towards you through the process to maintain objectivity and protect your interests.

WHAT IF SOMETHING GOES WRONG?

If you have any complaints about the project in the first instance you can contact the researcher and the researchers' supervisors.

IF YOU PARTICIPATE, WHAT ARE YOUR RIGHTS?

You are under no obligation to accept this invitation. If you decide to participate, you have the right to withdraw from the study at any point until 31 August 2020; ask any questions about the study at any time during participation; decline to answer any particular question (or reflect on any particular issue); provide information on the understanding that your name will not be used unless you give permission to the research team. When the project is concluded, you will receive an Executive Summary of the final report and will be given access to the full report upon request.

WHO HAS ETHICALLY REVIEWED THE PROJECT?

This project has been ethically approved by the Waikato Management School's ethics review procedure. The Waikato Management School's Research Ethics Committee monitors the application and delivery of the School's Ethics Review Procedure across the Waikato Management School.

WHO DO YOU CONTACT FOR MORE INFORMATION OR IF YOU HAVE CONCERNS?

Please feel free to contact the researchers if you have any questions about this study. If you have concerns or complaints about the study at any stage, you can contact the researchers, and/or the researchers' supervisors below.

Researcher’s Name and contact information:

Yanqi Sun

Telephone: 0064-021-08877980

Email: ys353@students.waikato.ac.nz

Supervisor’s Name and contact information:

Prof. Howard Davey

Dept of Accounting

Telephone: 0064-07-8384441

Email: howard.davey@waikato.ac.nz

Dr. Murugesh Arunachalam

Dept of Accounting

Telephone: 0064-07-8562889

Email: murugesh.arunachalam@waikato.ac.nz

THANK YOU FOR TAKING PART IN THIS RESEARCH

Appendix E Consent Form for Participants

Consent Form for Participants

Waikato Management School
Te Raupapa

THE UNIVERSITY OF WAIKATO
Te Whare Wānanga o Waikato

Towards an Integrated Reporting Framework for China

Consent Form for Participants

I have read the **Information Sheet for Participants** for this study and have had the details of the study explained to me. My questions about the study have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I also understand that I am free to withdraw from the study at any time until 31 August 2020, or to decline to answer any particular questions in the study. I agree to provide information to the researchers under the conditions of confidentiality set out on the **Information Sheet**.

I agree to participate in this study under the conditions set out in the **Information Sheet** form.

Signed: ____

Name: ____

Date: ____

Researcher's Name and contact information:
Yanqi Sun
Telephone: 0064-021-08877980
Email: ys353@students.waikato.ac.nz

Supervisor's Name and contact information:
Prof. Howard Davey
Dept of Accounting
Telephone: 0064-07-8384441
Email: howard.davey@waikato.ac.nz

Dr. Murugesh Arunachalam
Dept of Accounting
Telephone: 0064-07-8562889
Email: murugesh.arunachalam@waikato.ac.nz

Appendix F Questionnaire for the first-round survey

Dear Sir or Madam,

This questionnaire is designed by Mr. Yanqi Sun, a Ph.D. student at Waikato Management School (University of Waikato, New Zealand), for data collection for his Ph.D. thesis "Towards an Integrated Reporting Framework for China". It is the first stage of data collection for this research project.

Thank you very much for your participation in this research. The purpose of this email is to have your comments on the appropriateness of a list of integrated reporting disclosure items (see Attachment I), which were obtained primarily from prior literature relating to information disclosure of integrated reporting. These integrated reporting disclosure items need to be scrutinized by you in order to be adaptive to the Chinese context and meet your expectations. Please note that all comments provided will be treated as confidential, and you have the right to:

- Refuse to provide any comments, and to withdraw from the study at any time until 31 August 2020.
- Ask any further questions about the study which occur during your participation.
- Request a summary of findings from the study when it is concluded.

I appreciate your contribution to this research in advance.

Best wishes,

Yanqi Sun

Note: This is a translation for the original e-mail in Chinese.

A brief introduction to integrated reporting

According to the definition by the International Integrated Reporting Council, an integrated report is a concise communication about how an organisation's strategy, governance, performance and prospects, in the context of its external environment, lead to the creation of value over the short, medium and long term. Integrated reporting is a new corporate reporting form in order to enhance overall transparency and to respond the growing information needs of stakeholders by highlighting the connectivity between the material financial information and material non-financial information.

Basic Information:

Your name:

Your gender: Female ☐ Male ☐

Your email address:

Name of the organisation you work for:

Your job title:

Are you a Chinese (mainland) resident? Yes ☐ No ☐

Are you familiar with corporate reporting (financial reporting; sustainability reporting; corporate responsibility reporting)? Yes ☐ No ☐

Do you fully agree with all the disclosure items? Yes ☐ No ☐

(If you choose "No", please answer the questions in the list)

In addition to the disclosure items presented in the list, are there any additional disclosure items that are ought to be disclosed? If so, why do you think these disclosure items are necessary?

Attachment for Appendix F List of integrated reporting disclosure items

Theme	Item	Description	Which one do you think is not necessary and can be deleted? Why?	Which one needs to be adjusted and how to modify that? Why?
Corporate overview	Mission and vision	Mission and vision of the company		
	Culture, ethics and value	Culture, ethics and values of the company		
	Operating context	The impacts of various external contexts on company's business, including economic context, industrial context, political context, environmental context, legal context, social context and so on.		
	Business and market	Product or service differentiation, sales volume and sales revenue of each product or service in each market (region or country)		
	Ownership structure	Shareholders' backgrounds and proportion of shareholding; the actual controller of the company; the history of shareholder equity changes		
	Operational structure	Hierarchy within a company related to departments, offices, branches, and subsidiaries		
Strategy and competitiveness	Strategy	Strategy statements, strategic profile, strategic summary and how does it intend to get there?		
	Core Competitiveness	Competitive advantages owned by the company, such as talent, technology, natural resource, business model and etc.		
	Competitive landscape	Market share and ranking of each product or service in each market (region or country)		
Intellectual capital	Management processes	The processes related to the management of a company, such as cost management, marketing management and etc.		
	Brand	Brand ranking, brand value, brand image, brand reputation and etc.		
	Technology	Application of various technologies (e.g. ERP, database, internet, e-commerce for internal administrative management, marketing management, customer relationship management, supplier management, employee management, etc.		
	Research and development	Research and development activities for new products and services creation, products and service upgradation, and etc.		
	Intellectual property	Patents, copyrights, trademarks, etc. owned by the company		
	Marketing	marketing activities such as advertising, commercial sponsorship, promotions, social media presence, roadshows, relationship with the media and etc.		
	Entrepreneurial spirit	The spirits of innovativeness, proactive and reactive abilities, changeability, empowerment, responsibility taking, risk taking, employee engagement, creativity, knowledge sharing; initiatives to spur and cultivate these spirits.		
Social & relational capital	Shareholder relation	Relationship between the company and shareholders		
	Creditor relation	Relationship between the company and creditors (e.g. Bank)		
	Competitor relation	Relationship between the company and its competitors, such as anti-competitive initiatives		
	Customer relation	Relationship between the company and the customers, such as initiatives to increase customer satisfaction, customer loyalty and etc.		
	Business collaboration	Business activities with other companies or non-governmental organisations, such as joint ventures, mergers or acquisitions, marketing, strategic alliances, R&D and etc.		
	Supplier or distributor relation	Relationship between the company and its suppliers or distributors, such as policies for suppliers or distributors, support for suppliers or distributors, identification of qualified suppliers and distributors		
	Government relation	Relationship between the company and governments, such as strategic cooperation		
	Society & community support	Various types of voluntary services provided by the company to the society and community		
	Product or service quality	Initiatives to ensure consumer safety, health and privacy		
	Overseas CSR	Corporate social responsibility activities in overseas markets		

(Continued)

(Continued)

Theme	Item	Description	Which one do you think is not necessary and can be deleted? Why?	Which one needs to be adjusted and how to modify that? Why?
Human capital	Recruitment	Recruitment activities		
	Employee remuneration	Employee remuneration policy and implementation (e.g. the comparison with the average wage of companies in the same industry or in the same region)		
	Employee equality	The equality for disabilities, females and ethnic minorities in recruitment, remuneration and etc.		
	Employee care	Employee care activities, such as providing counselling for employees who have personal crisis, holding sports competitions for employees and etc.		
	Resignation, layoffs and dismissal	The employee turnover and the impact of employee turnover on the company		
	Employee career development	Initiatives that support career development amongst employees		
	Employee health and safety	Initiatives to ensure the occupational health and safety		
	Employee training and education	Various training or education programs provided by the company to employees		
	Employee qualifications	The information on academic and vocational qualifications held by employees		
	CCP building	Chinese communist party building activities such as conferences, seminars, lessons, visiting and etc.		
Natural capital	Pollution and pollution reduction	Various pollution caused by the company and initiatives to reduce pollution		
	Resource consumption and resource saving	Various resources consumed by the company and initiatives to reduce resources consumption		
	Extra environmental protection	Voluntary environmental protection activities		
Financial capital	Fund from financing	The pool of fund that is available to a company obtained through financing		
	Fund from operations or investments	The pool of fund that is available to a company generated through operations or investments		
	Present financial KPIs	Important financial indicators and its analysis on the comparison with its target		
	The linkage between past and present financial KPIs	Analysis on the changes of important financial indicators		
Manufactured capital	8.1 Buildings	Important buildings (e.g. factories and plants) used within the company		
	8.2 Equipment	Important equipment (e.g. machines and tools) used within the company		
	8.3 Infrastructure	Important infrastructure (e.g. roads, ports, bridges) used within the company		
Governance	Leadership structure	Leadership hierarchy within a company related to board of directors, board of supervisors, senior managers; the duties of the company’s senior management		
	Management remuneration	Management remuneration policy and implementation (e.g. the stock options plan and how does the company use stock options plan to motivate management)		
	Management experience and capability	Senior Management’s background on education, career experience and occupational qualification		
Risk and opportunity	Risk	Internal and external risks that companies identify and initiatives to mitigate risk, such as internal audit, internal control, risk management and so on.		
	Opportunity	Internal and external opportunities that companies identify and initiatives to seize the opportunity		
Outlook	Business plans	Future business plans for marketing, financing, recruitment, M&A, R&D and etc.		
	Business objectives	Various business objectives set by the company and initiatives to achieve the objectives		
	Challenges & uncertainties	Challenges and uncertainties regarding pursuing its business objectives and potential respond to the critical challenges and uncertainties		

Appendix G Questionnaire for the second-round survey

Dear Sir or Madam,

This questionnaire is designed by Mr. Yanqi Sun, a Ph.D. student at Waikato Management School (University of Waikato, New Zealand), for data collection for his Ph.D. thesis "Towards an Integrated Reporting Framework for China". It is the second stage of data collection for this research project.

Thank you very much for your participation in this research. In the following questionnaire, 68 disclosure items identified in the previous stage of the research are provided (see Attachment I). Please indicate the importance of each disclosure and assign a score using the rating scale provided below (1-5).

1	2	3	4	5
Unimportant to disclose	Of **little** importance to disclose	**Moderately** important to disclose	**Very** important to disclose	**Extremely** important to disclose

Please note that all comments provided will be treated as confidential, and you have the right to:

- Refuse to provide any comments, and to withdraw from the study at any time until 31 August 2020.
- Ask any further questions about the study which occur during your participation.
- Request a summary of findings from the study when it is concluded.

I appreciate your contribution to this research in advance.

Best wishes,

Yanqi Sun

Note: This is a translation for the original e-mail in Chinese.

Attachment I for Appendix G The importance of integrated reporting disclosure item

Theme	Item	Description	Your rating (1-5)				
Corporate overview and external environment	Basic information of the company	Basic information of the company (e.g., industry type, registered capital).	**1**	**2**	**3**	**4**	**5**
	Mission and vision	Mission and vision of the company	**1**	**2**	**3**	**4**	**5**
	Culture, ethics and value	Culture, ethics and values of the company	**1**	**2**	**3**	**4**	**5**
	Operating context	The impacts of various external contexts on company's business, including economic context, industrial context, political context, environmental context, legal context, social context and so on.	**1**	**2**	**3**	**4**	**5**
	Business and market	Product or service differentiation, sales volume and sales revenue of each product or service in each market (region or country)	**1**	**2**	**3**	**4**	**5**
	Company history	The history of the company	**1**	**2**	**3**	**4**	**5**
	Operational structure	Hierarchy within a company related to departments, offices, branches, and subsidiaries	**1**	**2**	**3**	**4**	**5**
Strategy and competitiveness	Strategy	Strategy statements, strategic profile, strategic summary and how does it intend to get there?	**1**	**2**	**3**	**4**	**5**
	Core competitiveness	Competitive advantages owned by the company, such as talent, technology, natural resource, business model and etc.	**1**	**2**	**3**	**4**	**5**
	Competitive landscape	Market share and ranking of each product or service in each market (region or country)	**1**	**2**	**3**	**4**	**5**
	Business model	The company's business model to depict its value creation process and the impact of business models on the company	**1**	**2**	**3**	**4**	**5**
Governance	Ownership structure	Shareholders' backgrounds and proportion of shareholding; the actual controller of the company; the history of shareholder equity changes	**1**	**2**	**3**	**4**	**5**
	Leadership structure	Leadership hierarchy within a company related to board of directors, board of supervisors, senior managers; the duties of the company's senior management	**1**	**2**	**3**	**4**	**5**
	Management remuneration	Management remuneration policy and implementation (e.g., the stock options plan and how does the company use stock options plan to motivate management).	**1**	**2**	**3**	**4**	**5**
	Management experience and capability	Senior Management's background on education, career experience and occupational qualification	**1**	**2**	**3**	**4**	**5**
	Warnings and penalties	Warnings or penalties for companies (or senior management) (e.g., violation of the Labour Protection Act, the Environmental Protection Act or the Consumer Protection Act)	**1**	**2**	**3**	**4**	**5**
	Chinese communist party building	Chinese communist party building activities such as conferences, seminars, lessons, visiting and etc.	**1**	**2**	**3**	**4**	**5**

（Continued）

(Continued)

Theme	Item	Description	Your rating (1-5)				
Risk and opportunity	Risk	Internal and external risks that companies identify and initiatives to mitigate risk, such as internal audit, internal control, risk management and so on.	**1**	**2**	**3**	**4**	**5**
	Opportunity	Internal and external opportunities that companies identify and initiatives to seize the opportunity	**1**	**2**	**3**	**4**	**5**
Outlook	Business plans	Future business plans for marketing, financing, recruitment, M&A, R&D and etc.	**1**	**2**	**3**	**4**	**5**
	Business objectives	Various business objectives set by the company and initiatives to achieve the objectives	**1**	**2**	**3**	**4**	**5**
	Challenges & uncertainties	Challenges and uncertainties regarding pursuing its business objectives and potential respond to the critical challenges and uncertainties	**1**	**2**	**3**	**4**	**5**
Financial capital	Fund from financing	The pool of fund that is available to a company obtained through financing	**1**	**2**	**3**	**4**	**5**
	Fund from operations or investments	The pool of fund that is available to a company generated through operations or investments	**1**	**2**	**3**	**4**	**5**
	Present financial KPIs	Important financial indicators and its analysis on the comparison with its target	**1**	**2**	**3**	**4**	**5**
	The linkage between past and present financial KPIs	Analysis on the changes of important financial indicators	**1**	**2**	**3**	**4**	**5**
	Shareholder relation	Relationship between the company and shareholders	**1**	**2**	**3**	**4**	**5**
	Creditor relation	Relationship between the company and creditors (e.g. Bank)	**1**	**2**	**3**	**4**	**5**
	Debtor relation	Relationship between the company and debtors (e.g. the collection of accounts receivable)	**1**	**2**	**3**	**4**	**5**
	Other financial relations	Relationship between the company and other financial stakeholders (e.g. financial analyst, credit ratings agency)	**1**	**2**	**3**	**4**	**5**
	Taxation	The company's information on taxation (e.g. tax incentives, tax rates for overseas subsidiaries or branches, company's tax credit rating, tax contribution rate)	**1**	**2**	**3**	**4**	**5**
	Insurance	The purpose, coverage, amount, claims, etc. of the insurance bought by the company	**1**	**2**	**3**	**4**	**5**
Manufacturing capital	Buildings	Important buildings (e.g. factories and plants) used within the company	**1**	**2**	**3**	**4**	**5**
	Equipment	Important equipment (e.g. machines and tools) used within the company	**1**	**2**	**3**	**4**	**5**
	Infrastructure	Important infrastructure (e.g. roads, ports, bridges) used within the company	**1**	**2**	**3**	**4**	**5**
Natural capital	Pollution and pollution reduction	Various pollution caused by the company and initiatives to reduce pollution	**1**	**2**	**3**	**4**	**5**
	Resource consumption and resource saving	Various resources consumed by the company and initiatives to reduce resources consumption	**1**	**2**	**3**	**4**	**5**
	Extra environmental protection	Voluntary environmental protection activities	**1**	**2**	**3**	**4**	**5**
	Overseas CSR (environmental aspect)	Corporate social responsibility activities (environmental aspect) in overseas markets	**1**	**2**	**3**	**4**	**5**

(Continued)

(Continued)

Theme	Item	Description	Your rating (1-5)				
Intellectual capital	Management processes	The processes related to the management of a company, such as cost management, marketing management and etc.	**1**	**2**	**3**	**4**	**5**
	Brand	Brand ranking, brand value, brand image, brand reputation and etc.	**1**	**2**	**3**	**4**	**5**
	Technology	Application of various technologies (e.g. ERP, database, internet, e-commerce for internal administrative management, marketing management, customer relationship management, supplier management, employee management, etc.	**1**	**2**	**3**	**4**	**5**
	Research and development	Research and development activities for new products and services creation, products and service upgradation, and etc.	**1**	**2**	**3**	**4**	**5**
	Intellectual property	Patents, copyrights, trademarks, etc. owned by the company	**1**	**2**	**3**	**4**	**5**
	Marketing	Marketing activities such as advertising, commercial sponsorship, promotions, social media presence, roadshows, relationship with the media and etc.	**1**	**2**	**3**	**4**	**5**
	Entrepreneurial spirit	The spirits of innovativeness, proactive and reactive abilities, changeability, empowerment, responsibility taking, risk taking, employee engagement, creativity, knowledge sharing; initiatives to spur and cultivate these spirits.	**1**	**2**	**3**	**4**	**5**
Human capital	Recruitment	Recruitment activities	**1**	**2**	**3**	**4**	**5**
	Employee remuneration	Employee remuneration policy and implementation (e.g. the comparison with the average wage of companies in the same industry or in the same region)	**1**	**2**	**3**	**4**	**5**
	Employee equality	The equality for disabilities, females and ethnic minorities in recruitment, remuneration and etc.	**1**	**2**	**3**	**4**	**5**
	Employee care	Employee care activities, such as providing counselling for employees who have personal crisis, holding sports competitions for employees and etc.	**1**	**2**	**3**	**4**	**5**
	Resignation, layoffs and dismissal	The employee turnover and the impact of important employees' turnover on the company	**1**	**2**	**3**	**4**	**5**
	Employee career development	Initiatives that support career development amongst employees	**1**	**2**	**3**	**4**	**5**
	Employee health and safety	Initiatives to ensure the occupational health and safety	**1**	**2**	**3**	**4**	**5**
	Employee training and education	Various training or education programs provided by the company to employees	**1**	**2**	**3**	**4**	**5**
	Employee qualifications	The information on academic and vocational qualifications held by employees	**1**	**2**	**3**	**4**	**5**
	Employee allocation	The information on employees of various positions (e.g. technicians) and employees of various ages	**1**	**2**	**3**	**4**	**5**

(Continued)

(Continued)

Theme	Item	Description	Your rating (1-5)				
Social and relational capital	Competitor relation	Relationship between the company and its competitors, such as anti-competitive initiatives	**1**	**2**	**3**	**4**	**5**
	Customer relation	Relationship between the company and the customers, such as initiatives to increase customer satisfaction, customer loyalty and etc.	**1**	**2**	**3**	**4**	**5**
	Business collaboration	Business activities with other companies or non-governmental organisations, such as joint ventures, mergers or acquisitions, marketing, strategic alliances, R&D and etc.	**1**	**2**	**3**	**4**	**5**
	Supplier or distributor relation	Relationship between the company and its suppliers or distributors, such as policies for suppliers or distributors, support for suppliers or distributors, identification of qualified suppliers and distributors	**1**	**2**	**3**	**4**	**5**
	Government relation	Relationship between the company and governments, such as strategic cooperation	**1**	**2**	**3**	**4**	**5**
	Society & community support	Various types of voluntary services provided by the company to the society and community	**1**	**2**	**3**	**4**	**5**
	Product or service quality	Initiatives to ensure consumer safety, health and privacy	**1**	**2**	**3**	**4**	**5**
	NGO relation	Relationship between the company and Non-profit organisations (e.g. environmental NGO)	**1**	**2**	**3**	**4**	**5**
	Media relation	Relationship between the company and the media	**1**	**2**	**3**	**4**	**5**
	Industry association relation	Relationship between the company and industry association relation	**1**	**2**	**3**	**4**	**5**
	Anti-corruption	The initiatives to prevent corruption	**1**	**2**	**3**	**4**	**5**
	Overseas CSR (social aspect)	Corporate social responsibility activities (social aspect) in overseas markets	**1**	**2**	**3**	**4**	**5**

Appendix H Questionnaire for the third-round survey

Dear Sir or Madam,

This questionnaire is designed by Mr. Yanqi Sun, a Ph.D. student at Waikato Management School (University of Waikato, New Zealand), for data collection for his Ph.D. thesis "Towards an Integrated Reporting Framework for China". It is the last stage of data collection for this research project.

Thank you very much for your participation in this research. The purpose of this email is to have your comments on the recommendations for the implementation of integrated reporting in China (see Attachment I). Please note that all comments provided will be treated as confidential, and you have the right to:

- Refuse to provide any comments, and to withdraw from the study at any time until 31 August 2020.
- Ask any further questions about the study which occur during your participation.
- Request a summary of findings from the study when it is concluded.

I appreciate your contribution to this research in advance.

Best wishes,

Yanqi Sun

Note: This is a translation for the original e-mail in Chinese.

Attachment I for Appendix H

1. Do you have any comments? Yes ☐ No ☐

(If you choose "Yes", please answer the following questions)

2. If IR is to be adopted in China, what are the challenges of integrated reporting?

3. What are your recommendations for the implementation of integrated reporting in China?

Appendix I

Weightings for each IR item by participants

	1.1	1.2	1.3	1.4	1.5	1.6	1.7	2.1	2.2	2.3	2.4	3.1	3.2	3.3	3.4	3.5	3.6	4.1	4.2
P1	4	5	5	5	5	3	5	5	5	4	5	5	5	5	5	5	3	5	5
P2	3	5	4	4	5	5	5	5	5	4	5	5	5	4	5	5	3	5	5
P3	4	5	5	5	5	4	4	5	5	3	5	5	5	5	4	4	2	4	4
P4	4	4	4	5	5	4	4	5	4	4	5	5	5	4	5	5	3	5	4
P5	5	4	5	5	5	3	5	3	3	5	5	1	1	5	1	5	3	5	5
P6	3	4	4	5	5	3	4	5	5	5	5	3	3	3	3	3	3	5	4
P7	5	5	5	3	3	5	4	5	5	3	3	3	4	3	3	2	2	4	4
P8	3	4	4	3	4	3	3	3	3	4	4	3	3	3	3	3	2	4	4
	3.88	4.50	4.50	4.38	4.63	3.75	4.25	4.50	4.38	4.00	4.63	3.75	3.88	4.00	3.63	4.00	2.88	4.63	4.25
Theme	4.27							4.38				3.69						4.44	
P9	3	3	3	4	4	3	2	4	5	5	3	2	3	5	4	3	4	4	4
P10	4	3	5	4	4	4	2	3	2	3	2	2	4	3	3	4	5	3	3
	3.50	3.00	4.00	4.00	4.00	3.50	2.00	3.50	3.50	4.00	2.50	2.00	3.50	4.00	3.50	3.50	4.50	3.50	3.50
Theme	3.43							3.38				3.50						3.50	
P11	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5
P12	5	4	4	4	5	5	3	5	5	3	5	5	5	5	5	5	4	5	3
P13	3	5	4	4	5	5	3	5	5	3	5	5	5	4	5	4	2	4	4
P14	5	4	3	5	5	3	4	5	5	4	5	5	5	4	3	3	1	3	3
P15	5	4	3	4	5	4	4	3	3	3	4	4	4	4	4	5	2	3	3
P16	3	3	3	4	4	3	3	3	3	5	4	5	4	4	4	1	1	4	3
P17	4	4	2	3	4	4	3	4	4	4	3	4	2	1	2	1	1	2	2
	4.29	4.14	3.43	4.14	4.71	3.71	3.86	4.29	4.29	3.86	4.43	4.71	4.29	3.86	4.00	3.43	2.29	3.71	3.29
Theme	4.04							4.21				3.76						3.50	
P18	5	3	3	3	5	3	5	5	5	5	5	5	5	5	5	5	3	5	5
P19	5	5	4	4	4	5	4	4	5	5	4	5	5	5	5	5	5	5	5
P20	5	5	5	4	5	4	4	5	5	4	5	4	4	4	4	4	4	4	4
P21	1	1	1	5	5	1	3	3	4	4	5	4	4	4	4	5	3	5	5
P22	5	2	2	3	3	2	4	3	3	3	4	3	4	3	3	4	2	4	3
P23	3	2	2	2	5	1	3	3	3	3	2	4	4	4	4	3	3	3	3
P24	5	3	3	3	5	5	4	3	3	4	3	5	5	4	5	3	1	5	3
P25	3	1	2	2	3	4	2	2	3	4	4	4	4	2	4	2	2	2	2
	4.00	2.75	2.75	3.25	4.38	3.13	3.63	3.50	3.88	4.00	4.00	4.25	4.38	3.88	4.25	3.88	2.88	4.13	3.75
Theme	3.41							3.84				3.92						3.94	
P26	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5
P27	5	5	5	5	5	1	5	5	5	5	5	5	5	5	5	3	5	4	5
P28	5	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	4	4
P29	5	4	2	3	4	4	2	3	4	4	4	4	4	3	3	3	2	3	3
P30	5	3	3	3	3	3	3	3	3	4	4	4	3	3	3	4	3	3	3
P31	3	2	2	3	3	1	5	3	2	3	3	5	5	3	3	1	1	1	1
	4.67	3.83	3.50	3.83	4.00	3.00	3.83	3.83	3.83	4.17	4.17	4.50	4.33	3.67	3.67	3.17	3.17	3.33	3.50
Theme	3.81							4.00				3.75						3.42	
P32	5	5	4	5	5	3	3	5	5	4	5	5	4	5	4	4	5	4	4
P33	5	4	4	5	5	3	4	5	5	5	5	5	5	5	5	5	1	1	2
P34	5	5	5	5	5	4	5	5	4	5	5	5	4	3	3	5	2	3	3
P35	5	3	3	3	4	4	3	4	4	4	2	5	5	4	5	4	2	3	3
P36	4	3	2	3	4	2	3	3	3	3	4	4	3	3	3	4	2	3	3
	4.80	4.00	3.60	4.20	4.60	3.20	3.60	4.40	4.20	4.20	4.20	4.80	4.20	4.00	4.00	4.40	2.40	2.80	3.00
Theme	4.00							4.25				3.97						2.90	
P37	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	3	5	5
P38	5	4	4	5	5	4	5	5	5	5	5	5	5	5	5	5	3	5	5
P39	5	2	1	5	5	2	4	3	4	5	4	5	4	5	4	5	1	5	3
P40	4	2	2	4	5	3	4	3	4	4	4	4	4	4	4	3	2	2	2
P41	4	3	3	2	5	4	4	4	2	3	5	5	4	3	3	3	2	5	4
P42	1	1	1	2	3	1	4	4	4	4	4	2	2	4	2	2	1	2	3
	4.00	2.83	2.67	3.83	4.67	3.17	4.17	4.00	4.00	4.33	4.50	4.33	4.00	4.33	3.83	3.83	2.00	4.00	3.67
Theme	3.62							4.21				3.72						3.83	
P43	5	3	3	5	5	5	5	4	4	5	5	5	5	5	5	5	3	5	4
P44	5	3	3	5	5	5	5	5	5	3	5	5	5	5	5	5	3	5	5
P45	5	5	5	5	5	5	4	4	5	5	5	5	5	5	4	5	4	4	4
P46	5	4	4	4	5	5	4	4	4	4	4	5	5	5	4	3	1	5	5
P47	5	3	3	4	4	5	4	3	4	4	5	4	4	4	4	4	3	4	3
P48	4	5	5	3	3	3	5	4	3	3	2	3	5	4	5	3	4	4	4
P49	5	5	4	4	4	5	4	5	4	4	4	3	3	3	3	3	4	3	3
P50	5	5	5	3	5	5	2	5	5	2	2	2	2	2	2	2	2	2	2
P51	5	4	4	2	2	5	4	2	2	2	3	3	3	4	3	3	4	1	2
	4.89	4.11	4.00	3.89	4.22	4.78	4.11	4.00	4.00	3.56	3.89	3.89	4.11	4.11	3.89	3.67	3.11	3.67	3.56
Theme	4.29							3.86				3.80						3.61	
Average	3.86							4.02				3.76						3.64	

	5.1	5.2	5.3	6.1	6.2	6.3	6.4	6.5	6.6	6.7	6.8	6.9	6.10	7.1	7.2	7.3	8.1	8.2	8.3	8.4
P1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5
P2	5	5	4	5	5	5	5	5	5	5	4	4	4	5	5	5	4	3	3	3
P3	4	5	4	5	5	5	5	4	4	4	4	4	4	4	4	4	5	5	5	5
P4	4	4	4	3	3	4	4	4	4	4	4	4	5	3	3	3	5	5	5	4
P5	5	5	4	3	3	1	1	5	5	5	3	3	5	3	3	3	5	5	5	5
P6	4	4	4	4	4	5	5	4	4	4	4	3	3	3	3	3	4	4	4	4
P7	3	4	4	3	3	3	3	3	3	3	3	3	2	2	3	3	3	3	2	2
P8	3	2	3	3	3	5	5	3	3	3	3	3	2	2	2	2	4	4	4	3
	4.13	4.25	4.00	3.88	3.88	4.13	4.13	4.13	4.13	4.00	3.75	3.63	3.75	3.38	3.50	3.38	4.38	4.25	4.13	3.88
Theme	4.13			3.94										3.42			4.16			
P9	4	2	4	3	4	4	3	2	4	3	3	4	5	3	3	2	4	4	3	4
P10	4	4	2	3	4	4	2	4	4	3	3	2	3	2	3	2	5	5	3	3
	4.00	3.00	3.00	3.00	4.00	4.00	2.50	3.00	4.00	3.00	3.00	3.00	4.00	2.50	3.00	2.00	4.50	4.50	3.00	3.50
Theme	3.33			3.35										2.50			3.88			
P11	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5
P12	5	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4
P13	5	4	5	5	5	5	5	4	4	4	3	3	5	3	3	3	4	3	3	2
P14	4	4	3	5	5	5	5	5	4	3	3	4	2	3	2	3	4	4	4	4
P15	3	4	4	3	3	5	4	4	4	4	4	3	3	4	4	4	4	3	2	2
P16	2	1	1	4	4	5	5	3	3	4	2	5	1	4	2	3	2	2	1	1
P17	2	2	2	3	3	4	4	4	3	3	3	3	1	3	3	3	1	1	1	1
	3.71	3.43	3.43	4.29	4.29	4.86	4.71	4.29	4.00	4.00	3.57	4.00	3.00	3.86	3.43	3.71	3.43	3.14	2.86	2.71
Theme	3.52			4.10										3.67			3.04			
P18	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	5	5	5	5	5
P19	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	4	3	3
P20	4	4	4	4	4	5	5	5	5	5	5	5	4	5	5	5	5	4	5	4
P21	4	4	5	5	5	5	5	5	5	5	5	4	4	3	4	4	5	4	2	3
P22	3	3	3	4	4	4	4	4	4	4	3	4	3	4	4	4	4	3	3	3
P23	3	3	3	3	3	5	5	5	5	5	3	4	2	3	3	3	2	2	2	2
P24	3	4	4	5	5	5	5	4	4	4	3	3	1	1	1	1	4	3	1	1
P25	3	2	2	4	4	4	4	4	4	4	4	3	2	1	1	2	2	2	2	2
	3.75	3.75	3.88	4.38	4.38	4.75	4.75	4.63	4.63	4.63	4.13	4.13	3.25	3.25	3.38	3.63	3.75	3.38	2.88	2.88
Theme	3.79			4.36										3.42			3.22			
P26	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5
P27	5	5	5	5	5	2	2	2	2	2	2	2	4	5	5	5	5	5	5	4
P28	4	4	3	3	3	4	4	3	3	3	3	3	4	4	4	4	3	3	2	2
P29	3	3	4	4	4	4	4	4	3	4	3	4	3	5	5	5	4	4	3	3
P30	3	4	3	5	5	5	5	4	5	4	3	3	4	5	5	5	4	4	1	1
P31	1	1	1	1	1	5	5	5	5	5	5	5	1	4	4	5	5	5	5	5
	3.50	3.67	3.50	3.83	3.83	4.17	4.17	3.67	3.83	3.83	3.50	3.67	3.50	4.67	4.67	4.83	4.33	4.33	3.50	3.33
Theme	3.56			3.80										4.72			3.88			
P32	4	4	4	4	4	5	5	5	5	4	3	5	4	3	3	3	4	4	3	5
P33	3	3	3	5	5	5	5	5	5	5	5	5	2	3	4	4	5	3	1	1
P34	3	3	3	5	5	5	5	5	5	5	5	4	4	3	3	3	4	4	4	4
P35	4	4	4	4	4	5	5	4	3	3	3	3	3	4	3	3	2	2	2	2
P36	4	4	3	3	4	5	5	3	3	3	4	4	3	2	2	2	2	2	2	2
	3.60	3.60	3.40	4.20	4.40	5.00	5.00	4.40	4.20	4.00	4.00	4.20	3.20	3.00	3.00	3.00	3.40	3.00	2.40	2.80
Theme	3.53			4.26										3.00			2.90			
P37	5	5	5	5	5	5	5	5	5	5	4	4	5	4	5	4	5	5	5	5
P38	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	5	5	4	4
P39	4	4	3	5	5	5	5	5	5	5	5	5	4	2	3	1	5	4	4	3
P40	3	2	3	5	5	5	5	4	4	4	4	4	2	3	3	3	3	3	2	2
P41	3	3	4	5	5	5	5	5	5	5	5	5	3	1	1	1	2	2	2	2
P42	4	4	3	4	4	5	5	4	4	4	2	2	2	2	2	2	3	3	3	3
	4.00	3.83	3.83	4.83	4.83	5.00	5.00	4.67	4.67	4.67	4.17	4.17	3.50	2.83	3.17	2.50	3.83	3.67	3.33	3.17
Theme	3.89			4.55										2.83			3.50			
P43	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
P44	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	3
P45	4	4	4	5	5	5	5	5	5	5	4	4	4	5	5	5	5	5	2	2
P46	5	5	5	4	4	5	5	5	5	4	4	4	2	3	3	3	4	5	3	1
P47	4	3	4	4	4	5	5	4	4	4	3	4	4	4	4	4	4	3	3	2
P48	3	4	3	2	2	5	5	4	3	3	3	3	3	2	1	1	2	2	2	2
P49	3	3	3	4	3	3	3	4	1	2	2	3	2	3	3	3	2	2	1	1
P50	1	4	1	5	5	4	5	5	4	4	3	5	2	2	1	1	4	2	2	2
P51	3	4	2	1	1	3	3	3	3	3	3	3	1	4	2	4	3	3	1	1
	3.67	4.11	3.44	3.89	3.78	4.44	4.56	4.44	3.89	3.89	3.56	4.00	3.11	3.67	3.22	3.44	3.78	3.56	2.44	2.11
Theme	3.74			3.96										3.44			2.97			
Average	3.69			4.04										3.38			3.44			

	9.1	9.2	9.3	9.4	9.5	9.6	9.7	10.1	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	10.10	11.1	11.2	11.3	11.4	11.5	11.6	11.7	11.8	11.9	11.10	11.11	11.12	Sum	Average
P1	5	5	4	5	5	3	5	4	5	5	4	5	5	4	5	5	5	4	4	5	5	5	4	5	5	5	5	5	5	326	4.79
P2	3	4	4	3	5	3	3	3	4	3	4	5	4	5	3	3	4	4	5	5	5	5	3	5	4	4	4	5	4	289	4.25
P3	4	4	5	5	3	4	4	4	4	4	4	5	4	4	5	3	4	4	4	4	4	2	4	5	4	4	4	3	3	287	4.22
P4	4	5	5	5	5	4	4	3	3	4	4	3	5	5	5	3	3	3	3	4	4	4	5	4	4	3	3	4	5	279	4.10
P5	3	4	4	5	5	3	5	4	4	5	5	4	3	5	3	4	2	3	5	3	5	5	5	5	5	5	3	5	5	273	4.01
P6	4	5	5	5	5	4	4	3	4	4	4	3	4	4	4	4	3	3	4	4	4	4	4	4	3	4	3	3	4	266	3.91
P7	3	3	4	5	5	3	3	2	3	3	3	3	3	4	3	3	3	3	4	4	3	3	3	4	3	2	2	4	2	222	3.26
P8	3	2	3	5	5	2	4	3	3	3	3	2	3	3	4	4	3	3	4	3	3	3	4	3	3	3	3	3	3	218	3.21
	3.63	4.00	4.25	4.75	4.75	3.25	4.00	3.25	3.75	3.88	3.88	3.75	3.88	4.25	4.00	3.63	3.38	3.38	4.13	4.00	4.13	3.88	4.00	4.38	3.88	3.75	3.38	4.00	3.88	270.00	3.97
Theme	4.09							3.76										3.90													
P9	4	3	5	5	3	4	4	3	4	4	3	4	3	5	2	4	4	3	4	3	3	4	3	4	3	2	4	3	3	239	3.51
P10	3	4	2	2	5	3	4	4	3	2	4	2	2	4	4	3	3	3	2	3	3	2	3	5	2	2	3	3	3	216	3.18
	3.50	3.50	3.50	3.50	4.00	3.50	4.00	3.50	3.50	3.00	3.50	3.00	2.50	4.50	3.00	3.50	3.50	3.00	3.00	3.00	3.00	3.00	3.00	4.50	2.50	2.00	3.50	3.00	3.00	227.50	3.35
Theme	3.64							3.35										3.04													
P11	5	5	5	5	5	4	5	4	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	335	4.93
P12	5	4	3	5	5	3	3	4	4	3	3	3	3	3	3	4	4	4	4	5	4	4	4	5	4	4	4	5	5	293	4.31
P13	2	3	4	5	4	4	5	4	3	1	1	3	3	3	5	4	3	4	3	4	4	5	1	5	3	3	3	4	2	256	3.76
P14	3	3	3	4	4	3	2	2	3	2	2	2	2	2	2	2	3	3	3	5	3	2	2	2	2	1	1	2	2	223	3.28
P15	4	3	3	4	3	4	3	2	4	3	3	3	2	2	2	3	3	1	2	2	2	2	2	3	2	1	2	2	2	216	3.18
P16	3	3	3	3	3	2	1	1	3	1	1	2	1	1	2	1	3	2	2	2	2	1	1	2	1	1	1	1	1	170	2.50
P17	2	2	2	2	2	2	2	2	1	1	1	1	1	1	1	2	3	3	3	3	3	2	2	2	1	1	1	1	2	156	2.29
	3.43	3.29	3.29	4.00	3.71	3.14	3.00	2.71	3.29	2.29	2.29	2.57	2.43	2.43	2.86	3.00	3.43	3.14	3.14	3.71	3.29	3.00	2.43	3.43	2.57	2.29	2.43	2.86	2.71	235.57	3.46
Theme	3.41							2.73										2.92													
P18	5	5	5	5	5	3	5	4	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	324	4.76
P19	5	5	5	5	5	3	5	4	4	3	3	5	3	3	3	4	4	5	5	5	5	5	3	5	5	5	4	5	3	306	4.50
P20	5	5	5	5	5	4	4	5	5	4	4	5	4	4	4	5	5	4	4	4	4	4	4	4	4	4	4	4	4	301	4.43
P21	4	4	3	5	4	3	3	2	3	2	2	4	2	3	2	3	3	4	4	5	4	4	3	5	3	3	4	3	3	250	3.68
P22	4	3	3	3	4	3	2	3	3	2	2	3	3	3	2	3	3	3	3	3	3	3	3	3	2	2	2	2	2	212	3.12
P23	3	3	3	3	3	3	3	3	3	2	2	2	2	2	2	2	3	2	2	4	3	2	2	3	3	3	3	3	3	200	2.94
P24	3	3	1	3	3	1	1	3	3	1	1	3	3	1	1	3	3	4	3	3	5	3	1	3	1	1	1	1	1	198	2.91
P25	3	2	1	2	2	2	2	2	2	2	1	2	2	2	2	2	2	2	2	4	3	2	2	2	2	2	2	2	1	167	2.46
	4.00	3.75	3.25	3.88	3.88	2.75	3.13	3.25	3.50	2.63	2.50	3.63	3.00	2.88	2.63	3.25	3.50	3.63	3.50	4.13	4.00	3.50	2.88	3.75	3.13	3.13	3.13	3.13	2.75	244.75	3.60
Theme	3.52							3.08										3.39													
P26	4	4	4	5	5	5	5	4	4	5	5	5	5	5	5	4	5	5	5	4	5	5	5	5	5	4	5	5	5	330	4.85
P27	5	5	5	5	5	5	5	5	3	4	2	3	4	5	5	5	5	3	3	3	2	2	3	3	5	4	3	3	2	277	4.07
P28	3	3	3	3	4	3	3	2	3	2	3	3	3	3	3	3	3	3	3	3	3	3	2	3	2	3	2	3	2	221	3.25
P29	2	3	4	2	3	3	4	2	4	1	2	2	3	1	1	3	3	3	2	4	3	3	3	4	2	4	2	4	3	220	3.24
P30	3	2	3	2	3	2	2	2	3	2	2	2	2	3	2	2	3	2	3	4	3	3	2	4	1	2	2	4	2	213	3.13
P31	3	3	3	3	5	3	1	5	1	1	1	1	1	1	1	4	4	5	5	5	5	5	5	5	1	1	1	1	5	209	3.07
	3.33	3.33	3.67	3.33	4.17	3.50	3.33	3.33	3.00	2.50	2.50	2.67	3.00	3.00	2.83	3.50	3.83	3.50	3.50	3.83	3.50	3.50	3.33	4.00	2.67	3.00	2.50	3.33	3.17	245.00	3.60
Theme	3.52							3.02										3.32													
P32	5	4	5	5	5	3	5	2	5	2	3	3	2	3	3	2	3	4	4	5	4	4	3	4	3	4	3	4	3	270	3.97
P33	5	5	5	5	5	5	5	3	4	3	3	4	1	5	3	3	5	5	5	5	5	5	3	5	1	2	1	2	3	267	3.93
P34	4	4	4	5	4	4	5	3	2	2	2	3	3	3	3	2	3	4	4	4	4	5	4	5	2	3	3	4	3	264	3.88
P35	3	3	3	4	2	3	3	3	4	1	3	3	3	3	3	3	5	3	4	3	3	3	3	3	3	2	2	2	2	222	3.26
P36	3	4	4	4	4	3	2	2	2	2	2	2	2	2	2	2	2	3	3	4	3	3	2	3	2	2	2	2	2	196	2.88
	4.00	4.00	4.20	4.60	4.00	3.60	4.00	2.60	3.40	2.00	2.60	3.00	2.20	3.20	2.80	2.40	3.60	3.80	4.00	4.20	3.80	4.00	3.00	4.00	2.20	2.60	2.20	2.80	2.60	243.80	3.59
Theme	4.06							2.78										3.27													
P37	5	5	5	5	5	5	5	3	5	3	3	5	4	4	4	5	5	5	4	5	5	4	3	5	4	3	3	5	5	315	4.63
P38	4	4	5	5	5	4	3	5	4	3	3	3	3	4	4	5	5	5	5	5	4	4	3	4	3	3	4	3	4	303	4.46
P39	4	3	4	4	5	3	2	5	4	2	2	4	3	3	3	4	4	4	4	3	4	5	2	4	3	3	3	3	4	255	3.75
P40	3	4	3	4	3	4	3	2	4	3	2	3	2	3	3	3	3	4	3	5	4	4	2	3	2	2	2	2	2	220	3.24
P41	3	2	2	3	2	3	2	3	3	2	2	2	3	1	2	2	2	5	4	5	5	4	2	4	3	3	2	3	2	218	3.21
P42	3	3	4	4	4	4	2	3	5	2	2	2	2	2	2	3	5	2	3	3	2	3	2	2	2	2	2	2	2	191	2.81
	3.67	3.50	3.83	4.17	4.00	3.83	2.83	3.50	4.17	2.50	2.33	3.17	2.83	2.83	3.00	3.67	4.00	4.17	3.83	4.33	4.00	4.00	2.33	3.67	2.83	2.67	2.67	3.00	3.17	250.33	3.68
Theme	3.69							3.20										3.39													
P43	5	4	5	5	5	4	3	5	5	4	3	5	4	5	5	5	5	5	5	5	5	5	4	5	3	3	4	4	5	315	4.63
P44	3	5	5	5	5	5	2	3	5	3	3	5	5	3	3	3	5	5	5	5	5	5	3	5	3	3	3	3	3	299	4.40
P45	5	4	4	5	5	4	4	4	4	1	4	4	3	3	3	4	5	4	4	4	4	4	3	4	3	3	3	4	4	287	4.22
P46	4	3	3	5	5	4	3	2	3	3	2	4	3	1	2	3	3	4	4	3	4	3	1	4	1	3	2	2	1	244	3.59
P47	3	3	2	4	3	3	3	3	4	3	3	4	3	4	3	2	4	3	3	3	3	4	3	4	2	2	2	2	3	238	3.50
P48	3	4	3	2	3	3	4	2	3	4	4	1	2	4	5	5	2	3	4	4	3	4	2	4	4	3	3	2	4	221	3.25
P49	4	4	4	4	4	3	5	1	3	2	3	2	2	2	2	3	4	3	3	3	3	4	2	3	2	3	2	3	3	210	3.09
P50	2	2	2	4	3	2	2	2	2	2	2	2	1	3	3	2	1	1	4	5	5	5	2	5	2	2	2	3	3	198	2.91
P51	3	3	3	3	3	3	3	2	3	3	2	4	4	4	3	1	5	3	3	3	3	3	3	3	3	3	3	3	3	197	2.90
	3.56	3.56	3.44	4.11	4.00	3.44	3.22	2.67	3.56	2.78	2.89	3.44	3.00	3.22	3.22	3.11	3.78	3.44	3.89	3.89	3.89	4.11	2.56	4.11	2.56	2.78	2.67	2.89	3.22	245.44	3.61
Theme	3.62							3.17										3.33													
Average	3.69							3.13										3.32													

Notes:

1. Participants:

P1-P8	**Scholars in accounting**
P9-P10	**Editors in financial media**
P11-P17	**Financial managers**
P18-P25	**Financial analysts in banks**
P26-P31	**Auditors**
P32-P36	**Officials in government agencies in charge of supervising Chinese companies**
P37-P42	**Industry analysts in consultant companies**
P43-P51	**Financial analysts in investment companies**

2. Ratings:

1 Unimportant to disclose

2 Little importance

3 Moderately important

4 Very important

5 Extremely important

3. Disclosure items:

1.1 Basic information of the company; 1.2 Mission and vision; 1.3 Culture, ethics and value; 1.4 Operating context; 1.5 Business and market; 1.6 Company history; 1.7 Operational structure; 2.1 Strategy; 2.2 Core competitiveness; 2.3 Competitive landscape; 2.4 Business model; 3.1 Ownership structure; 3.2 Leadership structure; 3.3 Management remuneration; 3.4 Management experience and capability; 3.5 Warnings and penalties; 3.6 Chinese communist party building; 4.1 Risk; 4.2 Opportunity; 5.1 Business plans; 5.2 Business objectives; 5.3 Challenges & uncertainties; 6.1 Fund from financing; 6.2 Fund from operations or investments; 6.3 Present financial KPIs; 6.4 The linkage between past and present financial KPIs; 6.5 Shareholder relation; 6.6 Creditor relation; 6.7 Debtor relation; 6.8 Other financial relations; 6.9 Taxation; 6.10 Insurance; 7.1 Buildings; 7.2 Equipment; 7.3 Infrastructure; 8.1 Pollution and pollution reduction; 8.2 Resource consumption and resource saving; 8.3 Extra environmental protection; 8.4 Overseas CSR (environmental aspect); 9.1 Management processes; 9.2 Brand; 9.3 Technology; 9.4 Research and development; 9.5 Intellectual property; 9.6 Marketing; 9.7 Entrepreneurial spirit; 10.1 Recruitment; 10.2 Employee remuneration; 10.3 Employee equality; 10.4 Employee care; 10.5 Resignation, layoffs and dismissal; 10.6 Employee career development; 10.7 Employee health and safety; 10.8 Employee training and education; 10.9 Employee qualifications; 10.10 Employee allocation; 11.1 Competitor relation; 11.2 Customer relation; 11.3 Business collaboration; 11.4 Supplier or distributor relation; 11.5 Government relation; 11.6 Society & community support; 11.7 Product or service quality; 11.8 NGO relation; 11.9 Media relation; 11.10 Industry association relation; 11.11 Anti-corruption; 11.12 Overseas CSR (social aspect)

Appendix J The measurement of the extent and quality of IR disclosures

The extent of IR disclosures		
Type	**Measurement**	**Description**
One item$_{(i)}$ of a firm$_{(j)}$ in one year	$Extent\ Score_{i,j} = 0\ or\ 1$	If one item$_{(i)}$ appears in the corporate report of a firm$_{(j)}$, this item$_{(i)}$ is assigned a score of 1, and 0 otherwise.
One item$_{(i)}$ of all firms in one year	$\frac{\sum_{j=1}^{m} Extent\ Score_{i,j}}{m}$	"m" is the number of total firms.
One theme$_{(p)}$ of a firm$_{(j)}$ in one year	$\frac{\sum_{i=1}^{q} Extent\ Score_{i,j}}{q}$	"q" is the number of items in the theme$_{(p)}$.
One theme$_{(p)}$ of all firms in one year	$\frac{\sum_{i=1}^{q}\sum_{j=1}^{m} Extent\ Score_{i,j}}{m \times q}$	"m" is the number of total firms; "q" is the number of items in the theme$_{(p)}$.
A firm in one year	$\frac{\sum_{i=1}^{n} Extent\ Score_{i,j}}{n}$	"m" is the number of total firms; "n" is the number of total disclosure items
All firms in one year	$\frac{\sum_{i=1}^{n}\sum_{j=1}^{m} Extent\ Score_{i,j}}{m \times n}$	"m" is the number of total firms; "n" is the number of total disclosure items
The quality of IR disclosures		
One item$_{(i)}$ of a firm$_{(j)}$ in one year	$\frac{Actual\ Score_{i,j}}{Maximum\ Score_{i}}$	Actual Score$_{(i)}$ is the actual quality score of one item$_{(i)}$ gained from content analysis for corporate reports of a firm$_{(j)}$; Maximum Score$_{(i)}$ is the possible maximum quality score of one item$_{(i)}$.
One item$_{(i)}$ of all firms in one year	$\frac{\sum_{j=1}^{m} \frac{Actual\ Score_{i,j}}{Maximum\ Score_{i}}}{m}$	"m" is the number of total firms.
One theme$_{(p)}$ of a firm$_{(j)}$ in one year	$\frac{\sum_{i=1}^{q} Actual\ Score_{i,j} \times Weighting_{i}}{\sum_{i=1}^{q} Maximum\ Score_{i} \times Weighting_{i}}$	"q" is the number of items in the theme$_{(p)}$.
One theme$_{(p)}$ of all firms in one year	$\frac{\sum_{j=1}^{m} \frac{\sum_{i=1}^{q} Actual\ Score_{i,j} \times Weighting_{i}}{\sum_{i=1}^{q} Maximum\ Score_{i} \times Weighting_{i}}}{m}$	"m" is the number of total firms; "q" is the number of items in the theme$_{(p)}$.
A firm in one year	$\frac{\sum_{i=1}^{n} Actual\ Score_{i,j} \times Weighting_{i}}{\sum_{i=1}^{n} Maximum\ Score_{i} \times Weighting_{i}}$ (An, 2012)	"n" is the number of total disclosure items.
All firms in one year	$\frac{\sum_{j=1}^{m} \frac{\sum_{i=1}^{n} Actual\ Score_{i,j} \times Weighting_{i}}{\sum_{i=1}^{n} Maximum\ Score_{i} \times Weighting_{i}}}{m}$	"m" is the number of total firms; "n" is the number of total disclosure items.

Appendix K The list of Companies

	Security Code	Name		Security Code	Name
1	000001	Ping An Bank Co., Ltd.	**51**	600376	Beijing Capital Development Co.,Ltd.
2	000002	China Vanke Co.,Ltd.	**52**	600383	Gemdale Corporation
3	000039	China International Marine Containers (Group) Co.,Ltd.	**53**	600585	Anhui Conch Cement Company Limited
4	000046	Oceanwide Holdings Co., Ltd.	**54**	600663	Shanghai Lujiazui Finance & Trade Zone Development Co.,Ltd.
5	000069	Shenzhen Overseas Chinese Town Co.,Ltd.	**55**	600690	Haier Smart Home Co.,Ltd.
6	000100	Tcl Corporation	**56**	600705	Avic Capital Co.,ltd.
7	000333	Midea Group Co., Ltd	**57**	600741	Huayu Automotive Systems Company Limited
8	000338	Weichai Power Co.,Ltd.	**58**	600795	GD Power Development Co.,Ltd
9	000402	Financial Street Holdings Co., Ltd.	**59**	600837	Haitong Securities Co.,Ltd.
10	000625	Chongqing Changan Automobile Company Limited	**60**	600886	SDIC Power Holdings Co., Ltd.
11	000651	Gree Electric Appliances,Inc.of Zhuhai	**61**	600893	AECC Aviation Power Co,Ltd
12	000709	Hbis Company Limited	**62**	600900	China Yangtze Power Co.,Ltd.
13	000725	Boe Technology Group Co.,Ltd.	**63**	600999	China Merchants Securities Co.,Ltd.
14	000728	Guoyuan Securities Company Limited	**64**	601006	Daqin Railway Co., Ltd.
15	000776	GF Securities Co.,Ltd.	**65**	601009	Bank Of Nanjing Co., Ltd
16	000783	Changjiang Securities Company Limited	**66**	601088	China Shenhua Energy Company Limited
17	000858	Wuliangye Yibin Co.,Ltd.	**67**	601111	Air China Limited
18	000895	Henan Shuanghui Investment & Development Co.,Ltd.	**68**	601117	China National Chemical Engineering Co., Ltd.
19	002024	Suning.com Co.,LTD.	**69**	601166	Industrial Bank Co., Ltd.
20	002142	Bank Of Ningbo Co.,Ltd.	**70**	601169	Bank Of Beijing Co., Ltd.
21	002146	Risesun Real Estate Development Co.,Ltd	**71**	601186	China Railway Construction Corporation Limited
22	002304	Jiangsu Yanghe Brewery Joint-Stock Co., Ltd.	**72**	601238	Guangzhou Automobile Group Co., Ltd.
23	002415	Hangzhou Hikvision Digital Technology Co.,Ltd.	**73**	601288	Agricultural Bank Of China Limited
24	002594	BYD Company Limited	**74**	601318	Ping An Insurance (Group) Company of China,Ltd.
25	002736	Guosen Securities Co.,Ltd	**75**	601328	Bank Of Communications Co., Ltd.
26	600000	Shanghai Pudong Development Bank Co.,Ltd.	**76**	601336	New China Life Insurance Company Ltd.
27	600011	Huaneng Power International,Inc.	**77**	601377	Industrial Securities Co., Ltd.
28	600015	Hua Xia Bank Co.,Limited	**78**	601390	China Railway Group Limited
29	600016	China Minsheng Banking Corp.,Ltd.	**79**	601398	Industrial And Commercial Bank Of China Limited
30	600018	Shanghai International Port (Group) Co.,Ltd.	**80**	601555	Soochow Securities Co.,Ltd.
31	600019	Baoshan Iron & Steel Co.,Ltd.	**81**	601601	China Pacific Insurance (Group) Co., Ltd.
32	600026	COSCO Shipping Energy Transportation Co., Ltd.	**82**	601618	Metallurgical Corporation of China Ltd.
33	600027	Huadian Power International Corporation Limited	**83**	601628	China Life Insurance Company Limited
34	600028	China Petroleum & Chemical Corporation	**84**	601633	Great Wall Motor Company Limited
35	600029	China Southern Airlines Co.,Ltd.	**85**	601668	China State Construction Engineering Corporation Limited
36	600030	CITIC Securities Company Limited	**86**	601669	Power Construction Corporation of China,Ltd
37	600036	China Merchants Bank Co., Ltd.	**87**	601688	Huatai Securities Co., Ltd.
38	600048	Poly Development Holding Group Co.,Ltd.	**88**	601727	Shanghai Electric Group Company Limited
39	600050	China United Network Communications Limited	**89**	601766	CRRC Corporation Limited
40	600068	China Gezhouba Group Co.,Ltd.	**90**	601788	Everbright Securities Company Limited
41	600089	TBEA Co., Ltd.	**91**	601800	China Communications Construction Company Limited
42	600104	SAIC Motor Corporation Limited	**92**	601818	China Everbright Bank Company Limited
43	600115	China Eastern Airlines Corporation Limited	**93**	601857	Petrochina Company Limited
44	600153	Xiamen C&D Inc.	**94**	601899	Zijin Mining Group Company Limited
45	600170	Shanghai Construction Group Co., Ltd.	**95**	601901	Founder Securities Co., Ltd.
46	600188	Yanzhou Coal Mining Company Limited	**96**	601939	China Construction Bank Corporation
47	600208	Xinhu Zhongbao Co.,Ltd.	**97**	601988	Bank Of China Limited
48	600309	Wanhua Chemical Group Co.,Ltd.	**98**	601991	Datang International Power Generation Co., Ltd.
49	600362	Jiangxi Copper Company Limited	**99**	601992	BBMG Corporation
50	600369	Southwest Securities Co., Ltd.	**100**	601998	China CITIC Bank Corporation Limited

Appendix L Extent and quality of disclosures of all IR items

Items	2014		2015		2016		2017		2018		Importance
	Extent	Quality	Extent	Quality	Extent	Quality	Extent	Quality	Extent	Quality	
Basic information of the company	99.00%	0.5900	99.00%	0.5800	99.00%	0.5800	99.00%	0.5900	99.00%	0.4950	Extremely important
Company history	44.00%	0.3500	34.00%	0.2850	33.00%	0.2750	34.00%	0.3000	57.00%	0.4800	Very important
Mission and vision	62.00%	0.5000	65.00%	0.5450	64.00%	0.5350	68.00%	0.5650	83.00%	0.6700	Very important
Culture, ethics and value	72.00%	0.6250	69.00%	0.5850	72.00%	0.5850	76.00%	0.6200	79.00%	0.6800	Very important
Operating context	75.00%	0.5775	90.00%	0.7200	94.00%	0.7700	92.00%	0.7800	100.00%	0.8175	Very important
Business and market	100.00%	0.9725	100.00%	0.9775	100.00%	0.9850	100.00%	0.9900	100.00%	0.9625	Extremely important
Operational structure	100.00%	0.9100	100.00%	0.9125	100.00%	0.9075	100.00%	0.9000	100.00%	0.8225	Very important
Business model	52.00%	0.1950	95.00%	0.5175	94.00%	0.5350	94.00%	0.5600	98.00%	0.5850	Very important
Strategy	86.00%	0.4225	89.00%	0.4475	89.00%	0.4350	92.00%	0.4625	98.00%	0.4725	Very important
Core competitiveness	88.00%	0.5850	91.00%	0.6025	91.00%	0.6200	91.00%	0.6400	98.00%	0.6250	Very important
Competitive landscape	84.00%	0.5150	85.00%	0.5350	87.00%	0.5775	89.00%	0.5725	91.00%	0.5875	Very important
Management processes	53.00%	0.2575	53.00%	0.2500	58.00%	0.2625	61.00%	0.2925	89.00%	0.4325	Very important
Brand	96.00%	0.6150	96.00%	0.5975	93.00%	0.6075	93.00%	0.6175	98.00%	0.6500	Very important
Technology	83.00%	0.5650	90.00%	0.6400	90.00%	0.6500	95.00%	0.7075	99.00%	0.7350	Very important
Intellectual property	68.00%	0.4375	71.00%	0.4700	77.00%	0.4875	78.00%	0.5150	75.00%	0.5000	Very important
Research and development	85.00%	0.6375	84.00%	0.7175	83.00%	0.7150	85.00%	0.7425	90.00%	0.7525	Very important
Marketing	55.00%	0.3400	60.00%	0.3600	59.00%	0.3725	63.00%	0.3850	78.00%	0.5200	Moderately important
Entrepreneurial spirit	54.00%	0.1950	61.00%	0.2300	64.00%	0.2375	64.00%	0.2350	86.00%	0.3575	Moderately important
Buildings	17.00%	0.1125	22.00%	0.1975	23.00%	0.2000	24.00%	0.2075	32.00%	0.2450	Very important
Equipment	11.00%	0.0750	11.00%	0.0775	12.00%	0.0850	13.00%	0.0900	21.00%	0.1400	Very important
Infrastructure	12.00%	0.0875	15.00%	0.1100	16.00%	0.1150	17.00%	0.1275	16.00%	0.1250	Very important
Employee allocation	100.00%	0.7800	100.00%	0.7733	100.00%	0.7800	100.00%	0.8067	100.00%	0.8233	Very important

(Continued)

(Continued)

Items	2014		2015		2016		2017		2018		Importance
	Extent	Quality	Extent	Quality	Extent	Quality	Extent	Quality	Extent	Quality	
Recruitment	54.00%	0.3225	58.00%	0.3300	53.00%	0.3125	52.00%	0.3025	63.00%	0.3600	Moderately important
Employee qualifications	100.00%	0.7133	100.00%	0.7167	100.00%	0.7033	100.00%	0.7167	100.00%	0.6933	Moderately important
Employee remuneration	94.00%	0.4775	97.00%	0.5050	95.00%	0.5200	96.00%	0.5250	98.00%	0.5975	Very important
Employee care	91.00%	0.6375	93.00%	0.6625	92.00%	0.6600	97.00%	0.6800	97.00%	0.7150	Moderately important
Employee equality	61.00%	0.3450	65.00%	0.3900	67.00%	0.3975	67.00%	0.4150	72.00%	0.4150	Moderately important
Resignation, layoffs and dismissal	17.00%	0.0850	19.00%	0.0975	20.00%	0.1100	29.00%	0.1675	31.00%	0.1675	Moderately important
Employee career development	79.00%	0.4100	79.00%	0.4425	78.00%	0.4500	76.00%	0.4150	87.00%	0.4500	Moderately important
Employee health and safety	89.00%	0.5625	89.00%	0.5650	90.00%	0.5800	90.00%	0.6325	97.00%	0.6675	Moderately important
Employee training and education	97.00%	0.7425	98.00%	0.7425	99.00%	0.8025	99.00%	0.7550	100.00%	0.7825	Moderately important
Pollution and pollution reduction	73.00%	0.4850	76.00%	0.5025	81.00%	0.5925	87.00%	0.6125	88.00%	0.6400	Very important
Resource consumption and resource saving	96.00%	0.7025	95.00%	0.7000	95.00%	0.7025	94.00%	0.7175	96.00%	0.7325	Very important
Extra environmental protection	56.00%	0.2850	56.00%	0.2950	58.00%	0.3000	55.00%	0.2950	65.00%	0.4225	Moderately important
Overseas CSR (environmental aspect)	6.00%	0.0225	6.00%	0.0275	7.00%	0.0375	10.00%	0.0425	6.00%	0.0300	Moderately important
Fund from financing	99.00%	0.8200	99.00%	0.8900	99.00%	0.8975	99.00%	0.8975	98.00%	0.9050	Very important
Fund from operations or investments	97.00%	0.7225	99.00%	0.7325	99.00%	0.7225	99.00%	0.7300	94.00%	0.6775	Very important
Present financial KPIs	100.00%	0.5775	100.00%	0.5550	100.00%	0.5550	100.00%	0.5525	100.00%	0.5375	Extremely important
The linkage between past and present financial KPIs	100.00%	0.9500	100.00%	0.9625	100.00%	0.9650	100.00%	0.9650	100.00%	0.9575	Extremely important
Shareholder relation	100.00%	0.7725	100.00%	0.8025	100.00%	0.8100	100.00%	0.8100	100.00%	0.8550	Extremely important
Creditor elation	27.00%	0.1350	60.00%	0.3650	61.00%	0.3975	62.00%	0.4000	66.00%	0.4300	Very important
Debtor relation	17.00%	0.1600	18.00%	0.1650	19.00%	0.1700	20.00%	0.1750	20.00%	0.1625	Very important

(Continued)

(Continued)

Items	2014		2015		2016		2017		2018		Importance
	Extent	Quality	Extent	Quality	Extent	Quality	Extent	Quality	Extent	Quality	
Other financial relations	96.00%	0.5850	95.00%	0.6225	95.00%	0.6225	97.00%	0.6475	97.00%	0.6075	Very important
Taxation	78.00%	0.4575	75.00%	0.4500	79.00%	0.4750	76.00%	0.4350	71.00%	0.4225	Very important
Business collaboration	73.00%	0.4725	80.00%	0.5100	76.00%	0.5050	79.00%	0.5450	88.00%	0.5250	Very important
Customer relation	84.00%	0.5675	82.00%	0.5525	88.00%	0.5975	87.00%	0.6075	92.00%	0.6500	Very important
Competitor relation	23.00%	0.1150	21.00%	0.1000	25.00%	0.1325	26.00%	0.1225	34.00%	0.1475	Very important
Supplier or distributor relation	82.00%	0.6025	80.00%	0.5950	84.00%	0.6325	89.00%	0.6900	90.00%	0.7125	Very important
Government relation	81.00%	0.3050	83.00%	0.3425	84.00%	0.3475	87.00%	0.3525	94.00%	0.4725	Very important
Society & community support	98.00%	0.8275	99.00%	0.8300	100.00%	0.9225	100.00%	0.9275	100.00%	0.9575	Moderately important
Product or service quality	95.00%	0.6725	92.00%	0.6400	96.00%	0.6675	99.00%	0.6800	100.00%	0.7125	Very important
Overseas CSR (social aspect)	25.00%	0.1425	28.00%	0.1700	30.00%	0.1850	31.00%	0.1975	27.00%	0.1825	Moderately important
Anti-corruption	64.00%	0.3925	61.00%	0.3600	74.00%	0.4275	81.00%	0.4700	84.00%	0.5275	Moderately important
Industry association relation	75.00%	0.2650	71.00%	0.2700	76.00%	0.2900	74.00%	0.2825	68.00%	0.2575	Moderately important
Media relation	71.00%	0.1950	73.00%	0.2125	74.00%	0.2100	75.00%	0.2225	79.00%	0.3275	Moderately important
NGO relation	48.00%	0.2200	43.00%	0.2275	49.00%	0.2425	58.00%	0.2700	51.00%	0.3000	Moderately important
Ownership structure	100.00%	0.8825	100.00%	0.8350	100.00%	0.8350	100.00%	0.8375	100.00%	0.7625	Very important
Leadership structure	98.00%	0.6000	100.00%	0.6100	100.00%	0.6200	100.00%	0.6200	100.00%	0.6750	Very important
Management experience and capability	100.00%	0.8750	100.00%	0.8950	100.00%	0.9050	100.00%	0.9100	100.00%	0.9750	Very important
Management remuneration	100.00%	0.7425	100.00%	0.7425	100.00%	0.7400	100.00%	0.7500	100.00%	0.7725	Very important
Chinese communist party building	10.00%	0.0350	13.00%	0.0700	20.00%	0.1050	43.00%	0.2500	67.00%	0.3650	Moderately important
Warnings and penalties	78.00%	0.2700	57.00%	0.2400	56.00%	0.2500	52.00%	0.2275	62.00%	0.2600	Very important
Insurance	11.00%	0.0675	12.00%	0.0675	11.00%	0.0675	14.00%	0.0825	10.00%	0.0650	Moderately important
Risk	96.00%	0.6525	96.00%	0.6500	97.00%	0.6600	97.00%	0.6575	100.00%	0.6900	Very important
Opportunity	80.00%	0.4500	83.00%	0.4650	86.00%	0.5025	87.00%	0.5150	90.00%	0.5025	Very important
Business plans	100.00%	0.6250	100.00%	0.6225	100.00%	0.6375	100.00%	0.6500	100.00%	0.6225	Very important
Business objectives	99.00%	0.6275	99.00%	0.6350	100.00%	0.6375	100.00%	0.6625	98.00%	0.6225	Very important
Challenges & uncertainties	87.00%	0.4250	85.00%	0.4300	82.00%	0.4125	81.00%	0.4050	95.00%	0.4725	Very important

Appendix M Final IR disclosure score by companies in 2018

Company No.	**Corporate overview & external environment**		**Strategy and competitiveness**		**Intellectual capital**		**Manufacturing capital**		**Human capital**		**Natural capital**		**Financial capital**		**Social and relational capital**		**Governance**		**Risk and opportunity**		**Outlook**		**Final**	
	No.	**Quality**	**No.**	**Quality**	**No.**	**Score**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**
1	4	0.4185	3	0.5043	7	0.8246	1	0.0830	7	0.4724	2	0.3154	7	0.4886	10	0.4937	6	0.7003	2	0.6282	2	0.3381	**51**	**0.5057**
2	7	0.7029	3	0.4363	6	0.5846	1	0.2519	9	0.6095	3	0.6532	7	0.5387	10	0.5685	5	0.5918	1	0.2564	3	0.6690	**55**	**0.5601**
3	7	0.8019	4	0.6236	7	0.6220	2	0.5010	9	0.5918	3	0.6005	9	0.6982	10	0.4961	5	0.7009	2	0.8782	3	0.5810	**61**	**0.6312**
4	7	0.7061	3	0.3776	5	0.3207	1	0.3359	7	0.3763	1	0.1348	8	0.5644	9	0.4246	5	0.5365	2	0.5064	3	0.6690	**51**	**0.4545**
5	6	0.8065	4	0.4379	5	0.3946	1	0.3359	9	0.5197	3	0.5253	8	0.5874	10	0.4770	6	0.6269	2	0.3782	3	0.4190	**57**	**0.5205**
6	7	0.7485	4	0.6236	6	0.6955	0	0.0000	9	0.6760	3	0.6005	8	0.6426	11	0.6074	4	0.4332	2	0.5000	3	0.4190	**57**	**0.5913**
7	6	0.6005	4	0.7503	7	0.7918	0	0.0000	8	0.4787	2	0.4161	6	0.3836	10	0.4742	5	0.5897	2	0.3782	3	0.5000	**53**	**0.5069**
8	6	0.6564	4	0.4991	7	0.6166	0	0.0000	10	0.6596	2	0.4835	6	0.4927	9	0.5021	6	0.5737	2	0.5000	3	0.5881	**55**	**0.5323**
9	6	0.7123	3	0.3140	6	0.2455	1	0.3359	6	0.3537	2	0.1387	8	0.6124	7	0.3522	5	0.5979	2	0.3782	3	0.5876	**49**	**0.4326**
10	7	0.8402	4	0.6860	7	0.6511	1	0.2490	9	0.5797	3	0.5253	7	0.5126	10	0.4950	6	0.6108	2	0.5000	3	0.5847	**59**	**0.5732**
11	5	0.7619	3	0.5618	7	0.7851	0	0.0000	7	0.5400	2	0.4161	5	0.3559	9	0.5513	5	0.5365	2	0.7436	2	0.3381	**47**	**0.5224**
12	6	0.6581	4	0.6267	4	0.4183	0	0.0000	6	0.3708	3	0.3378	8	0.6175	4	0.1783	6	0.5737	2	0.5000	3	0.5843	**46**	**0.4407**
13	6	0.7068	4	0.6236	6	0.5895	1	0.2490	9	0.6508	3	0.7190	7	0.5926	10	0.5185	5	0.5918	2	0.8718	3	0.5038	**56**	**0.5955**
14	6	0.7530	4	0.6860	7	0.5638	0	0.0000	7	0.3445	2	0.2480	7	0.6181	7	0.3348	6	0.7039	2	0.7500	3	0.5810	**51**	**0.5053**
15	7	0.9456	4	0.6848	7	0.6879	1	0.1679	10	0.6885	2	0.3448	7	0.5866	11	0.4428	6	0.7695	2	0.5000	3	0.5000	**60**	**0.5985**
16	7	0.8985	3	0.4370	5	0.4033	0	0.0000	9	0.4823	0	0.0000	7	0.5696	7	0.3278	6	0.8595	2	0.7564	3	0.5810	**49**	**0.4887**
17	7	0.8969	3	0.4403	7	0.6918	0	0.0000	8	0.5565	3	0.6532	7	0.5666	10	0.5557	6	0.7039	2	0.5000	2	0.5071	**55**	**0.5824**
18	6	0.6142	4	0.5000	5	0.4018	0	0.0000	9	0.6874	3	0.6679	8	0.5898	8	0.3478	6	0.6122	2	0.5000	3	0.5843	**54**	**0.5129**
19	6	0.7586	3	0.3798	7	0.7542	0	0.0000	9	0.6128	3	0.5819	6	0.4670	10	0.6150	6	0.7199	2	0.5000	3	0.4190	**55**	**0.5661**
20	7	0.7509	4	0.5000	5	0.5260	1	0.1679	8	0.4541	2	0.3448	8	0.5906	9	0.4698	6	0.7194	2	0.6346	3	0.5038	**55**	**0.5272**
21	6	0.7100	4	0.5593	5	0.3522	1	0.3359	8	0.5598	3	0.5184	8	0.6175	9	0.6293	6	0.7943	2	0.6282	3	0.6686	**55**	**0.5853**
22	6	0.6974	4	0.5637	7	0.6916	0	0.0000	7	0.5017	2	0.5547	7	0.4653	10	0.4964	6	0.7033	2	0.3782	3	0.5847	**54**	**0.5333**
23	6	0.7068	4	0.6255	6	0.5183	0	0.0000	8	0.4761	3	0.4432	6	0.4908	10	0.4477	5	0.5365	2	0.6218	3	0.5000	**53**	**0.4960**
24	6	0.6069	4	0.4388	6	0.5187	0	0.0000	8	0.5801	2	0.4161	7	0.5650	12	0.6270	5	0.5365	2	0.5000	3	0.5000	**55**	**0.5259**
25	7	0.8043	4	0.6224	7	0.6463	1	0.0840	7	0.5372	3	0.4324	8	0.6175	9	0.5516	6	0.7483	2	0.7564	3	0.5000	**57**	**0.5901**
26	7	0.8506	4	0.4969	6	0.6304	1	0.0840	9	0.5853	1	0.1348	7	0.6108	8	0.3968	6	0.8568	2	0.6346	3	0.5885	**54**	**0.5538**
27	7	0.9456	4	0.6879	6	0.4639	1	0.2490	7	0.3844	2	0.2735	7	0.5181	5	0.2559	5	0.5365	2	0.7500	3	0.5847	**49**	**0.4842**

(Continued)

Appendix M Final IR disclosure score by companies in 2018 (Continued)

Company No.	Corporate overview & external environment		Strategy and competitiveness		Intellectual capital		Manufacturing capital		Human capital		Natural capital		Financial capital		Social and relational capital		Governance		Risk and opportunity		Outlook		Final	
	No.	**Quality**	**No.**	**Quality**	**No.**	**Score**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**
28	6	0.7100	4	0.5000	5	0.4623	0	0.0000	9	0.5545	2	0.3154	7	0.5932	8	0.5386	6	0.6981	2	0.7564	3	0.5000	**52**	**0.5345**
29	7	0.8961	4	0.5612	6	0.5913	1	0.1679	9	0.5757	3	0.4541	7	0.5628	10	0.6816	6	0.7535	1	0.3846	3	0.5847	**57**	**0.6028**
30	7	0.8961	4	0.4991	6	0.5897	2	0.4151	10	0.7930	3	0.5966	8	0.6733	11	0.5459	6	0.7535	1	0.5128	3	0.6690	**61**	**0.6495**
31	6	0.8050	4	0.6236	7	0.7641	0	0.0000	7	0.5103	3	0.7245	8	0.6390	10	0.4989	6	0.6269	2	0.3782	3	0.8347	**56**	**0.6023**
32	6	0.7626	4	0.6879	6	0.3811	1	0.3321	9	0.7340	3	0.5966	7	0.6536	11	0.5396	4	0.5396	2	0.8718	3	0.8381	**56**	**0.6149**
33	7	0.8050	4	0.5031	6	0.4015	1	0.2490	10	0.5619	3	0.7245	7	0.5175	6	0.3264	6	0.7241	2	0.6218	3	0.6686	**55**	**0.5282**
34	4	0.7060	4	0.5633	7	0.7598	1	0.2490	9	0.5296	3	0.7245	7	0.5148	10	0.5748	6	0.5706	1	0.3846	3	0.7533	**55**	**0.5857**
35	7	0.8961	4	0.6236	7	0.7849	2	0.4151	10	0.6592	3	0.5966	7	0.5410	12	0.6917	5	0.5979	2	0.8782	3	0.9153	**62**	**0.6754**
36	6	0.8001	4	0.8758	7	0.4672	0	0.0000	9	0.5839	3	0.6424	8	0.6160	10	0.5735	6	0.7324	2	0.6282	3	0.5810	**58**	**0.6041**
37	7	0.9001	4	0.7509	7	0.7058	0	0.0000	10	0.6444	3	0.5711	9	0.6641	11	0.7517	6	0.6791	2	0.6282	3	0.5000	**62**	**0.6645**
38	5	0.5717	4	0.6860	6	0.4583	1	0.2519	8	0.4671	3	0.5184	8	0.6684	8	0.4733	4	0.5396	2	0.5000	3	0.6686	**52**	**0.5364**
39	7	0.6318	4	0.6870	7	0.8572	1	0.1660	10	0.7366	4	0.6348	8	0.5175	11	0.7898	5	0.5979	2	0.5000	3	0.5000	**62**	**0.6471**
40	5	0.7155	4	0.6879	7	0.6866	1	0.3359	9	0.6613	2	0.4873	8	0.5892	8	0.4800	5	0.5607	2	0.7500	3	0.6690	**54**	**0.5975**
41	5	0.7603	4	0.6248	7	0.5833	2	0.6641	8	0.4300	2	0.5547	7	0.5920	8	0.4823	4	0.5396	2	0.7436	3	0.5847	**52**	**0.5696**
42	7	0.7539	4	0.5612	7	0.6469	1	0.2519	9	0.6566	3	0.5858	7	0.5158	9	0.6324	5	0.6532	2	0.6218	3	0.6695	**57**	**0.6055**
43	6	0.6157	4	0.5031	6	0.5996	2	0.4981	8	0.5471	2	0.4161	7	0.5048	10	0.5554	5	0.5075	2	0.6282	3	0.6686	**55**	**0.5451**
44	4	0.6707	4	0.5000	5	0.4341	1	0.3359	7	0.4089	3	0.4091	8	0.5914	6	0.3121	4	0.4332	2	0.8782	3	0.6690	**47**	**0.4817**
45	6	0.8058	4	0.5624	6	0.4834	0	0.0000	8	0.5668	1	0.1425	8	0.5659	5	0.2972	5	0.5979	2	0.6218	3	0.6657	**48**	**0.4904**
46	6	0.5168	4	0.5022	6	0.6252	1	0.2490	9	0.6960	3	0.7810	8	0.6159	8	0.4379	6	0.7324	2	0.6346	3	0.5881	**56**	**0.5823**
47	4	0.5239	3	0.3776	4	0.1733	1	0.3359	7	0.3291	2	0.1387	7	0.5180	5	0.2380	4	0.5396	2	0.5000	3	0.5000	**42**	**0.3689**
48	5	0.6622	4	0.5000	7	0.5534	1	0.2490	7	0.4322	2	0.5547	5	0.3959	5	0.2230	4	0.4864	2	0.6218	3	0.5004	**45**	**0.4403**
49	6	0.7580	4	0.5643	6	0.5189	0	0.0000	6	0.4015	2	0.4199	8	0.6622	10	0.3210	4	0.4864	2	0.5000	3	0.6690	**51**	**0.4939**
50	6	0.8089	4	0.5000	3	0.2504	0	0.0000	8	0.4030	1	0.1348	8	0.6383	4	0.2170	5	0.5866	2	0.7564	3	0.5000	**44**	**0.4337**
51	6	0.7626	4	0.4388	5	0.3088	1	0.3359	5	0.2739	2	0.1387	8	0.6175	6	0.2799	5	0.5365	1	0.2564	3	0.7533	**46**	**0.4302**
52	6	0.8058	4	0.5624	6	0.5504	1	0.3359	7	0.4032	2	0.1387	7	0.5411	7	0.4276	4	0.5976	2	0.3782	3	0.5843	**49**	**0.4980**
53	5	0.5222	3	0.3798	6	0.4989	0	0.0000	10	0.8190	3	0.6424	8	0.5398	8	0.4890	6	0.6108	2	0.5000	3	0.7496	**54**	**0.5459**
54	6	0.7587	4	0.5624	4	0.3152	1	0.3359	9	0.6431	3	0.3301	8	0.5634	6	0.3852	5	0.5235	2	0.6218	3	0.6653	**51**	**0.5120**

(Continued)

Appendix M Final IR disclosure score by companies in 2018 (Continued)

Company No.	Corporate overview & external environment		Strategy and competitiveness		Intellectual capital		Manufacturing capital		Human capital		Natural capital		Financial capital		Social and relational capital		Governance		Risk and opportunity		Outlook		Final	
	No.	Quality	No.	Quality	No.	Score	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality
55	6	0.7571	4	0.6236	7	0.7215	0	0.0000	6	0.4180	2	0.4161	7	0.5165	10	0.4929	4	0.4864	2	0.3782	3	0.5000	**51**	**0.5141**
56	6	0.7556	3	0.3776	3	0.2120	0	0.0000	8	0.4638	1	0.1132	8	0.5613	9	0.5033	5	0.5979	2	0.5000	3	0.5000	**48**	**0.4511**
57	5	0.6622	3	0.4400	6	0.5542	0	0.0000	9	0.5264	2	0.4835	8	0.6144	9	0.3984	4	0.4898	2	0.6282	3	0.5847	**51**	**0.5057**
58	6	0.8515	4	0.5637	7	0.7186	1	0.1660	9	0.6571	3	0.5858	8	0.5890	10	0.5185	5	0.5979	2	0.5000	3	0.5038	**58**	**0.5952**
59	7	0.9456	4	0.6248	7	0.5457	0	0.0000	9	0.7084	2	0.4161	9	0.6903	10	0.5522	6	0.8036	2	0.6282	3	0.5000	**59**	**0.6214**
60	6	0.7626	4	0.5624	2	0.1772	1	0.2490	9	0.4985	3	0.7245	8	0.6175	4	0.2417	4	0.4864	2	0.7500	3	0.6724	**46**	**0.4842**
61	7	0.7972	4	0.5000	5	0.4832	1	0.1660	9	0.6562	2	0.4873	6	0.4996	6	0.2840	4	0.5422	2	0.5000	3	0.7538	**49**	**0.5062**
62	7	0.7028	4	0.6236	7	0.6467	2	0.3340	10	0.7023	3	0.5858	8	0.6149	10	0.6232	6	0.5025	2	0.6282	3	0.6695	**62**	**0.6189**
63	7	0.8985	4	0.4991	7	0.5384	0	0.0000	9	0.6551	1	0.1348	6	0.5160	8	0.3082	6	0.7664	2	0.7564	3	0.5000	**53**	**0.5136**
64	6	0.7626	4	0.5643	6	0.3868	0	0.0000	7	0.4082	3	0.6571	7	0.5437	7	0.3481	5	0.5767	2	0.6218	3	0.7533	**50**	**0.4933**
65	7	0.7452	4	0.8752	6	0.5264	1	0.2519	8	0.5052	2	0.3154	8	0.5653	10	0.5913	6	0.6981	1	0.3846	2	0.5919	**55**	**0.5723**
66	5	0.6181	4	0.6879	6	0.6212	3	0.7500	10	0.7077	4	0.8358	9	0.6677	11	0.6139	5	0.5607	2	0.6282	3	0.7538	**62**	**0.6634**
67	7	0.8035	4	0.4982	7	0.6742	2	0.4981	10	0.6851	3	0.6679	8	0.5129	11	0.5863	5	0.4364	2	0.7564	3	0.5847	**62**	**0.6021**
68	6	0.7602	4	0.5612	7	0.5893	0	0.0000	10	0.6465	3	0.4726	7	0.4902	9	0.5083	5	0.5979	2	0.8718	3	0.5847	**56**	**0.5543**
69	7	0.7563	4	0.6298	6	0.6733	0	0.0000	6	0.4244	3	0.4998	8	0.5397	10	0.6339	6	0.6849	2	0.6282	3	0.8381	**55**	**0.5829**
70	6	0.7602	4	0.5012	5	0.5019	1	0.0840	7	0.3951	3	0.4471	5	0.3701	10	0.5521	6	0.6238	1	0.3846	3	0.5000	**51**	**0.4799**
71	6	0.6583	4	0.6255	6	0.6252	1	0.3359	8	0.5495	4	0.6953	8	0.6175	10	0.5538	5	0.5789	2	0.5000	2	0.4228	**56**	**0.5787**
72	6	0.7076	3	0.5664	6	0.6914	1	0.3359	9	0.6088	3	0.7098	8	0.5888	10	0.5260	5	0.5979	2	0.7500	3	0.7504	**56**	**0.6099**
73	7	0.9456	4	0.7528	6	0.6308	0	0.0000	9	0.6059	3	0.5145	8	0.6157	9	0.5861	6	0.7535	2	0.6346	3	0.5876	**57**	**0.6256**
74	7	0.7005	4	0.5661	7	0.7893	1	0.2519	9	0.6545	3	0.5292	7	0.4928	10	0.6171	5	0.6952	2	0.7564	3	0.6690	**58**	**0.6144**
75	6	0.8089	4	0.7534	6	0.6349	0	0.0000	9	0.7895	3	0.5292	8	0.6867	10	0.6638	6	0.8254	2	0.7564	3	0.5000	**57**	**0.6698**
76	7	0.7587	3	0.3715	5	0.3413	1	0.0840	9	0.5629	3	0.5292	8	0.4759	9	0.4534	6	0.5687	2	0.6282	3	0.5000	**56**	**0.4840**
77	7	0.9456	4	0.6224	7	0.6822	0	0.0000	10	0.7138	3	0.5711	8	0.5378	9	0.4480	6	0.5706	2	0.7564	3	0.4190	**59**	**0.5831**
78	7	0.9001	4	0.6879	6	0.5893	3	0.8340	10	0.6560	3	0.5966	8	0.6426	8	0.4893	5	0.5979	2	0.7436	2	0.4148	**58**	**0.6317**
79	7	0.9001	4	0.6264	7	0.7893	0	0.0000	7	0.3858	3	0.5711	9	0.6820	12	0.7149	5	0.6420	2	0.7564	3	0.5000	**59**	**0.6301**
80	7	0.9456	4	0.5612	6	0.4250	0	0.0000	7	0.3529	1	0.0674	8	0.6154	9	0.3867	6	0.7142	2	0.6282	3	0.5000	**53**	**0.4897**
81	5	0.5694	4	0.5000	6	0.4955	0	0.0000	10	0.7402	3	0.5858	7	0.5981	10	0.6880	5	0.5365	2	0.6282	3	0.4153	**55**	**0.5709**

(Continued)

Appendix M Final IR disclosure score by companies in 2018 (Continued)

Company No.	**Corporate overview & external environment**		**Strategy and competitiveness**		**Intellectual capital**		**Manufacturing capital**		**Human capital**		**Natural capital**		**Financial capital**		**Social and relational capital**		**Governance**		**Risk and opportunity**		**Outlook**		**Final**	
	No.	**Quality**	**No.**	**Quality**	**No.**	**Score**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**
82	7	0.8513	4	0.5000	7	0.6538	2	0.6679	9	0.5533	3	0.5858	8	0.6916	11	0.5727	4	0.4858	2	0.6218	3	0.4157	**60**	**0.6107**
83	7	0.6981	4	0.4969	7	0.6424	0	0.0000	9	0.5800	2	0.4161	8	0.5892	10	0.5197	6	0.6207	2	0.5000	2	0.3305	**57**	**0.5359**
84	5	0.7109	4	0.5000	6	0.4435	1	0.2490	9	0.4791	3	0.4726	8	0.6116	7	0.3570	4	0.4864	2	0.5000	3	0.7500	**52**	**0.5022**
85	6	0.8545	4	0.5000	7	0.6889	1	0.1679	10	0.7368	3	0.6571	7	0.5696	11	0.6159	6	0.7012	2	0.5000	3	0.5847	**60**	**0.6275**
86	6	0.7617	4	0.6236	7	0.6152	0	0.0000	9	0.6514	3	0.3378	8	0.5659	8	0.4411	5	0.5979	2	0.7436	3	0.4153	**55**	**0.5440**
87	7	0.9456	4	0.6224	7	0.5775	1	0.2519	10	0.7865	3	0.5292	8	0.6622	10	0.4823	6	0.8036	2	0.7564	3	0.5000	**61**	**0.6397**
88	5	0.5709	4	0.5612	7	0.6565	1	0.1660	9	0.6369	2	0.4161	8	0.5613	11	0.5948	4	0.4864	2	0.6218	3	0.5000	**56**	**0.5549**
89	4	0.6220	4	0.5000	7	0.6218	0	0.0000	8	0.4518	2	0.4835	7	0.5390	11	0.5564	6	0.5737	2	0.7436	3	0.4190	**54**	**0.5207**
90	6	0.8545	4	0.6224	5	0.5684	0	0.0000	10	0.6372	3	0.5858	8	0.5914	9	0.4070	4	0.4864	2	0.6282	3	0.5000	**54**	**0.5494**
91	6	0.7563	4	0.7503	6	0.5542	2	0.5811	8	0.5528	3	0.7245	9	0.6837	11	0.6668	5	0.5607	2	0.6282	3	0.6661	**59**	**0.6460**
92	6	0.6644	4	0.6285	7	0.6064	0	0.0000	9	0.6073	3	0.5292	10	0.6547	10	0.6395	6	0.7561	1	0.5128	3	0.5847	**59**	**0.6036**
93	7	0.8065	4	0.4397	7	0.7219	1	0.2490	8	0.5004	4	0.7665	9	0.6838	12	0.6136	6	0.6791	2	0.7436	3	0.6686	**63**	**0.6324**
94	6	0.8545	4	0.6236	6	0.6323	1	0.2490	9	0.6640	3	0.7098	8	0.6138	10	0.5078	5	0.5447	1	0.2564	3	0.6686	**56**	**0.6003**
95	6	0.8515	4	0.5612	6	0.4594	0	0.0000	6	0.3799	0	0.0000	8	0.5898	8	0.3172	6	0.6078	2	0.6346	3	0.5000	**49**	**0.4604**
96	7	0.9001	4	0.7509	7	0.6428	0	0.0000	8	0.5662	2	0.4161	8	0.6399	11	0.6395	5	0.6420	2	0.7564	3	0.5000	**57**	**0.6162**
97	7	0.7995	4	0.4957	7	0.7058	0	0.0000	9	0.6378	4	0.7061	8	0.6628	12	0.7312	6	0.6791	2	0.7564	3	0.4996	**62**	**0.6455**
98	5	0.6637	3	0.4351	5	0.5154	1	0.1660	8	0.5556	3	0.6571	7	0.5175	8	0.4359	5	0.5075	1	0.2564	3	0.5000	**49**	**0.4974**
99	6	0.7587	4	0.7503	7	0.8290	1	0.3359	9	0.5514	3	0.6113	6	0.4416	10	0.4880	5	0.4833	2	0.3782	3	0.5847	**56**	**0.5680**
100	7	0.9001	4	0.5612	7	0.6382	0	0.0000	9	0.5750	2	0.4161	9	0.7267	10	0.5839	6	0.8094	2	0.7564	3	0.5004	**59**	**0.6228**
Mean	6.18	0.7589	3.85	0.5676	6.15	0.5688	0.69	0.1703	8.45	0.5613	2.55	0.4822	7.56	0.5763	9.07	0.4945	5.29	0.6171	1.90	0.5987	2.93	0.5739	**54.62**	**0.5548**
Median	6	0.7587	4	0.5624	6	0.5896	1	0.1660	9	0.5646	3	0.5219	8	0.5891	10	0.5005	5	0.5979	2	0.6282	3	0.5843	**55**	**0.5575**
Std. D	0.83	0.1105	0.36	0.1091	1.02	0.1492	0.72	0.1936	1.19	0.1203	0.78	0.1895	0.89	0.0739	1.90	0.1307	0.74	0.1013	0.30	0.1537	0.26	0.1163	**4.60**	**0.0644**
Minimum	4	0.4185	3	0.3140	2	0.1733	0	0.0000	5	0.2739	0	0.0000	5	0.3559	4	0.1783	4	0.4332	1	0.2564	2	0.3305	**42**	**0.3689**
Maximum	7	0.9456	4	0.8758	7	0.8572	3	0.8340	10	0.8190	4	0.8358	10	0.7267	12	0.7898	6	0.8595	2	0.8782	3	0.9153	**63**	**0.6754**

Appendix M Final IR disclosure score by companies in 2017

Company No.	**Corporate overview & external environment**		**Strategy and competitiveness**		**Intellectual capital**		**Manufacturing capital**		**Human capital**		**Natural capital**		**Financial capital**		**Social and relational capital**		**Governance**		**Risk and opportunity**		**Outlook**		**Final**	
	No.	**Quality**	**No.**	**Quality**	**No.**	**Score**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**
1	6	0.5591	3	0.3776	7	0.5707	0	0.0000	6	0.3926	2	0.3828	5	0.3424	8	0.5001	5	0.5888	2	0.7564	2	0.3381	**46**	**0.4415**
2	6	0.6598	2	0.1897	7	0.5779	1	0.2519	9	0.5366	3	0.5858	8	0.6150	10	0.5187	6	0.7194	2	0.5064	3	0.6690	**57**	**0.5484**
3	7	0.7987	4	0.6285	6	0.5609	0	0.0000	8	0.4294	2	0.5547	9	0.6511	9	0.4600	5	0.7009	2	0.7564	3	0.6653	**55**	**0.5647**
4	7	0.7996	4	0.3767	2	0.1768	1	0.3359	6	0.2727	2	0.2061	7	0.5395	6	0.2797	6	0.6269	2	0.3782	3	0.5843	**46**	**0.4074**
5	7	0.8026	4	0.5000	6	0.4705	1	0.3359	9	0.6514	3	0.5107	7	0.5665	10	0.4991	5	0.5979	2	0.3718	3	0.5000	**57**	**0.5502**
6	5	0.6566	4	0.5593	7	0.6920	0	0.0000	9	0.6760	3	0.5439	8	0.6129	11	0.6032	4	0.4864	2	0.3718	3	0.4190	**56**	**0.5697**
7	6	0.8058	4	0.8115	7	0.8574	0	0.0000	6	0.3840	3	0.3339	6	0.4908	9	0.4321	5	0.5378	2	0.6218	2	0.3381	**50**	**0.5264**
8	6	0.8545	4	0.5633	6	0.4817	0	0.0000	9	0.6338	3	0.6532	6	0.4682	10	0.4358	6	0.5737	2	0.6218	3	0.5881	**55**	**0.5336**
9	6	0.8097	2	0.3170	3	0.2735	1	0.3359	6	0.3303	2	0.1387	8	0.6899	6	0.3053	5	0.7070	1	0.2564	3	0.5876	**43**	**0.4516**
10	7	0.8961	4	0.7482	7	0.6243	0	0.0000	8	0.5827	3	0.4765	7	0.5387	11	0.5200	6	0.6108	2	0.6218	3	0.5847	**58**	**0.5784**
11	5	0.5615	4	0.6267	7	0.5862	0	0.0000	7	0.5609	2	0.5547	8	0.5591	7	0.3863	5	0.5897	2	0.5000	2	0.3381	**49**	**0.5026**
12	6	0.7076	4	0.5655	5	0.4795	1	0.1660	6	0.3743	3	0.3378	10	0.6859	6	0.2971	5	0.5392	2	0.5000	3	0.5843	**51**	**0.4847**
13	6	0.6150	4	0.6236	6	0.5542	0	0.0000	10	0.7550	2	0.5547	7	0.5672	11	0.6317	5	0.5365	2	0.7500	3	0.4190	**56**	**0.5789**
14	6	0.8067	4	0.8103	6	0.4645	0	0.0000	7	0.5093	2	0.2735	8	0.6129	7	0.3464	6	0.6981	2	0.7500	3	0.5000	**51**	**0.5267**
15	7	0.9456	4	0.6848	6	0.5821	0	0.0000	9	0.6368	2	0.4161	8	0.5868	10	0.3792	5	0.6921	2	0.5000	3	0.5000	**56**	**0.5599**
16	6	0.8515	4	0.6848	5	0.5105	1	0.2519	7	0.3316	2	0.1240	8	0.6175	9	0.3756	5	0.6425	2	0.6282	3	0.5000	**52**	**0.5043**
17	7	0.8065	3	0.4382	7	0.7241	0	0.0000	8	0.5768	3	0.7245	7	0.5666	11	0.4636	6	0.6295	1	0.2564	3	0.6728	**56**	**0.5634**
18	6	0.6142	3	0.3776	4	0.4049	0	0.0000	8	0.5301	2	0.4873	8	0.6137	7	0.2816	5	0.5378	2	0.5000	3	0.5843	**48**	**0.4612**
19	7	0.9008	4	0.5000	7	0.7219	1	0.2519	8	0.6003	2	0.3409	7	0.5670	10	0.6082	5	0.6456	2	0.5000	2	0.3381	**55**	**0.5850**
20	6	0.7085	3	0.3103	5	0.3589	0	0.0000	8	0.4294	3	0.3867	8	0.6640	9	0.4564	5	0.6425	1	0.5128	3	0.5000	**51**	**0.4842**
21	5	0.7116	4	0.7472	5	0.3444	1	0.3359	8	0.5003	3	0.3339	8	0.6707	10	0.5668	6	0.6507	2	0.2500	3	0.7571	**55**	**0.5588**
22	6	0.7077	3	0.4400	7	0.7168	0	0.0000	7	0.4769	2	0.5547	8	0.5898	8	0.3720	6	0.6295	2	0.6218	3	0.5847	**52**	**0.5276**
23	6	0.6574	4	0.6879	6	0.5858	1	0.2519	6	0.3870	3	0.3283	6	0.4908	7	0.3020	5	0.5897	2	0.5000	3	0.5000	**49**	**0.4723**
24	6	0.7563	3	0.4994	6	0.5513	0	0.0000	8	0.5207	2	0.4161	7	0.5670	11	0.4718	5	0.5897	2	0.3718	2	0.3381	**52**	**0.5051**
25	5	0.7619	4	0.6224	6	0.5435	0	0.0000	7	0.4827	2	0.3611	8	0.6644	9	0.4730	6	0.7168	2	0.7564	3	0.5000	**52**	**0.5527**
26	6	0.8050	4	0.4357	3	0.3479	0	0.0000	8	0.5235	1	0.1348	8	0.6640	10	0.4414	6	0.8595	1	0.5128	3	0.6695	**50**	**0.5201**
27	4	0.6707	4	0.6891	3	0.2945	1	0.1660	6	0.3024	2	0.4161	7	0.5435	3	0.1765	4	0.4332	2	0.6218	3	0.6686	**39**	**0.4190**

(Continued)

Appendix M Final IR disclosure score by companies in 2017 (Continued)

Company No.	**Corporate overview & external environment**		**Strategy and competitiveness**		**Intellectual capital**		**Manufacturing capital**		**Human capital**		**Natural capital**		**Financial capital**		**Social and relational capital**		**Governance**		**Risk and opportunity**		**Outlook**		**Final**	
	No.	**Quality**	**No.**	**Quality**	**No.**	**Score**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**
28	6	0.7100	4	0.5000	4	0.3834	0	0.0000	8	0.5467	1	0.1348	8	0.6389	9	0.4449	6	0.7039	2	0.6346	3	0.4190	**51**	**0.4990**
29	6	0.7085	3	0.3721	7	0.4985	0	0.0000	7	0.4183	2	0.3262	9	0.6330	10	0.5396	6	0.7540	2	0.5000	3	0.5000	**55**	**0.5163**
30	7	0.7587	4	0.6242	6	0.6278	1	0.0830	9	0.6708	3	0.5292	8	0.6963	10	0.5612	5	0.6572	2	0.5000	3	0.6695	**58**	**0.6151**
31	6	0.8545	4	0.6860	7	0.6939	0	0.0000	8	0.5930	3	0.6113	8	0.6941	10	0.5336	4	0.5396	1	0.3846	3	0.8381	**54**	**0.6159**
32	6	0.8074	4	0.5624	5	0.3739	1	0.3321	10	0.7558	3	0.5400	7	0.6276	11	0.5818	4	0.4864	2	0.7436	3	0.8381	**56**	**0.6030**
33	6	0.7571	4	0.5034	6	0.5480	2	0.4151	8	0.4355	3	0.6679	6	0.4698	5	0.2863	4	0.4864	2	0.6218	2	0.5071	**48**	**0.4865**
34	4	0.6612	3	0.3727	4	0.4894	1	0.3321	9	0.5753	4	0.8887	7	0.4919	11	0.5849	5	0.5075	1	0.2564	2	0.5067	**51**	**0.5346**
35	4	0.6757	4	0.6879	7	0.6399	2	0.4981	7	0.4790	3	0.5292	7	0.5410	11	0.6514	5	0.7091	2	0.8782	3	0.9153	**55**	**0.6240**
36	6	0.8089	4	0.7472	5	0.4032	0	0.0000	10	0.5821	3	0.3193	8	0.5898	10	0.4425	5	0.6979	2	0.7564	3	0.6653	**56**	**0.5481**
37	5	0.5694	4	0.4357	5	0.6079	0	0.0000	10	0.6455	3	0.3867	8	0.6128	11	0.6271	5	0.6979	1	0.5128	3	0.6690	**55**	**0.5688**
38	4	0.6764	4	0.7534	2	0.1764	1	0.3359	8	0.3757	2	0.2480	9	0.6093	6	0.3987	4	0.4345	1	0.3654	3	0.7533	**44**	**0.4635**
39	5	0.6623	4	0.6267	7	0.7872	1	0.1660	10	0.7094	3	0.6679	9	0.5838	11	0.7071	5	0.6005	2	0.5064	3	0.4190	**60**	**0.6302**
40	5	0.7660	4	0.6255	3	0.3836	1	0.1679	9	0.6530	4	0.5986	8	0.5938	10	0.5573	5	0.5088	2	0.6282	3	0.6690	**54**	**0.5679**
41	5	0.7603	4	0.6248	7	0.5511	2	0.6641	8	0.5074	2	0.5547	7	0.5393	9	0.4520	5	0.6398	2	0.7436	3	0.5847	**54**	**0.5695**
42	6	0.7659	4	0.6255	6	0.6810	1	0.3359	8	0.6189	3	0.4726	8	0.5627	11	0.6199	5	0.5481	2	0.6218	3	0.6695	**57**	**0.6048**
43	6	0.7675	4	0.6888	6	0.4591	2	0.3321	10	0.7168	2	0.4161	8	0.5888	12	0.6261	5	0.5447	2	0.6282	3	0.6686	**60**	**0.5993**
44	4	0.6707	4	0.5643	5	0.3926	1	0.3359	7	0.4370	1	0.0713	8	0.5914	7	0.2722	4	0.3813	2	0.6218	2	0.5071	**45**	**0.4386**
45	6	0.7610	4	0.7522	4	0.4140	0	0.0000	5	0.3801	2	0.1387	7	0.5160	5	0.2265	4	0.5436	2	0.7436	3	0.7467	**42**	**0.4508**
46	3	0.5273	3	0.5025	5	0.5596	1	0.3321	9	0.6593	3	0.7245	8	0.5888	9	0.5459	5	0.6398	1	0.2564	2	0.5071	**49**	**0.5621**
47	5	0.7155	3	0.5043	2	0.1933	1	0.3359	7	0.3022	2	0.1387	8	0.5383	4	0.2079	4	0.4345	2	0.5000	2	0.6762	**40**	**0.3913**
48	6	0.7092	4	0.5000	6	0.5571	1	0.2490	6	0.3816	2	0.5547	6	0.4166	6	0.2259	4	0.4864	2	0.6218	2	0.3385	**45**	**0.4346**
49	5	0.7603	4	0.5624	5	0.4536	1	0.2490	6	0.3718	2	0.3448	7	0.5665	9	0.3187	4	0.4332	2	0.6282	3	0.6653	**48**	**0.4721**
50	5	0.7619	4	0.5612	4	0.3203	0	0.0000	6	0.3474	2	0.1387	8	0.6383	5	0.2776	5	0.6368	2	0.5000	2	0.3381	**43**	**0.4334**
51	5	0.7178	3	0.4400	3	0.2764	1	0.3359	6	0.3034	0	0.0000	8	0.5914	5	0.2144	4	0.4864	2	0.5000	3	0.7538	**40**	**0.4065**
52	6	0.8545	4	0.7534	6	0.6230	1	0.3359	7	0.3776	2	0.4161	7	0.5665	9	0.4035	4	0.4864	2	0.3782	3	0.5847	**51**	**0.5278**
53	4	0.5726	2	0.3177	1	0.1421	0	0.0000	9	0.5877	3	0.7810	7	0.5435	7	0.5051	5	0.6456	2	0.6282	2	0.5067	**42**	**0.4837**
54	5	0.7155	4	0.5624	2	0.1768	1	0.3359	9	0.6368	3	0.2665	7	0.4621	5	0.2454	4	0.4345	1	0.3654	3	0.7500	**44**	**0.4357**

(Continued)

Appendix M Final IR disclosure score by companies in 2017 (Continued)

Company No.	Corporate overview & external environment		Strategy and competitiveness		Intellectual capital		Manufacturing capital		Human capital		Natural capital		Financial capital		Social and relational capital		Governance		Risk and opportunity		Outlook		Final	
	No.	Quality	No.	Quality	No.	Score	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality
55	6	0.7580	4	0.6879	6	0.6860	0	0.0000	5	0.3064	2	0.4835	7	0.5261	10	0.5081	4	0.5396	2	0.5000	3	0.5810	**49**	**0.5207**
56	6	0.7491	3	0.3776	3	0.2120	0	0.0000	8	0.4628	0	0.0000	8	0.5602	7	0.2760	4	0.4864	2	0.8718	3	0.5000	**44**	**0.4077**
57	5	0.6622	3	0.4400	7	0.6216	0	0.0000	9	0.5264	2	0.4835	8	0.6144	9	0.3984	4	0.4898	2	0.6282	3	0.5847	**52**	**0.5132**
58	5	0.7109	4	0.6267	6	0.6243	1	0.2490	8	0.5370	3	0.5858	8	0.6144	6	0.3319	5	0.5460	2	0.5064	3	0.6653	**51**	**0.5421**
59	5	0.7619	4	0.6848	7	0.6538	0	0.0000	8	0.5815	2	0.3448	8	0.5888	9	0.4180	6	0.7324	2	0.6346	3	0.4190	**54**	**0.5516**
60	6	0.8545	4	0.6267	4	0.1704	0	0.0000	9	0.5753	3	0.6679	8	0.5914	5	0.2108	4	0.4898	2	0.6218	3	0.6724	**48**	**0.4775**
61	7	0.8467	4	0.5000	5	0.4478	1	0.1660	9	0.6584	2	0.5547	6	0.4996	7	0.3088	4	0.5422	2	0.5000	3	0.7538	**50**	**0.5149**
62	7	0.9505	4	0.7503	5	0.5141	2	0.3321	9	0.6322	3	0.4471	8	0.6128	9	0.5386	5	0.5075	2	0.7500	2	0.5071	**56**	**0.5986**
63	5	0.7619	4	0.7472	7	0.5069	0	0.0000	9	0.5327	2	0.2774	8	0.6144	10	0.4656	5	0.6447	2	0.6282	3	0.5000	**55**	**0.5389**
64	4	0.6707	4	0.6255	4	0.3113	0	0.0000	7	0.4825	3	0.6532	7	0.5455	7	0.3448	5	0.5607	2	0.8718	3	0.8381	**46**	**0.5011**
65	5	0.6118	4	0.5000	2	0.2475	0	0.0000	6	0.3741	0	0.0000	8	0.6379	7	0.3276	6	0.6667	2	0.3782	3	0.5885	**43**	**0.4227**
66	5	0.6629	4	0.6267	5	0.5245	2	0.5811	9	0.6750	3	0.7810	7	0.5126	9	0.4350	5	0.5607	2	0.7500	3	0.7500	**54**	**0.5834**
67	7	0.9001	4	0.6248	7	0.7128	2	0.4981	10	0.7360	3	0.6679	8	0.5888	9	0.5318	5	0.5979	2	0.7564	3	0.6690	**60**	**0.6508**
68	7	0.9065	4	0.6910	5	0.4540	0	0.0000	9	0.6313	2	0.3448	6	0.4192	9	0.4703	4	0.4345	2	0.7436	3	0.5004	**51**	**0.5114**
69	6	0.8099	4	0.5000	7	0.6411	0	0.0000	7	0.4486	2	0.3720	8	0.6367	10	0.6409	5	0.5893	2	0.6282	3	0.5847	**54**	**0.5689**
70	6	0.7602	4	0.5000	6	0.5025	0	0.0000	7	0.3165	2	0.2774	7	0.5417	10	0.5101	5	0.5365	2	0.6346	3	0.5000	**52**	**0.4801**
71	4	0.5681	4	0.6276	5	0.4864	1	0.3359	9	0.6487	3	0.6679	9	0.6629	11	0.5701	4	0.4332	2	0.6282	2	0.5914	**54**	**0.5781**
72	6	0.7076	4	0.6888	6	0.7592	1	0.3359	9	0.6088	3	0.5858	8	0.5888	9	0.4970	5	0.5235	2	0.6282	3	0.7504	**56**	**0.6039**
73	6	0.9089	1	0.1224	5	0.4808	0	0.0000	9	0.6293	3	0.5145	7	0.5129	12	0.5974	6	0.7350	1	0.5128	2	0.5076	**52**	**0.5398**
74	6	0.8146	3	0.5037	6	0.6993	0	0.0000	8	0.5853	2	0.3486	8	0.5979	10	0.6612	5	0.6952	2	0.7564	3	0.8381	**53**	**0.6134**
75	6	0.9104	4	0.5627	6	0.4603	0	0.0000	9	0.7328	3	0.5966	8	0.6367	12	0.7194	6	0.8072	2	0.7564	3	0.5847	**59**	**0.6459**
76	5	0.6118	3	0.2512	6	0.5231	0	0.0000	8	0.5583	3	0.5253	7	0.5261	8	0.4106	5	0.6979	2	0.5000	3	0.4190	**50**	**0.4826**
77	6	0.8067	4	0.6224	6	0.5079	0	0.0000	8	0.4614	2	0.1387	8	0.5623	8	0.3429	6	0.6207	2	0.8782	3	0.4190	**53**	**0.4890**
78	6	0.8154	4	0.7491	5	0.4154	2	0.5840	9	0.6045	3	0.4579	8	0.6662	9	0.5018	4	0.4345	2	0.8718	3	0.6690	**55**	**0.5933**
79	6	0.8097	1	0.1224	7	0.6129	0	0.0000	7	0.3871	3	0.5145	9	0.6547	11	0.6023	5	0.6979	2	0.7564	3	0.5000	**54**	**0.5452**
80	7	0.9008	4	0.6224	6	0.4322	0	0.0000	7	0.3529	0	0.0000	8	0.6409	9	0.4106	5	0.6160	2	0.5000	3	0.5000	**51**	**0.4836**
81	6	0.6637	3	0.5025	6	0.5422	0	0.0000	9	0.6979	2	0.4835	8	0.5994	12	0.6345	6	0.8574	1	0.5128	3	0.5000	**56**	**0.5900**

(Continued)

Appendix M Final IR disclosure score by companies in 2017 (Continued)

Company No.	Corporate overview & external environment		Strategy and competitiveness		Intellectual capital		Manufacturing capital		Human capital		Natural capital		Financial capital		Social and relational capital		Governance		Risk and opportunity		Outlook		Final	
	No.	Quality	No.	Quality	No.	Score	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality
82	5	0.7706	4	0.4988	5	0.4864	2	0.5840	9	0.6322	4	0.7100	8	0.6423	8	0.5179	4	0.4864	2	0.7436	3	0.7500	**54**	**0.6007**
83	5	0.6095	4	0.6218	7	0.7456	0	0.0000	9	0.5762	2	0.4161	7	0.5380	10	0.5434	5	0.5866	2	0.5000	3	0.4153	**54**	**0.5444**
84	6	0.8050	4	0.6876	6	0.5857	1	0.2519	9	0.4197	3	0.4726	7	0.5126	6	0.4266	4	0.3813	1	0.3654	3	0.6657	**50**	**0.5094**
85	6	0.7029	4	0.6845	6	0.6955	1	0.1679	9	0.6330	3	0.6532	8	0.5888	11	0.6149	5	0.6511	2	0.8718	3	0.7533	**58**	**0.6339**
86	6	0.7571	4	0.7503	5	0.4509	2	0.3340	9	0.6003	4	0.6278	8	0.6217	8	0.4924	5	0.5460	2	0.7436	3	0.7500	**56**	**0.5900**
87	7	0.8537	4	0.6848	6	0.5025	0	0.0000	10	0.7542	2	0.4161	8	0.6128	9	0.5343	5	0.7480	2	0.7564	3	0.5000	**56**	**0.6019**
88	4	0.6213	4	0.5000	5	0.5245	0	0.0000	9	0.6638	2	0.4873	8	0.6128	12	0.6007	5	0.5979	2	0.7500	3	0.4190	**54**	**0.5597**
89	4	0.5726	4	0.6248	6	0.6913	0	0.0000	9	0.6321	2	0.4161	7	0.5390	9	0.3718	4	0.4864	2	0.7436	3	0.5000	**50**	**0.5172**
90	7	0.8985	4	0.6848	7	0.6130	0	0.0000	8	0.5265	3	0.4726	8	0.5399	10	0.4031	4	0.4372	2	0.6282	3	0.5000	**56**	**0.5281**
91	5	0.7634	4	0.6239	5	0.5220	0	0.0000	8	0.5337	4	0.7792	8	0.6132	11	0.6919	6	0.6821	2	0.7564	3	0.8381	**56**	**0.6232**
92	4	0.5718	3	0.3715	7	0.5779	0	0.0000	9	0.5547	3	0.4726	10	0.7044	10	0.5448	6	0.7003	1	0.3846	2	0.4228	**55**	**0.5410**
93	6	0.6652	3	0.4385	5	0.4890	1	0.2490	7	0.4770	4	0.7608	9	0.6563	11	0.5780	5	0.5866	2	0.3782	3	0.5876	**56**	**0.5576**
94	7	0.9001	4	0.5000	5	0.5220	1	0.3321	10	0.6670	4	0.7518	8	0.5659	11	0.6383	5	0.5075	2	0.6218	2	0.5067	**59**	**0.6047**
95	7	0.8985	4	0.6867	5	0.4391	0	0.0000	7	0.5584	0	0.0000	8	0.6154	9	0.4046	6	0.6766	2	0.7564	3	0.5000	**51**	**0.5223**
96	6	0.8097	2	0.2466	5	0.4714	0	0.0000	8	0.5640	3	0.4708	8	0.5669	8	0.4291	5	0.7511	2	0.7564	3	0.5000	**50**	**0.5175**
97	6	0.8603	2	0.2466	5	0.5377	0	0.0000	9	0.6031	4	0.5948	8	0.6128	12	0.7006	5	0.6420	1	0.5128	2	0.4228	**54**	**0.5755**
98	6	0.8065	4	0.6248	6	0.5480	0	0.0000	8	0.5310	3	0.5858	7	0.5435	7	0.4095	5	0.5634	1	0.2564	3	0.5000	**50**	**0.5162**
99	6	0.7580	4	0.7503	5	0.5216	1	0.3359	9	0.5980	2	0.5547	8	0.6279	7	0.3186	4	0.4864	2	0.5000	3	0.5847	**51**	**0.5444**
100	6	0.9089	4	0.4982	6	0.6520	0	0.0000	9	0.6566	3	0.4014	8	0.6128	10	0.5376	6	0.8094	2	0.7564	3	0.5847	**57**	**0.6063**
Mean	5.69	0.7514	3.66	0.5588	5.39	0.5080	0.54	0.1419	8.06	0.5338	2.46	0.4442	7.67	0.5832	8.86	0.4606	4.95	0.5927	1.84	0.5881	2.81	0.5749	**51.93**	**0.5330**
Median	6	0.7603	4	0.5937	6	0.5218	0	0.0000	8	0.5565	3	0.4726	8	0.5893	9	0.4646	5	0.5897	2	0.6218	3	0.5843	**53**	**0.5394**
Std. D	0.92	0.1004	0.67	0.1513	1.42	0.1505	0.67	0.1800	1.25	0.1231	0.88	0.2004	0.83	0.0638	2.05	0.1316	0.70	0.1053	0.37	0.1619	0.39	0.1341	**4.82**	**0.0606**
Minimum	3	0.5273	1	0.1224	1	0.1421	0	0.0000	5	0.2727	0	0.0000	5	0.3424	3	0.1765	4	0.3813	1	0.2500	2	0.3381	**39**	**0.3913**
Maximum	7	0.9505	4	0.8115	7	0.8574	2	0.6641	10	0.7558	4	0.8887	10	0.7044	12	0.7194	6	0.8595	2	0.8782	3	0.9153	**60**	**0.6508**

Appendix M Final IR disclosure score by companies in 2016

Company No.	Corporate overview & external environment		Strategy and competitiveness		Intellectual capital		Manufacturing capital		Human capital		Natural capital		Financial capital		Social and relational capital		Governance		Risk and opportunity		Outlook		Final	
	No.	Quality	No.	Quality	No.	Score	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality
1	5	0.5622	3	0.3133	4	0.3573	0	0.0000	6	0.3692	2	0.3828	6	0.4176	8	0.4189	5	0.5888	2	0.6218	3	0.5000	**44**	**0.4135**
2	7	0.7539	3	0.2497	6	0.5486	1	0.2519	9	0.6050	3	0.5858	7	0.5642	10	0.5115	5	0.6451	2	0.8718	3	0.6690	**56**	**0.5615**
3	7	0.7492	4	0.5612	6	0.5964	0	0.0000	8	0.4543	2	0.5547	9	0.6511	9	0.5223	5	0.7009	2	0.8782	3	0.6653	**55**	**0.5774**
4	6	0.7525	3	0.3155	3	0.2094	1	0.3359	6	0.3796	3	0.4346	7	0.5670	8	0.2668	5	0.5897	2	0.5000	3	0.6690	**47**	**0.4373**
5	7	0.8513	4	0.4982	6	0.5085	1	0.3359	8	0.6366	3	0.7245	7	0.5665	9	0.4808	5	0.5235	2	0.2500	3	0.4190	**55**	**0.5521**
6	6	0.7477	4	0.5593	7	0.6210	0	0.0000	9	0.7315	4	0.7792	8	0.6129	11	0.6316	5	0.5365	2	0.5064	3	0.4190	**59**	**0.6034**
7	5	0.7162	4	0.7503	7	0.7248	1	0.2519	6	0.4099	3	0.3339	6	0.4654	11	0.4689	5	0.5378	2	0.7436	2	0.3381	**52**	**0.5200**
8	6	0.8545	3	0.5012	6	0.6315	0	0.0000	9	0.6328	3	0.7245	6	0.4403	8	0.4300	6	0.5737	2	0.6218	3	0.5881	**52**	**0.5439**
9	6	0.8097	1	0.1928	4	0.3880	1	0.3359	6	0.3451	2	0.1387	8	0.6638	6	0.3284	4	0.5422	1	0.2564	2	0.3381	**41**	**0.4318**
10	7	0.8506	4	0.7482	6	0.5216	0	0.0000	9	0.6381	2	0.4873	8	0.6707	9	0.4575	6	0.6108	2	0.6218	3	0.6690	**56**	**0.5874**
11	5	0.7044	4	0.6882	7	0.5815	0	0.0000	7	0.5344	2	0.5547	7	0.4839	9	0.4459	5	0.5897	2	0.3718	2	0.3381	**50**	**0.5080**
12	6	0.7076	4	0.5655	5	0.4799	1	0.1660	6	0.3474	3	0.5439	8	0.6404	6	0.2494	5	0.5392	2	0.5000	3	0.5033	**49**	**0.4733**
13	6	0.5655	4	0.5615	6	0.5187	0	0.0000	10	0.7847	3	0.6679	7	0.5926	10	0.5553	5	0.5365	2	0.5064	2	0.3381	**55**	**0.5566**
14	6	0.8067	4	0.6212	5	0.3855	0	0.0000	9	0.6009	2	0.1387	8	0.6129	8	0.3608	6	0.6480	2	0.6282	3	0.5000	**53**	**0.5032**
15	7	0.9456	3	0.4994	6	0.5466	0	0.0000	9	0.6136	2	0.2774	8	0.5868	8	0.3135	5	0.6921	2	0.5000	3	0.5843	**53**	**0.5249**
16	6	0.8515	4	0.7494	6	0.5458	0	0.0000	7	0.4104	2	0.2588	8	0.6404	9	0.3168	5	0.6425	2	0.7564	3	0.5000	**52**	**0.5174**
17	7	0.9001	4	0.5637	7	0.7274	0	0.0000	8	0.5589	2	0.5547	7	0.5666	11	0.5352	5	0.6456	2	0.6282	3	0.5038	**56**	**0.5855**
18	6	0.6142	3	0.3776	4	0.4049	0	0.0000	8	0.5207	2	0.4873	8	0.6137	6	0.3142	5	0.5378	2	0.5000	3	0.5843	**47**	**0.4656**
19	5	0.7649	4	0.3745	7	0.7525	0	0.0000	8	0.5295	3	0.5966	7	0.5670	10	0.6507	5	0.6456	2	0.5000	3	0.5000	**54**	**0.5779**
20	6	0.7085	4	0.5612	4	0.3506	0	0.0000	8	0.4294	2	0.2735	8	0.6411	8	0.3723	5	0.6425	1	0.5128	3	0.5000	**49**	**0.4757**
21	5	0.7116	4	0.6236	4	0.3150	1	0.3359	9	0.5541	3	0.5439	8	0.6707	9	0.4550	6	0.6135	2	0.2500	3	0.7571	**54**	**0.5439**
22	6	0.6583	3	0.4400	7	0.6461	0	0.0000	7	0.4979	3	0.6113	8	0.5898	8	0.3473	5	0.5924	2	0.5000	3	0.5847	**52**	**0.5105**
23	6	0.5655	3	0.4400	7	0.6887	1	0.0840	6	0.3802	3	0.4618	6	0.4908	8	0.3898	5	0.5897	2	0.5000	3	0.5000	**50**	**0.4731**
24	5	0.6622	3	0.4994	6	0.5160	0	0.0000	8	0.5232	3	0.6571	7	0.5670	11	0.4644	5	0.5897	2	0.4936	2	0.3381	**52**	**0.5102**
25	5	0.7619	4	0.6224	6	0.5435	0	0.0000	7	0.4827	2	0.3611	8	0.6644	9	0.4909	6	0.8171	2	0.7564	3	0.5000	**52**	**0.5637**
26	4	0.6213	4	0.4357	3	0.3479	0	0.0000	8	0.5183	1	0.2022	8	0.6640	10	0.4835	6	0.7561	1	0.5128	3	0.6695	**48**	**0.5067**
27	4	0.5718	3	0.4963	3	0.2945	0	0.0000	6	0.3024	2	0.4161	7	0.5435	2	0.1292	4	0.4332	2	0.8782	3	0.7496	**36**	**0.3938**

(Continued)

Appendix M Final IR disclosure score by companies in 2016 (Continued)

Company No.	Corporate overview & external environment		Strategy and competitiveness		Intellectual capital		Manufacturing capital		Human capital		Natural capital		Financial capital		Social and relational capital		Governance		Risk and opportunity		Outlook		Final	
	No.	Quality	No.	Quality	No.	Score	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality
28	4	0.5718	4	0.5000	4	0.3156	0	0.0000	8	0.5198	2	0.1914	8	0.6389	9	0.4559	5	0.5924	2	0.6346	3	0.4190	**49**	**0.4726**
29	5	0.6189	3	0.3721	6	0.4591	0	0.0000	7	0.4430	2	0.3262	9	0.6330	10	0.5342	5	0.6425	2	0.5000	3	0.5000	**52**	**0.4976**
30	7	0.7587	4	0.6242	6	0.6278	1	0.0830	9	0.7176	3	0.5292	8	0.7202	10	0.6090	5	0.6572	2	0.5000	3	0.6695	**58**	**0.6334**
31	6	0.8545	4	0.6860	6	0.6252	0	0.0000	8	0.5930	2	0.5547	8	0.6686	10	0.5089	4	0.5396	1	0.3846	3	0.8381	**52**	**0.5964**
32	6	0.8050	4	0.5624	6	0.3811	1	0.3321	10	0.7311	2	0.4161	7	0.5738	10	0.5389	4	0.4864	2	0.6218	3	0.9190	**55**	**0.5765**
33	6	0.7108	4	0.5034	1	0.0703	2	0.4151	7	0.4279	2	0.4161	7	0.4928	3	0.1703	4	0.4864	2	0.3782	2	0.5071	**40**	**0.3906**
34	4	0.7060	3	0.3727	5	0.4850	1	0.2490	6	0.3988	3	0.6005	7	0.4919	10	0.5431	4	0.4332	1	0.2564	2	0.5067	**46**	**0.4820**
35	6	0.8594	4	0.7500	6	0.6098	1	0.2490	8	0.6029	2	0.4161	8	0.6128	10	0.6058	5	0.7091	2	0.8782	3	0.8343	**55**	**0.6396**
36	6	0.8089	4	0.6851	6	0.4387	0	0.0000	8	0.4766	1	0.2022	8	0.5898	11	0.4833	5	0.6979	2	0.8782	3	0.5843	**54**	**0.5345**
37	5	0.6189	4	0.4357	5	0.6007	0	0.0000	10	0.6008	3	0.3867	8	0.6128	10	0.6105	5	0.6979	1	0.5128	3	0.6690	**54**	**0.5637**
38	4	0.6764	4	0.5661	2	0.1768	1	0.3359	8	0.4767	3	0.3193	8	0.6128	6	0.3176	4	0.4345	1	0.2436	3	0.8343	**44**	**0.4543**
39	3	0.5273	4	0.5643	7	0.7513	1	0.1660	10	0.7328	3	0.5966	9	0.5838	11	0.7224	5	0.5447	2	0.3782	3	0.4190	**58**	**0.6034**
40	5	0.7660	4	0.6255	3	0.4191	1	0.2519	9	0.6273	3	0.5439	8	0.5938	10	0.5826	4	0.4345	2	0.8718	3	0.6690	**52**	**0.5752**
41	5	0.7155	4	0.5627	7	0.5511	2	0.6641	7	0.4579	2	0.4161	7	0.4910	9	0.4330	5	0.6900	2	0.7436	3	0.5000	**53**	**0.5352**
42	6	0.7659	4	0.5633	6	0.6413	1	0.3359	8	0.5594	3	0.3301	8	0.5867	12	0.6781	5	0.5481	2	0.6218	3	0.5885	**58**	**0.5905**
43	7	0.8043	4	0.6888	7	0.5710	2	0.3321	9	0.6677	3	0.4014	8	0.5888	10	0.5473	5	0.4703	2	0.6282	3	0.6686	**60**	**0.5883**
44	4	0.6707	4	0.5643	3	0.1735	1	0.3359	7	0.4101	2	0.1387	7	0.4667	8	0.2953	4	0.3813	2	0.5000	2	0.5071	**44**	**0.3932**
45	5	0.6668	4	0.7522	4	0.3391	0	0.0000	6	0.4279	2	0.2812	7	0.4928	3	0.1335	4	0.5436	2	0.7436	3	0.7467	**40**	**0.4289**
46	3	0.5273	3	0.4400	7	0.7214	1	0.2490	9	0.7137	3	0.7245	9	0.6644	9	0.5690	5	0.6398	1	0.3846	2	0.5071	**52**	**0.6001**
47	5	0.7155	3	0.5043	3	0.2636	1	0.3359	7	0.3022	2	0.1387	8	0.5659	4	0.1520	4	0.4345	2	0.5000	2	0.3381	**41**	**0.3781**
48	6	0.7563	4	0.5612	7	0.6540	1	0.2490	6	0.3547	2	0.4873	5	0.3683	6	0.2748	5	0.5235	2	0.5000	2	0.4228	**46**	**0.4493**
49	6	0.8074	4	0.5624	5	0.4933	1	0.2490	6	0.3215	1	0.2022	7	0.5665	9	0.3137	4	0.4332	2	0.6282	3	0.5033	**48**	**0.4572**
50	5	0.7619	4	0.5612	4	0.2851	0	0.0000	6	0.3216	2	0.2774	8	0.6383	4	0.2447	4	0.4864	2	0.5000	3	0.4190	**42**	**0.4205**
51	4	0.6707	3	0.5043	3	0.2058	1	0.3359	6	0.2774	0	0.0000	8	0.5914	5	0.2190	4	0.4864	2	0.5000	3	0.7538	**39**	**0.3967**
52	6	0.8545	4	0.6891	5	0.4337	1	0.3359	8	0.4236	2	0.4161	7	0.5665	8	0.3908	4	0.4864	1	0.2564	3	0.5847	**49**	**0.5022**
53	4	0.5726	2	0.3177	2	0.1462	0	0.0000	8	0.4569	3	0.5439	7	0.5435	7	0.4002	5	0.6456	2	0.5064	3	0.5029	**43**	**0.4318**
54	5	0.7155	4	0.5624	2	0.1768	1	0.3359	9	0.6368	3	0.3193	7	0.4345	6	0.3429	4	0.4345	1	0.4872	3	0.7500	**45**	**0.4545**

(Continued)

Appendix M Final IR disclosure score by companies in 2016 (Continued)

Company No.	**Corporate overview & external environment**		**Strategy and competitiveness**		**Intellectual capital**		**Manufacturing capital**		**Human capital**		**Natural capital**		**Financial capital**		**Social and relational capital**		**Governance**		**Risk and opportunity**		**Outlook**		**Final**	
	No.	**Quality**	**No.**	**Quality**	**No.**	**Score**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**
55	6	0.7587	4	0.6236	7	0.8215	0	0.0000	4	0.2830	2	0.5547	6	0.4573	8	0.3747	4	0.5396	2	0.7436	2	0.3381	**45**	**0.4937**
56	6	0.6502	3	0.3776	2	0.1413	0	0.0000	8	0.4515	0	0.0000	7	0.4851	8	0.2519	5	0.6368	2	0.5000	3	0.5810	**44**	**0.3769**
57	5	0.6127	4	0.5012	7	0.6187	0	0.0000	9	0.5534	2	0.4835	8	0.6383	9	0.4232	4	0.4898	2	0.5064	3	0.5847	**53**	**0.5209**
58	5	0.7109	3	0.5043	6	0.5889	1	0.2490	8	0.5123	3	0.6532	8	0.6144	7	0.4046	5	0.5088	2	0.7500	3	0.6653	**51**	**0.5476**
59	5	0.7060	4	0.7472	5	0.5108	0	0.0000	9	0.5274	1	0.2022	8	0.6124	8	0.3386	5	0.6420	2	0.6346	3	0.4190	**50**	**0.5036**
60	6	0.8050	4	0.6267	5	0.2498	0	0.0000	9	0.5484	3	0.6679	8	0.5914	6	0.2288	4	0.4366	2	0.7500	3	0.8343	**50**	**0.4893**
61	7	0.8019	4	0.5000	4	0.4125	1	0.1660	9	0.6045	2	0.5547	6	0.4996	6	0.2840	4	0.5422	2	0.5000	3	0.7538	**48**	**0.4961**
62	6	0.8146	4	0.8115	6	0.5147	2	0.3321	8	0.5076	3	0.5292	8	0.6168	10	0.5744	5	0.5075	1	0.2564	3	0.7500	**56**	**0.5832**
63	6	0.8515	4	0.7472	7	0.5424	0	0.0000	9	0.5779	3	0.3867	8	0.6128	9	0.4183	5	0.6447	2	0.6282	3	0.5000	**56**	**0.5542**
64	4	0.6707	4	0.6255	3	0.2547	0	0.0000	7	0.5342	3	0.7245	7	0.5946	7	0.4141	5	0.5607	2	0.8718	3	0.8381	**45**	**0.5260**
65	6	0.6613	4	0.5000	2	0.2120	0	0.0000	7	0.4430	1	0.1348	8	0.6125	8	0.4102	5	0.5405	2	0.5000	3	0.6695	**46**	**0.4469**
66	4	0.5733	4	0.6267	5	0.5642	2	0.5811	8	0.6840	3	0.7810	7	0.5126	11	0.5733	4	0.4864	2	0.7500	3	0.7500	**53**	**0.5990**
67	7	0.9001	4	0.5000	7	0.6409	2	0.4981	10	0.7928	3	0.5966	8	0.5888	10	0.5497	5	0.5365	2	0.5000	3	0.6690	**61**	**0.6273**
68	7	0.7605	3	0.4400	5	0.3801	0	0.0000	10	0.6608	3	0.4765	6	0.3913	8	0.5140	5	0.4717	2	0.7436	3	0.5847	**52**	**0.4944**
69	6	0.7556	4	0.5643	7	0.6409	0	0.0000	6	0.3758	2	0.2480	8	0.6138	10	0.6539	5	0.5392	2	0.6282	3	0.5847	**53**	**0.5465**
70	6	0.7602	4	0.5612	5	0.4381	0	0.0000	7	0.3165	2	0.2061	7	0.5647	9	0.5038	5	0.5365	2	0.6346	3	0.5000	**50**	**0.4760**
71	4	0.5681	4	0.5633	5	0.4443	1	0.3359	9	0.6487	3	0.6679	9	0.6629	10	0.5277	4	0.4332	2	0.6282	3	0.6690	**54**	**0.5655**
72	6	0.7076	4	0.7500	6	0.6914	1	0.3359	8	0.5736	3	0.5858	8	0.5888	11	0.5269	4	0.4864	2	0.6282	3	0.7504	**56**	**0.5983**
73	5	0.8163	1	0.1224	5	0.4808	0	0.0000	8	0.5508	2	0.3154	7	0.5129	11	0.5674	5	0.6979	1	0.5128	2	0.3381	**47**	**0.4942**
74	6	0.8146	3	0.5037	5	0.4938	0	0.0000	8	0.5853	3	0.4510	8	0.5979	11	0.5933	5	0.6952	2	0.7564	3	0.5000	**54**	**0.5688**
75	5	0.8193	4	0.5003	7	0.4955	0	0.0000	9	0.7328	3	0.4014	8	0.6367	12	0.6791	5	0.6957	2	0.7564	3	0.5847	**58**	**0.6106**
76	6	0.6054	3	0.2512	6	0.5981	0	0.0000	7	0.3503	2	0.1806	8	0.5501	6	0.2911	5	0.6979	2	0.3782	2	0.3381	**47**	**0.4199**
77	7	0.9456	4	0.6224	5	0.4369	0	0.0000	7	0.3763	2	0.1240	8	0.5898	4	0.2280	5	0.6337	2	0.7564	3	0.5000	**47**	**0.4676**
78	6	0.8154	4	0.7491	5	0.4154	2	0.5840	9	0.6045	3	0.3867	8	0.6662	9	0.5265	4	0.4345	2	0.8718	3	0.6690	**55**	**0.5934**
79	6	0.8097	1	0.1224	6	0.6158	0	0.0000	8	0.4139	3	0.4579	9	0.6808	11	0.5126	5	0.6979	2	0.7564	3	0.5000	**54**	**0.5349**
80	6	0.8515	4	0.6224	5	0.5137	0	0.0000	6	0.4209	1	0.0674	8	0.6409	9	0.3824	6	0.6791	2	0.5000	3	0.5000	**50**	**0.5013**
81	6	0.7108	3	0.5637	7	0.5678	0	0.0000	10	0.8213	3	0.5292	8	0.5994	12	0.6167	5	0.7459	1	0.5128	3	0.5000	**58**	**0.6075**

(Continued)

Appendix M Final IR disclosure score by companies in 2016 (Continued)

Company No.	Corporate overview & external environment		Strategy and competitiveness		Intellectual capital		Manufacturing capital		Human capital		Natural capital		Financial capital		Social and relational capital		Governance		Risk and opportunity		Outlook		Final	
	No.	**Quality**	**No.**	**Quality**	**No.**	**Score**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**
82	5	0.7706	4	0.4988	4	0.3807	2	0.5840	8	0.5595	4	0.7627	8	0.6423	7	0.3565	4	0.4864	2	0.7436	3	0.7500	**51**	**0.5553**
83	5	0.6095	3	0.4975	7	0.7101	0	0.0000	9	0.5478	2	0.3262	7	0.5380	9	0.4958	5	0.6368	2	0.5000	3	0.4153	**52**	**0.5189**
84	6	0.8545	4	0.6233	6	0.5108	1	0.3359	9	0.4431	2	0.4161	7	0.5605	6	0.3771	5	0.4816	1	0.2436	3	0.6657	**50**	**0.5084**
85	4	0.5670	4	0.6845	6	0.6629	1	0.1679	10	0.7072	3	0.5966	8	0.5888	11	0.6775	5	0.6511	2	0.7500	3	0.6690	**57**	**0.6277**
86	6	0.8058	4	0.6879	6	0.4437	2	0.3340	8	0.4961	2	0.4328	8	0.5938	7	0.4086	4	0.4345	2	0.8718	3	0.6690	**52**	**0.5364**
87	7	0.8537	4	0.7472	6	0.5112	0	0.0000	8	0.4535	2	0.1387	8	0.6128	7	0.2866	5	0.7981	2	0.7564	3	0.5000	**52**	**0.5145**
88	4	0.6213	4	0.5612	5	0.5245	0	0.0000	9	0.5903	2	0.4873	8	0.6128	11	0.6007	4	0.4864	2	0.7500	3	0.4190	**52**	**0.5457**
89	6	0.7610	4	0.5624	5	0.5133	0	0.0000	9	0.5843	3	0.5292	7	0.5160	10	0.4653	4	0.4332	2	0.7436	2	0.5067	**52**	**0.5177**
90	7	0.8985	4	0.6224	5	0.3174	0	0.0000	8	0.5295	2	0.2774	8	0.5878	9	0.3750	4	0.4372	2	0.6282	3	0.5000	**52**	**0.4837**
91	6	0.8082	4	0.6851	5	0.5220	0	0.0000	8	0.5841	4	0.7079	8	0.6132	10	0.6453	5	0.5334	2	0.8782	2	0.4228	**54**	**0.5976**
92	4	0.5718	3	0.3715	7	0.6105	0	0.0000	9	0.5163	3	0.4014	9	0.6537	9	0.4830	5	0.5888	1	0.5128	2	0.4228	**52**	**0.5113**
93	6	0.6652	3	0.4385	5	0.5600	1	0.2490	7	0.4770	4	0.7627	9	0.6563	11	0.5586	5	0.5866	2	0.3782	3	0.5876	**56**	**0.5622**
94	7	0.8513	4	0.5643	5	0.4470	1	0.3321	8	0.5095	4	0.7518	8	0.5914	8	0.5064	4	0.4332	2	0.5000	3	0.6686	**54**	**0.5566**
95	7	0.8985	4	0.6867	5	0.3996	0	0.0000	8	0.5309	0	0.0000	8	0.6154	8	0.3360	5	0.6394	2	0.6282	3	0.5000	**50**	**0.4957**
96	6	0.8097	2	0.2466	5	0.4714	0	0.0000	8	0.6108	2	0.4161	8	0.5669	10	0.4469	5	0.7511	2	0.7564	3	0.5000	**51**	**0.5233**
97	7	0.9074	2	0.1845	4	0.4583	0	0.0000	8	0.5249	3	0.6532	8	0.6389	10	0.5720	5	0.6420	1	0.5128	2	0.4228	**50**	**0.5425**
98	6	0.7595	4	0.6860	6	0.5123	0	0.0000	8	0.5569	3	0.6571	7	0.5181	7	0.3717	4	0.4890	1	0.2564	3	0.5000	**49**	**0.5031**
99	6	0.8074	4	0.7503	5	0.5216	1	0.3359	9	0.6002	2	0.4873	8	0.6279	5	0.2623	4	0.4864	2	0.5000	3	0.5847	**49**	**0.5353**
100	7	0.9050	4	0.5606	6	0.6842	0	0.0000	9	0.6282	2	0.3448	8	0.6128	10	0.5725	6	0.8094	2	0.7564	3	0.5000	**57**	**0.6089**
Mean	5.62	0.7404	3.61	0.5418	5.24	0.4842	0.51	0.1336	7.94	0.5237	2.41	0.4345	7.63	0.5823	8.56	0.4423	4.76	0.5724	1.83	0.5833	2.82	0.5646	**50.93**	**0.5205**
Median	6	0.7575	4	0.5620	5	0.5110	0	0.0000	8	0.5285	2	0.4337	8	0.5914	9	0.4555	5	0.5464	2	0.5128	3	0.5071	**52**	**0.5205**
Std. D	1.00	0.1038	0.69	0.1470	1.46	0.1570	0.66	0.1767	1.23	0.1230	0.81	0.1945	0.77	0.0675	2.13	0.1358	0.59	0.1003	0.38	0.1736	0.39	0.1377	**4.95**	**0.0634**
Minimum	3	0.5273	1	0.1224	1	0.0703	0	0.0000	4	0.2774	0	0.0000	5	0.3683	2	0.1292	4	0.3813	1	0.2436	2	0.3381	**36**	**0.3769**
Maximum	7	0.9456	4	0.8115	7	0.8215	2	0.6641	10	0.8213	4	0.7810	9	0.7202	12	0.7224	6	0.8171	2	0.8782	3	0.9190	**61**	**0.6396**

Appendix M Final IR disclosure score by companies in 2015

Company No.	**Corporate overview & external environment**		**Strategy and competitiveness**		**Intellectual capital**		**Manufacturing capital**		**Human capital**		**Natural capital**		**Financial capital**		**Social and relational capital**		**Governance**		**Risk and opportunity**		**Outlook**		**Final**	
	No.	**Quality**	**No.**	**Quality**	**No.**	**Score**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**
1	5	0.4584	4	0.6224	4	0.4119	1	0.1679	8	0.4960	2	0.3154	5	0.3676	9	0.4624	5	0.5888	2	0.5000	3	0.3343	**48**	**0.4388**
2	7	0.6574	3	0.3155	6	0.4821	1	0.2519	9	0.5744	3	0.5858	7	0.5639	9	0.4758	5	0.5897	2	0.8718	3	0.7500	**55**	**0.5399**
3	7	0.7492	4	0.5612	7	0.6212	0	0.0000	8	0.4543	2	0.5547	9	0.6763	9	0.5222	4	0.6508	2	0.7500	3	0.6653	**55**	**0.5765**
4	7	0.7996	4	0.5000	3	0.3076	1	0.3359	8	0.4478	3	0.5253	8	0.6149	7	0.2873	5	0.5897	2	0.5000	3	0.6690	**51**	**0.4908**
5	7	0.9001	4	0.4357	6	0.5466	1	0.3359	9	0.7344	3	0.4432	6	0.4899	9	0.3793	4	0.4864	2	0.3718	2	0.3381	**53**	**0.5184**
6	6	0.7022	4	0.5593	6	0.5922	0	0.0000	9	0.6269	2	0.5547	9	0.6814	10	0.4355	5	0.5897	2	0.3718	3	0.3347	**56**	**0.5445**
7	6	0.7587	4	0.8115	7	0.7604	0	0.0000	7	0.4109	2	0.2774	6	0.4657	9	0.4129	5	0.5378	2	0.6218	3	0.5810	**51**	**0.5157**
8	6	0.8545	3	0.5012	7	0.6904	1	0.3359	8	0.5514	2	0.5547	6	0.4682	8	0.4762	5	0.5365	2	0.3782	3	0.6690	**51**	**0.5511**
9	6	0.8545	2	0.2549	4	0.2880	1	0.3359	5	0.2439	2	0.1387	8	0.6644	6	0.3100	4	0.5955	1	0.2564	2	0.4224	**41**	**0.4212**
10	5	0.6662	4	0.7460	7	0.6567	0	0.0000	9	0.5269	2	0.4835	8	0.6447	9	0.5269	6	0.6108	2	0.6218	3	0.7538	**55**	**0.5835**
11	5	0.7044	3	0.5025	7	0.5788	0	0.0000	8	0.5025	2	0.4122	7	0.5090	7	0.3913	5	0.5365	2	0.5000	2	0.3381	**48**	**0.4774**
12	6	0.7563	4	0.5655	5	0.4443	1	0.1660	6	0.3474	3	0.5439	8	0.6404	6	0.2482	4	0.4890	2	0.3782	2	0.3339	**47**	**0.4573**
13	6	0.8050	4	0.6236	6	0.5187	0	0.0000	9	0.7305	3	0.6679	7	0.5926	9	0.4790	5	0.5365	2	0.5064	3	0.4190	**54**	**0.5652**
14	5	0.7619	4	0.5590	5	0.3855	0	0.0000	6	0.3975	2	0.1387	7	0.5650	7	0.2818	5	0.5365	2	0.6282	3	0.5000	**46**	**0.4385**
15	7	0.9456	3	0.5606	5	0.4033	0	0.0000	7	0.4072	2	0.2061	8	0.5868	5	0.2523	5	0.5861	2	0.6218	3	0.5000	**47**	**0.4638**
16	6	0.8020	4	0.8115	5	0.5460	0	0.0000	8	0.5045	2	0.2480	7	0.5696	8	0.3416	5	0.6425	2	0.6282	3	0.5000	**50**	**0.5166**
17	7	0.8506	4	0.6248	7	0.6960	0	0.0000	8	0.5617	3	0.6532	6	0.5187	11	0.5740	5	0.6456	2	0.5000	3	0.5847	**56**	**0.5862**
18	6	0.5655	3	0.3776	5	0.4371	0	0.0000	8	0.5481	2	0.4873	8	0.6137	7	0.3104	5	0.5378	2	0.6218	3	0.5843	**49**	**0.4717**
19	7	0.8961	4	0.4388	7	0.7496	0	0.0000	9	0.6375	3	0.5107	8	0.6149	9	0.6044	5	0.6456	2	0.6218	2	0.3381	**56**	**0.5985**
20	6	0.7085	4	0.4388	5	0.3946	0	0.0000	9	0.3993	3	0.3867	8	0.6411	9	0.4350	5	0.6425	1	0.5128	3	0.5000	**53**	**0.4856**
21	5	0.7116	3	0.4400	5	0.2766	1	0.3359	9	0.5894	2	0.2100	7	0.5950	9	0.4037	6	0.6507	1	0.2436	3	0.7571	**51**	**0.4927**
22	5	0.5687	3	0.4400	6	0.5809	0	0.0000	7	0.4720	3	0.6113	8	0.5637	7	0.3319	5	0.5924	2	0.5000	3	0.5847	**49**	**0.4852**
23	6	0.6644	4	0.5624	6	0.5828	0	0.0000	6	0.3271	2	0.2100	7	0.5419	8	0.3229	6	0.6269	2	0.5000	3	0.5000	**50**	**0.4536**
24	7	0.8474	3	0.3770	7	0.7174	0	0.0000	7	0.4235	2	0.2735	7	0.5180	8	0.4625	5	0.5897	2	0.4936	3	0.4190	**51**	**0.4996**
25	5	0.7619	4	0.6224	6	0.5040	0	0.0000	7	0.4827	2	0.3611	8	0.6644	9	0.4909	6	0.7540	2	0.8718	3	0.5810	**52**	**0.5619**
26	4	0.5718	4	0.4357	3	0.3479	0	0.0000	10	0.6839	2	0.3154	8	0.6619	10	0.6012	5	0.6948	2	0.7564	3	0.6695	**51**	**0.5527**
27	4	0.5718	3	0.4963	4	0.3677	0	0.0000	6	0.3024	2	0.4161	7	0.5435	3	0.1288	4	0.4332	2	0.8782	3	0.7496	**38**	**0.4018**

(Continued)

Appendix M Final IR disclosure score by companies in 2015 (Continued)

Company No.	**Corporate overview & external environment**		**Strategy and competitiveness**		**Intellectual capital**		**Manufacturing capital**		**Human capital**		**Natural capital**		**Financial capital**		**Social and relational capital**		**Governance**		**Risk and opportunity**		**Outlook**		**Final**	
	No.	**Quality**	**No.**	**Quality**	**No.**	**Score**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**
28	4	0.5718	4	0.5000	5	0.3593	0	0.0000	8	0.4623	2	0.4285	8	0.5908	8	0.4638	5	0.6425	2	0.6346	3	0.4190	**49**	**0.4809**
29	4	0.5718	3	0.3721	4	0.3239	0	0.0000	7	0.4430	1	0.2697	9	0.6330	9	0.4934	5	0.6425	2	0.6282	3	0.5000	**47**	**0.4725**
30	7	0.7587	4	0.6242	6	0.6278	1	0.0830	9	0.7176	3	0.5253	8	0.6963	10	0.5364	6	0.7575	2	0.5000	3	0.6695	**59**	**0.6246**
31	6	0.8545	4	0.6248	6	0.5897	0	0.0000	8	0.6402	2	0.4873	8	0.6407	11	0.6219	5	0.5897	1	0.3846	3	0.9190	**54**	**0.6126**
32	4	0.6213	4	0.3745	5	0.3167	1	0.3321	9	0.6774	3	0.4726	7	0.5738	10	0.4460	4	0.4864	1	0.3846	3	0.9190	**51**	**0.5138**
33	5	0.6118	4	0.5655	2	0.1413	2	0.4151	7	0.3776	2	0.4161	7	0.4928	3	0.1150	4	0.4864	2	0.5000	2	0.5071	**40**	**0.3824**
34	4	0.7060	3	0.3727	7	0.5540	1	0.3321	7	0.5234	4	0.7226	6	0.4899	9	0.4271	4	0.4332	1	0.2564	2	0.5067	**48**	**0.4961**
35	6	0.7605	4	0.6264	5	0.4626	1	0.2490	9	0.6049	3	0.5966	8	0.5888	12	0.6360	4	0.6508	2	0.8782	3	0.5843	**57**	**0.6014**
36	6	0.8089	4	0.7472	5	0.4032	0	0.0000	7	0.3992	2	0.1240	8	0.5898	6	0.2557	5	0.6979	1	0.5128	3	0.5810	**47**	**0.4699**
37	5	0.6189	4	0.4357	5	0.5684	0	0.0000	10	0.5715	3	0.4998	8	0.6379	11	0.6432	5	0.6979	2	0.7564	3	0.6690	**56**	**0.5807**
38	4	0.6764	4	0.7534	2	0.1768	1	0.3359	8	0.4284	2	0.2480	9	0.6332	5	0.2529	4	0.4345	1	0.3654	3	0.7533	**43**	**0.4496**
39	3	0.5273	3	0.3776	7	0.7893	1	0.1660	9	0.6786	3	0.5400	7	0.4416	11	0.6643	4	0.4332	2	0.3782	3	0.4190	**53**	**0.5407**
40	5	0.7660	4	0.6255	4	0.4894	1	0.2519	10	0.6949	2	0.4873	5	0.4499	10	0.5848	4	0.4345	2	0.8718	3	0.6690	**50**	**0.5634**
41	6	0.8074	3	0.3779	5	0.4835	2	0.6641	8	0.4744	2	0.4161	7	0.5138	8	0.3788	4	0.5396	2	0.7436	3	0.5847	**50**	**0.5116**
42	6	0.8107	4	0.6255	6	0.6058	1	0.3359	8	0.5594	2	0.4873	8	0.5615	12	0.6403	5	0.5110	2	0.6218	3	0.6695	**57**	**0.5939**
43	6	0.7675	4	0.6888	7	0.6069	2	0.3321	10	0.7378	3	0.5400	8	0.5888	11	0.5600	4	0.4864	2	0.6282	3	0.6686	**60**	**0.6095**
44	4	0.5718	4	0.5643	2	0.1380	1	0.3359	7	0.4101	2	0.1387	8	0.5914	7	0.2722	4	0.3813	2	0.6218	2	0.5071	**43**	**0.4026**
45	5	0.6668	4	0.7522	3	0.2953	0	0.0000	5	0.3504	1	0.0547	6	0.4194	3	0.1335	4	0.4372	2	0.7436	3	0.7467	**36**	**0.3797**
46	3	0.5273	3	0.4400	7	0.7215	1	0.2490	9	0.6890	3	0.7810	9	0.6389	9	0.5091	5	0.6398	1	0.3846	2	0.5071	**52**	**0.5856**
47	4	0.6213	3	0.5043	3	0.2636	1	0.3359	7	0.3022	2	0.1387	8	0.5659	3	0.1422	4	0.4345	2	0.5000	2	0.6762	**39**	**0.3846**
48	5	0.5608	3	0.3776	7	0.4830	1	0.1660	6	0.2774	1	0.2138	5	0.3959	6	0.2140	4	0.4864	2	0.5000	3	0.5038	**43**	**0.3670**
49	6	0.8074	4	0.5624	5	0.4181	1	0.2490	6	0.3225	3	0.5400	7	0.5435	8	0.3865	4	0.4332	2	0.5064	3	0.6653	**49**	**0.4810**
50	5	0.7619	4	0.6224	4	0.2851	0	0.0000	7	0.3711	2	0.2774	8	0.6383	5	0.2695	5	0.5866	2	0.5000	3	0.5000	**45**	**0.4472**
51	6	0.8545	3	0.5043	3	0.2768	1	0.3359	7	0.3281	0	0.0000	8	0.5914	6	0.2357	4	0.4864	2	0.5064	3	0.6728	**43**	**0.4257**
52	6	0.8050	3	0.4419	6	0.5011	1	0.3359	8	0.4470	3	0.5858	7	0.5665	9	0.3770	4	0.4864	2	0.3782	3	0.5000	**52**	**0.4986**
53	4	0.5726	2	0.2540	1	0.1066	0	0.0000	8	0.4597	2	0.4835	8	0.6144	6	0.3061	5	0.6456	2	0.5064	3	0.5029	**41**	**0.4162**
54	5	0.7155	4	0.5012	2	0.1768	1	0.3359	9	0.6368	3	0.3193	7	0.4624	6	0.3251	4	0.4345	0	0.0000	3	0.8347	**44**	**0.4407**

(Continued)

Appendix M Final IR disclosure score by companies in 2015 (Continued)

Company No.	Corporate overview & external environment		Strategy and competitiveness		Intellectual capital		Manufacturing capital		Human capital		Natural capital		Financial capital		Social and relational capital		Governance		Risk and opportunity		Outlook		Final	
	No.	Quality	No.	Quality	No.	Score	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality
55	6	0.7580	4	0.6236	6	0.7186	0	0.0000	4	0.2830	2	0.4835	5	0.3959	8	0.3445	4	0.5396	2	0.5000	3	0.5000	**44**	**0.4622**
56	6	0.6526	3	0.3776	1	0.0703	0	0.0000	8	0.3293	0	0.0000	7	0.4851	4	0.1738	5	0.5348	2	0.5000	3	0.5810	**39**	**0.3323**
57	5	0.6667	3	0.3776	7	0.6187	0	0.0000	9	0.5534	2	0.4122	8	0.6383	8	0.4034	4	0.4898	1	0.3846	3	0.5847	**50**	**0.5055**
58	5	0.7109	4	0.5624	5	0.3753	1	0.2490	9	0.5830	3	0.5858	8	0.6144	7	0.3118	5	0.4717	2	0.7500	3	0.6657	**52**	**0.5143**
59	5	0.7060	4	0.6848	5	0.4714	0	0.0000	7	0.3529	1	0.2022	8	0.6124	4	0.2481	5	0.7453	2	0.6346	3	0.4190	**44**	**0.4655**
60	6	0.7556	3	0.4400	6	0.3928	0	0.0000	9	0.5753	3	0.6679	8	0.5659	5	0.1452	4	0.4366	2	0.6282	3	0.7533	**49**	**0.4648**
61	7	0.8513	4	0.5624	6	0.5586	1	0.1660	9	0.5794	2	0.5547	7	0.5685	7	0.3037	4	0.5422	2	0.7436	3	0.8381	**52**	**0.5448**
62	6	0.8050	4	0.6236	5	0.5517	2	0.4151	9	0.5294	3	0.7098	8	0.6447	10	0.5496	5	0.5115	1	0.2564	3	0.7500	**56**	**0.5913**
63	7	0.9456	4	0.5624	7	0.5424	0	0.0000	10	0.6835	3	0.3867	8	0.6128	9	0.3998	6	0.7509	2	0.6282	3	0.5000	**59**	**0.5680**
64	4	0.6707	4	0.6879	4	0.2475	0	0.0000	7	0.5045	3	0.7245	7	0.5946	6	0.2103	5	0.5979	2	0.7500	3	0.9190	**45**	**0.4940**
65	5	0.6118	4	0.5000	3	0.2768	0	0.0000	6	0.3741	1	0.2022	8	0.5896	9	0.3860	5	0.5405	2	0.3782	3	0.6695	**46**	**0.4330**
66	6	0.7571	4	0.6267	6	0.5897	2	0.5811	9	0.7582	4	0.8905	7	0.5126	11	0.5911	5	0.5866	2	0.6282	3	0.7500	**59**	**0.6404**
67	7	0.9001	4	0.5624	6	0.5260	0	0.0000	10	0.7657	3	0.5966	8	0.5659	9	0.5335	5	0.5365	2	0.5000	3	0.5847	**57**	**0.5825**
68	4	0.5697	4	0.5646	5	0.4185	0	0.0000	10	0.7114	3	0.3339	6	0.3913	8	0.4690	4	0.4345	2	0.6218	3	0.4157	**49**	**0.4666**
69	6	0.7556	4	0.5643	7	0.6058	0	0.0000	7	0.4252	2	0.2480	8	0.6389	10	0.4522	5	0.5392	1	0.5128	3	0.5847	**53**	**0.5152**
70	6	0.7108	4	0.5000	5	0.4736	0	0.0000	4	0.2141	2	0.2061	8	0.6056	9	0.5260	5	0.5866	2	0.6346	3	0.6690	**48**	**0.4815**
71	5	0.6671	4	0.5633	4	0.3799	1	0.3359	9	0.6204	3	0.6679	9	0.6102	10	0.5206	4	0.4332	2	0.7564	2	0.5071	**53**	**0.5490**
72	7	0.7987	3	0.5040	6	0.6596	1	0.3359	7	0.4724	3	0.7245	8	0.5888	10	0.5744	4	0.4864	2	0.5064	3	0.7504	**54**	**0.5849**
73	5	0.7603	2	0.1867	5	0.5203	0	0.0000	9	0.6785	2	0.2588	7	0.5129	10	0.5014	5	0.6477	1	0.5128	2	0.3381	**48**	**0.4959**
74	6	0.8617	3	0.5037	4	0.4471	0	0.0000	8	0.6087	3	0.3378	8	0.5979	9	0.5266	5	0.7453	2	0.7564	3	0.5000	**51**	**0.5566**
75	6	0.8648	4	0.5003	6	0.5395	0	0.0000	9	0.6553	3	0.5711	8	0.6367	11	0.6473	5	0.6957	2	0.7564	3	0.5847	**57**	**0.6139**
76	6	0.6054	4	0.3736	6	0.5587	0	0.0000	8	0.3215	2	0.1806	8	0.5501	8	0.3358	5	0.6979	2	0.3782	3	0.4190	**52**	**0.4319**
77	5	0.7619	4	0.5581	5	0.4369	0	0.0000	4	0.2530	1	0.0674	8	0.5852	3	0.1691	5	0.5334	2	0.7564	3	0.5000	**40**	**0.4097**
78	5	0.6117	4	0.6848	5	0.4154	2	0.5000	9	0.6045	3	0.3193	8	0.6407	8	0.5068	4	0.4345	2	0.8718	3	0.6690	**53**	**0.5562**
79	7	0.9008	1	0.1224	5	0.5118	0	0.0000	9	0.5407	2	0.3828	9	0.6547	10	0.5046	5	0.6979	2	0.7564	3	0.5000	**53**	**0.5370**
80	6	0.8020	4	0.6224	4	0.4051	0	0.0000	9	0.5205	1	0.1348	8	0.6638	8	0.3384	6	0.6290	2	0.5000	3	0.5000	**51**	**0.4941**
81	6	0.7068	3	0.5637	7	0.7527	0	0.0000	10	0.7955	1	0.2022	8	0.5994	11	0.5701	5	0.7459	1	0.5128	2	0.2533	**54**	**0.5855**

(Continued)

Appendix M Final IR disclosure score by companies in 2015 (Continued)

Company No.	Corporate overview & external environment		Strategy and competitiveness		Intellectual capital		Manufacturing capital		Human capital		Natural capital		Financial capital		Social and relational capital		Governance		Risk and opportunity		Outlook		Final	
	No.	Quality	No.	Quality	No.	Score	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality
82	5	0.7211	4	0.6233	5	0.4835	2	0.5840	10	0.6066	4	0.5948	8	0.5938	7	0.3461	4	0.4864	2	0.5000	3	0.6695	**54**	**0.5455**
83	4	0.5625	3	0.4975	6	0.5981	0	0.0000	8	0.5045	1	0.2022	7	0.5380	10	0.4761	5	0.5866	1	0.2564	3	0.4153	**48**	**0.4747**
84	6	0.8545	4	0.6233	6	0.4799	1	0.3359	8	0.3757	3	0.2665	7	0.5605	5	0.2863	5	0.4816	1	0.2436	3	0.6657	**49**	**0.4721**
85	5	0.6118	4	0.6202	6	0.6629	1	0.1679	10	0.6765	3	0.5400	8	0.5888	11	0.6577	4	0.5396	2	0.8718	3	0.5847	**57**	**0.6073**
86	6	0.8058	4	0.6879	6	0.5174	1	0.1660	9	0.5768	4	0.6896	8	0.5892	8	0.4074	4	0.4345	2	0.6218	3	0.6690	**55**	**0.5534**
87	6	0.8067	4	0.7472	6	0.5435	0	0.0000	9	0.5301	2	0.1387	8	0.6128	7	0.2635	5	0.7480	2	0.6282	3	0.5000	**52**	**0.5118**
88	5	0.7154	4	0.5000	5	0.4811	0	0.0000	6	0.3746	3	0.4726	8	0.6138	9	0.3728	4	0.4864	2	0.6218	3	0.4190	**49**	**0.4735**
89	6	0.6620	4	0.5624	4	0.4480	0	0.0000	8	0.5358	3	0.5400	7	0.5160	9	0.4256	5	0.4833	2	0.7436	3	0.5000	**51**	**0.4935**
90	7	0.8537	4	0.5581	5	0.2822	0	0.0000	8	0.5051	2	0.1387	8	0.5878	8	0.4104	4	0.4372	2	0.6282	3	0.4190	**51**	**0.4626**
91	6	0.8082	4	0.5615	6	0.5509	0	0.0000	10	0.6868	3	0.4688	8	0.6132	9	0.6236	4	0.4332	2	0.7564	2	0.2538	**54**	**0.5676**
92	4	0.5718	3	0.3715	5	0.5062	0	0.0000	7	0.3934	2	0.1914	10	0.6792	9	0.4773	5	0.5888	1	0.3846	3	0.4190	**49**	**0.4712**
93	6	0.6652	3	0.4385	5	0.5245	1	0.2490	7	0.4770	4	0.7608	9	0.6323	12	0.5940	5	0.5866	2	0.3782	3	0.5876	**57**	**0.5600**
94	5	0.6676	4	0.4982	4	0.4499	1	0.3321	8	0.4838	3	0.6424	8	0.5914	8	0.4042	4	0.4332	2	0.6282	3	0.6686	**50**	**0.5137**
95	7	0.8985	4	0.6867	5	0.3996	0	0.0000	8	0.5309	0	0.0000	7	0.5136	6	0.2514	5	0.5893	2	0.6282	3	0.5000	**47**	**0.4594**
96	6	0.8097	2	0.2466	5	0.4714	0	0.0000	8	0.6342	2	0.4161	8	0.5669	9	0.4432	5	0.7511	2	0.7564	3	0.5000	**50**	**0.5256**
97	6	0.8155	2	0.1845	5	0.5025	0	0.0000	9	0.5703	2	0.1914	8	0.6128	9	0.4653	5	0.5888	1	0.5128	2	0.4228	**49**	**0.4914**
98	6	0.8065	4	0.5637	5	0.4478	0	0.0000	8	0.5296	3	0.4618	7	0.5180	7	0.3480	4	0.4890	1	0.2564	3	0.6690	**48**	**0.4807**
99	6	0.8074	4	0.7503	5	0.5613	1	0.3359	7	0.5017	2	0.4873	8	0.5542	7	0.4241	5	0.5235	2	0.5000	3	0.5847	**50**	**0.5449**
100	7	0.9544	4	0.4357	5	0.4306	0	0.0000	9	0.6282	2	0.3448	8	0.6379	10	0.6204	6	0.8094	2	0.7564	2	0.2533	**55**	**0.5772**
Mean	5.57	0.7317	3.60	0.5256	5.15	0.4746	0.48	0.1286	7.98	0.5138	2.33	0.4048	7.58	0.5752	8.13	0.4138	4.70	0.5636	1.79	0.5599	2.84	0.5644	**50.15**	**0.5068**
Median	6	0.7560	4	0.5592	5	0.4833	0	0.0000	8	0.5220	2	0.4161	8	0.5894	9	0.4185	5	0.5401	2	0.5128	3	0.5810	**51**	**0.4991**
Std. D	1.00	0.1104	0.64	0.1366	1.40	0.1511	0.63	0.1725	1.39	0.1352	0.83	0.1995	0.92	0.0694	2.14	0.1396	0.61	0.0995	0.43	0.1737	0.37	0.1470	**5.08**	**0.0648**
Minimum	3	0.4584	1	0.1224	1	0.0703	0	0.0000	4	0.2141	0	0.0000	5	0.3676	3	0.1150	4	0.3813	0	0.0000	2	0.2533	**36**	**0.3323**
Maximum	7	0.9544	4	0.8115	7	0.7893	2	0.6641	10	0.7955	4	0.8905	10	0.6963	12	0.6643	6	0.8094	2	0.8782	3	0.9190	**60**	**0.6404**

Appendix M Final IR disclosure score by companies in 2014

Company No.	Corporate overview & external environment		Strategy and competitiveness		Intellectual capital		Manufacturing capital		Human capital		Natural capital		Financial capital		Social and relational capital		Governance		Risk and opportunity		Outlook		Final	
	No.	**Quality**	**No.**	**Quality**	**No.**	**Score**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**
1	5	0.4584	4	0.6897	5	0.4587	1	0.0840	7	0.4781	2	0.2588	6	0.3905	9	0.5301	5	0.5888	2	0.5000	3	0.4153	**49**	**0.4588**
2	6	0.6118	2	0.1910	6	0.4742	1	0.2519	8	0.5229	3	0.5858	7	0.5893	6	0.3521	4	0.5949	2	0.5000	2	0.5071	**47**	**0.4803**
3	7	0.8474	4	0.5000	6	0.5567	0	0.0000	8	0.4812	2	0.5547	9	0.6511	9	0.4975	5	0.7009	2	0.7564	3	0.6653	**55**	**0.5724**
4	7	0.7996	3	0.3133	5	0.4391	0	0.0000	7	0.4242	3	0.5107	7	0.5378	6	0.2922	5	0.5897	2	0.6282	3	0.5843	**48**	**0.4609**
5	7	0.6957	3	0.3115	4	0.3248	1	0.1679	9	0.6035	3	0.4541	6	0.4648	10	0.4227	4	0.4890	2	0.3718	3	0.5000	**52**	**0.4555**
6	6	0.7477	4	0.5000	7	0.6241	0	0.0000	9	0.5741	2	0.5547	8	0.5284	9	0.4361	5	0.6456	2	0.5000	2	0.5076	**54**	**0.5311**
7	6	0.8058	3	0.4951	7	0.7924	1	0.0840	7	0.4109	2	0.3448	7	0.5126	9	0.5096	5	0.4846	2	0.6218	3	0.4190	**52**	**0.5216**
8	6	0.8545	2	0.3084	5	0.4715	0	0.0000	8	0.6327	2	0.4835	7	0.4621	6	0.4057	6	0.6295	2	0.7436	3	0.5881	**47**	**0.5068**
9	7	0.8552	1	0.1285	3	0.1380	1	0.2519	6	0.2934	2	0.1387	8	0.5876	7	0.3843	4	0.5436	2	0.6346	3	0.5033	**44**	**0.4095**
10	6	0.7022	4	0.6215	7	0.6534	0	0.0000	7	0.4469	2	0.4122	7	0.5685	9	0.4642	6	0.6295	2	0.6218	3	0.7538	**53**	**0.5407**
11	6	0.7028	3	0.4339	7	0.7215	1	0.2490	8	0.5025	3	0.7245	6	0.4098	7	0.3568	5	0.5183	2	0.6218	2	0.3381	**50**	**0.4966**
12	5	0.5608	3	0.3727	4	0.2906	1	0.1660	6	0.3718	3	0.6113	8	0.6153	4	0.1751	5	0.4873	1	0.2436	2	0.3305	**42**	**0.3959**
13	6	0.8050	4	0.6236	6	0.4790	0	0.0000	9	0.6778	3	0.5966	6	0.4648	10	0.5143	5	0.5365	1	0.3846	3	0.4190	**53**	**0.5298**
14	7	0.8537	4	0.4978	5	0.3855	0	0.0000	8	0.5075	2	0.1387	7	0.5134	6	0.2598	5	0.5365	2	0.7436	3	0.5000	**49**	**0.4468**
15	7	0.9456	4	0.6860	6	0.5351	0	0.0000	10	0.6328	1	0.2697	7	0.5158	9	0.4237	4	0.5814	2	0.6282	3	0.5000	**53**	**0.5361**
16	7	0.8491	4	0.5581	5	0.5105	0	0.0000	7	0.4678	2	0.1914	8	0.5914	8	0.3399	6	0.6295	2	0.6282	3	0.4190	**52**	**0.4897**
17	7	0.8011	4	0.4994	6	0.6179	0	0.0000	8	0.4747	3	0.6532	6	0.4648	11	0.5244	6	0.7571	2	0.5000	3	0.5000	**56**	**0.5405**
18	5	0.5694	3	0.3133	5	0.3621	0	0.0000	6	0.3744	2	0.5547	8	0.6155	7	0.2873	5	0.5937	2	0.6218	3	0.6690	**46**	**0.4460**
19	5	0.7603	3	0.4339	7	0.7107	0	0.0000	9	0.5557	3	0.5253	8	0.5992	9	0.5212	5	0.6456	2	0.5000	3	0.4190	**54**	**0.5558**
20	6	0.6590	3	0.3715	5	0.4295	0	0.0000	8	0.4044	3	0.3867	8	0.5898	9	0.3470	5	0.6425	1	0.5128	3	0.5000	**51**	**0.4572**
21	5	0.7603	2	0.3115	6	0.3205	1	0.3359	9	0.5980	2	0.2812	7	0.5126	9	0.4121	5	0.6456	1	0.3654	3	0.8381	**50**	**0.4923**
22	5	0.5679	2	0.3115	6	0.5414	0	0.0000	7	0.4279	2	0.4873	8	0.5637	8	0.3493	4	0.5422	2	0.3782	3	0.5000	**47**	**0.4500**
23	4	0.5138	3	0.3727	7	0.5784	0	0.0000	6	0.4108	2	0.2812	8	0.5637	6	0.3354	5	0.6456	2	0.5000	3	0.5000	**46**	**0.4494**
24	5	0.6536	2	0.2472	6	0.4426	0	0.0000	7	0.3838	3	0.4363	7	0.4897	6	0.3326	5	0.4833	2	0.3718	3	0.4190	**46**	**0.4087**
25	5	0.7619	4	0.5581	5	0.3996	0	0.0000	7	0.4359	1	0.1348	8	0.5924	8	0.3838	5	0.6425	2	0.5000	3	0.5000	**48**	**0.4712**
26	4	0.5177	4	0.4357	3	0.2826	0	0.0000	10	0.6529	1	0.2022	8	0.6365	9	0.4627	5	0.6447	2	0.7564	3	0.5000	**49**	**0.4901**
27	3	0.4729	3	0.5584	4	0.4074	0	0.0000	6	0.3024	2	0.4161	6	0.4188	4	0.1829	5	0.4833	2	0.6218	3	0.7496	**38**	**0.3854**

(Continued)

Appendix M Final IR disclosure score by companies in 2014 (Continued)

Company No.	Corporate overview & external environment		Strategy and competitiveness		Intellectual capital		Manufacturing capital		Human capital		Natural capital		Financial capital		Social and relational capital		Governance		Risk and opportunity		Outlook		Final	
	No.	Quality	No.	Quality	No.	Score	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality
28	4	0.5625	3	0.4963	4	0.3239	0	0.0000	8	0.4730	2	0.2588	8	0.5908	10	0.5096	5	0.5924	1	0.5128	3	0.5000	**48**	**0.4712**
29	4	0.5718	3	0.3721	6	0.5093	0	0.0000	8	0.4969	1	0.2022	8	0.6125	9	0.4681	5	0.5365	2	0.5064	3	0.4190	**49**	**0.4718**
30	6	0.6103	4	0.5600	6	0.5835	1	0.0830	10	0.7684	3	0.5400	7	0.5427	10	0.5491	6	0.6330	2	0.5000	3	0.6695	**58**	**0.5753**
31	6	0.8074	3	0.4351	7	0.7575	0	0.0000	9	0.6242	2	0.5547	8	0.6696	10	0.6019	5	0.6456	1	0.2564	3	0.9190	**54**	**0.6178**
32	5	0.7163	4	0.3745	5	0.3167	1	0.3321	9	0.7043	3	0.5966	5	0.4769	10	0.4652	4	0.5422	1	0.2564	3	0.8381	**50**	**0.5153**
33	6	0.7108	3	0.3727	1	0.0703	1	0.2490	7	0.3529	2	0.4161	7	0.5486	3	0.0904	4	0.4864	2	0.5000	2	0.5071	**38**	**0.3646**
34	5	0.7553	3	0.3115	3	0.3078	1	0.2490	7	0.4987	3	0.6005	7	0.5378	10	0.4861	4	0.4332	1	0.2564	2	0.5067	**46**	**0.4733**
35	5	0.7110	3	0.3715	4	0.2909	1	0.2490	9	0.6211	3	0.4579	6	0.4418	11	0.5972	5	0.7511	1	0.3846	2	0.4224	**50**	**0.5067**
36	5	0.7619	4	0.6224	5	0.4354	0	0.0000	6	0.3722	1	0.1697	7	0.5661	6	0.2553	5	0.6979	1	0.5128	3	0.5000	**43**	**0.4519**
37	4	0.5199	4	0.4357	5	0.4938	0	0.0000	9	0.4465	2	0.2588	8	0.6379	10	0.4821	5	0.6979	2	0.7564	3	0.6690	**52**	**0.5066**
38	5	0.8147	3	0.5037	4	0.3440	1	0.3359	9	0.5025	2	0.2735	7	0.4852	5	0.2548	5	0.4846	1	0.2436	3	0.8343	**45**	**0.4517**
39	5	0.6678	2	0.3115	6	0.7592	1	0.1660	9	0.6491	3	0.5382	8	0.4620	11	0.7318	4	0.4890	2	0.3782	3	0.4190	**54**	**0.5604**
40	5	0.5736	3	0.4951	4	0.4183	1	0.1679	8	0.5037	3	0.4726	5	0.4750	8	0.4230	5	0.4846	2	0.5000	3	0.6690	**47**	**0.4703**
41	7	0.7046	4	0.4370	5	0.5191	0	0.0000	7	0.5047	3	0.5184	8	0.5656	9	0.4283	5	0.5378	2	0.7436	3	0.5847	**53**	**0.5086**
42	5	0.6725	3	0.3705	6	0.6810	0	0.0000	8	0.5594	4	0.5948	8	0.5934	12	0.6408	5	0.4868	2	0.6218	3	0.5885	**56**	**0.5639**
43	6	0.6694	3	0.4960	7	0.5351	2	0.4981	10	0.7886	3	0.6113	7	0.5366	11	0.5995	5	0.5897	2	0.6282	3	0.6686	**59**	**0.6037**
44	4	0.5718	3	0.3715	3	0.1735	0	0.0000	7	0.4101	3	0.1953	7	0.4946	8	0.2901	5	0.4873	2	0.5000	2	0.5071	**44**	**0.3722**
45	4	0.6220	3	0.4951	2	0.1141	0	0.0000	6	0.4043	0	0.0000	6	0.4194	4	0.1877	4	0.4904	2	0.7436	3	0.8310	**34**	**0.3592**
46	4	0.6184	3	0.2491	7	0.6889	0	0.0000	9	0.7147	3	0.7810	8	0.5661	9	0.4917	5	0.6425	1	0.2564	2	0.5071	**51**	**0.5490**
47	4	0.5184	2	0.3115	3	0.2241	1	0.3359	7	0.3022	2	0.1387	6	0.3913	4	0.1647	5	0.4846	2	0.5000	3	0.8381	**39**	**0.3432**
48	6	0.6519	4	0.3745	7	0.5538	1	0.1660	6	0.3816	2	0.4873	6	0.4422	8	0.3229	4	0.4864	1	0.3846	3	0.5847	**48**	**0.4384**
49	6	0.8074	4	0.4982	5	0.3786	1	0.2490	6	0.2955	2	0.5547	7	0.4929	9	0.3238	5	0.4833	2	0.6282	3	0.6653	**50**	**0.4579**
50	6	0.8067	3	0.4938	4	0.3326	0	0.0000	6	0.3474	2	0.1387	7	0.5388	5	0.3282	5	0.5866	2	0.5000	3	0.5000	**43**	**0.4288**
51	6	0.8545	2	0.3739	3	0.2471	1	0.3359	10	0.4531	1	0.1348	8	0.6144	4	0.2809	5	0.5405	2	0.6346	3	0.6728	**45**	**0.4572**
52	6	0.8050	2	0.2491	6	0.4978	1	0.3359	7	0.3774	2	0.1387	6	0.4648	7	0.2983	4	0.4864	2	0.3782	3	0.5000	**46**	**0.4187**
53	4	0.5726	1	0.1224	2	0.1768	0	0.0000	8	0.4300	2	0.3486	6	0.4418	8	0.3558	4	0.5955	2	0.5064	3	0.5029	**40**	**0.3774**
54	5	0.7155	3	0.4339	2	0.1768	1	0.1679	9	0.6368	3	0.3193	7	0.4395	8	0.4291	4	0.4345	0	0.0000	3	0.8347	**45**	**0.4423**

(Continued)

Appendix M Final IR disclosure score by companies in 2014 (Continued)

Company No.	**Corporate overview & external environment**		**Strategy and competitiveness**		**Intellectual capital**		**Manufacturing capital**		**Human capital**		**Natural capital**		**Financial capital**		**Social and relational capital**		**Governance**		**Risk and opportunity**		**Outlook**		**Final**	
	No.	**Quality**	**No.**	**Quality**	**No.**	**Score**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**	**No.**	**Quality**
55	7	0.7476	3	0.4951	6	0.7186	0	0.0000	5	0.3497	2	0.5547	6	0.4372	10	0.4300	5	0.5897	2	0.5000	3	0.5000	**49**	**0.4909**
56	6	0.7020	2	0.2491	1	0.0703	0	0.0000	8	0.3293	0	0.0000	7	0.4851	7	0.2272	5	0.5906	2	0.5000	3	0.5000	**41**	**0.3372**
57	5	0.6094	3	0.3133	4	0.3788	0	0.0000	9	0.4710	2	0.4122	7	0.5617	9	0.3984	5	0.5918	2	0.6282	3	0.5004	**49**	**0.4568**
58	6	0.7564	2	0.3115	5	0.4142	1	0.2490	8	0.5128	3	0.6424	7	0.5936	7	0.3104	5	0.5405	2	0.7500	3	0.6690	**49**	**0.5012**
59	5	0.6135	4	0.6205	5	0.3963	0	0.0000	5	0.3025	1	0.2022	8	0.5888	5	0.2645	5	0.5918	2	0.6346	3	0.4190	**43**	**0.4250**
60	6	0.8050	2	0.3115	5	0.2966	0	0.0000	8	0.4808	3	0.6679	8	0.5683	2	0.1025	4	0.4925	2	0.6282	3	0.7533	**43**	**0.4350**
61	6	0.6470	3	0.4339	5	0.5191	1	0.1660	9	0.5237	2	0.5547	8	0.4926	6	0.2789	4	0.5422	1	0.2564	3	0.7538	**48**	**0.4701**
62	6	0.8050	3	0.4951	5	0.5191	1	0.2490	7	0.4958	3	0.6424	7	0.5617	9	0.5101	5	0.5115	2	0.6218	2	0.4224	**50**	**0.5378**
63	7	0.9456	4	0.6205	7	0.5424	0	0.0000	9	0.6320	3	0.3867	7	0.5617	9	0.4004	5	0.5374	2	0.6282	3	0.5000	**56**	**0.5396**
64	4	0.6707	4	0.4969	3	0.2182	0	0.0000	7	0.4563	3	0.5858	7	0.5946	8	0.3835	6	0.5737	2	0.8718	3	0.7571	**47**	**0.4870**
65	5	0.5631	4	0.5000	2	0.2123	0	0.0000	6	0.3493	1	0.2697	8	0.5393	8	0.3871	5	0.5405	2	0.3782	3	0.6695	**44**	**0.4139**
66	6	0.7571	3	0.4339	6	0.6294	2	0.4151	10	0.7865	4	0.8905	7	0.5378	10	0.5811	5	0.6425	2	0.6282	3	0.7500	**58**	**0.6348**
67	7	0.6478	3	0.3727	7	0.6012	2	0.4981	8	0.6083	3	0.6532	8	0.5183	12	0.5655	5	0.5918	2	0.6282	3	0.6619	**60**	**0.5710**
68	5	0.6686	3	0.3718	4	0.3834	0	0.0000	8	0.5415	2	0.2061	6	0.4192	8	0.3916	5	0.4846	2	0.6218	3	0.6657	**46**	**0.4363**
69	4	0.6169	3	0.3715	6	0.4699	0	0.0000	7	0.4486	2	0.2588	8	0.6389	11	0.6313	5	0.5392	1	0.5128	3	0.5847	**50**	**0.5092**
70	6	0.8097	4	0.5000	5	0.3876	0	0.0000	8	0.3906	2	0.2061	8	0.6009	10	0.5297	5	0.5866	1	0.5128	3	0.5000	**52**	**0.4907**
71	5	0.6623	4	0.4360	4	0.3799	1	0.1679	9	0.5956	4	0.7081	8	0.5591	8	0.3960	6	0.6078	2	1.0000	2	0.5071	**53**	**0.5229**
72	7	0.7987	3	0.4419	6	0.5846	0	0.0000	6	0.4237	3	0.6571	7	0.5126	10	0.5146	4	0.5955	2	0.7500	3	0.6657	**51**	**0.5361**
73	5	0.7603	2	0.2478	5	0.5203	0	0.0000	8	0.5437	2	0.1914	7	0.5129	12	0.6770	5	0.6477	1	0.5128	2	0.3381	**49**	**0.5091**
74	6	0.9104	3	0.5037	4	0.4148	0	0.0000	7	0.5826	3	0.3944	8	0.5979	9	0.4793	5	0.6451	2	0.7564	3	0.5000	**50**	**0.5411**
75	6	0.8648	3	0.2488	5	0.3884	0	0.0000	9	0.6268	2	0.3720	8	0.6367	11	0.6174	5	0.6456	2	0.6346	3	0.4190	**54**	**0.5436**
76	5	0.6079	3	0.4951	6	0.5192	0	0.0000	9	0.3632	2	0.2480	7	0.5776	9	0.4809	5	0.5918	2	0.6282	3	0.4157	**51**	**0.4743**
77	6	0.8515	4	0.5581	5	0.4369	0	0.0000	5	0.3232	1	0.0674	7	0.5617	5	0.2334	5	0.5334	2	0.8782	3	0.5000	**43**	**0.4369**
78	5	0.7235	3	0.5563	5	0.4154	2	0.5000	9	0.6653	3	0.5292	7	0.5896	8	0.4147	4	0.3813	2	0.8718	3	0.6690	**51**	**0.5477**
79	6	0.8097	1	0.1224	6	0.6085	0	0.0000	9	0.5971	2	0.3154	8	0.6138	10	0.5287	5	0.6979	2	0.7564	3	0.6695	**52**	**0.5482**
80	6	0.8020	4	0.5581	4	0.2496	0	0.0000	9	0.4503	2	0.1914	8	0.5878	6	0.2540	6	0.7350	2	0.5000	3	0.5000	**50**	**0.4476**
81	6	0.8058	3	0.4994	6	0.5978	0	0.0000	10	0.8189	2	0.3262	8	0.5994	12	0.5720	5	0.7459	2	0.7564	3	0.5000	**57**	**0.6023**

(Continued)

Appendix M Final IR disclosure score by companies in 2014 (Continued)

Company No.	Corporate overview & external environment		Strategy and competitiveness		Intellectual capital		Manufacturing capital		Human capital		Natural capital		Financial capital		Social and relational capital		Governance		Risk and opportunity		Outlook		Final	
	No.	Quality	No.	Quality	No.	Score	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality	No.	Quality
82	6	0.7139	4	0.5624	4	0.3404	1	0.3321	8	0.4019	4	0.4561	8	0.5683	10	0.4725	5	0.5365	1	0.2564	2	0.4228	**53**	**0.4811**
83	4	0.5625	3	0.5587	6	0.5981	0	0.0000	8	0.5513	1	0.1348	7	0.5380	10	0.4582	5	0.5365	1	0.2564	3	0.4153	**48**	**0.4739**
84	6	0.7556	4	0.4348	3	0.2214	1	0.1679	8	0.3757	3	0.1953	7	0.5605	7	0.3274	5	0.4873	2	0.6218	3	0.5810	**49**	**0.4259**
85	5	0.6118	4	0.5606	6	0.6560	1	0.1679	10	0.6589	3	0.5400	8	0.6168	11	0.6594	5	0.5897	2	0.7500	3	0.5847	**58**	**0.6055**
86	7	0.6478	4	0.7491	5	0.4509	0	0.0000	8	0.5254	3	0.4579	6	0.4441	7	0.2975	4	0.4345	2	0.7436	3	0.6690	**49**	**0.4692**
87	6	0.8067	4	0.6830	6	0.4362	0	0.0000	8	0.5031	2	0.2061	7	0.5112	7	0.3106	5	0.7428	2	0.6282	3	0.5000	**50**	**0.4858**
88	4	0.5610	3	0.3715	6	0.5800	0	0.0000	6	0.3305	2	0.4161	6	0.4372	11	0.4530	5	0.5365	2	0.6218	3	0.4190	**48**	**0.4403**
89	5	0.6623	3	0.5575	6	0.6212	0	0.0000	6	0.4996	2	0.4161	8	0.5382	8	0.4603	5	0.5897	2	0.6218	3	0.5843	**48**	**0.5189**
90	7	0.8491	4	0.5581	5	0.2822	0	0.0000	8	0.5051	2	0.1387	7	0.4883	7	0.2635	5	0.5374	2	0.7564	3	0.5000	**50**	**0.4356**
91	6	0.7540	3	0.4951	6	0.5864	0	0.0000	10	0.6375	3	0.5107	7	0.5382	7	0.4295	4	0.4332	2	0.5064	3	0.5000	**51**	**0.5161**
92	4	0.5718	2	0.1264	4	0.4015	0	0.0000	7	0.3231	2	0.1914	9	0.6635	10	0.4843	5	0.5888	1	0.3846	3	0.4190	**47**	**0.4321**
93	6	0.6652	3	0.4385	3	0.2681	1	0.2490	7	0.4770	4	0.5948	8	0.5306	10	0.5190	5	0.5866	2	0.3782	3	0.5033	**52**	**0.4874**
94	4	0.6764	3	0.3715	3	0.3480	1	0.2490	8	0.5323	3	0.7136	8	0.5898	10	0.5541	4	0.4332	1	0.3846	3	0.6686	**48**	**0.5187**
95	7	0.8985	3	0.4339	5	0.3996	0	0.0000	7	0.3834	0	0.0000	7	0.5136	4	0.1613	5	0.5392	2	0.7564	3	0.5000	**43**	**0.4077**
96	6	0.8097	2	0.2466	5	0.5110	0	0.0000	8	0.5803	2	0.2588	8	0.5669	9	0.3955	5	0.7511	2	0.7564	3	0.5000	**50**	**0.5058**
97	6	0.8155	2	0.1845	4	0.4626	0	0.0000	8	0.5497	2	0.3154	8	0.6128	9	0.5148	5	0.5888	1	0.5128	2	0.4228	**47**	**0.5001**
98	4	0.5640	2	0.3109	5	0.4437	0	0.0000	8	0.6038	3	0.5184	6	0.4165	6	0.3071	4	0.4890	2	0.5000	3	0.7533	**43**	**0.4418**
99	6	0.6598	3	0.4963	5	0.5216	1	0.2519	7	0.5017	2	0.5547	8	0.5542	6	0.3485	5	0.5924	2	0.5000	3	0.5847	**48**	**0.5031**
100	6	0.7659	4	0.4360	5	0.3911	0	0.0000	9	0.6035	3	0.4688	8	0.6128	10	0.5844	5	0.6979	2	0.7564	3	0.5847	**55**	**0.5573**
Mean	5.52	0.7082	3.10	0.4272	4.94	0.4425	0.40	0.0917	7.82	0.4988	2.31	0.3971	7.25	0.5385	8.19	0.4112	4.86	0.5718	1.76	0.5538	2.86	0.5611	**49.01**	**0.4839**
Median	6	0.7109	3	0.4354	5	0.4380	0	0.0000	8	0.4978	2	0.4161	7	0.5457	9	0.4187	5	0.5866	2	0.5128	3	0.5033	**49**	**0.4835**
Std. D	0.99	0.1117	0.78	0.1325	1.41	0.1585	0.57	0.1389	1.27	0.1216	0.84	0.1956	0.83	0.0668	2.20	0.1321	0.53	0.0818	0.45	0.1724	0.35	0.1305	**4.81**	**0.0609**
Minimum	3	0.4584	1	0.1224	1	0.0703	0	0.0000	5	0.2934	0	0.0000	5	0.3905	2	0.0904	4	0.3813	0	0.0000	2	0.3305	**34**	**0.3372**
Maximum	7	0.9456	4	0.7491	7	0.7924	2	0.5000	10	0.8189	4	0.8905	9	0.6696	12	0.7318	6	0.7571	2	1.0000	3	0.9190	**60**	**0.6348**