

AN EMPIRICAL TAXONOMY OF CORPORATE SOCIAL
RESPONSIBILITY IN CHINA'S MANUFACTURING INDUSTRIES
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ABSTRACT

Notwithstanding the availability of a substantial body of literature on corporate social responsibility (CSR), the term has remained controversial and ambiguous in terms of its meaning, use, and usefulness. Specifically, the impact of CSR on tangible and intangible returns to Chinese manufacturers has remained uncertain. Drawing on stakeholder theory and CSR literature, we empirically develop an exploratory taxonomy of CSR practices in China's manufacturing industries. By surveying the manufacturers operating in China's food, pharmaceutical, automotive, and clothing industries, we identify three CSR clusters and examine how they are related to their financial, operational, reputational, and social capital performances. Our findings deepen the understanding of CSR adoption patterns by clarifying the consequences of CSR adoption in China's manufacturing industry.

Keywords: Corporate social responsibility, Firm performance, Taxonomy, Survey research, Cluster analysis, China

INTRODUCTION

Over the past few decades, corporate social responsibility (CSR) and related practices (corporate citizenship, sustainability etc.) have been recognized as strategic imperatives for organizations belonging to a variety of sectors, sizes, and country backgrounds (Panwara et al., 2016; Skouloudis & Evangelinos, 2012; Du et al., 2011; Berns et al., 2009; Porter & Kramer, 2002). Organizations pursuing CSR are expected to fulfill the economic, legal, ethical, and philanthropic expectations of the society that they are operating in (Carroll, 1991; Wood, 1991). They (especially manufacturers) are expected to implement a wide array of CSR practices such as environmental protection, employee management, responsible supply chain management, charitable donations, customer benefits, community development, occupational safety climate, and product risk mitigation (Zohar & Luria, 2005; Cacioppe et al., 2008; Turker, 2009; Lindgreen et al., 2009b; Speier et al., 2011; Skouloudis et al., 2015).

Since CSR is a complex process involving the implementation of a wide range of concepts and practices, some firms may focus on specific CSR practices while ignoring those that they deem unimportant. For example, although Foxconn won the “2009 Guangdong Energy Conservation Award” in recognition of its commitment to natural environment protection (Foxconn CSR report, 2010), it paid very little attention to working conditions and labor rights. This culminated in numerous labor suicide cases (Chan & Pun, 2011). Similarly, although U.S. airline industry has long been plagued by serious labor problems, it has been judged to be performing well from diverse viewpoints (Godfrey et al., 2005). This multifaceted nature of CSR has led some researchers to criticize that it is not a “*very useful*” concept (Freeman et al., 2011, p.218) and point to the need for

developing a better understanding of the practices underpinning CSR (Sodhi, 2015; Shafiq et al., 2014; Taneja et al., 2011; Wood, 2010; Carroll & Shabana, 2010; Lindgreen & Swaen, 2010). Recent work by Skouloudis et al. (2015) addressed this issue partly by offering insights on the priority of multiple CSR activities. However, research into how companies implement diverse CSR practices comprehensively has been unduly sparse. We therefore pose the following research question:

Research question 1: What are the major taxons of CSR engagement with respect to its multiple practices?"

Furthermore, many CSR management researchers have examined the relationship between CSR and firm performance (Wood, 2010; Carroll & Shabana, 2010; Lindgreen & Swaen, 2010), albeit with mixed or inconclusive results (Margolis et al., 2007; Orlitzky et al., 2003). They have tended to view CSR as a single dimension (Godfrey & Hatch, 2007) or merely examined one-on-one relationships between a selected set of CSR practices and firm performance (Inoue & Lee, 2011). Examples are the relationships between philanthropic donations and financial performance (Brammer & Millington, 2008) and between environmental management and overall firm performance (Carter et al., 2000; Russo & Fouts, 1997). However, the reality is that, CSR comprises multiple practices and the implementation levels of the practices are in accordance with the specific business environments or company strategies. Among the few studies deviating from this approach are Inoue and Lee's (2011) study on tourism-related industries, Jayachandran et al.'s (2013) study using the KLD database, and Isaksson and Woodside's (2016) study of Sweden's multinational enterprises. Nevertheless, it continues to be unclear how different types of

CSR activities affect firm performance and how operations managers prioritize their investments into different CSR practices (Godfrey & Hatch, 2007). Consequently, the following second research question will also be addressed in this paper:

Research Question 2: How do different forms of CSR engagement relate to corporate performance for different forms of capital?

The contributions of this study are twofold. First, we empirically develop an exploratory taxonomy of CSR that captures the major CSR engagement patterns among Chinese manufacturers. Using an empirical taxonomy approach can be helpful to management researchers in understanding the conceptual schemes underpinning multi-dimensional organizational practices better (Aldenderfer & Blashfield, 1984; McKelvey & Aldrich, 1983; Everitt & Dunn, 1991). A rationally developed taxonomy can capture the major patterns among the dimensions analyzed, thus facilitating knowledge exploration, communication, and memorization (Everitt & Dunn, 1991). It can also act as a building block in precisely describing multifaceted organizational behaviors (Dess et al., 1993). Given that CSR comprises multiple practices, our empirical taxonomy should be useful for understanding why organizations implement certain CSR practices or otherwise (Lindgreen et al., 2009b). It should also help address the research needs with regard to interactions among diverse stakeholders (Wang et al., 2016).

It is also of particular significance that our CSR taxonomy is developed based on the practice of Chinese manufacturers. Today, China is widely considered to be the world's factory. Yet there have been numerous incidents related to tainted milk powder, toxic waste disposal, toxic coated toys (Miao et al., 2011), water (river) pollution (Mullen, 2013), and labor suicide cases (Chan & Pun, 2011), which have pointed to the need to be concerned

about manufacturers from China. A more nuanced understanding of the way CSR adoption is being managed should therefore be helpful in avoiding such incidents. Manufacturers operating in several other developing countries also constitute the world's major sources of materials and manufacturing goods. Hence, it is also important to understand how firms implement CSR practices in general (e.g., labor right protection). This should be helpful to firms in different parts of the world in managing their supply networks (Williams, 2011; Birch & Moon, 2004).

Second, this study extends existing literature by examining the associations between CSR engagement patterns and the performance outcomes such as financial performance, operational performance, reputation and supplier-related social capital of China's manufacturers (Lindgreen et al., 2009a; Short et al., 2008; Gardberg & Fombrun, 2006). Simultaneous examination of multiple performance indicators can lead to a better assessment of the consequences of different CSR engagement patterns (Wang et al., 2016; Surroca et al., 2010; Lindgreen & Swaen, 2010; Gardberg & Fombrun, 2006). This should help clarify how different types of CSR practices are prioritized and balanced to lead to performance outcomes that are in accordance with specific business environments (Freeman et al., 2010; Godfrey & Hatch, 2007; Margolis et al., 2007; de Bakker et al., 2005). In fact, owing to resource limitations, companies often focus on one specific CSR practice while discounting others (Godfrey & Hatch, 2007). **Variations in CSR engagement patterns can also be influenced by differing internal or external factors (Husted et al., 2016; Zheng et al., 2015; Park & Ghauri, 2015; Aguilera et al., 2007).** Therefore, our findings should be of special interest to manufacturers operating in China while they benchmark their CSR engagement patterns against the patterns suggested by our taxonomy. This could

lead them to better adjust the implementation levels of the chosen CSR practices in order to reach their expected levels of organizational performance.

We organize the rest of the paper as follows. In Section 2, we outline the current CSR literature and highlight the importance of the research questions addressed in this study. Next, we report the data collection process and the analysis methods, followed by presentation of the results. Finally, we discuss the theoretical and practical implications of our research findings and identify topics for future research.

LITERATURE REVIEW

From the perspectives of corporate social responsiveness (Sturdivant & Ginter, 1977), corporate citizenship (Carroll, 1979), corporate social performance (Wood, 1991; Swanson, 1995), social contract (Sacconi, 2007), corporate governance (Jamali et al., 2008), and corporate sustainability (Marrewijk, 2003), CSR broadly refers to the idea that firms should not only profit in conformance with the prevailing laws and regulations, but also voluntarily engage in actions aimed at social good (Beurden & Gossling, 2008; McWilliams et al., 2006; Carroll, 1999; Davis, 1973). Literature on CSR has come up with guidelines stating that firms should be held responsible for their activities affecting humans, communities, and the environment (Lawrence & Weber, 2008). In short, their activities should meet the economic, legal, ethical, and discretionary expectations that the society has for them (Carroll, 1979). Such concepts of CSR have been emphasized in multiple theories, e.g., stakeholder theory (Freeman et al., 2007; McWilliams et al., 2006; Clarkson, 1995; Jones, 1995); they are considered to be particularly relevant to promoting organizational innovation (Mirvis et al., 2016; Ueki et al., 2016).

CSR in Manufacturing Firms Operating in Developing Countries

CSR literature has indicated that, though some major CSR practices (e.g., labor right protection) have become common practices for organizations in developed countries, not all have been received well by firms operating in developing countries (Jamali, 2007; Ramon, 2010) due to differences in regulations, culture and economy, in addition to insufficient knowledge, information, and technology (Gugler & Shi, 2009). Further, since manufacturers in developing countries are the world's major sources of materials and manufacturing goods, how such firms implement CSR practices such as labor right protection could impact firms from different parts of the world through their own supply networks (Williams, 2011; Birch & Moon, 2004). On the one hand, they need to deal with a large variety of CSR related standards and codes from local government or foreign customers. This can be costly and lead to conflicting social situations (Lund-Thomsen and Lindgreen, 2014). It can also lead to extra costs of compliance, additional paperwork and questionable social standards (Baden et al., 2011). On the other hand, CSR implementations could be affected by the economic orientation and poor local adoption of foreign companies (Zhao et al., 2014a), an issue that is quite different from the under-developed regulatory system and weak civil society in developing countries (Zhao et al., 2014b). Therefore, it is useful to empirically study CSR adoption and examine the corresponding performance implications among manufacturers in developing companies (Lindgreen et al., 2009b).

CSR adoption could vary significantly across organizations in different countries (see Halkos & Skouloudis, 2016; Skouloudis & Evangelinos, 2016). As a major developing

country, China has become a critical region for an investigation on CSR for three reasons. First, though there is a regulatory gap between China and other developing countries, the decision by a Chinese organization to adopt CSR is influenced often by the Chinese government (Lin & Zhang, 2010; Qu, 2007). For example, in 2005, China's company law stipulated that every firm must "observe social morals and commercial ethics, act with integrity and good faith ... and undertake social liability" (Chinese Company Law Article 5, 2005). In time, a host of landmark laws such as Labour Contract Law, Law on Prevention and Control of Water Pollution, and Measures on Open Environmental Information were introduced or amended to further influence CSR practices in Chinese organizations (Fang et al., 2008; Brohier-Meuter, 2011). Second, there have been numerous scandals pertaining to CSR issues in China such as those related to product safety, environment pollution, and employee disputes (De Laurentis, 2009; Banati, 2011; Chan & Pun, 2011; Tam, 2010; Gupta & Chan, 2012). These incidents have underscored the criticality of enhancing Chinese organizations' knowledge in CSR adoption. Third, many Chinese manufacturers are still not motivated to undertake CSR practices (Fang, 2008) partly because of their traditional focus on efficiency or the pressing need for business survival rather than an urge for ethical or socially responsible behavior (Shafer, 2013). Indeed, cost advantage is still the main competitive edge sought by Chinese manufacturers as they compete in today's global market (Deloitte Global Manufacturing Competitiveness Index, 2013). Overall, since their CSR practices may influence their business partners in different parts of the world, Chinese manufacturers are important for today's global business. Considering this unique context, a taxonomy depicting the implementation levels of the various CSR practices should provide new and useful insights.

Dimensions of CSR taxonomy

In developing any empirical taxonomy, relevant literature should be reviewed to identify the dimensions of the construct (Hair et al., 2010; Yeung et al., 2003; Rich, 1992). Keeping this in mind, we reviewed existing CSR literature (Reverte et al., 2016; Akremi et al., 2015; Freeman et al., 2010) to identify the multiple dimensions of CSR. In CSR literature, Carroll's (1979) article was perhaps the first study on the classification of CSR. Carroll's four-domain framework showed that CSR is concerned with social practices including consumerism, environment, discrimination, product safety, occupational safety, and shareholders (Carroll, 1991). Dahlsrud (2008) identified the key dimensions of CSR as stakeholders, society, economy, voluntariness, and environment. Lindgreen et al. (2009b) investigated CSR adoption in US firms by measuring CSR dimensions related to customers, suppliers, employees, investors, philanthropy, and the environment (see also Ormazabal and Puga-Leal, 2016; Shafiq et al., 2014; Rettab et al., 2009). Xu and Yang's (2010) work on CSR adoption in China identified nine CSR dimensions. Three of these were considered to be unique to the Chinese context, namely, employment, good faith, and social stability and progress. These correspond to increasing job opportunities in the labor market, complying with business ethics, and promoting patriotism and social harmony. Bai and Chang (2015) focused on Chinese firms and argued that CSR adoption within this context can be reflected in firm practices directed towards employees, customers, and the society in general. Zhu et al. (2015) suggested that the CSR practices being followed by Chinese state-owned enterprises cover organizational governance, human rights, labor practices, environment, community involvement, supply chain, and political responsibility. For

instance, MSC KLD is one of the most popular CSR indexes used across the world because it involves organization-level assessments of natural environment, community, society, employees, supply chains, customers, governance, and ethics (MSCI, 2011). Likewise, the concepts underlying Triple Bottom Lines and Global Reporting Initiative (GRI) evaluate the social, economic and environmental performance of a firm (Milne and Gray, 2013). For other comprehensive literature reviews on CSR practices, readers may refer to Bocken et al. (2014), Baumgartner (2014) and Aguinis and Glavas (2012).

The above brief review suggests that, because it comprehensively indicates the six major dimensions of CSR, the work of Lindgreen et al. (2009b) can be used as a central reference for our taxonomy. However, considering the business environment prevailing in China, we have had to make two changes. First, since philanthropy is unlikely to turn into a popular practice in Chinese organizations, we replace philanthropy by social community relationship, i.e., a business's commitment to implementing responsible practices to improve the wellbeing of the communities it is impacting (e.g., Bai and Chang, 2015; Zhu et al., 2015). Second, we add an extra dimension concerning ethics to reflect the pervasive concerns about bribery and corruption in developing countries (Luo, 2006). Literature on business ethics has indicated that ethical codes of conduct (*aka* ethical codes), which refer to the documentation and implementation of guidelines stating a firm's objectives, expectations, norms, and values regarding employees' ethical behaviors (Stevens, 1994; Kaptein and Schwartz, 2008), should be recognized as a distinct CSR dimension. Indeed, there is evidence indicating that ethical codes are effective in reducing bribery and corruption problems (Gilman, 2005) and could be implemented as a CSR dimension in organizations (Ramon, 2010; Freeman et al., 2010). Consequently, our CSR taxonomy

seeks to capture the following seven dimensions.

- (i) *Ethical code of conduct*: The documentation and implementation of guidelines stating a firm's objectives, expectations, norms, and values regarding employees' ethical behaviors (Stevens, 1994; Kaptein and Schwartz, 2008).
- (ii) *Environmental management*: The business's commitment to implementing relevant environmental practices (Lindgreen et al., 2009b).
- (iii) *Investor rights*: The business's commitment to implementing responsible practices to improve the wellbeing of its financial investors (Lindgreen et al., 2009b).
- (iv) *Employee rights*: The business's commitment to implementing responsible practices to improve the wellbeing of its employees (Lindgreen et al., 2009b).
- (v) *Customer rights*: The business's commitment to implementing responsible practices to improve the wellbeing of its consumers (Lindgreen et al., 2009b).
- (vi) *Supplier management*: The business's commitment to implementing responsible practices to improve the wellbeing of its suppliers (Lindgreen et al., 2009b).
- (vii) *Social community relationship*: The business's commitment to implementing responsible practices to improve the wellbeing of the communities it is impacting (Bai and Chang, 2015; Zhu et al., 2015; Lindgreen et al., 2009b).

CSR Taxonomy and Performance

Given that a vast body of literature has already examined the direct relationship between CSR and financial performance (e.g., Carroll, 2010; Wood, 2010; Stanwick &

Stanwick, 1998; Aupperle et al., 1985; Ullmann, 1985; Arlow & Gannon, 1982; Abbott & Monsen, 1979), further examination of such a relationship has been suggested as being not “favorable” (Carroll & Shabana, 2010, p.102), or not “*the most fruitful avenue for continued research at this time*” (Wood, 2010, p.75). We therefore argue that further examination of the performance implications of CSR should go beyond financial performance by including operational, social capital, and reputational performance. Financial and operational performance generally tend to be tangible and short-term oriented, whereas social capital and reputational performance tend to be the opposite.

Such performance outcomes should be examined for several reasons. For instance, though the relationship between CSR and financial performance has been studied widely (e.g., Carroll, 2010; Wood, 2010; Abbott & Monsen, 1979; Arlow & Gannon, 1982; Aupperle et al., 1985; Stanwick & Stanwick, 1998; Ullmann, 1985), the findings have been mixed at best (Orlitzky et al., 2003; Aupperle et al., 1985; Griffin & Mahon, 1997; Cochran & Wood, 1984). A plausible reason for this is that organizations may be pursuing CSR for reasons other than short-term financial returns (Jha and Cox, 2015). Jha and Cox (2015) assert that many organizations are concerned with developing social capital in a manner consistent with their specific contexts. For instance, an organization headquartered in a religious region might follow the norm of being more altruistic than those in other regions. As a result, the business units may be adopting CSR not just for financial reasons but also for building social capital. Indeed, there have been calls for investigating CSR’s performance implications by examining their impacts on different performance outcomes (de Bakker et al., 2005).

Second, complementing studies on CSR and financial performance relationships, some researchers have come up with more fine-grained arguments suggesting that CSR can improve sales and reduce costs by boosting employee morale and productivity, reduce the number of product recalls, avoid penalties for violating laws and regulations, and building stakeholder trust (Wood, 2010; Luo & Bhattacharya, 2006; Maignan & Ferrell, 2001; Orlitzky et al., 2003; Waddock & Graves, 1997; Wokutch & Spencer, 1987). However, others have argued that there may be a negative relationship between CSR and financial performance due to the extra costs (e.g., charitable contributions, social community development, higher-than-average salary and environmental protection) associated with various CSR activities (Davidson & Worrell, 1988; Vance, 1975). Despite these mixed results and arguments, studies on the financial performance impact of CSR have not examined, in general, the implications of organizations not implementing CSR practices uniformly. For instance, it is very likely that a manufacturer based in a developing country devotes significantly more resources to CSR practices focusing on customers than those impacting labor. Further, though firms have different CSR adoption patterns, there has been a paucity of studies linking CSR adoption patterns and firm-level financial performance.

Third, CSR aims to safeguard the rights of multiple stakeholders such as employees and suppliers. Improved employee rights can boost employee morale and productivity (Wood, 2010; Luo & Bhattacharya, 2006), generate “moral capital” (Godfrey et al., 2005), improve risk management, and address issues related to work standards along with health and safety policies (Kanji & Chopra, 2010). Responsible supplier management can improve supplier performance, thus leading to cost reduction (Agan et al., 2016; Carter,

2005). Consistently effective CSR adoption along the supply chain can reduce operational risks associated with product recalls, environmental management, occupational safety, and the like (Klassen & Vereecke, 2012). Indeed, there is evidence indicating that CSR has a direct effect on defect rates, reprocessing rates, production lead-time, and productivity of manufacturers (Parast & Adams, 2012). However, although such prior studies have consistently indicated that CSR adoption is associated with improved operational performance, evidence concerning CSR taxonomy and operational performance among manufacturers is still very scant.

Fourth, CSR practices can generate long-term benefits to organizations by enhancing their reputational capital (Gardberg & Fombrun, 2006; Godfrey et al., 2005; Porter & Kramer, 2002). Firms generally adopt CSR as a positive response to the expectations of multiple stakeholders such as the media, NGOs, and consumers (Porter & Kramer, 2006), which improves the organization's image (Lai et al., 2010; Jones, 2005). Adopting CSR is often viewed as a means of building and sustaining corporate reputation (McWilliam et al., 2006) or sustaining a form of extrinsic motivation (Fombrun, 2005; Garberg & Fombrun, 2006). It also contributes to differentiation by building brand equity and good market reputation (Gardberg & Fombrun, 2006). For example, although supplier-related ethical incidents (e.g., using child labor) can adversely affect the corporate reputation of a firm (Ip, 2009; Lu, 2009; Teagarden & Hinrichs, 2009), responsible supplier management can help mitigate the risks associated with such incidents (Kaptein, 2008). In fact, enhancing reputational performance has been considered one of the primary reasons for organizations to invest in CSR (Fombrun et al., 2000). However, while CSR can enhance corporate image in general, it should be useful to examine whether the patterns of

CSR adoption are associated with corporate image as well.

Lastly, social capital should be considered as just one of CSR's performance outcomes. It is a resource generated mainly through social relationships with different stakeholders for public good or for the benefit of the firm (Nahapiet and Ghoshal, 1998). Major benefits from it include improved mutual understanding and reduced conflicts of interest with stakeholders (Mele, 2003; Bolino et al., 2002). Because of the critical importance of buyer-supplier relationships for manufacturers, some operations management (OM) researchers have argued that a supplier-related social capital is especially relevant to manufacturers and pursuing this form of social capital enhances the manufacturers' business performance (Lawson et al., 2008; Carter and Easton, 2011). Meanwhile, increased attention is being devoted to practices concerning suppliers (Parmigiani et al., 2011; William, 2011; Ramon, 2010; Marucheck *et al.*, 2011; Miao *et al.*, 2012). OM literature has long studied CSR activities from the perspective of supply chains (Lau, 2011) by using a variety of terminologies such as those related to logistics social responsibility (Miao et al., 2012), sustainable supply chain management (Carter and Rogers, 2008), and purchasing social responsibility (Carter and Jennings, 2004). In practice, many organizations are considering their supplier communities to be integral elements of their CSR strategies. For example, Reebok's CSR strategy has considerable content devoted to its suppliers' compliance with labor rights requirements (Yu, 2008).

Some CSR studies focusing on suppliers have suggested that CSR improves firm identity, image and reputation towards the suppliers (Bendixen and Abratt, 2007). When a firm adopts CSR or related responsible supplier practices, it creates a perception among the suppliers that they are being treated as valued partners in building the relationship and

thus expect the relationships to be legal, committed and honest in every way (Gullett et al., 2009). Such expectations help develop open and honest communications along with respectful and responsive relationships between the firm and its suppliers, thereby enhancing the social capital of the firm (Su, 2014). As for promoting development of social capital, literature has suggested that the social capital of a firm becomes available in three basic forms: relational, cognitive and structural capital (Nahapiet and Ghoshal, 1998). Relational capital refers to the trust, obligations and recognition between the firm and its stakeholders. Cognitive capital represents the shared goals, norms, vision and values among them through information sharing and knowledge exchange. Structural capital refers to the configuration of connections prevailing among the parties involved (Nahapiet and Ghoshal, 1998). Some recent literature illuminating supplier-related social capital has suggested that these three forms of social capital are relevant to manufacturers because of their significant performance implications (Lawson et al., 2008; Carey et al., 2011; Roden and Lawson, 2014). Nonetheless, studies examining the possible association between CSR adoption patterns and supplier-related social capital are still virtually unavailable. As a result, given the relevancy of financial, operational, reputational and supplier-related social capital with CSR adoption, their associations with CSR adoption patterns would be examined in this study.

RESEARCH METHODS

Sample and Data Collection

We conducted the empirical part of our research by examining the food/beverage, pharmaceutical, automotive, textile and clothing industries in China. These are large and

significant manufacturing sectors in China, producing gross outputs equaling 97,849 and 118,790 billion *yuan* (approximately US\$ 18,585 billion) respectively in 2009 (China Statistical Year Book, 2010). In addition, they provide daily supplies for large numbers of global consumers (Maruchek et al., 2011). Also, certain socially irresponsible behaviors exhibited by Chinese firms have been affecting many global firms adversely. For example, the Chinese melamine milk scandal caused serious damage in China, the USA, and Europe (Banati, 2011), and certain issues concerning labor rights have affected Apple Inc. (Chan & Pun, 2011; Tam, 2010), Reebok (Yu, 2008), and Honda (China CSR, 2010).

To develop the sampling frame for our survey, we first developed a database that combined information from corresponding authorized sources in industrial sectors, e.g, the State Administration for Industry and Commerce of the People's Republic of China, State Food and Drug Administration, China National Food Industry Association, and China Association of Automobile Manufacturers. The resulting database included 1,000 randomly selected manufacturers with a uniform distribution among the target industries (Lu *et al.*, 2012).

While collecting our data, we adopted Dillman's Total Design Method (Dillman, 2007). Before distributing our questionnaires, we contacted potential respondents to explain the background to our study and the importance of their participation. We paid special attention to selecting informants with adequate experience of CSR activities. We stressed that the data would be kept strictly confidential and be restricted to academic use only. The survey was conducted on a voluntary basis. Our key informants consisted of senior managers, vice presidents, and directors responsible for decision-making on CSR activities in their firms. They were instructed to fill in the CSR measures and consult their

financial managers while filling in the performance measures. Our key informants averaged 5.75 years of employment with the sampled firms. As for the positions held by the respondents, 4% were officers (e.g., purchasing officers or administrative officers), 59% were managers of some business function (e.g., operations managers), 28% were corporate-level managers (e.g., assistant general managers, general managers, or CEOs), and 9% were other members of top management (e.g., manufacturing directors or supply chain presidents). In the event, 312 questionnaires were returned and, after due data verification, 200 fully completed questionnaires were used in this study with an effective response rate of 20%.

We assessed non-response bias in two ways. First, we compared early and late responses to the survey. We assumed that late respondents were more likely to answer the survey in a manner similar to non-respondents than the early respondents. If there was no statistically significant difference between the two groups, it could be concluded that non-respondent bias may not be very serious (Armstrong & Overton, 1977). In our study, the average values of the research constructs found by the survey instruments of the first 10 and 20 percent of early respondents were compared with those of the last 10 and 20 percent of late respondents respectively through *t*-tests. The results showed that there was no significant difference between the two groups at *p*-value greater than 0.10, implying that the non-respondent bias was not severe. Next, we collected data on non-responding firms from public information (e.g., public financial reports or official webpages). Following an analysis of the data using appropriate *t*-tests, we identified 50 non-responding firms and then compared them with 50 randomly selected responding firms in terms of industry type and annual sales figures. The results revealed no statistically significant differences at a *p*-

value larger than 0.05. This suggested that non-response bias was not an issue of serious concern in our study.

Measure development

We adapted the measure for each construct from existing literature and refined it for the sampled industries through panel discussion and pilot testing. We used a seven-point scale (1 = strongly disagree; 7 = strongly agree). We developed the measures for CSR dimensions based on the stakeholder theory or business ethics literature (Spiller, 2000; Lo et al., 2009; Lindgreen et al., 2009b; Rettab et al., 2009). Existing measures were adapted for measuring performance outcomes with respect to financial (Vickery et al., 2003; McGuire et al., 1988), operational (Kristal et al., 2010), and reputational performance (Fombrun & Shanley, 1990). Finally, we adapted relevant measures of social capital drawn from supply chain management literature (Lawson et al., 2008; Bernardes, 2010).

We verified our initial measures by conducting multiple in-depth interviews with a panel of experts drawn from China. The panel included two senior managers, one university professor, two government officials, and one journal editor. Based on their feedback, we developed the draft measurement items with face validity. We translated the questionnaire from English to Chinese (Mandarin) in accordance with the recommendations of Zhao et al. (2006). We then conducted a pilot test by distributing copies of the questionnaire to 40 managers taken from 20 firms in the target industries. We then refined the questionnaire based on the results. Appendix I shows the questionnaire measures considered by us to be valid.

We controlled for common method variance in two stages (Podsakoff et al., 2003).

In the procedural stage, the covering letter only briefly described the focus of the research (i.e., CSR) and did not state how the data would be used (what would be tested with the data) to reduce potential bias among informants. Also, the informants remained anonymous to prevent evaluation apprehension. We adopted measurement items taken from literature and conducted a pilot test to reduce item ambiguity. During the statistical phase, we conducted the Harman one-factor test (Podsakoff & Organ, 1986). The test revealed multiple factors with an eigenvalue larger than 1, thus accounting for 71.44% of the total variance. We found that the variance relating to the first factor was just 28.94%. We also used common method factor models to analyse the extent of common method bias (Podsakoff et al., 2003). The overall results did not reveal evidence that a severe common method bias existed.

Measurement Reliability and Validity

We assessed the construct validities of our measures as follows (Anderson & Gerbing, 1988). First, we assessed the unidimensionality of each construct using a principal component factor analysis with an orthogonal rotation (Hensley, 1999). The results showed that only a single factor had emerged for each variable with all the factor loadings above 0.80 and all the variances extracted being over 60%. Second, we tested construct reliability using Cronbach's Alpha (α), composite reliability (CR), and averaged variance explained (AVE) (see Appendix I). The α value, CR, and AVE for each factor was greater than 0.80, 0.7, and 0.5, respectively, indicating that the constructs could be deemed to be reliable and unidimensional. Third, we verified the constructs of the CSR dimensions by conducting an exploratory factor analysis (EFA). The results showed that the factor structures of the seven

CSR dimensions were essentially the same as the one proposed by us. The total variance explained was over 81% while the first factor accounted for was over 18%. Finally, we conducted a confirmatory factor analysis (CFA) using AMOS 19.0 software to assess convergent validity and discriminant validity. The CFA results were satisfactory for the CSR data ($\chi^2/\text{df} = 1.87$, CFI = 0.95, IFI = 0.95 and RMSEA = 0.07) and the performance data ($\chi^2/\text{df} = 1.22$, CFI = 0.92, IFI = 0.92, RMSEA = 0.08) (Bagozzi & Yi, 1988; Byrne, 2010). Each standardized factor loading exceeded 0.5 and remained highly significant at a p -value smaller than 0.01. These results indicated acceptable convergent validity among the instruments of each construct (Bagozzi & Yi, 1988). We assessed discriminant validities by formulating a constrained CFA model for each possible pair of latent constructs, thus fixing the correlations between the paired constructs at 1.0. The χ^2 differences of 102.33 in the CSR data and 183.26 in the performance data were significant with a p -value smaller than 0.001 (Flynn et al., 2010; Bagozzi et al., 1991). The square root of the AVE of each construct was greater than all the corresponding correlations (Table 1), thus endorsing the discriminant validity determined through our study (Fornell & Larcker, 1981). Having established the reliabilities of and validating the constructs, we could reflect each construct by the mean score of the items in the subsequent cluster analysis.

[Table 1 Summary statistics about here]

Exploration of Clusters

Taking into account literature on stakeholder theory and CSR, we used a data-set comprising 200 sample firms and explored the patterns of CSR adoption. Since cluster analysis can be sensitive to outliers, we first examined abnormal cases and normality using

Stem-and-Leaf plots and Skewness-and-Kurtosis tests. We found no outliers. The data were normally distributed. We then used IBM SPSS version 20 to implement both hierarchical and non-hierarchical (k-means) cluster procedures (Flynn et al., 2010; Zhao et al., 2006). This hierarchical procedure led to the determination of the number of clusters and generated the final cluster centroids to be used as cluster seeds in the non-hierarchical procedures and create clusters (Hair et al., 2010). As for hierarchical clustering, we used Ward's partitioning and squared Euclidean distance in view of its robustness, ability to maximize within-cluster and between-cluster heterogeneities, and the overall ability to arrive at clusters with the smallest sum of squares error (Hair et al., 2010).

RESULTS

Formation and Validation of Clusters

We identified the number of clusters in three steps. First, since the number should normally be between sample size/30 and sample size/60 (Lehmann, 1979), our study should have a cluster number between 3 and 7 (i.e., 200/60 and 200/30). Second, to determine the number of clusters within this range, we assessed the agglomeration coefficient and dendrogram of the clustering methods. The results showed that the percentage of agglomeration coefficients changing from two to three clusters was 26.9% and that from three to four clusters was smaller than 1%, showing that it was adequate to select three clusters (Ketchen & Shook, 1996). We also visually assessed the resulting dendrogram for cluster analysis. The results showed clearly that it was appropriate to pick three clusters. Finally, we adopted the indices of programme R-3.2.0 with NbClust package to determine the optimal number of clusters (Rhodes et al., 2014; Kautzky et al., 2015).

The NbClust's cluster functions identified were comparable to those from SAS (Charrad et al., 2014); it provided 30 clustering validity indices for determining the number of clusters directed at taxonomy development. Each of the clustering indices identified one cluster as appropriate. Having examined all the recommended cluster numbers, the optimal cluster number for developing an accurate taxonomy could be selected. The results indicated that most of the indices could be determined using three clusters in our taxonomy development. For example, the Cubic Clustering Criterion (CCC) values of the number of clusters from two to eight were -6.2025, -0.4075, -2.2896, -2.9302, -1.0448, -1.7420 and -2.8631, respectively. Since the number of clusters with the highest value was the recommended cluster number, this index recommended a 3-cluster solution. Figure 1 depicts the final centroids (i.e., mean values) of the clusters of the different constructs.

[Figure 1: Graphical presentation of centroids of three clustered groups about here]

We assessed the validity of each of the clusters by applying five methods. First, we conducted a split-half analysis to validate the reliability and stability of the proposed three-cluster solution. We then conducted a hierarchical clustering analysis of the randomly divided samples and found a similar pattern in the three-cluster solution, thus providing evidence of internal consistency of the cluster solution (Hair et al., 2010; Yeung et al., 2003; Aldenderfer & Blashfield, 1984). Second, we conducted a separate non-hierarchical analysis in which the initial seed points were selected randomly by the software (Hair et al., 2010). We then conducted a cross-tabulation analysis to compare the cluster solution using specified cluster seeds (from the hierarchical analysis) with another set of randomly selected cases. Both analyses resulted in cluster profiles which were over 97% across the

centroid values of the CSR dimensions and the cluster members. Third, we conducted ANOVA using Scheffe multiple comparison tests to check heterogeneity across the clusters. The results suggested that the seven CSR dimensions in the three clusters were statistically and significantly different (p -value < 0.01). The Scheffe tests showed that 19 of the 21 possible combinations were highly significant (p -value < 0.05). Fourthly, we performed significance tests on external variables to assess the external validity of the clustering solution (Hair et al., 2010). We examined the operational, financial, reputational, and social capital performances of the firms as external variables. The results indicated that all the three clusters were significantly distinct (p -value < 0.05), thus confirming the validity and stability of the three-cluster solution. Finally, to validate the relationship between the seven taxons and the three clusters, we used Canonical discriminant analysis to identify the underlying dimensions which defined the clusters (Miller and Roth, 1994). The first function had eigenvalues larger than 1 (See Table 2) and explained 90.5% of the variance. Five of the CSR dimensions were important in forming Function 1 while three were important in forming Function 2. Figure 2 indicates that the clusters were differentiated from each other through the two discriminant functions. The canonical correlations were 0.944 and 0.680, accounting for 90.5% and 9.5% of the variance, respectively. Wilk's Lambda values were significant at the 0.01 level. The results showed that 94.4% of Cluster 1, 98.7% of Cluster 2, and 100% of Cluster 3 were correctly classified. This suggested that the patterns of CSR were independent and were not prone to significant misclassification. The results indicated that our sample firms could be clustered into groups with significantly different patterns of CSR adoption.

[Table 2 Canonical discriminant functions about here]

[Figure 2 Plot of centroids of three clusters about here]

Overall, the results from the five validation methods indicated that our final three-cluster taxonomy, which revealed three significantly different CSR adoption patterns among our sample firms, was valid, thus answering the first research question as YES.

Interpretation of Clusters

We now label the three clusters based on the rankings of the CSR practices across the three clusters and the relative rankings of the practices within each cluster (See Figure 1). We name the first cluster (Cluster 1) of 78 firms as “CSR exemplars”, by referring to firms placing relatively high emphasis on the implementation of most of the CSR dimensions, but less so on dimensions pertaining to suppliers and communities. Compared with the other two clusters, the CSR adoption patterns of the CSR exemplars are all-rounded and involve a balanced view of the importance of different CSR dimensions (Lindgreen et al., 2009b). This suggests that the CSR exemplars reward their investors and other stakeholders alike. They are particularly good in terms of employee management, consumer and investor rights. This is consistent with stakeholder theory which contends that they are the primary stakeholders that directly impact business performance (Freeman et al., 2011). The observation that there is a high level of implementation of ethical codes suggests that their managers do not make decisions just to increase short-term profits (e.g., economizing on safety and pollution control) at the expense of investor values over the long run, for example, by incurring contingent liabilities, future lawsuits, and environmental costs (Benadou & Tirole, 2010). They may be adopting CSR activities based on their internal value and normative pressure (Zhu & Zhang, 2015). A low emphasis on

supply management may be the reason why current CSR issues in China are usually related to supply chains. It appears that further development of socially responsible supplier management should be the next step for the CSR exemplars to take on. On the other hand, the low levels of community relationship across all the three clusters shows that local community services or donations are not common in China, possibly due to an uneasy political and legal environment (Spero, 2014).

We name the second cluster (Cluster 2) of 72 firms as “CSR developers”. The firms in this cluster place relatively high emphasis on CSR in all stakeholder activities and internal ethical operations, but less so on investor rights. They invest little on environmental protection and investor rights, but spend quite a bit on managing employees, customers, and suppliers. They place great emphasis on supply chain relationships and human capital, which are of course essential for business development. However, the adoption levels of CSR practices are lower than those for CSR exemplars, possibly because their CSR practices are still under development. Since the CSR developers are mostly privately owned (Table 5), external environmental factors might also be playing a part in their development. This viewpoint will be discussed in the next section.

We name the third cluster (Cluster 3) of 50 firms as “CSR minimalists”, which exhibit relatively low participation in implementing CSR initiatives. CSR minimalists spend little effort on CSR practices. They invest in employee protection and customer rights, that are essential for their business survival (Lindgreen et al, 2009b; Crane & Matten, 2004) as stipulated by the laws and regulations passed by the Chinese government. This finding is consistent with the case of Chinese international contractors as reported by Wu et al. (2015). It is plausible that their concerns over environmental management and labor

rights protection are direct results of the strict legal requirements in China. In summary, by measuring CSR practices, our study has identified three clusters in the sampled industries, each cluster focusing on a different aspect of CSR.

[Table 3 Demographic characteristics of the samples;

Table 4 Significance tests of the cluster profile about here]

Tables 3 and 4 show the sample profiles of the clusters. We find that there are significant differences between the three clusters in terms of organization size, industry type, market turbulence, and ownership type. CSR exemplars and minimalists are significantly larger in size than CSR developers. 76.9% of the CSR exemplars and 64% of the CSR minimalists examined in the study had annual turnovers of over 100 million *yuan* (Table 3). Majority of the CSR developers were in the automotive and clothing industries, whereas the CSR minimalists were mainly in the pharmaceutical industry (Table 4). The market was more turbulent for both CSR exemplars and developers. Majority of the CSR developers are privately controlled.

The above results suggest that some Chinese manufacturers have committed to improving their overall CSR abilities particularly with respect to investors, employees and consumer rights (i.e., CSR exemplars). Some (CSR developers) are working by taking into consideration the prevailing business environment, while others (CSR minimalists) are getting by doing the minimum. However, this is not surprising since China and other developing countries are putting in continual efforts to improve their social environments (Zhao et al., 2014b).

Performance Implications of CSR

We tested the associations between CSR patterns and the posited performance outcomes by ANOVA and Scheffe tests. Table 5 shows that the three CSR clusters are significantly different in terms of operational performance, financial performance, corporate reputation, and social capital at a p -value smaller than 0.01. CSR exemplars are the best in terms of all performance outcomes, the CSR developers come second, while the CSR minimalists are the worst. Thus, we could answer the second research question by showing that the CSR patterns exhibited by our taxonomy were significantly related to financial, operational, reputational and supplier-related social capital performance. Specifically, CSR exemplars have performed significantly better along all the four performance indicators than CSR developers and minimalists, whereas the CSR developers have performed significantly better than the CSR minimalists.

[Table 5 The performance implications of the CSR clusters about here]

DISCUSSION

This research has developed an empirically determined taxonomy of CSR adoption patterns by examining the linkages between the patterns and the performance outcomes of manufacturers in China. It has identified three patterns of CSR adoption among the firms sampled and that they are statistically different in terms of financial, operational, reputational and supplier-related social capital performances.

The *CSR exemplars* have been found to be superior in terms of all the CSR dimensions across the four industries and ownership types studied, when a balanced view of CSR dimensions is taken (Lindgreen et al., 2009b). CSR exemplars implement most of the CSR dimensions, but less so on suppliers and communities. They reward their investors, employees and consumers, which is a finding consistent with stakeholder theory in that

they are the primary stakeholders that directly impact business performance (Freeman et al., 2011). The CSR exemplars identified were generally being run in highly turbulent markets. Also, they had high turnovers. This suggests that manufacturers engaged in large-scale businesses and operating in a competitive market environment tend to implement a range of CSR dimensions at consistently high levels. This finding is consistent with previous observations concerning the continuing development of CSR activity in China in terms of laws and regulations, demanding customers and improved information sharing through the internet (Zhao et al., 2014b). This finding also reflects the fact that some Chinese manufacturers have recognized CSR adoption as a way of improving operational effectiveness (Parast & Adams, 2012) and innovation (Shu et al., 2016). Li et al. (2016) have confirmed that some Chinese auto manufacturers are actively engaging in developing their green technologies for business innovation in electric vehicle business in China.

CSR developers showed moderate levels of implementation in CSR dimensions concerning employees, consumers, and suppliers, but skimmed on investments in environmental management and investor rights. They placed great emphasis on supply chain relationships and human capital since they were essential for business development. However, the adoption levels of their CSR practices were lower than those of CSR exemplars, possibly because their CSR practices were still under development. Since the CSR developers identified were mostly privately owned (Table 5), this pattern could be explained partly by the industry structure, ownership type, market turbulence, and company size. A majority of the CSR developers were operating in traditional industries such as automotive and clothing. These industries in China tend to be labor-intensive and may be operating in a later stage of industrial development. However, such firms still need

to compete not only on cost efficiency, but also on product quality and customer satisfaction (Nelson, 2008). Thus, CSR dimensions which help improve employee involvement, customer and supplier relationships are likely to be important to them. In addition, a large number of CSR developers were private firms with relatively less government interference, which implies that they are operating under a turbulent but market-driven environment. Since CSR developers are usually export-oriented, they are likely under pressure to improve labor, customer and supplier management by complying with related international standards, e.g., ISO 9000, SA 8000, and the Global Reporting Initiative as well as company-level internal standards (Leipziger, 2010; Lockett et al., 2006). Our study has also found that the CSR developers have smaller company sizes in terms of turnover. This may be reflecting the fact that these manufacturers have relatively limited resources, leading to limited investments in CSR adoption. Manufacturers belonging to this cluster may be paying relatively more attention to operational issues (e.g., employee, supplier and customer relationships). Overall, this study has provided new evidence supporting previous literature in that companies prioritize their CSR efforts based on their varying business environments (Godfrey et al., 2005; Lindgreen et al., 2009b).

Companies labeled as *CSR minimalists* devoted little effort on CSR practices, but kept investing in employee protection and customer rights. This was possibly driven by business environment (Lindgreen et al, 2009b; Crane & Matten, 2004) and government pressure (Wu et al., 2015). While CSR minimalists ranked lower than firms belonging to the other two clusters, they were putting significant effort into environmental management and acting along dimensions related to consumers, employees and investors. A reason for this could be related to environmental protection and labor laws in China and the fact that

investors and customers are essential for the survival of such firms. Also, the local government and other regulatory forces are significant forces driving environmental management practices (Hsu et al., 2014). CSR minimalists are firms operating mainly in traditional manufacturing industries (see Table 5) and operate in relatively stable markets. Therefore they have little incentive to adapt to external changes through improved relationships with stakeholders.

The CSR patterns identified in this study are generally consistent with those reported by Lindgreen et al. (2009a, 2009b). This indicates that the stakeholder view of CSR activities is applicable to firms in developing countries in general. Our findings suggest that, due to differences in the business environments, firms may not consider investors as the most important stakeholder for their own business and therefore have limited commitment to them. It is likely that the most important stakeholder in our sample firms was either environmental protection or employee rights because of the strict legal requirements prevailing in China. The Chinese government strives to enforce legal compliance and seeks to eliminate non-compliance of environmental protection requirements (Li et al., 2017; Lo et al., 2009). Following increased support from the central government and some relevant bodies such as NGOs, the enforcement of environmental regulations has been extended to rural areas (Tang et al., 2010). Also, there are strict requirements governing employee benefits such as pensions, collective-bargaining rights, and long-term employment benefits (Roberts, 2008). These reflect the communal nature of the Chinese government and other general expectations in developing countries regarding CSR activities such as job creation and environmental protection (William, 2011; Moon & Shen, 2010; Gugler & Shi, 2009).

As for the performance implications of CSR adoption patterns, the findings of this study are largely consistent with literature reporting that CSR adoption is positively correlated with firm performance in a variety of ways (Margolis et al., 2007; Orlitzky et al., 2003). We have found that, even if the CSR adoption patterns are different, firms performing their best along all the seven CSR dimensions (i.e., CSR exemplars) are significantly better off than those in the other two clusters in terms of financial, operational, reputational and social capital performances. Similarly, CSR developers perform better than CSR minimalists in terms of all performance indicators, notwithstanding certain differences in their CSR patterns. This finding suggests that, in China, CSR activities do no harm to business performance. Rather, doing less in terms of CSR could result in poorer business performance. It may be argued that firms in developing countries have business needs or stakeholder pressures for complying with social and environmental regulations (Zhao et al., 2014a). This suggests that the continuous effort of the Chinese government motivates manufacturers to improve their CSR performance in terms of, for example, consumer rights, environmental protection and labor rights compliance, and the increasing external influences such as the popularity of green NGOs, labor union pressure and Internet expansion (Zhao et al., 2014b).

However, contrary to expectation, we have found that CSR developers with less intensive environmental management than CSR minimalists perform better in terms of all indicators for several reasons. Firstly, CSR minimalists with larger company scales may be investing more on environmental protection practices. However, they can be operationally inefficient or be experiencing the learning effects of new practices (Zhang et al., 2016). Secondly, they may prefer restriction of green practices to internal operations

without expanding them to suppliers and customers, unlike CSR developers who usually do. This limits their impact on business performance (Laari et al., 2016). Finally, it is likely that CSR developers are motivated to prioritize their investments in environmental management more properly. This is because, up to a certain level of adoption, firms would be better off balancing their environmental efforts against improving other dimensions such as employee and customer rights. Sometimes, product social performance may have a better effect on firm performance than environmental performance (Jayachandran et al., 2013). Further studies are required to fully understand the interactions among different CSR dimensions on firm performance.

Lastly, our findings concerning the associations between CSR patterns and the three forms of supplier-related social capital have shown that CSR could help develop closer buyer-supplier relationships. CSR adoption could lead to closer buyer-supplier relationships at relational (e.g., trust), cognitive (e.g., sharing understanding) and structural (e.g., routine information exchange) levels. A plausible reason for this is that suppliers might be keen on working more closely with socially responsible buyers. Such buyers often pay attention to the wellbeing of their suppliers. In response to buyer practices (e.g., fair trade) concerning supplier wellbeing, suppliers could start viewing buyers as good business partners and hence be more willing to develop closer business relationships. Also, socially responsible buyers are less likely to get involved in solving problems such as pollution or child labor. In the absence of disruptions caused by these problems, buyers tend to have more continued operations and can order goods from suppliers more steadily. In turn, suppliers perceive such buyers to be good business partners and become more willing to invest in the development of long-term business relationships, thereby facilitating the

development of supplier-related social capital.

CONCLUSION

We have found that firms in different clusters are significantly different in terms of financial, operational, social capital, and reputational performance. This suggests that there is a positive relationship between CSR adoption levels and firm performance, which is a finding that is consistent with CSR literature (Wood, 2010) including other CSR taxonomy studies (Lindgreen, 2009a, 2000b). Overall, our findings have supported the existing CSR literature, in that, being socially responsible is good for Chinese manufacturers, even when they have different patterns of adoption. Their CSR adoption patterns might have been affected by their differing prevailing business needs. This finding has enriched CSR literature with new empirical evidence pointing to the positive roles of CSR activities on firm performance as well as their adoption patterns in developing countries.

Theoretical Contributions

This study has made several theoretical contributions to literature on CSR. First, it has explored the multiple CSR adoption patterns, thus responding to calls to better understand the multi-dimensional nature of CSR (Sodhi, 2015; Shafiq et al., 2014; Taneja et al., 2011). It has also extended existing knowledge on exploring the effective CSR adoption patterns for better performance implications (Wood, 2010). As for assessing the seven dimensions of CSR, we have shown that firms can manage CSR by balancing and prioritizing these dimensions. For example, rather than improve investor rights, CSR minimalists tend to pursue environmental management first under pressure from the

regulatory environment. By contrast, CSR developers invest only moderately on environmental management and investor rights, but emphasize the pursuance of other dimensions relevant to enhanced supply chain relationships. Our findings concerning organizational factors impacting clusters suggest that the adoption patterns of CSR may depend on other factors including company size, market turbulence, industry type, and ownership type. Therefore, we suggest that further studies of CSR should consider multiple dimensions of CSR and examine the relationships between different adoption patterns and external environmental factors (e.g., legal completeness).

Second, we have extended literature on the associations between CSR adoption patterns and multiple performance outcomes, including financial, operational, reputational, and supplier-related social capital performances. According to the literature, the impact of CSR in developing countries (Godfrey & Hatch, 2007) can be verified by using multiple performance indicators, either tangible or intangible (Wood, 2010).

Our findings have added new insights to literature by suggesting that the adoption patterns of CSR could be a factor impacting firms' performance outcome. Consistent with CSR literature, firms with high levels of CSR adoption tend to exhibit superior financial, operational and reputational, and supplier-related social capital performance. However, since, in practice, firms do not implement different CSR dimensions uniformly, future work could aim at coming up with clearer guidelines on how firms could tailor CSR strategies to achieve the desired levels of performance enhancement. For example, our findings on the associations between CSR and the three forms of supplier-related social capital have added new insights to CSR and OM literature by pointing out that CSR could help develop closer buyer-supplier relationships. However, focusing only on environmental

management practices without balancing other types of CSR practices may not be good for performance improvement (Wu and Pagell, 2011).

Finally, according to our cluster profile analysis, we have produced additional evidence that, in developing countries, firm-level CSR adoption patterns may have been affected by governmental actions. In China, firms need to work on environmental management and labor rights more than on investor rights possibly because of the prevailing levels of labor and environmental law enforcement. We therefore posit that, because CSR activities are significantly influenced by government regulations in developing countries, CSR adoption patterns are likely to be context-specific (Jamali, 2007). Alternatively, it is possible that there are certain overlapping areas between CSR and the country's legal requirements. To clearly distinguish voluntary CSR adoption from legally required actions for firms in developing countries, this study should be replicated in other developing countries to examine how government regulations affect CSR implementation in general.

Managerial Implications

First, this study has come up with useful empirical evidence that both tangible and intangible performance can be enhanced by different CSR adoption patterns. Second, Chinese firms may want to consider external environmental factors such as market situation, and industry structure when developing their CSR plans. For example, if a company has dynamic customer needs and preferences but relatively small turnover, its management could emphasize more on employee and consumer rights in its CSR effort. Finally, firms operating in China need to be aware that stakeholders could accord different

levels of importance in doing business. Specifically, such firms may want to improve environmental management first, employee and customer rights next, and then satisfy other stakeholder rights.

Limitations and Future Research

The following are the main limitations of this study. First, employing cross-sectional survey data-sets does not effectively test the assumed cause-effect relationships of our hypotheses. Future research may adopt a longitudinal approach to collect data on CSR adoption and firm performance at different times with a view to gathering more evidence supporting the cause-effect assumptions made. Second, our data were collected from four industries to ensure generalizability of our results. However, organizations in different industries operate under different environments and face their own unique problems and constraints. Future research may focus on a single industry to be able to offer industry-specific insights. Third, our tests were directed mainly at the direct associations between different CSR patterns and performance outcomes. Future researchers can identify and test whether there are contingency factors moderating such associations. While measuring the performance of social capital, we have focused on supplier related social capital because of its known significance in Chinese manufacturing. Future researchers may explore the relationships between CSR and other forms of social capital (e.g., the structural linkage with the market). Fourth, as for the research context, future research may explore how firm internationalization affects its CSR activities because internationalized or export-oriented companies need to demonstrate awareness of multiple stakeholders globally and their compliances of foreign market requirements (Attig et al., 2016). Future

researchers may address the CSR adoption problems associated with manufacturing to export market in developing countries, such as the lack of recognized international standards, the economic orientation of Western multinationals and domestic/host government regulations (Zhao et al., 2014b). Fifth, since our findings have suggested that government influence could be a significant factor affecting CSR adoption in firms in developing countries, future CSR work may examine the influence of this factor on CSR implementation. Sixth, since we could not avoid the influences of state-owned enterprises in China's manufacturing, our survey data had to include state-owned companies (wholly or partly), which might have supported other perspectives on implementing CSR activities (Zhu et al., 2015) due to the mixed objectives and controls of the organizations (Bruton et al., 2015). Even though this did not affect two of the CSR clusters statistically, they may still have limited our research findings. Similarly, companies with different sizes may have different needs in terms of CSR implementation. Although our study had controlled company size in terms of annual turnover, it did not measure other company size indicators such as the number of employees, which could have limited our research findings. Since our study was limited to the Chinese context, its replicability in other developing countries should be examined. Finally, it should be kept in mind that the taxonomy developed in this study is merely exploratory. Further studies are necessary to examine and refine the validity of its findings.

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Appendix I

Results of the confirmatory factor analysis of CSR dimensions (N=200)

Measurement items	Standardized factor loadings [#] (t-value)
Ethical code of conduct (<i>AVE</i> =0.75, <i>CR</i> =0.90, <i>Alpha</i> =0.90)	
Establish an ethics compliant department or division that specifically handles the improvement, training, and enforcement of the above codes of conduct.	0.87 ^{##}
Strictly implement the above codes of conduct for every manager and employee.	0.91 (17.24)
Establish a set of transparent, comprehensive, and stringent codes of conduct aimed at resisting bribery, corruption, and other illicit acts.	0.81 (14.36)
Environmental management (<i>AVE</i> =0.74, <i>CR</i> =0.89, <i>Alpha</i> =0.89)	
Incorporate environmental performance objectives in our organizational plans.	0.78 ^{##}
Incorporate environmental concerns in our business decisions.	0.90 (13.71)
Measure our organization's environmental performance.	0.89 (13.59)
Investor rights (<i>AVE</i> =0.79, <i>CR</i> =0.92, <i>Alpha</i> =0.94)	
Seek the input of our major investors regarding strategic decisions.	0.89 ^{##}
Provide investors with a competitive return on investment.	0.88 (17.90)
Inform our investors of changes in corporate policy.	0.90 (18.90)
Incorporate the interests of our investors in business decisions.	0.89 (18.77)
Provide our investors with full and accurate financial information about our organization.	0.82 (15.63)
Employee rights (<i>AVE</i> =0.75, <i>CR</i> =0.92, <i>Alpha</i> =0.92)	
Safeguard the legitimate rights and interests of employees.	0.88 ^{##}
Provide our employees with salaries that properly and fairly reward them for their work.	0.90 (18.66)
Institute procedures that help to ensure the health and safety of our employees.	0.83 (15.75)
Treat our employees fairly and respectfully, regardless of the gender or ethnic background.	0.86 (16.81)
Consumer rights (<i>AVE</i> =0.70, <i>CR</i> =0.88, <i>Alpha</i> =0.88)	
Adapt products or services to enhance the level of customer satisfaction.	0.86 ^{##}
Provide customers with the information needed to make sound purchasing decisions.	0.84 (14.75)
Respond positively to complaints from our customers about products or services.	0.81 (13.88)
Supplier management (<i>AVE</i> =0.61, <i>CR</i> =0.82, <i>Alpha</i> =0.82)	
Treat suppliers, regardless of their size and location, fairly and respectfully.	0.76 ^{##}
Incorporate the interests of our suppliers in our business decisions.	0.80 (11.38)
Inform our suppliers about organizational changes affecting our purchasing decisions.	0.79 (11.21)
Social community relationships (<i>AVE</i> =0.61, <i>CR</i> =0.82, <i>Alpha</i> =0.83)	
Understand the needs of communities while we operate via communications.	0.82 ^{##}
Financially support education (e.g., school building, scholarship, etc.) and cultural (e.g., arts, sports, etc.) activities in the communities where we operate.	0.67 (9.84)
Incorporate the interests of the communities, where we operate, in our business decisions.	0.85 (12.82)
Fit indexes: $\chi^2/df = 1.87$, CFI = 0.95, IFI = 0.95, RMSEA = 0.07	

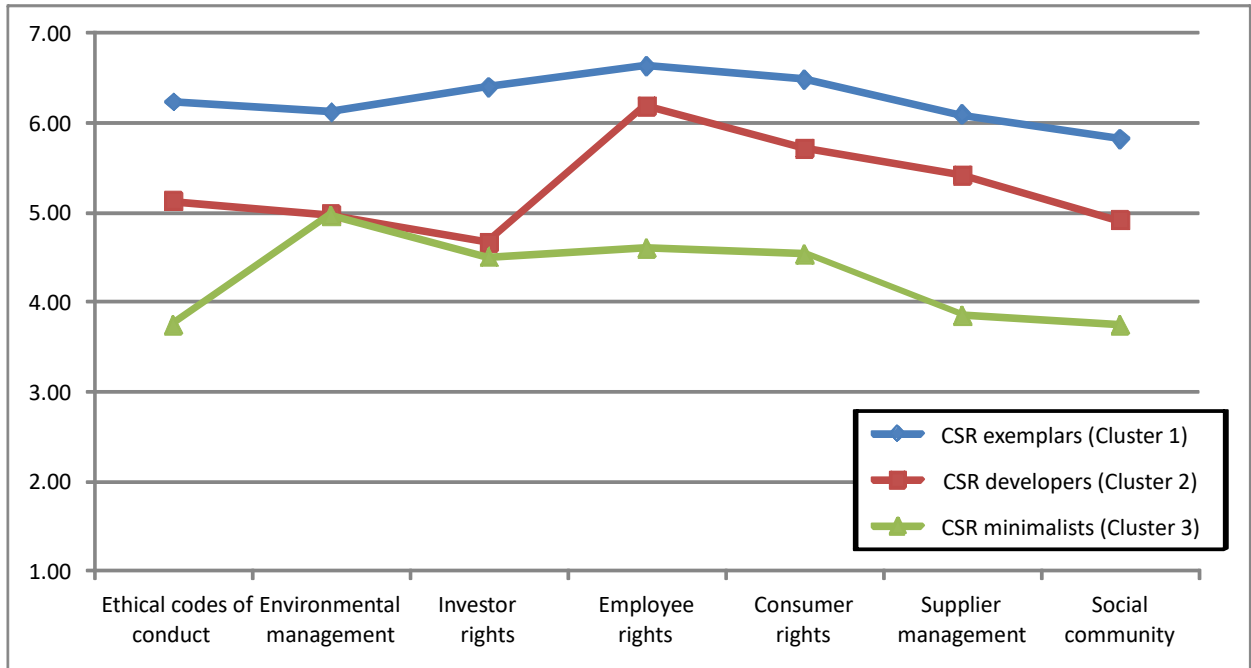
All standardized regression weights were significant at p -value < 0.01, with t -value > 1.96 or < -1.96 (Byrne, 2010)

Values were not calculated because loading was set to 1 to fix construct variance (Hair et al., 2010).

Results of confirmatory factor analysis of the consequence of CSR (N =200)

Measurement items	Standardized factor loadings [#] (t-value)
Financial performance (<i>AVE</i> =0.77, <i>CR</i> =0.91, <i>Alpha</i> =0.91)	
Relative to our most relevant competitors over the past 3 years:	
Our total assets have been substantially better.	0.85 (16.34)
Our sales growth has been substantially better.	0.89 (17.90)
Our operating income growth has been substantially better.	0.90 ^{##}
Operational performance (<i>AVE</i> =0.73, <i>CR</i> =0.89, <i>Alpha</i> =0.89)	
Relative to our most relevant competitors, over the past 3 years:	
Our product lead time has been substantially shortened.	0.89 ^{##}
Our product reliability of our lead time has been substantially better.	0.90 (17.52)
Our production flexibility has been increased substantially.	0.78 (13.68)
Market turbulence (<i>AVE</i> =0.72, <i>CR</i> =0.89, <i>Alpha</i> =0.88)	
In our kind of business, customers' product preferences change quite a bit over time.	0.92 ^{##}
Our customers tend to look for new products all the time.	0.90 (16.44)
New customers have product needs that are different from those of our existing customers.	0.72 (12.20)
Corporate reputation (<i>AVE</i> =0.70, <i>CR</i> =0.93, <i>Alpha</i> =0.93)	
How would you rate your company with respect to each of the following attributes:	
Quality of products or services	0.90 (13.54)
Long-term investment value	0.88 (13.27)
Innovativeness	0.78 (11.49)
Financial soundness	0.90 (13.56)
Ability to attract, develop, and retain talented personnel	0.77 (11.30)
Community and environmental responsibility.	0.75 ^{##}
Supplier related social capital	
- Structural social capital (<i>AVE</i> =0.63, <i>CR</i> =0.83, <i>Alpha</i> =0.81)	
We have very frequent face-to-face planning with key suppliers.	0.83 ^{##}
There is high corporate-level communication on important issues with key suppliers.	0.86 (13.49)
Information exchange with key suppliers is through information technology.	0.68 (10.11)
- Relational social capital (<i>AVE</i> =0.64, <i>CR</i> =0.90, <i>Alpha</i> =0.90)	
There are close and frequent contacts with the firms in our supply base.	0.69 ^{##}
The alliance is characterized by mutual respect between the partners at multiple levels.	0.85 (11.17)
The alliance is characterized by mutual trust between the partners at multiple levels.	0.86 (11.31)
The alliance is characterized by personal friendship between the partners at multiple levels.	0.76 (10.03)
The alliance is characterized by high reciprocity in our supply base.	0.83 (10.93)
- Cognitive social capital (<i>AVE</i> =0.65, <i>CR</i> =0.90, <i>Alpha</i> =0.91)	
Our supplier shares a common understanding with us about the needs of the end customer.	0.81 ^{##}
Our supplier shares a common understanding with us about how our actions impact each other	0.83 (19.20)
Our supplier has a common understanding with us about market trends and developments.	0.79 (12.57)
Our supplier understands our needs and priorities.	0.79 (12.38)
There is general agreement between the supplier and us about market information.	0.81 (13.01)
Fit indexes: χ^2/df = 1.22, CFI=0.92, IFI=0.92, RMSEA= 0.08	

All standardized regression weights were significant at p -value < 0.01 , with t -value > 1.96 or < -1.96 (Byrne, 2010). ## Values were not calculated because loading was set to 1 to fix construct variance (Hair et al., 2010).



	CSR exemplars <i>n</i> =78		CSR developers <i>n</i> =72		CSR minimalists <i>n</i> =50		ANOVA	
<i>CSR dimensions</i>	Mean (SD)						F-value (p-value)	
Ethical codes of conduct	6.29	(0.51)	5.20	(0.88)	3.92	(0.76)	164.11	(0.00)
Environmental management	6.23	(0.68)	4.89	(0.93)	5.05	(0.87)	56.58	(0.00)
Investor rights	6.38	(0.60)	4.82	(1.04)	4.54	(0.50)	114.80	(0.00)
Employee rights	6.66	(0.37)	6.38	(0.73)	4.62	(0.43)	239.47	(0.00)
Consumer rights	6.53	(0.40)	5.82	(0.78)	4.63	(0.56)	151.99	(0.00)
Supplier management	6.12	(0.68)	5.54	(0.63)	3.99	(0.58)	172.27	(0.00)
Social community relationship	5.94	(0.67)	4.91	(0.83)	3.91	(0.64)	121.43	(0.00)

Note: The top 3 CSR dimensions of each cluster are presented in the bold font.

Figure 1 Centroids of the three clusters

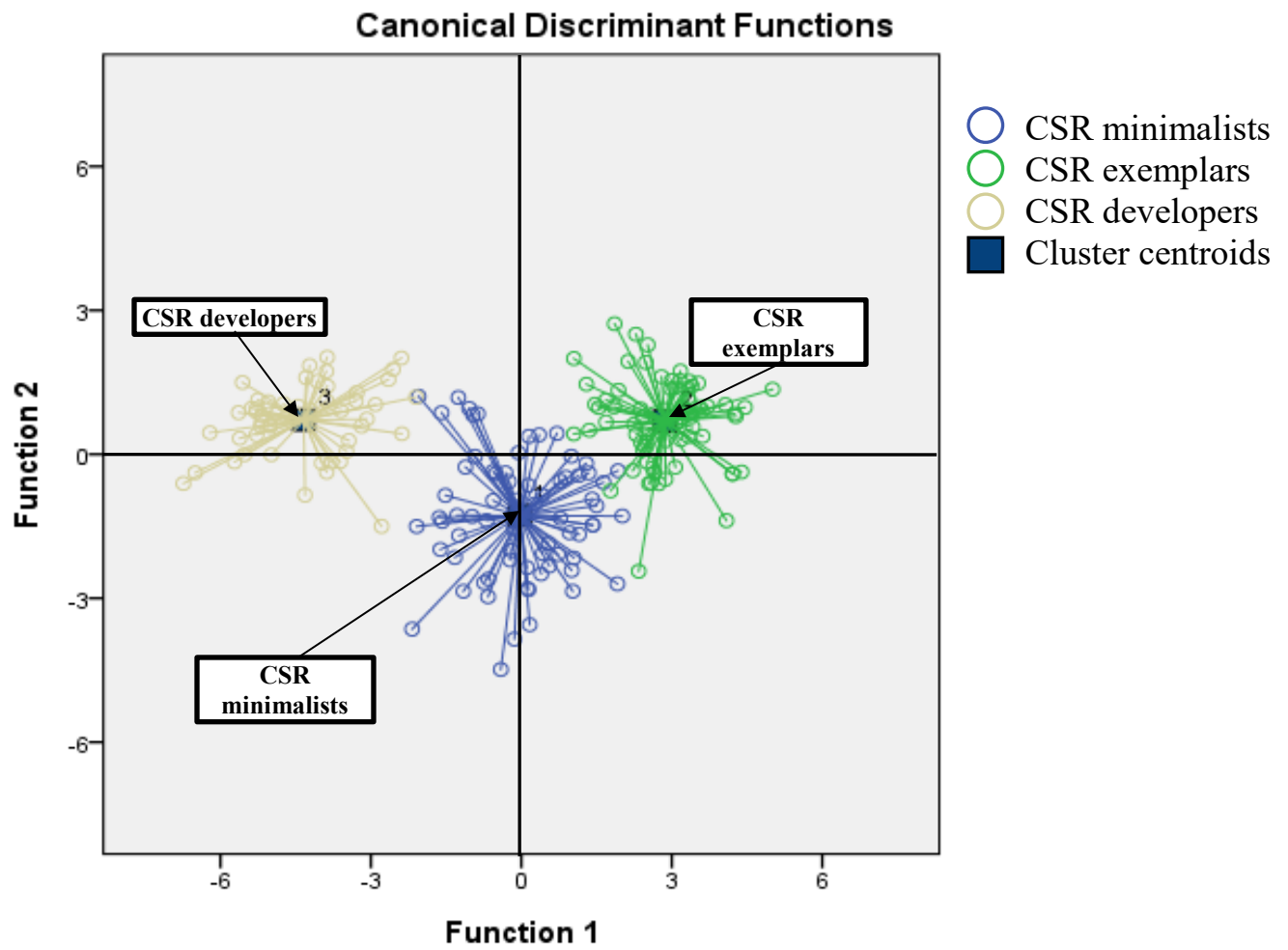


Figure 2 Centroids of the three clusters

Table 1 Summary statistics

Constructs	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Ethical codes of conduct	5.31	1.17	0.86^a													
2. Environmental management	5.45	1.03	0.47	0.86												
3. Investor rights	5.36	1.13	0.45	0.42	0.89											
4. Employee rights	6.05	0.99	0.66	0.26	0.39	0.87										
5. Consumer rights	5.80	0.96	0.61	0.32	0.55	0.69	0.84									
6. Supplier management	5.38	1.05	0.67	0.40	0.49	0.70	0.72	0.78								
7. Social community relationship	5.06	1.08	0.58	0.51	0.47	0.51	0.56	0.61	0.78							
8. Market turbulence	4.54	1.60	0.34	-0.06	0.07	0.38	0.28	0.37	0.25	0.85						
9. Financial performance	5.12	1.16	0.54	0.32	0.40	0.56	0.53	0.56	0.66	0.37	0.88					
10. Operational performance	5.08	1.11	0.62	0.32	0.41	0.55	0.48	0.63	0.55	0.37	0.71	0.86				
11. Corporate reputation	5.62	1.02	0.63	0.31	0.47	0.64	0.66	0.70	0.64	0.34	0.65	0.66	0.83			
12. Structural social capital	5.54	0.84	0.49	0.23	0.51	0.46	0.60	0.53	0.42	0.10	0.45	0.45	0.64	0.79		
13. Relational social capital	5.54	0.95	0.51	0.23	0.54	0.62	0.71	0.69	0.50	0.20	0.51	0.51	0.76	0.74	0.80	
14. Cognitive social capital	5.26	1.01	0.68	0.32	0.50	0.68	0.65	0.73	0.55	0.32	0.50	0.56	0.75	0.65	0.75	0.81

^a Square root of the AVE of the construct. All correlations among the constructs were significant at p -value < 0.01 level (2-tailed), except that market turbulence is not correlated with environmental management, investor rights, and social capital-structural capital at the p -value > 0.1 level.

Table 2 Canonical discriminant functions

Canonical functions	Eigenvalue	% of variance	Cumulative %	Canonical correlation	Significance of function
1	8.193	90.5	90.5	0.944	0.000
2	0.858	9.5	100.0	0.680	0.000
Canonical loadings (correlation)					
CSR dimensions			Function 1	Function 2	
Ethical codes of conduct			0.450*	0.081	
Environmental management			0.200	0.537*	
Investor rights			0.333	0.546*	
Employee rights			0.516*	-0.536*	
Consumer rights			0.433*	-0.064	
Supplier management			0.455*	-0.246	
Social community relationship			0.433*	-0.064	

*Following Miller and Roth (1994), 0.4 was set as the cut-off value to identify the CSR factors that had contributed significantly to the discriminant functions. They are presented in the bold font.

Table 3 Demographic characteristics of the sample

	All firms <i>n</i> =200	CSR exemplars <i>n</i> =78	CSR developers <i>n</i> =72	CSR minimalists <i>n</i> =50
<i>Number (valid percentage)</i>				
Types of industry				
Food and Beverage	48 (24)	22 (28.2)	11 (15.3)	15 (30)
Automobiles	52 (26)	23 (29.5)	27 (37.5)	2 (4)
Clothing	50 (25)	16 (20.5)	29 (40.3)	5 (10)
Pharmaceutical	50 (25)	17 (21.8)	5 (6.9)	28 (56)
Annual turnover (RMB)				
5-7 millions	11 (5.5)	2 (2.6)	7 (9.7)	2 (4)
10-30 millions	7 (3.5)	3 (3.8)	4 (5.6)	0 (0)
30-50 millions	53 (26.5)	11 (14.1)	29 (40.3)	13 (26)
50-100 millions	14 (7)	2 (2.6)	9 (12.5)	3 (6)
Over 100 millions	115(57.5)	60 (76.9)	23 (31.9)	32 (64)
Types of ownership				
State owned enterprise	21 (10.5)	8 (10.3)	6 (8.3)	7 (14)
State share owned enterprise	38 (19)	23 (29.5)	6 (8.3)	9 (18)
Wholly foreign owned enterprise	35 (17.5)	14 (17.9)	11 (15.3)	10 (20)
Privately owned enterprise	103 (51.5)	33 (42.3)	48 (66.7)	22 (44)
State and private owned enterprise	3 (1.5)	0 (0)	1 (1.4)	2 (4)

Table 4 Significance tests for the cluster profiles

	CSR exemplars <i>n</i> =78	CSR developers <i>n</i> =72	CSR minimalists <i>n</i> =50	Significant tests
Types of industry^{##}				57.72**
Food and Beverage	22 (28.2 %)	11 (15.3%)	15 (30 %)	
Automobiles	23 (29.5 %)	27 (37.5 %)*	2 (4 %)*	
Textile and Clothing	16 (20.5 %)	29 (40.3 %)*	5 (10%)*	
Pharmaceutical	17 (21.8 %)	5 (6.9 %)*	28 (56%)*	
Company size[#] (turnover)	4.47 (1.04)	3.51 (1.27)	4.26 (1.10)	14.11**
Market turbulence[#]	4.72 (1.67)	5.22 (1.00)	3.27 (1.48)	29.19**
Types of ownership^{###}				9.59**
State-involved enterprises	31 (39.7 %)	12 (16.9 %)	16 (33.3 %)	
Private-controlled enterprises	47 (60.3 %)	59 (83.1 %)*	32 (66.7 %)	

Note: [#]ANOVA tests were conducted. The mean (S.D.) values are shown in the table. Scheffe tests showed that, for company size, the CSR exemplars and the CSR minimalists were not significantly correlated at *p*-value less than 0.05. As for market turbulence, the CSR exemplars and developers were not significantly correlated at *p*-value less than 0.05. All other correlations were significantly correlated at *p*-values smaller than 0.05.

^{##} Chi-square tests with contingency table were conducted. The counted numbers (%) are shown in the table. The standardized residuals of the counted numbers were used to assess the significant difference, and the value of the standardized residuals (value > 1.96 or < -1.96), are presented in the bold font.

^{###} Chi-square tests with contingency table were conducted. Keeping in mind the limited number of data, two types of state-related ownerships (i.e., state-owned and state-share owned enterprises) were grouped together and then compared with the 3 clusters. The counted numbers (%) are shown in the table. The values of the standardized residuals (value > 1.96 or < -1.96) are presented in the bold font.

** Correlation is significant at the *p*-value < 0.01 level; *Correlation is significant at the *p*-value < 0.05 level

Table 5 Performance implications of the CSR clusters

	Financial performance	Operational performance	Corporate reputation	Social capital		
				Structural	Relational	Cognitive
	Cluster mean (S.E.)					
CSR exemplars	5.82 (0.85)	5.68 (0.77)	6.30(0.68)	6.05 (0.72)	6.15 (0.62)	5.97 (0.68)
CSR developers	5.25 (1.01)	5.23 (1.14)	5.72 (0.84)	5.47 (0.77)	5.62 (0.81)	5.30 (0.81)
CSR minimalists	3.81 (0.52)	3.92 (0.48)	4.41 (0.56)	4.85 (0.52)	4.50 (0.62)	4.07 (0.45)
F-value	87.58**	64.38**	113.67**	45.46**	86.43**	118.68**

Note: ANOVA tests were conducted. Scheffe tests conducted on all the performance implications of the clusters were significantly different at *p*-value less than 0.01

** Correlation is significant at the *p*-value < 0.01 level