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Abstract

Employing data from Chinese companies listed on the board for small and medium-sized enterprises (SMEs), the research examines the relationship between top management team (TMT) characteristics and corporate charitable activities in China. My findings confirm: 1) Firms less engaged in charitable activities are likely to have TMTs characterized by more educational specialty in science and engineering, and more functional background in output functions; 2) TMT age heterogeneity has a significant and positive effect on corporate charitable activities, while TMT educational specialty heterogeneity has a negative influence on corporate charitable activities; 3) TMT age, tenure, educational level and these heterogeneities of tenure, educational level and functional background have little or no influence on corporate charitable activities. Based on the *upper echelons theory*, the study can provide evidence for further research on top management teams and corporate social responsibility in an emerging economy.

JEL: M54, M12, M14

Key words: top management team; charity; heterogeneity; corporate social responsibility; Chinese companies

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1. Introduction

With the deepening globalization the societies and communities appeal to corporations to employ their own resources to help alleviate various social and environmental issues, for instance, some companies were required to provide victims with free food and drink. Nowadays, a firm as a citizen living in the world not only frequently interacts with a wide variety of communities and organizations (Wood, 1991), but can also obtain a sustainable competitive advantage in the process of implementing corporate social responsibility (CSR) (Porter & Kramer, 2006).

Unlike most of the western countries in which there are many individual donors, in China charitable giving is mainly relying on corporations. According to authoritative statistics, American and British companies accounted for only about 5% and 6% respectively of total donations to charities in 2011 (Klein, 2014), however, Chinese corporations contributed to non-profit and charitable organizations to amount to approximately 58% of total giving in 2011 (Feng, 2013). Thus, in China, studies on CSR and corporate charities make more sense. Additionally, it is well known that in China, most of the large enterprises belong to state-owned or state-controlled enterprises, and these companies are often affected by national policy and macroeconomic control, while the owners and top managers of listed small and medium-sized enterprises (SMEs) with less direct interference of state and government have more rights to make their own strategic decisions.

A top management team (TMT) is the small group of executives making vital strategic decisions within the organization, and takes the overall responsibility for the company (Finkelstein et al., 2009). As the reactor of enterprise knowledge, the top management team can conduct a comprehensive analysis on the firm's internal and external environment, and it is effective to reduce economic losses which myopia or one-sided decision causes (Hambrick & Mason, 1984). Therefore, a top management team can build network relationships and obtain development opportunities based on their strategic decisions such as product research and development, overseas investment, charitable activities.

In recent years, China has accelerated the pace of building a harmonious society with resource and information sharing, and a rising number of companies have been involved in charitable activities. Under the circumstances, corporate senior executives could consolidate existing *guanxi* (closed system of relationship) networks and build new network relationships with communities and governments by means of fulfilling social responsibility, in order to look for business opportunities and play an important role in society (Tian et al., 2008; Carpenter, Bauer, & Erdogan, 2009; Dollinger et al., 2010). Thus, in Chinese companies some visionary members within these top management teams have realized the importance of corporate social responsibility and have regarded social responsibility as a corporate strategy for sustainable development, thereby actively engaging in charitable activities.

2. Theory and Hypotheses

After Bowen (1953), the father of corporate social responsibility, formally presented the view that enterprises and their operators must take social responsibilities, then some scholars have expanded CSR in *stakeholder theory* (Freeman, 1984). On the one hand, many of the related research was concentrated on the definition and model of CSR (Keim, 1978; Carroll, 1979; Wartick & Cochran, 1985; Basu & Palazzo, 2008), for example, Carroll's (1991) the pyramid model, Elkington's (1994) Triple Bottom Line; On the other hand, some of the scholars focused on the relationship between the CSR and firm performance (Cochran & Wood, 1984; Mc Guire, Sundgren & Schneeweis, 1988; Harrison & Freeman, 1999; Mackey A, Mackey T & Barney, 2007).

When Hambrick and Mason (1984) first proposed the *upper echelons theory* in 1984, the research on top

management teams has developed as one of the most important areas in the management field. While the majority of the research focused on the relationship between the top management team and organizational outcomes (Finkelstein & Hambrick, 1990; Michel & Hambrick, 1992; Carpenter, 2002; Nielsen B & Nielsen S, 2013), some of the upper echelon scholars paid attention to strategic outcomes, for example innovation, internationalization, diversification, risk (Bantel & Jackson, 1989; Qian, Cao & Takeuchi, 2013; Nielsen B & Nielsen S, 2011; Chen, 2011; Carpenter et al., 2004; Finkelstein et al., 2009; Hambrick, 2005, 2007).

Thus it can be seen that there are a large number of literatures related to TMT or CSR, while there is little research on the relationship between top management teams and corporate social responsibility, especially a related empirical research. Thomas and Simerly (1995) proposed that researchers could develop the area of corporate social responsibility in terms of upper echelons. Recently, Strand (2012) found that there exist CSR chief officers in TMTs and corporations.

2-1. Age of top management team

Top management team age has an impact on corporate strategic decision (Hambrick & Mason, 1984). Older executives usually consider and make a strategic decision deliberately (Taylor, 1975), and tend to resist facing strategic change (Wiersema & Bantel, 1992) and challenging established routines (Child, 1974). In many companies and organizations, moral activities are supported by these established formal rules and routines, hence older senior managers are likely to comply with the ethical rules and moral norms (Daboub et al., 1995).

Kohlberg (1984), a famous psychologist, believes that with age one individual will reach a certain stage of moral development, that is, people may be disposed to follow universal ethical principles and become willing to help others. Many of the previous research results suggest that the older persons are, the more they contribute to charity (Midlarsky & Hannah, 1989; Andreoni et al., 2003). Thus, top management teams with a higher average age are inclined to follow the ethical rules and have more moral need, thereby more actively engaging in CSR and charitable activities. Hence, I propose the following hypothesis:

Hypothesis 1: Top management team age has a positive effect on corporate charitable activities.

2-2. Age heterogeneity of top management team

Age heterogeneity of top management team usually relates to cognitive diversity (Finkelstein & Hambrick, 1990). Team members who are living in different times experience different social environment and events, which facilitates the sharing of a variety of information and thoughts and the interaction within the team (Tihanyi et al., 2000; Wei & Lau, 2012; Wiersema & Bantel, 1992), and hence the top management teams that have these members with different ages are more sensitive to the changing environment and stakeholder groups; in other words, these top management teams with higher age heterogeneity could pay more attention to stakeholders' requirements and be more likely to take corporate social responsibility.

Additionally, TMT age heterogeneity can not only generate various perspectives on the strategic issues, but also contributes to cognitive conflict, which is beneficial to extend the strategic decision making, and therefore these top management team members with different ages are helpful to discuss the large number of qualitatively better alternative solutions (Greening & Johnson, 1996, 1997). Thus, top management teams that have more members with different ages are more likely to reach an agreement on charities. The reasoning leads to the following hypothesis:

Hypothesis 2: Age heterogeneity of top management team has a significantly positive effect on corporate charitable activities.

2-3. Tenure of top management team

Tenure is an important factor influencing the information exchange between team members (Allen & Cohen, 1969). Due to inadequacies in the interactive communication between team members, shorter-tenured top management teams are more likely to lack cohesion and further may be prone to making more strategic mistakes (Hambrick & D'aveni, 1992). On the other hand, longer-tenured team members are willing to share some knowledge and information from the internal and external environments through their own communication channels (Zenger & Lawrence, 1989), and hence longer-tenured top management teams have the ability to identify opportunities that exist in the external environment (Sutcliffe, 1994). Furthermore, these longer-tenured TMTs tend to promote coordination rather than creating the clouds of emotional conflict (Michel & Hambrick, 1992; Nielsen B & Nielsen S, 2013; Priem, Lyon & Dess, 1999).

Additionally, top managers with longer tenure would be resistant to initiate illegal actions due to their concern for corporate long-term development and reputation (Daboub et al., 1995). Thus, longer-tenured top management teams are inclined to agree on a long-term development strategy such as getting involved with charities, so that enterprises can obtain more commercial opportunities by means of establishing good relationship with external stakeholders (e.g. local community and government). Therefore, I make the following hypothesis:

Hypothesis 3: Top management team tenure has a positive effect on corporate charitable activities.

2-4. Tenure heterogeneity of top management team

Team members with different tenure may have a different understanding of organizational environments and strategies due to their different experience (Katz, 1982). Although tenure heterogeneity may trigger conflict especially under a complex and uncertain environment (Carpenter, 2002; Pelled, Eisenhardt & Xin, 1999), these conflicts may exert positive impact on corporate outcomes in extreme adverse circumstances (Qian, Cao & Takeuchi, 2013). In addition, TMT tenure heterogeneity can provide organizations with various alternatives from different perspectives (Boeker, 1997; Wiersema & Bantel, 1992), and hence these top management teams with higher tenure heterogeneity are inclined to impel corporations to make a more comprehensive plan for sustainable development.

Tenure heterogeneity can not only improve the quality of companies' decision making and teams' internal processes, but may also be beneficial to predict potential risk (Ancona & Caldwell, 1992; Greening & Johnson, 1996). More specially, longer-tenured top managers are likely to decrease external threats (Daboub et al., 1995); on the other hand, top managers with shorter tenure are able to notice external environments of corporations through relying on their previous experiences (Liu et al., 2012).

Therefore, tenure heterogeneity conduces to help top management teams take into account more external stakeholders, and further these top management teams with higher tenure heterogeneity are beneficial to corporate charitable activities. Hence, this assumption leads to the following hypothesis:

Hypothesis 4: Tenure heterogeneity of top management team has a positive effect on corporate charitable activities.

2-5. Educational level of top management team

Educational level has an important influence on an executive's cognitive capability (Hitt & Tyler, 1991). Top managers who are highly educated can not only have the better capacity for understanding internal and external environmental issues from a variety of perspectives, but are also able to distinguish and process

the complex information (Bartunek et al., 1983; Wiersema & Bantel, 1992). Because of the greater ability to creatively solve the complicated problems (Bantel & Jackson, 1989), top management teams with the higher educational level can realize that corporations actively engage in charitable activities so as to obtain a long-term competitive advantage.

In addition, an individual's educational level has a positive influence on moral and cognitive development (Jones et al., 1990). Highly educated persons can have a deep understanding in morality and social responsibility, so they might be inclined to give more donations to charity (Chua & Wong, 1999). A large number of related studies indicate that higher educational level persons have, the more they give the donations to charity (Andreoni et al., 2003). Therefore, the higher educational level top management teams have, the more willingness they have to participate in charitable activities. Accordingly, I propose the following hypothesis:

Hypothesis 5: Educational level of top management team has a positive effect on corporate charitable activities.

2-6. Educational level heterogeneity of top management team

Educational level heterogeneity may exert an unfavorable impact on strategic decision making within a top management team, since educational level heterogeneity is likely to arise affective conflict, which can not only have a detrimental influence on decision comprehensiveness (Simons, Pelled & Smith, 1999), but also interferes with interaction and communication among top management team members and thereby leading to the difficulty of achieving strategic consensus (Knight et al., 1999) especially under the Chinese cultural background, most of the Chinese place importance on harmony rather than divergence (Wei et al., 2005).

More specially, more highly educated top managers are more willing to contribute to society by terms of donations to charity compared to top executives with the lower educational level, and further the difference of educational level is prone to causing disagreement on charitable decisions and activities. Thus, I suggest the following hypothesis:

Hypothesis 6: Educational level heterogeneity of top management team has a negative effect on corporate charitable activities.

2-7. Science and engineering education specialty of top management team

Educational specialties of senior executives may have an important influence on strategic decision making (Hitt & Tyler, 1991), since individuals who received formal education can form their own values and cognition. In other words, there exist some cognitive differences in strategic choices between the executives who received business education and those who received education in engineering (Hambrick & Mason, 1984).

More specially, top managers with science or engineering degree are inclined to actively invest in research and development activities and focus on product innovation (Barker & Mueller, 2002; Wiersema & Bantel, 1992), while they have few interest in social relationships and philanthropic plans; on the other hand, top management teams that comprise the senior executives with the prestigious socio-economic background have more social capital through building social network to achieve better firm performance (Shipilov & Danis, 2006).

As noted above, the top management teams with more educational specialties related to science and engineering are more willing to contribute to the product development, while they may pay less attention to the establishment of relationships with external stakeholders by donations to charity. Therefore, this reasoning provides the following hypothesis:

Hypothesis 7: Science and engineering education specialty of top management team has a significant and negative effect on corporate charitable activities.

2-8. Educational specialty heterogeneity of top management team

Educational specialty heterogeneity is prone to hampering integration within a top management team (Amason, Shrader & Tompson, 2006). More specially, TMT members with different educational specialties place the importance on different corporate development directions, for instance, senior executives with the degree in science or engineering often pay more attention to product development and innovation (Barker & Mueller, 2002), while top managers who received education in business and economics are likely to have interest in enhancing relational capital (Shipilov & Danis, 2006) and thereby building good social relationships with stakeholders.

However, different concern points lead to ingroup-outgroup phenomenon (Tajfel and Turner, 1986), which may in turn hinder communication among team members, destroy team cohesion, reduce TMT member's satisfaction, and cause emotional conflict (Williams and O'Reilly, 1998). Hence, the higher the educational specialty heterogeneity is, the more difficult it is for a top management team to reach an agreement on corporate charity activities. Accordingly, the assumption leads to the following hypothesis:

Hypothesis 8: Educational specialty heterogeneity of top management team has a salient and negative effect on corporate charitable activities.

2-9. Output function background of top management team

Top managers' functional backgrounds can not only affect their own cognitive patterns, but also top management team effectiveness and corporate strategic choices (Hambrick & Mason, 1984; Hitt & Tyler, 1991). Output functions include such functional backgrounds as research and development, marketing and sales (Hambrick & Mason, 1984).

More specially, senior executives with these functional experiences in R&D or marketing are more likely to actively engage in product development, and place more importance on product innovation and competition (Barker & Mueller, 2002; Govindarajan, 1989), while they may pay less attention to the establishment of social relationship network; on the other hand, top managers who had such functional experiences as law, finance, accounting tend to focus on existing strategies, mergers and acquisitions (M&A) (Finkelstein, 1992; Geletkanycz & Black, 2001), and they are more willing to enhance corporate advantage and reputation through building relationships with external organizations rather than through internal innovative activities.

However, due to the limited resources and different allocation of capital, top management teams which have more members with functional backgrounds related to output functions pay more attention to products and R&D activities rather than CSR and charitable activities. Thus, I make the following hypothesis:

Hypothesis 9: Output function background of top management team has a noteworthy and negative effect on corporate charitable activities.

2-10. Functional background heterogeneity of top management team

Senior executives with different functional experience might be disposed to differ in social value, attitudes, skills and knowledge (Bantel & Jackson, 1989). Although the differences in functional background are likely to trigger both cognitive and emotional conflict, and thereby affecting the cohesion and consensus among team members (Bundersonm & Sutcliffe, 2002; Cai, Liu & Yu, 2013; Knight et al., 1999), the

functional background heterogeneity can provide top management teams and corporations with more different information and intelligence, so that they have better capabilities to predict external circumstances and generate appropriate alternatives to solve complicated problems (Bantel & Jackson, 1989; Lant, Milliken & Batra, 1992; Liu et al., 2012), and further maintain good relations with external organizations and stakeholders in order to create a positive corporate image.

Additionally, relying on more effective information processing and external environmental observation, top management teams with greater functional background heterogeneity can not only avoid human risks (Greening & Johnson, 1996), but also facilitate external communication (Ancona & Caldwell, 1992). Therefore, these top management teams with higher functional background heterogeneity attach more importance to external situations and social relationships, and thereby promoting charitable activities. Hence, I propose the following hypothesis:

Hypothesis 10: Functional background heterogeneity of top management team has a positive effect on corporate charitable activities.

3. Methods

3-1. Sample

Many of the scholars identify the strategic leaders and the senior executives as top management team members in terms of their titles or positions in their companies such as president, chairman, chief executive officer, chief financial officer, chief operating officer, vice president, general manager, vice general manager (Amason & Mooney, 1999; Heavey & Simsek, 2013; Ou et al., 2014; Simons & Peterson, 2000; Wei & Lau, 2012). Thus, considering the consistency and comparability of the relevant research, I also define and choose top management team members according to their titles or positions in their corporations.

The initial sample data set was composed of the listed small and medium-sized enterprises on the Shenzhen Stock Exchange of China, and then the final sample of 102 corporations was selected from the initial samples through weeding out some lacking necessary data and related information. Additionally, all of the data sources in the research were from Chinese financial database-RESSET (www.resset.cn), corporate prospectuses, websites, and annual reports for the years 2004–2007 since it is necessary to avoid the detrimental effects of the 2008 financial crisis.

3-2. Measures

3-2-1. Dependent variable

Corporate charitable activities: Some enterprises tend to contribute to the society through donations to charity, and thereby establishing good relationships with external organizations and communities. As a sustainable development strategy, corporate philanthropy can not only enhance the reputation of companies, but also helps the firms expand commercial opportunities. Corporate charitable activities are often operationalized as cash donations reported by the companies (Dennis et al., 2007), and the data are processed by means of the natural logarithm transformation in order to eliminate the potential risk of heteroskedasticity and to avoid the situation that firms overstate the amount of cash contributions.

3-2-2. Independent variables

Age of top management team (AGE) is computed by evaluating the average age of top management team members.

Age heterogeneity of top management team (AGEHET) is measured by the coefficient of variation that

is the ratio of the standard deviation to the mean, and the larger the value, the greater the heterogeneity is, since the heterogeneity is usually calculated by the coefficient of variation when the variable is continuous (Tihanyi et al., 2000).

Tenure of the top management team (TEN) is calculated by evaluating the average team tenure of top management team members.

Tenure heterogeneity of top management team (TENHET) is computed by the coefficient of variation, because tenure is a continuous variable.

Educational level of top management team (EDULEV) is calculated by evaluating the average educational level of top management team members. Educational level is often categorized into five levels that are high school graduate or lower, associate, bachelor, master, and doctorate or higher.

Educational level heterogeneity of top management team (EDULEVHET) is measured by the Blau's (1977) heterogeneity index that is

$$H = 1 - \sum_{i=1}^n P_i^2$$

where P is the proportion of TMT members in a category, and i is the number of different categories that are represented in the top management team, because the heterogeneity can be computed by the Blau's heterogeneity index when the variable is categorical.

Science and engineering education specialty of top management team (SCIENGEDU) is computed by evaluating the proportion of senior executives with the science and engineering education in a top management team. Educational specialties are usually categorized into five categories that are science and engineering, economics and business, literature and art, law, and others such as education, military science, non-educational specialty, and each TMT member is further categorized into one of these categories.

Educational specialty heterogeneity of top management team (EDUSPEHET) is calculated by the Blau's heterogeneity index, since the educational specialty is a categorical variable.

Output function background of top management team (OUTFUN) is computed by evaluating the proportion of top managers with the output function background in a top management team. Functional backgrounds are often categorized into seven categories that are production and manufacturing, research and development, finance and accounting, marketing and sales, law, administration, and government. Accordingly, I regard the function which each TMT member engaged in for the longest time as his/her functional background, and further define the function in research and development, marketing and sales as output function background according to the definition that was proposed by Hambrick and Mason in 1984.

Functional background heterogeneity of top management team (FUNHET) is measured by the Blau's heterogeneity index, because the functional background is also a categorical variable.

3-2-3. Control variables

High-tech industry: Industry difference has a marked impact on disclosure of information related to the corporate social responsibility (Wanderley et al., 2008), and companies in these industries with the higher level of innovation and competition consider that they will obtain little profit through CSR activities (Hull & Rothenberg, 2008). Thus, enterprises in high-tech industries are unlikely to have an incentive to actively pursue charitable activities. Moreover, this control variable is a dummy variable indicating whether a corporation belongs to the high-tech industries generally including electronics, information technology, biotechnology and pharmaceuticals. In other words, if a company is in a high-tech industry, it will take the

value 1; if not, it will take the value 0.

Firm debt: If an enterprise is confronting the high debt, it will have fewer resources to engage in corporate social responsibility and charitable activities (Zyglidopoulos, 1999). Firm debt is calculated by evaluating the ratio of total debt to total assets.

Firm R&D: Research and development activities may compete with corporate social responsibility activities for limited resources within a corporation from the resource-based view (Tang et al., 2012), however the company can obtain a competitive advantage by means of engaging in R&D activities and CSR activities which make multiple stakeholders (e.g. community, society) satisfied, and R&D investment are positively associated with CSR activities (Padget & Galan, 2010). Although these research results differ, they demonstrate that firm R&D activities have impacts on CSR and corporate charitable activities. Firm R&D are estimated by the R&D intensity that is measured by evaluating the ratio of R&D expenditure (unit: ten thousand *yuan*) to the total number of employees (Hill & Snell, 1988).

TMT size: A larger top management team can obtain more resources and cognitive diversity, and thereby making new strategic decisions for long-term development of the company (Brunninge et al., 2007; Forbes & Milliken, 1999), hence the TMT size is likely to have a positive correlation with CSR and corporate charitable activities.

4. Analysis and Results

4-1. Disclosure of charitable donation by corporations listed on the SMEs board in China

Table 1 Disclosure of charitable donation by listed SMEs in China

Period of annual report	Total number of listed corporations	Number of corporations disclosing data on charitable donation	Proportion of corporations disclosing data on charitable donation
2004	38	21	55.26%
2005	50	30	60.00%
2006	102	51	50.00%
2007	202	121	59.90%
Average	—	—	56.29%

Table 1 indicates that the four-year average level of disclosing charitable donation was at a higher level of 56.29%, and the proportion kept fluctuating between 50% and 60%. Although the China Securities Regulatory Commission has no explicit regulation on disclosure of corporate charitable donation, more than half of the Chinese listed small and medium-sized enterprises voluntarily disclosed their cash donation to charity and actively engage in corporate charitable activities.

Table 2 Descriptive statistics on charitable donation by Chinese listed SMEs (unit: *yuan*)

Period of annual report	Minimum	Maximum	Sum	Mean
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2004	1109.65	3561447.00	7939753.03	378083.48
2005	500.00	4376037.38	13589389.65	452979.66
2006	600.00	3119380.00	17270089.54	338629.21
2007	710.00	6128000.00	70326194.39	581208.22
Average	—	—	—	437725.14

Table 2 reveals a considerable difference in charitable donation between Chinese listed small and medium-sized enterprises. For instance, in 2007, the most generous corporation donated (more than 6 million *yuan*) more than 8 thousand times than the least philanthropic company did (only 710 *yuan*), and its cash donation to charity exceeded approximately 11 times the average (about 580 thousand *yuan*). Besides, the total number of cash donation to charity reached 70 million *yuan* in 2007, while the four-year average level of the charitable donation was at a lower level of less than 440 thousand *yuan*. In China, no uniform regulation related to the disclosure of corporate charitable donation might be a leading cause of these huge differences.

4-2. The relationship between top management team characteristics and corporate charitable activities in China

<Insert Table 3 around here>

Pearson correlation analysis of variables is first made in order to carry out a preliminary assessment of the linear correlation between variables. Table 3 illustrates that the charitable donation has linear relationships with some of the top management team characteristics and control variables, which provides a basis for these proposed hypotheses to a certain extent, and moreover there are linear relationships between the top management team characteristics and the control variables. After that, a multiple regression analysis of variables is made through the method of ordinary least squares so as to examine the proposed hypotheses on top management team characteristics and corporate charitable activities in China.

Table 4 Results of multiple regression analysis

Variable	Charitable Donation	
	Model 1 Coefficients B(t)	Model 2 Coefficients B(t)
(Constant)	13.204 (15.304)**	18.021 (4.763)**
High-tech industry	-1.291 (-3.455)**	-1.433 (-3.464)**
Firm debt	-0.258 (-3.505)**	-0.270 (-3.726)**
Firm R&D	0.139 (1.757) ⁺	0.173 (2.062)*
TMT size	-0.004 (-0.068)	0.033 (0.515)
AGE		-0.053 (-1.012)
AGEHET		7.535 (2.332)*
TEN		0.095 (0.528)

TENHET		0.609 (1.035)
EDULEV		0.443 (1.036)
EDULEVHET		1.581 (0.886)
SCIENGEDU		-1.992 (-1.694) ⁺
EDUSPEHET		-3.876 (-1.814) ⁺
OUTFUN		-2.458 (-2.078)*
FUNHET		-3.974 (-1.096)
R ²	0.267	0.412
Adj. R ²	0.237	0.318
F	8.836**	4.362**

$N=102$. ⁺ $p<0.1$, * $p<0.05$, ** $p<0.01$ (2-tailed).

Table 4 presents the statistical results of the multiple regression analysis, and in the two models, I find that the correlation is significant at the 0.01 level (2-tailed), which shows that both Model 1 and Model 2 are effective and significant. Additionally, after top management team characteristics are added to Model 2, the fitting coefficient R² of regression Model 2 is changed from 0.267 to 0.412, and its adjusted R² is also changed from 0.237 to 0.318. These changes indicate that these top management team characteristics as independent variables have effects on corporate cash donation to charity, and a concrete analysis is made in the following paragraph.

As illustrated in Model 2, age heterogeneity of top management team has a positive and significant effect ($B=7.535$, $p<0.05$) on charitable donation, while TMT Science and engineering education specialty ($B=-1.992$, $p<0.1$), TMT educational specialty heterogeneity ($B=-3.876$, $p<0.1$) and TMT output function background ($B=-2.458$, $p<0.05$) are negatively associated with charitable donation, and thus, Hypotheses 2, 7, 8 and 9 are confirmed. However, TMT age, TMT tenure, TMT tenure heterogeneity, TMT educational level, TMT educational level heterogeneity and TMT functional background heterogeneity have little or no influence on corporate charitable donation, and hence Hypotheses 1, 3, 4, 5, 6, and 10 are not supported.

In addition, in Model 1 only including control variables, the evidence indicates that both high-tech industry and firm debt have significantly negative effects on charitable donation, while firm R&D is positively related to the charitable donation.

5. Conclusion and Implications

To summarize, these main results of this study tend to support a significant linear relationship existing between top management team characteristics and corporate charitable activities in Chinese listed SMEs, and moreover the findings can not only provide evidence from the upper echelons perspective for the research related to human resource management and corporate social responsibility in an emerging market economy, but also offer some references for Chinese companies in the establishment of top management teams of reasonable configuration and the corporate strategic choices for sustainable development. Besides, although there is a considerable difference in charitable donation between Chinese corporations, more than half of the Chinese listed small and medium-sized enterprises actively engaged in charitable activities.

Accordingly, I combine the results of the study with the features of Chinese listed small and medium-sized enterprises in order to give further explanations about my research findings related to effects of top management team characteristics on corporate charitable activities.

First, science and engineering education specialty and output function background of top management team both have negative effects on corporate charitable activities. Both the senior executives with science and engineering educational specialty and the top managers with output function background are more familiar with corporate products and more likely to place the importance on product research and development, which may cause that they only focus on corporate self-development and pay less attention to the interaction and communication with external organizations. Moreover, because of the limited resources and capital, these enterprises which make substantial investment in research and development activities may lack the necessary funding to accelerate the corporate social responsibility and charitable activities, so that it is more difficult for these corporations to establish the good relationships with external organizations or stakeholders. Especially in China, if companies would like to have better performance and achieve sustainable development, these top managers need to build *guanxi* networks and maintain good relationships with local communities and government (Peng & Luo, 2000; Tsang, 1998) by means of the donations to charity for the contribution to society.

Second, heterogeneities of top management team characteristics have salient effects on corporate charitable activities. On the one hand, age heterogeneity among top management team members has a significantly positive influence on corporate charitable activities. Top managers with different ages may have deep understanding of the significance of charity and corporate social responsibility through communicating the experiences and sharing the social capitals with each other in a top management team, so that the top management team can regard corporate social responsibility as a corporate sustainable development strategy and thereby actively engaging in charitable activities. On the other hand, the heterogeneity of educational specialty among TMT members has a negative impact on corporate charitable activities. Top management team members with different educational specialties are likely to focus on different development strategies from their own perspectives, and thus it is difficult for the top management team to reach an agreement on a corporate strategy, especially when the company can not obtain the direct profits from this kind of strategy such as charity.

Although the heterogeneity of top management team characteristics is beneficial to promote corporate giving behaviors to some extent, it is more likely to lead to conflict and disagreement within a top management team under the Chinese social circumstance.

A large number of studies on top management team diversity in the Western enterprises indicate that the heterogeneity of top management team characteristics tends to facilitate corporate strategic decisions and organizational performance, as TMT heterogeneity may provide a wide variety of information and alternative solutions to a company (Bantel & Jackson, 1989; Cannella, Park & Lee, 2008; Carpenter, 2002; Greening & Johnson, 1996; Heavey & Simsek, 2013; Nielsen B & Nielsen S, 2011; Tihanyi et al., 2000; Wiersema & Bantel, 1992). Yet, unlike many of the Western studies, some research findings related to Chinese corporations reveal that top management team heterogeneity exerts an unfavorable effect on organizational outcomes (Li & Hambrick, 2005; Wei et al., 2005), since there may exist big social and cultural differences between China and the West. More specially, Chinese people usually attach importance to building and maintaining good *guanxi* (interpersonal relationships or social connections), and thereby keeping harmony and stability, in other words, they are inclined to encourage similarity rather than difference (Yang, 1986, 1995), so that it is difficult for Chinese companies to derive benefit from top management team heterogeneity (Wei et al., 2005).

Therefore, in China, when the listed small and medium-sized enterprises would like to improve the quality of corporate strategic decision making and organizational performance, they should give special attention to the heterogeneity or difference among top management team members, and endeavor to decrease the affective conflict between factional groups that TMT heterogeneity leads to.

Third, TMT age, TMT tenure, TMT tenure heterogeneity, TMT educational level, TMT educational level heterogeneity and TMT functional background heterogeneity have little or no influence on corporate charitable donation. There might be two leading reasons to explain these research results. One of the main reasons is that these characteristics of top management team may not play direct and critical roles in influencing the corporate strategic decisions such as CSR and charitable activities, for instance, TMT tenure has little impact on corporate innovation (Daellenbach, McCarthy & Schoenecker, 1999); another reason is that there may be some nonlinear relationships (e.g. a U-shaped relationship) between these top management team characteristics and strategic choices or performance of companies, for example, there exists a U-shaped relationship between TMT age and firm performance (Mayr, 2011).

Additionally, it is also found that there are some relationships between control variables and corporate charitable activities in Chinese listed SMEs. These results show: the companies that belong to high-tech industries donate less to charity than those from other industries, since these high-tech firms are more willing to invest in product research and development rather than corporate charitable activities; the enterprises with high debt ratio inactively engage in charitable activities, as they may only have a small amount of cash; For obtain the competitive advantages, the firms that are involved in corporate innovation are also likely to participate in charitable activities, because they can gain competitive advantages from both of these activities.

6. Limitations and Future Directions

First, because I used data mostly from such publications as corporate annual reports and prospectuses of Chinese listed SMEs, corporate charitable activities were measured only by cash donation to charity. Although this method is usually used to directly reflect charitable giving, some of the companies could also contribute to society through other charitable behaviors such as in-kind donations, charity auction and voluntary work in non-profit organizations. In the further study, I will carry out some related investigations using questionnaires or interviews.

Further, due to the limited sources of information, I could not discuss the effect of birthplaces or hometowns of top management team members on corporate charitable activities under a special period, for example, a company may give more to charity when an earthquake or a disaster happens in TMT members' hometowns.

Finally, in this study I only analyzed the possible reasons why not all of heterogeneities of top management team characteristics are conducive to the corporate strategic decision on charity, for instance, some of the TMT heterogeneities may lead to conflict, yet I did not accurately estimate the frequency and categories of conflict when top management team members interact and communicate with each other, and in future studies I will actively seek and provide the explanations based on empirical evidence.

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Table 3 Correlation of the variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Charitable donation	12.062	1.837	—														
2. High-tech industry	0.310	0.466	-0.413**	—													
3. Firm debt	3.394	2.486	-0.405**	0.377**	—												
4. Firm R&D	1.386	2.241	-0.056	0.268**	0.399**	—											
5. TMT size	13.120	2.649	0.012	-0.070	-0.064	-0.164	—										
6. AGE	46.391	3.228	-0.127	-0.043	0.063	0.017	0.178	—									
7. AGEHET	0.193	0.049	0.063	0.177	0.139	0.026	-0.133	0.036	—								
8. TEN	1.336	0.877	0.026	-0.080	-0.015	-0.083	-0.022	0.039	0.038	—							
9. TENHET	0.159	0.272	0.017	0.065	0.073	-0.044	0.187	-0.045	-0.085	0.169	—						
10.EDULEV	3.381	0.441	-0.121	0.463**	0.205*	0.375**	-0.164	-0.098	0.041	-0.122	0.027	—					
11.EDULEVHET	0.627	0.101	0.095	-0.102	0.057	-0.237*	0.113	-0.127	0.112	-0.020	-0.061	-0.236*	—				
12.SCIENGEDU	0.448	0.165	-0.303**	0.376**	0.227*	0.318**	0.172	0.142	-0.023	-0.029	0.053	0.282**	-0.382**	—			
13.EDUSPEHET	0.540	0.087	-0.073	-0.115	-0.077	-0.242*	-0.061	-0.030	0.146	0.145	0.009	-0.212*	0.280**	-0.313**	—		
14.OUTFUN	0.415	0.147	-0.163	0.152	0.132	0.287**	-0.026	-0.126	-0.016	0.037	-0.002	0.315**	-0.163	0.258**	-0.276**	—	
15.FUNHET	0.753	0.054	-0.033	-0.239*	-0.119	-0.315**	0.009	0.241*	0.075	0.100	0.036	-0.202*	0.126	-0.260**	0.486**	-0.368**	—

Number of samples N=102. ** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).