Impacts of Top Management Team Characteristics on Corporate Charitable Activity: Evidence from Chinese Listed Companies

Xin Huang\textsuperscript{1}, Koichi Nakagawa\textsuperscript{2} & Jie Li\textsuperscript{3}

Abstract

This research combines the upper echelons theory and corporate social responsibility, and through employing data from China, an emerging economy, it confirms the existence of the relationship between top management team characteristics and corporate charitable activity. These findings include that the top management teams which are characterized by more functional background in output functions and more educational specialty in science and engineering are less interested in corporate philanthropy; on the other hand, top management teams with higher age heterogeneity actively engage in corporate charitable activity, while those with higher heterogeneity of educational specialty are less willing to donate to charity. Especially, unlike many of the studies on Western countries, the research findings related to Chinese companies demonstrate that some of the top management team heterogeneities negatively influence corporate activities. Besides, the top management team tenure, age, educational level, and these heterogeneities of educational level, functional background and tenure have little effect on corporate philanthropy.

Keywords: top management team; heterogeneity; charitable donation; philanthropy

1. Introduction

With the deepening globalization, more and more communities and societies appeal to corporations to employ their resources to help alleviate various social issues and environmental problems. For instance, some companies may are required to provide victims with free food and drink. Nowadays, a company, as a citizen living in the world, not only frequently interacts with a wide variety of organizations and communities (Wood 1991) but also obtains a sustainable competitive advantage through implementing corporate social responsibility (CSR) (Porter and Kramer 2006).

Unlike most of the western countries in which there are many individual donors, charitable giving is mainly relying on corporations in China. According to reliable statistics, American and British companies accounted for only about 5% and 6% respectively of total donations to charities in 2011 (Klein 2014), while 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. However, 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.

\textsuperscript{1}Lecturer, Faculty of Business Administration, Sapporo Gakuin University, 11 Bunkyodai, Ebetsu-shi, Hokkaido 0698555, Japan  
E-mail: koushin_huangxin@yahoo.co.jp, Tel: +81113868111, Fax: +81113868113

\textsuperscript{2}Associate Professor, Graduate School of Economics, Osaka University, 1-7 Machikaneyama, Toyonaka, Osaka 5600043, Japan  
E-mail: allegro_assai@hotmail.com

\textsuperscript{3}Associate Professor, School of Management, Shanghai University, 99 Shangda Road, Shanghai 200444, China  
E-mail: mgmtli@163.com
A top management team (TMT) is a kind of the small group that comprises senior executives who make vital strategic decisions on organization, and it takes the overall responsibility for the corporation (Finkelstein et al. 2009). As a reactor of corporate knowledge, a top management team can conduct a comprehensive analysis of the internal and external environment of the company, and it is useful to reduce economic losses that a unilateral or myopic decision causes (Hambrick and Mason 1984). Therefore, an excellent top management team has the ability to not only build social relationships but also gain development opportunities based on their strategic decisions such as charitable activity, product research and development, overseas expansion.

In recent years, China has made strenuous and continuing efforts to create a harmonious society with information and resource sharing, and a rising number of companies have been involved in charitable activity. Under the circumstances, some senior executives may consolidate existing relationships and build a new network and relationship with communities and governments through fulfilling their corporate social responsibilities, in order to find new business opportunities and play essential roles in society (Dollinger et al. 2010; Tian et al. 2008). 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 activity.

2. Theory and Hypotheses

After Bowen (1953), who is the father of corporate social responsibility, formally put forward the view that companies and their operators must take social responsibilities, some researchers have expanded it in stakeholder theory (Freeman 2010). On the one hand, many of the relevant studies focused on its definition and model development (Basu and Palazzo 2008; Carroll 1979; Keim 1978; Wartick and Cochran 1985) such as Carroll's (1991) the pyramid model and Elkington's (1994) Triple Bottom Line. On the other hand, some of the scholars laid stress on relationship between CSR and firm performance (Cochran and Wood 1984; Harrison and Freeman 1999; Mackey et al. 2007; McGuire et al. 1988).

When Hambrick and Mason (1984) first proposed the upper echelon 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 studies focused on the relationship between the top management team and organizational outcomes (Carpenter 2002; Finkelstein and Hambrick 1990; Michel and Hambrick 1992; Nielsen B and Nielsen S 2013), many of the upper echelon scholars paid attention to strategic outcomes, for instance innovation, internationalization, diversification, risk (Bantel and Jackson 1989; Carpenter et al. 2004; Chen 2011; Finkelstein et al. 2009; Hambrick 2005, 2007; Nielsen B and Nielsen S 2011; Qian et al. 2013).

Therefore, it could be seen that there is a considerable amount of literature separately related to TMT or CSR, while little research was involved in the relationship between top management teams and corporate social responsibility, especially the lack of empirical studies. Thomas and Simerly (1995) presented that researchers could develop the field of corporate social responsibility from the perspective of upper echelons. Recently, Strand (2013) have 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 the corporate strategic decision (Hambrick and Mason 1984). Older senior managers usually consider and make a strategic decision deliberately (Taylor 1975), and tend to resist facing strategic change (Wiersema and Bantel 1992) and challenging existing routines (Child 1974). In some organizations or corporations, moral activities and behaviors are supported by these established formal standards and methods. Therefore, older top managers are likely to defer to the existing moral norms and ethical rules (Daboub et al. 1995).

A famous psychologist, Kohlberg (1984), proposes that with age, an individual will reach a certain stage of moral development, that is, older persons tend to comply with universal ethical principles and become willing to help others. Some research results indicate that the older people are, the more they contribute to philanthropy (Andreoni et al. 2003; Midlarsky and Hannah 1989). Therefore, top management teams with a higher average age are inclined to follow the ethical rules and have more moral needs, thereby more actively engaging in CSR and philanthropic giving. Hence, we propose the following hypothesis:

Hypothesis 1 Top management team age has a positive impact on corporate charitable activity.
2.2 Age heterogeneity of top management team

Age heterogeneity of top management teams usually relates to cognitive diversity (Finkelstein and 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 and Lau 2012; Wiersema and Bantel 1992). Hence the top management teams that have these members of different ages are more sensitive to the changing environment and stakeholder groups; in other words, these top management teams with a higher age heterogeneity may pay more attention to stakeholders’ requirements and be more likely to take corporate social responsibility.

In addition, TMT age heterogeneity not only generates 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 a large number of qualitatively better alternative solutions (Greening and Johnson 1996, 1997). Thus, top management teams that have more members of 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 impact on corporate charitable activity.

2.3 Tenure of top management team

Tenure is a significant factor that affects the information exchange among team members (Allen and 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 and 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 communication channels (Zenger and 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 and Hambrick 1992; Nielsen B and Nielsen S 2013; Priem et al. 1999). Additionally, top managers with longer tenure are unwilling to initiate illegal behaviors or actions, on account of their concern for the firm’s long-term development and reputation (Daboub et al. 1995). Hence, 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 a good relationship with external stakeholders (e.g., local community and government). Therefore, we make the following hypothesis:

**Hypothesis 3** Top management team tenure has a positive impact on corporate charitable activity.

2.4 Tenure heterogeneity of top management team

Team members with different tenure have varied understandings of organizational environments and strategies due to their diverse experiences (Katz 1982). Although tenure heterogeneity is likely to trigger conflicts, especially under a complex and uncertain environment (Carpenter 2002; Pelled et al. 1999), these conflicts may exert a positive impact on corporate outcomes in extremely adverse circumstances (Qian et al. 2013). Besides, TMT tenure heterogeneity can provide organizations with various alternatives from different perspectives (Boeker 1997; Wiersema and 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 and Caldwell 1992; Greening and Johnson 1996). More specially, longer-tenured top managers are likely to decrease external threats (Daboub et al. 1995); one the other hand, senior 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 philanthropic giving. Hence, this assumption leads to the following hypothesis:

**Hypothesis 4** Tenure heterogeneity of top management team has a positive impact on corporate charitable activity.
2.5 Educational level of top management team

Educational level has an important influence on an executive’s cognitive capability (Hitt and Tyler 1991). Senior managers who are highly educated have greater capacities for not only understanding internal and external environments from a variety of perspectives but also processing and distinguishing complex information (Bartune et al. 1983; Wiersema and Bantel 1992). Owing to the better ability to creatively solve the complicated problems (Bantel and Jackson 1989), top management teams with a 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 have a deep understanding of social responsibility and morality, and thus they may be inclined to make more donations to charity (Chua and Wong 1999). Many of the related research studies show that the higher educational level people have, the more charitable contributions they make (Andreoni et al. 2003). Hence the higher educational level top management teams have, the more willing they are to participate in philanthropic activities. Accordingly, we propose the following hypothesis:

**Hypothesis 5** Educational level of top management team has a positive impact on corporate charitable activity.

2.6 Educational level heterogeneity of top management team

Educational level heterogeneity may exert an unfavorable impact on strategic decision making within a senior management team, since educational level heterogeneity is likely to arise affective conflict, which not only has a detrimental influence on decision comprehensiveness (Simons et al. 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 senior executives with a lower educational level, and further, the difference of educational level is prone to causing disagreement on philanthropic decision-making. Thus, we suggest the following hypothesis:

**Hypothesis 6** Educational level heterogeneity of top management team has a negative impact on corporate charitable activity.

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 and Tyler 1991) since individuals who received formal education can form their 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 and Mason 1984).

More specially, top managers with science or engineering degree are inclined to actively invest in R&D activities and focus on product innovation (Barker and Mueller 2002; Wiersema and Bantel 1992), while they lack 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 creating social networks to achieve better firm performance (Shipilov and 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 lay less stress on the establishment of relationships with external stakeholders through giving 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 impact on corporate charitable activity.

2.8 Educational specialty heterogeneity of top management team

Educational specialty heterogeneity is prone to hampering integration within a top management team (Amason et al. 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 and Mueller 2002),...
While top managers who received education in business and economics are likely to have an interest in enhancing relational capital (Shipilov and 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 giving to charities. Accordingly, the assumption leads to the following hypothesis:

**Hypothesis 8** Educational specialty heterogeneity of top management team has a remarkable and negative impact on corporate charitable activity.

### 2.9 Output function background of top management team

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

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

However, owing to the limited resources and different capital allocation, top management teams that have more members with functional backgrounds in output functions pay more attention to products and R&D activities rather than CSR or philanthropic activities. Thus, we make the following hypothesis:

**Hypothesis 9** Output function background of top management team has a striking and adverse impact on corporate charitable activity.

### 2.10 Functional background heterogeneity of top management team

Senior executives with different functional experience may be disposed to differ in social value, attitudes, skills, and knowledge (Bantel and 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 (Bunderson and Sutcliffe 2002; Cai et al. 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 and Jackson 1989; Lant et al. 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, not only can top management teams with greater functional background heterogeneity avoid human risks (Greening and Johnson 1996), but they also facilitate external communication (Ancona and Caldwell 1992). Therefore, these top management teams with higher functional background heterogeneity attach more importance to external situations and social relationships, and thereby promoting philanthropic activities. Hence, we propose the following hypothesis:

**Hypothesis 10** Functional background heterogeneity of top management team has a positive impact on corporate charitable activity.

### 3. Method

#### 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 and Mooney 1999; Heavey and Simsek 2013; Ou et al. 2014; Simons and Peterson 2000; Wei and Lau 2012).
Thus, considering the consistency and comparability of the relevant research, we also define and choose top management team members according to their titles or positions in their corporations. The initial sample data set is composed of the listed small and medium-sized enterprises on the Shenzhen Stock Exchange of China, and then the final sample of 102 corporations is selected from the initial samples through weeding out these Chinese corporations that lack the necessary information related to top management team members and corporate cash donations to charity. Additionally, all data sources in the research are from 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 activity** Some companies are inclined to contribute to society by donating to charity, thereby building good relationships with external organizations and communities. As a sustainable development strategy, corporate philanthropy not only enhances the reputation of enterprises but also helps the companies expand commercial opportunities. Corporate charitable activity is often operationalized as cash donations reported by firms (Dennis et al. 2009). Besides, the data are processed by means of the natural logarithm transformation in order to eliminate a potential risk of heteroskedasticity and avoid the bad circumstance that companies overstate the amount of cash donations.

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 senior 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, we 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 corporate social responsibility (Wanderley et al. 2008), and companies in these industries with a higher level of innovation and competition consider that they will obtain little profit through CSR activities (Hull and Rothenberg 2008). Thus, enterprises in high-tech industries are unlikely to have an incentive to pursue charitable activities actively. Moreover, this control variable is a dummy variable that indicates whether a corporation belongs to the high-tech industries that generally includes 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 it belongs to other industries, 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. From the resource-based view, research and development activities are likely to compete with corporate social responsibility activities for limited resources in a company (Tang et al. 2012), while the corporation can gain a competitive advantage through engaging in R&D and CSR activities which may make multiple stakeholders (e.g., society, community) satisfied, and R&D investment is positively associated with CSR activities (Padgett and Galan 2010). Although these research results differ, they reveal that firm R&D activities have effects on CSR and corporate charitable activities. Firm R&D is 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 and Snell 1988).

TMT size. Compared with a smaller top management team, a larger top management team can have cognitive diversity and get more resources and thereby making new strategic decisions for the long-term development of the company (Brunninge et al. 2007; Forbes and Milliken 1999). Therefore, TMT size is positively related to CSR and corporate charitable activity.

4. Analyses and Results

4.1 Disclosure of charitable donation by corporations listed on the SMEs board in China

<table>
<thead>
<tr>
<th>Period of annual report</th>
<th>Total number of listed corporations</th>
<th>Number of corporations disclosing data on charitable donation</th>
<th>Proportion of corporations disclosing data on charitable donation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>38</td>
<td>21</td>
<td>55.26%</td>
</tr>
<tr>
<td>2005</td>
<td>50</td>
<td>30</td>
<td>60.00%</td>
</tr>
<tr>
<td>2006</td>
<td>102</td>
<td>51</td>
<td>50.00%</td>
</tr>
<tr>
<td>2007</td>
<td>202</td>
<td>121</td>
<td>59.90%</td>
</tr>
<tr>
<td>Average</td>
<td>—</td>
<td>—</td>
<td>56.29%</td>
</tr>
</tbody>
</table>

Table 1 reveals that the four-year average level of disclosing charitable donation was at a higher level of 56.29%, and the proportion fluctuated between 50% and 60%. China Securities Regulatory Commission has no specific regulation on disclosure of corporate charitable donation, while more than half of the Chinese listed small and medium-sized enterprises voluntarily disclosed their cash donation to charity, and engaged in the corporate charitable activity actively.
Table 2 Descriptive statistics on charitable donations by Chinese listed SMEs (unit: yuan)

<table>
<thead>
<tr>
<th>Period of annual report</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Sum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>2004</td>
<td>1109.65</td>
<td>3561447.00</td>
<td>7939753.03</td>
<td>378083.48</td>
</tr>
<tr>
<td>2005</td>
<td>500.00</td>
<td>4376037.38</td>
<td>13589389.65</td>
<td>452979.66</td>
</tr>
<tr>
<td>2006</td>
<td>600.00</td>
<td>3119380.00</td>
<td>17270089.54</td>
<td>338629.21</td>
</tr>
<tr>
<td>2007</td>
<td>710.00</td>
<td>6128000.00</td>
<td>70326194.39</td>
<td>581208.22</td>
</tr>
<tr>
<td>Average</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>437725.14</td>
</tr>
</tbody>
</table>

Table 2 indicates a considerable difference in charitable donations 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 donations 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 donations may be a leading cause of these huge differences.

4.2 The relationship between TMT characteristics and corporate charitable activity in China

Table 3 Correlation of the variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. High-tech industry</td>
<td>0.3100</td>
<td>0.466</td>
<td>—0.413*</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>—</td>
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<tr>
<td>3. Firm size</td>
<td>3.394</td>
<td>2.466</td>
<td>0.460**</td>
<td>0.377**</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>4. Firm R&amp;D</td>
<td>1.886</td>
<td>2.241</td>
<td>0.056</td>
<td>0.268**</td>
<td>0.399*</td>
<td>—</td>
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<td>5. TMT size</td>
<td>13.120</td>
<td>2.649</td>
<td>0.012</td>
<td>0.067</td>
<td>0.014</td>
<td>0.193</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>6. AGE</td>
<td>46.391</td>
<td>13.228</td>
<td>0.122</td>
<td>0.083</td>
<td>0.015</td>
<td>0.178</td>
<td>—</td>
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<tr>
<td>7. Age+HET</td>
<td>0.193</td>
<td>0.049</td>
<td>0.068</td>
<td>0.177</td>
<td>0.199</td>
<td>0.046</td>
<td>0.036</td>
<td>—</td>
<td>—</td>
<td>—</td>
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<tr>
<td>8. TEI</td>
<td>1.536</td>
<td>0.877</td>
<td>0.028</td>
<td>0.010</td>
<td>0.083</td>
<td>0.022</td>
<td>0.039</td>
<td>0.038</td>
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<td>—</td>
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<tr>
<td>9. TENHET</td>
<td>0.1990</td>
<td>0.272</td>
<td>0.007</td>
<td>0.065</td>
<td>0.073</td>
<td>0.044</td>
<td>0.187</td>
<td>0.045</td>
<td>0.085</td>
<td>0.109</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>10. ED+LEV</td>
<td>3.388</td>
<td>0.441</td>
<td>0.122</td>
<td>0.463**</td>
<td>0.205</td>
<td>0.365</td>
<td>0.164</td>
<td>0.098</td>
<td>0.041</td>
<td>0.122</td>
<td>0.097</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>11. LEV+HET</td>
<td>0.627</td>
<td>0.101</td>
<td>0.095</td>
<td>0.102</td>
<td>0.077</td>
<td>0.235*</td>
<td>0.113</td>
<td>0.127</td>
<td>0.142</td>
<td>0.025</td>
<td>0.049</td>
<td>0.010</td>
<td>0.383</td>
<td>0.280</td>
<td>0.313</td>
<td>—</td>
</tr>
<tr>
<td>12. SCIENCE</td>
<td>0.448</td>
<td>0.166</td>
<td>0.109</td>
<td>0.196</td>
<td>0.221</td>
<td>0.285</td>
<td>—</td>
<td>—</td>
<td>0.142</td>
<td>0.025</td>
<td>0.049</td>
<td>0.122</td>
<td>0.010</td>
<td>0.383</td>
<td>0.280</td>
<td>0.313</td>
</tr>
<tr>
<td>13. ED+SPIE</td>
<td>0.540</td>
<td>0.208</td>
<td>0.009</td>
<td>0.015</td>
<td>0.017</td>
<td>0.242</td>
<td>0.004</td>
<td>0.008</td>
<td>0.146</td>
<td>0.149</td>
<td>0.003</td>
<td>0.212</td>
<td>0.280</td>
<td>0.313</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>14. OUTFUN</td>
<td>0.415</td>
<td>0.147</td>
<td>0.163</td>
<td>0.152</td>
<td>0.132</td>
<td>0.287*</td>
<td>—0.026</td>
<td>0.126</td>
<td>0.104</td>
<td>0.057</td>
<td>0.002</td>
<td>0.315*</td>
<td>0.258*</td>
<td>0.276*</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>15. FUNHET</td>
<td>0.753</td>
<td>0.054</td>
<td>0.058</td>
<td>0.239</td>
<td>0.119</td>
<td>0.315</td>
<td>0.809</td>
<td>0.341</td>
<td>0.075</td>
<td>0.036</td>
<td>0.052</td>
<td>0.126</td>
<td>0.329*</td>
<td>0.486</td>
<td>0.508</td>
<td>—</td>
</tr>
</tbody>
</table>

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 control variables and top management team characteristics, which gives a basis for the proposed assumptions 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 activity in China.
Table 4 Results of multiple regression analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Charitable Donation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1 Coefficients B(t)</td>
</tr>
<tr>
<td>(Constant)</td>
<td>13.204(15.304)**</td>
</tr>
<tr>
<td>High-tech industry</td>
<td>-1.291 (-3.455)**</td>
</tr>
<tr>
<td>Firm debt</td>
<td>-0.258 (-3.505)**</td>
</tr>
<tr>
<td>Firm R&amp;D</td>
<td>0.139 (1.757)+</td>
</tr>
<tr>
<td>TMT size</td>
<td>-0.004 (-0.068)</td>
</tr>
<tr>
<td>AGE</td>
<td>-0.053 (-1.012)</td>
</tr>
<tr>
<td>AGEHET</td>
<td>7.535 (2.332)*</td>
</tr>
<tr>
<td>TEN</td>
<td>0.095 (0.528)</td>
</tr>
<tr>
<td>TENHET</td>
<td>0.609 (1.035)</td>
</tr>
<tr>
<td>EDULEV</td>
<td>0.443 (1.036)</td>
</tr>
<tr>
<td>EDULEVHET</td>
<td>1.581 (0.886)</td>
</tr>
<tr>
<td>SCIENTEDU</td>
<td>-1.992 (-1.694)+</td>
</tr>
<tr>
<td>EDUSPEHET</td>
<td>-3.876 (-1.814)+</td>
</tr>
<tr>
<td>OUTFUN</td>
<td>-2.458 (-2.078)+</td>
</tr>
<tr>
<td>FUNHET</td>
<td>-3.974 (-1.096)</td>
</tr>
<tr>
<td>R²</td>
<td>0.267</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.237</td>
</tr>
<tr>
<td>F</td>
<td>8.836**</td>
</tr>
</tbody>
</table>

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, we 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 $R^2$ of the regression Model 2 is changed from 0.267 to 0.412, and its adjusted $R^2$ 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 detailed analysis is made in the following paragraph.

As illustrated in Model 2, age heterogeneity of top management team has a positive and significant impact ($B=7.535, p<0.05$) 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 the corporate charitable donation, and hence Hypotheses 1, 3, 4, 5, 6, and 10 are not supported. Additionally, in Model 1 only including control variables, the evidence indicates that both high-tech industry and firm debt have significantly negative effects on the 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 the existence of significant linear relationships between top management team characteristics and corporate charitable activity in Chinese listed SMEs, and moreover
the findings 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 donations between Chinese corporations, more than half of the Chinese listed small and medium-sized enterprises actively engage in philanthropic activity. Accordingly, we combine the results of the study with the features of Chinese listed small and medium-sized enterprises in order to give further explanations about research findings related to the impacts of TMT characteristics on corporate charitable activity.

First, science and engineering education specialty and output function background of top management team both have negative impacts on corporate charitable activity. 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, owing to the limited capital and resources, these companies that make substantial investment in research and development activities are inclined to lack the necessary funding to accelerate the corporate social responsibility and charitable activity, 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 guanshi (relationships or connections) networks and maintain good relationships with local communities and government (Peng and Luo 2000; Tsang 1998) by means of the donations to charity for the contribution to society.

Second, the heterogeneities of top management team characteristics have salient effects on corporate charitable activity. On the one hand, age heterogeneity among top management team members has a significantly positive influence on corporate charitable activity. Top managers with different ages may have deep understanding of the significance of philanthropy and corporate social responsibility, as they not only share social capitals but also communicate experiences and ideas 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 activity. On the other hand, the heterogeneity of educational specialties among TMT members has a negative impact on corporate charitable activity. Top management team members with different educational specialties are likely to focus on different development strategies from their 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 a 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 and Jackson 1989; Cannella et al. 2008; Carpenter 2002; Greening and Johnson 1996; Heavey and Simsek 2013; Nielsen B and Nielsen S 2011; Tihanyi et al. 2000; Wiersema and Bantel 1992). However, 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 and Hambrick 2005; Wei et al. 2005), since there may exist significant social and cultural differences between China and the West. More specially, Chinese people usually attach importance to building and maintaining good guanshi (interpersonal relationships or social connections) (Chadee and Zhang 2000; Gu et al. 2008), 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 causes. 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 major 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 activity, for instance, TMT tenure has
little impact on corporate innovation (Daellenbach et al. 1999); another reason is that there may be some nonlinear relationships (e.g., a U-shaped relationship) between 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 activity 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 philanthropic activity; the enterprises with high debt ratio inactively engage in charitable giving, as they may only have a small amount of cash; the firms that actively engage in innovation are also likely to participate in charitable activity, because they can gain competitive advantages from both of these activities.

6. Limitations and Future Directions

First, because we use data mostly from such publications as corporate annual reports and prospectuses of Chinese listed SMEs, corporate charitable activity is measured only by cash donation to charity. Although this method is usually used to reflect charitable giving directly, some of the companies also contribute to society through other charitable behaviors such as in-kind donations, charity auction, and voluntary work in non-profit organizations. In a further study, we will carry out some related investigations using questionnaires or interviews. Further, due to the limited sources of information, we cannot discuss the effect of birthplaces or hometowns of top management team members on corporate charitable activity 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 we only analyze the possible reasons why not all of the 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 we do not accurately estimate the frequency and categories of conflict when top management team members interact and communicate with each other, and in future studies we will actively seek and provide the explanations based on empirical evidence.

References


