The Influence of Corporate Social Responsibility on Competitive Advantage with Multiple Mediations from Social Capital and Dynamic Capabilities

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Abstract: The correlation between corporate social responsibility (CSR) and competitive advantage (CA) has been studied for decades; however, a consistent conclusion has still not been reached. This may be due to the lack of discussion about the variables that affect the relationship between them. We extended the examination of the relationship between CSR and CA through largely ignored perspectives of organization resources and capabilities. Drawing on the multiple mediations of social capital (SC) and dynamic capabilities (DCs), we generated propositions concerning the relationship of CSR with CA. Based on 112 enterprises in China, the data from 269 surveys were used to test our theoretical model. The results showed that CSR can positively affect CA directly and indirectly with mediations of structure and relational dimensions of CA. The results also showed that, in the dynamic environment, CSR indirectly created CA by enhancing DCs, such as resource integration capability and organizing learning capability, but not by innovation and transformation capability. From these results, the paper concluded that with a proper combination of external social measures, internal competitive resources and capabilities, enterprises can realize the creation of a shared value of economy and society, which in turn will become the sustainable power with which enterprises can gain CA.

Keywords: corporate social responsibility; competitive advantage; social capital; dynamic capabilities; multiple mediations

1. Introduction

Sustainable development can be the ultimate operational goal of enterprises, which can be divided into several specific strategic objectives. Most researchers in strategy and organizational behavior management concur that corporate social responsibility (CSR) can be an efficient governance tool for achieving those strategic objectives of an organization [1,2], such as acquiring competitive advantage (CA) [3,4]. Sustainable CA constructs the foundation of sustainable development for enterprises, and that is why some well-known companies in the world spend billions every year on CSR practices [5]. While the literature on CSR continues to grow, the results of scholars’ research are becoming more complex and multifaceted [6], especially work done on the correlation between CSR and CA: there are several conflicting conclusions, such as positive correlation [7,8], negative correlation [9,10] and irrelevance [11,12]. Furthermore, managers of enterprises also hold very different attitudes towards CSR. In contrast to enterprises in developed countries, the CSR of enterprises in developing countries is less formalized, more passive, and philanthropic in nature [6,13,14]. This gives
us the sense that people still cannot find a clear map between CSR and CA. Thus, more research on the correlation between them should be carried out.

Other researchers have also noticed the conflicting conclusions about the correlation between CSR and CA and have tried to give some possible explanations. Barnett and Salomon [15] reconcile these conflicting results demonstrating that the effect of CSR is not universal, but rather is U-shaped. Others claim that CSR behaviors do not affect CA directly [3,16], and have therefore injected a mediator into their research [17,18]. This means that researches are shifting from “whether” to “how” CSR affects CA. The ignorance of mediators between them can be the main reason for the conflicting conclusions found in the literature [1]. Although scholars have gone a step further by inserting a single mediator into the analysis, there could be more than one way that the effect of CSR on CA can been mediated. Hence in this article we consider multiple mediations.

Arguably, resource-based view (RBV) of the firm is established as a compelling conceptualization of the firm’s CA [19,20]. The RBV views organization resource as well as capacity as the main origins of CA. Organization resources can be tangible or intangible. Social capital (SC) as an intangible resource can bring convenience to the actors, which is embedded in the social network of enterprises [21]. Presently, SC has increasingly attracted many scholars’ attention. It has been found that enterprises with more CA can gain CA easier, because networking of internal and external relations has become increasingly prevalent across society [22,23]. Besides organization resources, the capability of enterprises can also significantly affect CA, especially presently, when enterprises are amid highly dynamic and changeable internal and external environments. Scholars claim that in such an environment, dynamic capabilities (DCs) make enterprises able to make appropriate responses and adjustments quickly, and this is very important for enterprises to obtain and maintain CA [24,25]. In contrast to common enterprise capabilities, DCs are the combination of an enterprise’s high-level capabilities. Many scholars have explained the different performances of enterprises under similar environments and organization resource constraints from the perspective of DCs [26,27]. However, both SC and DCs have been ignored in the research to date which examines the correlation between CSR and CA.

This paper aims to analyze the correlation between CSR and CA under the mediations of SC and DCs, using three dimensions of SC and three dimensions of DCs. It is structured as follows: first, based on existing research and theoretical analysis, we generated propositions concerning the relationship of CSR and CA with multiple mediations of SC and DCs and constructed a new theoretical model. Next, we presented the methodology and data, and discussed the characteristics of the data acquired. Then, we discussed our empirical findings, high lighting the main conclusions of the study, and pointing out areas for further research.

2. Literature Review and Hypotheses

2.1. Corporate Social Responsibility

In 1953, Bowen defined CSR as the obligation of merchants, through appropriate decisions, to meet the goals and values expected by society, and to take the desired concrete actions, which will finally enhance the sustainability of society as a whole [28]. After half a century of development, the research on CSR has focused either on individuals, stakeholders, or whole enterprises. Carroll examined CSR for almost 20 years. He states that CSR embodies the responsibilities that society wishes enterprises would take, meaning that enterprises should not only be concerned with their own business needs or economic mission, but should also strive to adhere to the law and pay attention to ethics [29]. Vlachos et al. [30] argued that CSR is an ongoing commitment; it stipulates that companies should contribute to economic development while operating according to ethical standards, and thereby improve the quality of life in employees’ communities. Dahlsrud [31] carried out a comprehensive overview by analyzing 37 different CSR definitions, finding that in the course of profit creation, enterprises should not only
meet the interests of shareholders, but also bear the responsibility of stakeholders. They should also adhere to standard business ethics, protect the environment, and contribute to the community.

2.2. CSR and CA

Some early studies insist that CSR investment will increase operating costs and ultimately disadvantage enterprises, compared to enterprises which do not undertake CSR [9]. After investigating the stock price of 14 enterprises which have conducted CSR at least three years, McWilliams and Siegel [10] found that those companies which paid much attention to meeting the interests of stakeholders faced higher operating costs, thus making their stock prices fall significantly lower than the stock market trend. However, the ongoing research results are increasingly positive. By using the average value of enterprises’ annual value to denote financial performance, and their social investment (e.g., corporate philanthropy, environmental protection, etc.) to represent CSR behavior, Shi [12] established an empirical model and found that there is no obvious negative effect from CSR on CA. In the 1990s, with the expansion of investment and the social effects of CSR, the positive impact of CSR on enterprises’ CA emerged [4,32]. Based on the Dow Jones Development Index study, Kotler and Lee [7] found that CSR helped enterprises enhance their social image and reputation, affect the loyalty and satisfaction of stakeholders, and create a better market CA than those which did not. Scholars also found that by increasing the trust of buyers and sellers, CSR behaviors could reduce transaction frictions and costs, thereby enhancing CA [33]. Today, more scholars hold the view that CSR is a valuable resource which not only reaps economic benefits but also render non-monetary returns such as corporate reputation and customer satisfaction, thus create differentiated CA for enterprises. For example, Waddock and Graves [34] contended that CSR and CA are in fact interdependent, and that enterprises can achieve maximized unity of economic performance and social benefits, which is driven by CSR investments in certain key sectors, or innovative activities such as products, services, processes, and value chains in a competitive environment. Thus, CSR activities reinforce organizational commitment and reduce human resource costs by enhancing corporate reputation and employee belonging, which contribute to the creation of shared values pertaining to society and economy. Based on the above-mentioned studies, we hypothesize:

**Hypothesis 1.** CSR is positively correlated with CA.

2.3. Mediating Role of SC

In strategy management, SC is seen as a collection of explicit and implicit resources contained in the relationship between internal and external social networks of enterprises [35]. It is also a heterogeneous resource that enterprises use to achieve their development goals by reducing transaction costs and transaction frictions [36]. According to the research of Nahapiet and Ghoshal [35], SC can be divided into three dimensions: (1) Structural SC: indicates the various links in the organization and the connection form of the whole network formed by various connections. The main concerns are whether this connection exists, whether the network structure is perfect, and how strong it is; (2) Relational SC: resources obtained when an enterprise is in contact with other stakeholders, such as communication and mutual trust, obligations, and expectations in social relationships. It emphasizes the degree and quality of enterprise social network relationships; (3) Cognitive SC: the expression and interpretation of the common understanding of different behavior manifested in language, values, culture, and corporate vision. These are three very different aspects that may have positive effects in the correlation between CSR and CA.

For the structural dimension, enterprises taking responsibilities for suppliers, consumers and other objects will promote the formation of vertical network ties between them. At the same time, they will take responsibility for community, government and other stakeholders and will advance the formation of horizontal network ties among them. These vertical and horizontal network ties
will together construct the structural SC [36]. Antoni and Sacconi [37] argued that, CSR actions give enterprises the opportunity to build close relationships with internal and external stakeholders, and based on these, enterprises can expand and promote the strength and density of their social networks, and therefore benefit from structural SC. Yu et al. [38] point out that structural SC can establish information channel for enterprises and reduce the cost of information investment. This will change the expected value of knowledge creation, and enterprises will be more likely to obtain CA. Research from Blyler and Coff [24] also shows that organizations with high levels of communication and cooperation with the members of their social networks have better organizational efficiency and stronger market competitiveness.

Hypothesis 2. CSR enhances CA by improving the structural dimension of social capital.

For the relational dimension, Shi et al. [12] deem that strengthening the identification of the network members’ behavior, as well as providing them emotional support, can increase the willingness for cooperation among network members, and then create relational SC. Taking small and medium-sized enterprises as research samples, Albinger and Freeman [39] demonstrated that enterprises could establish a sincere mutual trust and a win-win cooperation environment by giving employees commitments and fulfilling them in accordance with regulations, while trust and cooperation would contribute to the formation of relational SC. Thus, CSR will help enterprises benefit from relational SC. Moreover, enterprises which have always enjoyed good trust and feelings in their social networks have had lower financial risks, supervision, and transaction costs, and are also more prepared for capital turnover. All of these will eventually bring improvement in CA [40,41].

Hypothesis 3. CSR enhances CA by improving the relational dimension of social capital.

For the cognitive dimension of SC, there is a common language, as well as common knowledge and values formed by the interests of all network members. Shi et al. [12] confirm that fulfilling CSR will generate considerable useful information, and that information is not only more intense than information obtained from external markets alone, it is also more extensive than information obtained from internal communications. Meanwhile, undertaking CSR can meet the needs and expectations of various parties, so that enterprises can form common values and visions with stakeholders, and eventually promote cognitive SC [37]. It is precisely their dependence on this high-quality common vision and values with which enterprises can reduce controversies in communication and obtain a variety of information needed for competition [41]. Cognitive SC can also contribute to a shared understanding among the members of a network in an enterprise, and this will make information or knowledge transfer easier. All of this will promote knowledge-sharing, and ultimately enhance the CA of enterprises.

Hypothesis 4. CSR enhances CA by improving the cognitive dimension of social capital.

2.4. Mediating Role of Dynamic Capability

In 1994, Teece and Pisano [42] proposed the “dynamic capabilities” concept for the first time. DCs are important advanced capabilities in the performance of enterprises through the effective building, integrating, and reconstructing of internal and external resources in changing environments. The typical reactions of enterprises to environmental uncertainty is to build DCs, improve the perception and response to change, and make necessary adjustments to better fit the needs of customers [43]. As with Teece [44], Bao and Long [45], Jiao [46], we focus on three aspects of dynamic capabilities. These are ① resource integration capability: the ability of enterprises to integrate and configure their operation processes, internal or external resources and organizational structure; ② organizational learning capability: the ability of companies to adopt knowledge management, skill
acquisition and learning methods to achieve self-renewal to adapt to changing environments; and innovation and change capability: the ability of companies to break old inertia, and carry out integrated innovation activity involving products, technology, management and other aspects.

Performing CSR can help enterprises understand business information more easily and gain positive awareness about complementary resources from stakeholders, thereby increasing the channels and space of resource integration [47]. CSR activities also reveal to enterprises an important way to nurture morality, relationships, and other resources [48]. However, obtaining more resources will make no sense if the enterprises cannot put these resources into use. Teece [44] argued that any resource that transforms into CA must undergo a series of processes such as absorption, integration and use. Among them, the ability to integrate resources is most important. Enterprises can identify the value of existing and potential resources and create new CA through resource integration [49]. Griffith and Harvey [50] argued that resource integration capability enables enterprises to operate with lower costs, better quality, and higher efficiency than their rivals. This will help them maintain and enhance their CA.

**Hypothesis 5.** CSR enhances CA by improving resource integration capability.

According to DCs theory, methods adopted by enterprises to achieve self-renewal for adapting to changeable environments include knowledge management, skills acquisition, and organizational learning [51]. Within an enterprise, the intellectual investment in employees will occur when CSR activities are taken. Indeed, CSR has proven to be the main means for enterprises to improve organizational learning and knowledge creation ability [16]. What is more, a high level of CSR also increases the learning tendencies and learning opportunities by establishing close relationships with external stakeholders such as suppliers and consumers [52]. With the powerful learning ability of the organization, an enterprise can transform external knowledge into assets: the richer the knowledge accumulation, the faster the CA will be promoted [53]. Lee and Hwang [54] attributed the improvement of enterprises’ CA to the continuous improvement of their learning ability.

**Hypothesis 6.** CSR enhances CA by improving organizational learning capability.

Innovation is the driving force behind enterprise development. Its essence is the process of breaking constraints and traditions, creating new opportunities and new products to gain market value. CSR can affect the creative ability of enterprises in several ways such as gathering the resources needed for innovation, promoting enterprises and employees, consumers, and other social members to form a trusting and cooperative atmosphere, and so on [43]. CSR behaviors cannot only attract high-quality staff and gather innovative resources quickly, but it can also help enterprises break old systems and ideas to make way for innovative consciousness and abilities [55]. Li and He [56] regard innovation and change capability as the key variables which influence an enterprise’s affinity and performance. By constructing empirical models, they found that the stronger the desire for innovation and change, the more obvious the role of affinity in improving performance. From the perspective of Schumpeter’s creative destruction theory, Lee et al. [57] stated that innovation and change capability are key sources of AC. When the external environment changes drastically, the organization needs to innovate by changing and creating market opportunities through continuous innovation activities.

**Hypothesis 7.** CSR enhances CA by improving innovation and change capability.

According to the theoretical analysis and hypothesis above, the theoretical framework is shown in Figure 1.
3. Methodology

3.1. Questionnaire Designing

CSR, SC, DCs and CA are the main variables in this paper, but none of them can be measured completely by publicly released data. Thus, a survey research was conducted to test the conceptual model and we collected data by questionnaire. The whole process of questionnaire designing was divided into three steps:

1. First, all these measuring items were taken from the related literature. According to the work of Maignan and Ralston [58], CSR were measured through five dimensions: public charities, employee development, fair operation, environmental protection as well as customer orientation, and each dimension contained three items. Based on the work of Pavlou and Sawy [59], Xu [60], the ability of resource integration, organizational learning capability and innovation and change capability were also measured with different items. Items of the three dimensions of SC were adapted from the work of Wei [61] and Protogerou et al. [62]. Based on the work of Protogerou et al. [62], Chen and Zhou [63], we measured CA in two dimensions: financial and market CA, with six items. In all, the questionnaire had 39 items, and they were presented in Appendix A.

2. Second, these items were developed by foreign scholars in English, so we should translate them into Chinese and take some essential modification to make it more understandable in the context of Chinese. In this process, we discussed the translated items with several experts and doctoral students who are experienced in CSR, DCs or SC research with the questionnaire survey method. Besides, according to their suggestions, a 7-point Likert Scale, ranging from strongly disagree(1), to greatly agree(7) was selected to measure all the items.

3. Third, to ensure validity and rationality of questionnaire, pre-test was taken in five enterprises located in the Zhongguancun area of Beijing from September 2016 to December 2106. The questionnaire was then revised and improved according to 20 feedbacks.

3.2. Data Collection

This survey focused on enterprises that have spent effort in some degree on CSR initiatives. Data were obtained by self-administered questionnaire method in two ways: (1) conducting the questionnaire survey in EMBA and MBA classes and senior management training courses, which were held in the universities of Beijing, Shanghai, and other regions (these students are from different enterprises and are middle and top managers who are familiar with enterprise operations). Before
they fill in the questionnaire, they were asked whether there are familiarity with CSR practices, social capital and corporate strategy or not, and this was to help us eliminate invalid samples and reduce evaluation bias; (2) sending questionnaires by e-mail to managers and other general staff in enterprises located in Beijing, Shanghai, Xi’an and other well-known cities in China. Total of 438 questionnaires were distributed and 269 effective questionnaires were returned from November 2016 to March 2017, making for an effective response rate of 61.3% from 112 enterprises. Finally, the structural equation model was used to test hypothesis, the sample size was required to be 5–10 times of the items, which means the number of questionnaires obtained from the survey should be more than the minimum sample 195. The sample we acquired well satisfied this requirement.

4. Data Analysis and Results

Table 1 summarizes the characteristics of the acquired samples. Among the 112 responding enterprises, there were 45 private enterprises, 27 state-owned enterprises, 22 foreign (or joint-venture) enterprises as well as 18 other enterprises. Forty-two enterprises had been established for more than 20 years, 22.3% and 19.6% were 11–20 and 6–10 years old, respectively, and only five had been established for less than one year. Because managers can get more information of their enterprises, we mostly invited managers to fill out questionnaires. The questionnaires were filled out by 224 managers or supervisors, accounting for 83.3% of the whole respondents, with 52 first-level managers, 40 high-level managers, 77 middle-level managers and 55 department managers or supervisors. In particular, there are 68 managers from individual enterprises. These characteristics show that our data was not from enterprises with one specific feature but were distributed over a wide range. Thus, the data could be considered as a representative of these enterprises who have actively taken CSR initiatives in China.

Table 1. Profile of enterprises and respondents for questionnaire-based survey.

| Items                          | Classification                     | Sample Amounts | Percentage (%) |
|-------------------------------|------------------------------------|----------------|----------------|
| Enterprise Ownership          | State-owned enterprises            | 27             | 24.1           |
|                               | Private enterprise                 | 45             | 40.2           |
|                               | Foreign (or joint-venture) enterprises | 22         | 19.6           |
|                               | Others                             | 18             | 15.1           |
| Enterprise Age                | 1 year or less                     | 5              | 4.5            |
|                               | 1–5 years                          | 18             | 16.1           |
|                               | 6–10 years                         | 22             | 19.6           |
|                               | 11–20 years                        | 25             | 22.3           |
|                               | More than 20 years                 | 42             | 37.5           |
| Total                         |                                    | 112            | 100            |
| Respondents Position          | First-level Managers               | 52             | 19.4           |
|                               | Middle-level managers              | 77             | 28.6           |
|                               | High-level managers                | 40             | 14.9           |
|                               | Department Manager/Supervisor      | 55             | 20.4           |
|                               | General Staff                      | 45             | 16.7           |
| Total                         |                                    | 269            | 100            |

4.1. Reliability and Validity of Measures

Usually, the constructs reliability and validity should be measured in a research based on questionnaire survey. Constructs reliability was always measured by Cronbach’s α and composite reliability (CR). Scholars recommended that when Cronbach’s α value and CR are greater than 0.7 there is a good internal consistency in a research, and the constructs reliability can be acceptable [8,10,11]. As shown in Table 2, the Cronbach’s α value of CSR, CA, SC and DCs was 0.918, 0.887, 0.831 and 0.897 respectively, and the CR value ranged from 0.832 to 0.900 which means the constructs reliability was acceptable. Constructs validity contains two sides: convergent validity and discriminant validity. In most cases, average variance extracted (AVE) and factor loadings were estimated to measure
convergent validity. The AVE values for all variables exceeded the minimum value of 0.50 and ranged from 0.623 to 0.750. All the factor loadings of the measurement items were also higher than the criteria of 0.70, ranging from 0.777 to 0.900. Additionally, all these measurements were taken with SPSS 22.0.

Table 2. Results of the reliability and validity measurement.

| Variable Dimension | Factor Loading | CR | AVE | Cronbach's Alpha |
|--------------------|----------------|----|-----|------------------|
| CSR                | Aa1: 0.842     |    | 0.871 | 0.693 | 0.869 |
|                    | Aa2: 0.85      |    |      |       |      |
|                    | Aa3: 0.805     |    |      |       |      |
| Employee Development | Ab1: 0.859   |    | 0.864 | 0.680 | 0.867 |
|                    | Ab2: 0.763     |    |      |       |      |
|                    | Ab3: 0.83      |    |      |       |      |
| DCs                | Ba1: 0.858     |    | 0.887 | 0.723 | 0.886 |
|                    | Ba2: 0.823     |    |      |       |      |
|                    | Ba3: 0.869     |    |      |       |      |

To examine the discriminant validity of each construct, it is necessary to compare the square roots of AVE values and the correlations of constructs. Only when the \( \sqrt{AVE} \) values of the variable are larger than the correlation coefficients, the discriminant validity can be acceptable. As shown in Table 3, the values in diagonal brackets were the \( \sqrt{AVE} \) of CSR, DCs, SC and CA. They fluctuated between 0.758 and 0.866, and all of them were greater than the correlation coefficient between the row and column of its own (correlation coefficient: 0.212–0.514). Therefore, all the correlation coefficients were significant at the level of 0.01, this means the discriminant validity in this research was acceptable.

Table 3. Variable correlation coefficient and square root of mean variance extraction.

| Variable Dimension | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| CSR                | 0.758 |     |     |     |     |     |     |     |
| Resource Integration Capability | 0.216 ** (0.856) |     |     |     |     |     |     |     |
| Organizational Learning Capability | 0.212 ** 0.507 ** (0.850) |     |     |     |     |     |     |     |
| Innovation and Change Capability | 0.214 ** 0.514 ** 0.491 ** (0.866) |     |     |     |     |     |     |     |
| Structural Dimension | 0.218 ** 0.388 ** 0.424 ** 0.337 ** (0.854) |     |     |     |     |     |     |     |
| Relational Dimension | 0.215 ** 0.359 ** 0.320 ** 0.403 ** 0.316 ** (0.789) |     |     |     |     |     |     |     |
| Cognitive Dimension | 0.215 ** 0.348 ** 0.376 ** 0.331 ** 0.272 ** 0.346 ** (0.838) |     |     |     |     |     |     |     |
| CA                 | 0.384 ** 0.483 ** 0.509 ** 0.460 ** 0.423 ** 0.374 ** 0.509 ** (0.807) |     |     |     |     |     |     |     |

Note: ** indicates that the correlation coefficient is significant at the 0.01 level (two-tailed test); the brackets.

4.2. Structural Model: Goodness of Fit Results

Before conducting the structural analysis, variable fit analysis should be taken by confirmatory factor analysis (CFA) according to recommendations from scholars [16,64,65]. The \( \chi^2 \) (chi-square), \( \chi^2/df \) (chi-square and degrees of freedom ratio), RMSEA (approximate error root mean square), CFI (goodness of fit index), NFI (standard fitting index), AGFI (adjusted goodness of goodness index), GFI (goodness of fit index) and IFI (incremental fit index) are some fitting indicators that are commonly used. When all these fitting indicators can satisfy the judgment criteria as shown in Table 4, the fitting degree of the data as well as the structural model can be acceptable [24]. The fitting test was taken with
AMOS 24.0 software, and the results showed that the fit values of CSR, CA and mediating variables were all at an acceptable level, and some indicators showed an excellent fitness.

From the analysis above, it was apparent that the reliability, validity and fit of the scale were within reasonable limits, meaning that the analysis could continue to the next step.

Table 4. Results of variable fit analysis.

| Variable Fit Indices | χ² | df | χ²/df | RMSEA | GFI  | AGFI | NFI  | CFI  | IFI  |
|---------------------|----|----|--------|------|-----|------|------|------|------|
| Judgment Criteria   | —  | —  | <3~5   | <0.08| >0.85| >0.9 | >0.9 | >0.9 | >0.9 |
| CSR Model Results   | 102.003 | 85 | 1.2 | 0.026 | 0.955 | 0.936 | 0.962 | 0.993 | 0.995 |
| DCs Model Results   | 53.657 | 24 | 2.236 | 0.065 | 0.963 | 0.931 | 0.971 | 0.983 | 0.970 |
| SC Model Results    | 35.039 | 24 | 1.46 | 0.039 | 0.973 | 0.95 | 0.975 | 0.992 | 0.991 |
| CA Model Results    | 12.53 | 8 | 1.566 | 0.044 | 0.986 | 0.964 | 0.989 | 0.996 | 0.995 |
| Conclusion          | —  | —  | Excellent | Excellent | Acceptable | Acceptable | Acceptable | Acceptable | Acceptable |

4.3. Hypothesis Testing Results

To explore the interaction between variables, this paper used the SEM to validate the mechanism of CSR to CA, with mediations of SC and DCs. AMOS 24.0 software was adopted to carry out the structural equation model. The initial model was constructed as shown in Figure 2. The ellipse in the graph represented potential variables such as CSR and DCs, the rectangle represented observable variables, and the circle represented residual variables.

Figure 2. Results of initial structural equation model.

After identifying the structural equation model, the initial model was fitted with 269 sample data. However, not all the results were not so good, χ²/df = 1.678 (less than the minimum critical value 3) and MSEA = 0.048 (less than the fitting threshold standard 0.08), just as shown in Table 5, this means χ²/df and MSEA were unacceptable although some the fitting indexes (NFI = 0.857, GFI = 0.817, AGFI = 0.791) were acceptable (criteria are shown in Table 5). Moreover, the influence of innovation and change ability on CA, and the relational dimensions of SC on CA were not significant in the confidence interval of 5%. These mean that the fitting degree of the initial model did not reach the ideal standard and therefore had to be modified.
We modified the model by establishing links between the error items of e_{49} and e_{50}, and e_{52} and e_{54}. We also adjusted the associated path repeatedly. We eventually obtained good fitting results (see Table 5), demonstrating $\chi^2$/df = 1.570, RMSEA = 0.0425 < 0.08, AGFI = 0.847 (acceptable), and the GFI was greater than the critical value of 0.85, NFI = 0.865 (acceptable), as shown in Table 5. This means that the degree of fitting of all indices after correction increased to a reasonable range and the correction models could be accepted. Therefore, the standardized and non-normalized coefficients between CSR and CA were greater than 0 and $p = 0.002 < 0.05$, indicating that hypothesis 1 was tenable. In other words, CSR was positively related to CA. However, due to the path coefficients between innovation and change ability and CA, the relational dimension and CA were not significant in the confidence interval of 5% ($p$-value = 0.192, 0.201), as shown in Table 5, and the direct correlation between the variables was not tenable. Although the path coefficients between CSR and SC, and CSR and dynamic capability reached a significant level, CSR, resource integration ability, organizational learning capability, cognitive dimension and structural dimension were also significantly related to CA, but there was still a need to verify the mediating effects directly.

Based on the research of MacKinnon [66], Preacher and Hayes [67], the Bootstrap method was used to test the mediating effects, and the results are shown in Table 6. According to Table 6, the total effect value of CSR on the CA was 0.663, and it did not contain 0 in the 95% confidence interval of Bias-Corrected, indicating that the total effect exists. The values of mediating effects of “CSR-Relational Dimension—CA”, “CSR-Structure Dimension—CA”, “CSR-Organizational Learning Competence—CA” and “CSR-Resource Integration Competence—CA” respectively were 0.020, 0.055, 0.088 and 0.058. Their Bias-corrected, Percentile method, and MacKinnon PRODCLIN2 values did not contain 0 in the 95% confidence interval, as shown in Table 6.

It can be concluded that relational SC, structural SC, organizational learning ability and resource integration ability, act as mediators between CSR and CA. This means that Hypotheses 2, 3, 5 and 6 were supported. However, the MacKinnon PRODCLIN2 values of “CSR-relationship dimension-enterprise CA” and “CSR-innovation change ability—enterprise CA” contained 0 in the 95% confidence interval, so the mediating effects of relational SC and innovation ability did not exist. Hypotheses 4 and 7 were untenable. CSR activities cannot expand the CA by improving the innovation or increasing the cognitive SC. Table 7 provided the details about all hypothesis tests results and their status.
Table 6. Bootstrap mediating effect test.

| Point Estimate | Bias-Corrected 95%CI | Percentile 95%CI | Mackinnon PRODCLIN2 95%CI |
|----------------|-----------------------|-------------------|--------------------------|
| **Total effects** |                       |                   |                          |
| CSR–CA          | 0.663                 | 0.419             | 0.845                    | 0.432 | 0.845 |
| **Indirect effects** |                   |                   |                          |
| CSR–CA          | 0.380                 | 0.227             | 0.671                    | 0.183 | 0.597 |
| CSR–Cognitive dimension–CA | 0.109 | -0.021 | 0.097 |
| CSR–Relational dimension–CA | 0.020 | 0.051 | 0.234 |
| CSR–Structural dimension–CA | 0.055 | 0.009 | 0.146 |
| CSR–Innovation and change capability–CA | 0.051 | -0.00018 | 0.152 |
| CSR–Organizational learning capability–CA | 0.088 | 0.033 | 0.201 |
| CSR–Resource integration capability–CA | 0.058 | 0.007 | 0.162 |
| **Direct effects** |                   |                   |                          |
| CSR–CA          | 0.283                 | 0.069             | 0.527                    | 0.074 | 0.530 |

Table 7. Summaries of hypothesis tests.

| Direct Correlation | Judgment Standard | Hypothesis Results |
|--------------------|-------------------|--------------------|
| p-Value            | Significant Level | Results            |
| CSR—CA             | 0.001             | **                 | H1 Supported           |
| Mediating relationships | 0.055         | Not Contain 0      | H2 Supported           |
| CSR—Structural dimension—CA | 0.020 | Not contain 0      | H3 Supported           |
| CSR—Relational dimension—CA | 0.109 | Contain 0          | H4 Not supported       |
| CSR—Cognitive dimension—CA | 0.088 | Not contain 0      | H5 Supported           |
| CSR—Organizational learning capability—CA | 0.058 | Contain 0          | H6 Supported           |
| CSR—Resource integration capability—CA | 0.051 | Contain 0          | H7 Not supported       |

5. Conclusions, Suggestions and Limitations

Focusing on the problem of how CSR affects CA, this paper reveals the mediating role of SC and DCs between CSR on CA. The key conclusions are as follows:

1. Fulfilling CSR can become an effective way for enterprises to create CA and promote economic rent with the partial multiple mediations of SC and DCs. The high cost of assuming CSR will be offset by the increase in employee loyalty and sense of identity, which can reduce opportunism and loaf on the job, and by promoting of customer satisfaction as well as getting more support from stakeholders. This finding is basically consistent with the research of Kotler and Lee [7] as well as Peng and Liu [16].

2. This study also shows that structural and relational SC has significant mediating effects between CSR and CA, while the cognitive SC does not. This finding is consistent with the empirical analysis of Antoni and Sacconi [37], and similar to the theoretical analysis of Yu et al. [38]. One possible explanation is that no matter how much CSR enterprises take on, it will not change their pursuit of benefits. Thus, conflicts of interest among enterprises, consumers and other stakeholders will inevitably not be completely eliminated, and more cognitive SC will make these conflicts even more clear.

3. CSR activities can promote resource integration capability and organizational learning capability, which are high-level capabilities of enterprises that will contribute to CA. However, due to lack of innovation consciousness and investment, and the high cost of CSR cannot be offset by the return on innovation investment. Moreover, just as Protogerou et al. [62] stated, most enterprises tend to characterize CSR practices through simple social donation. The creation and sharing
of technology and knowledge in the interaction with stakeholders have been ignored when approaching CSR, there by rendering the ability of innovation and transformation absent in playing an indirect role between CSR and CA.

This paper also provides some relevant suggestions for practice. Presently, the CA of enterprises no longer only comes from the market competition of general products. The success of an enterprise is more dependent on a wide variety of intangible resources as well as the capabilities to mobilize these resources. Approaching CSR can bring enterprises more resources and enhance capabilities to use resources. It can strengthen multi-party interaction, cooperation, and mutual trust with stakeholders. Enterprises can create CA by enhancing CSR to promote structural and relational SC, which is an indispensable resource for contemporary enterprises to gain CA. In an uncertain and dynamic environment, enterprises can acquire CA by integrating and using resources inside and outside the enterprise through CSR behaviors. Importantly, enterprises need to break down the barriers of communication and cooperation with stakeholders and promote organizational restructuring and strategic change by striving to carry out CSR. Finally, due to the “Curse of the Late Comer” in the process of their internationalization [6], enterprises in developing countries, such as China, should devote more attention and effort towards CSR, as it is a good way to attain CA. Nonetheless, this paper has some limitations. Although three dimensions were selected for SC and DCs for empirical analysis to act as mediators between CSR and CA, this paper paid little attention to the possibility that there could be some correlation between SC and DCs, as DCs are the capabilities to use all organization’s resources including SC. Furthermore, since SC and DCs are meaningful concepts, they likely contain many different aspects. Thus, it is necessary to expand the research dimension of them in the future to analyze the intermediary role of variables more carefully. Of course, the fact that the data came only from Chinese enterprises is also an obvious limitation in this paper. Ideally, there should be a comparison of enterprises from different countries. Finally, subjective evaluation methods were adopted according to some other scholars, such as Michelon et al. [8]; Blyler and Coff [24]; Maignan and Ralston [58]. Just as they stated, though the validity and reliability of measurement can be guaranteed when using these methods, but the reliability of the conclusions still can be promoted by adding more objective data into research. In future, more objective indicators should be adopted to improve the effectiveness of the empirical test.

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## Appendix A

### Table A1. Check list of variables items.

| Variable | Dimensions | Items | Reference |
|----------|------------|-------|-----------|
| CSR      | Public Charities | 1. The company can bring more harmonious and wealth to local residents. 2. will carry out welfare activities to vulnerable groups. 3. often donate to charities and to poor areas. | Maignan and Ralston [58] |
|          | Employee Development | 4. pays wages on time and buys enough social insurance for employees. 5. actively make staff training and design career plan for them. 6. makes good working environment for employees and pay attention to their health. | |
|          | Fair Operation | 7. discloses the operation information timely, truly, and completely. 8. abides laws, regulations and safeguards the fair market environment. 9. can always legally use and dispose of property and insist property rights protection. | |
|          | Environmental Protection | 10. actively participates in social activities protecting environment. 11. uses more environmentally friendly technologies and materials as far as possible. 12. strives to reduce waste of resources and improve the use of resources. | |
|          | Customer Orientation | 13. provides customers with products and service at reasonable pricing. 14. has established a communication channel, and feedback customers in time. 15. makes a strict and standardized customer information protection. | |
|          | Resource Integration Capability | 16. can obtain valuable information by communicating with external stakeholders. 17. can quickly reasonably allocate different resources when the environment changes. 18. can adjust the operation process in time and keep flexibility. | Pavlou and Sawy [59]; Xu [60] |
|          | Organizational Learning Capability | 19. can quickly and effectively apply new knowledge to related products and services. 20. often seeks solutions to problems with stakeholders. 21. can effectively introduce new knowledge needed and share it with employees. | |
|          | Innovation and Change Capability | 22. actively promotes innovative activities and gives full incentives. 23. can actively promote technological innovation and product innovation. 24. attaches great importance to fostering an innovative corporate culture. | |
|          | Structural Dimension | 25. often tries to establish different relationships with partners, customers. 26. communicates with partners, customers, and consumers in a variety of ways. 27. often tries to establish different relationships with partners, customers, and consumers. | Wei [61]; Protogerou et al. [62] |
|          | Relational Dimension | 28. has close relationship with partners, suppliers, and consumers. 29. can trust and cooperate sincerely with partners, suppliers, and consumers. 30. When interacting with partners or consumers, the company tends to be self-serving. | |
|          | Cognitive Dimension | 31. has similar value orientations with partners, suppliers, and consumers. 32. partners and consumers can understand each other easily in communication. 33. The company, partners and consumers will find solutions together for conflicts. | |
|          | Financial competitive advantage | 34. The total assets of the company have been increasing in the past three years. 35. The profit level of the company has been rising in the past three years. 36. The company's return on investment has been increasing in the past three years. | Protogerou et al. [62]; Chen and Zhou [63] |
|          | Market competitive advantage | 37. Compared with competitors, the company’s performance in last three years is desirable. 38. the company’s customer satisfaction has improved significantly in last three years. 39. the market share of the company has increased significantly in last three years. | |
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