

Article A Study of the Relationship between Corporate Culture and Corporate Sustainable Performance: Evidence from Chinese SMEs

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Abstract: Sustainable development is a significant issue facing small- and medium-sized enterprises (SMEs). Drawing on the literature of corporate sustainable development and the resource-based view, this study aims to examine how corporate flexibility and control culture influence sustainable performance by triggering innovation capabilities and investigate the moderating role of leadership style (i.e., transformational and transactional). The 186 matched questionnaire data from managers and employees in Chinese SMEs reveal that the flexibility and control culture are positively and negatively related to innovation capability, respectively, and that the latter mediates their influence on sustainable performance. Moreover, transformational leadership positively (negatively) moderates the relationship between flexibility (control) culture and innovation capability, while transactional leadership positively moderates the relationship between control culture and innovation capability. This study enriches the theoretical literature on corporate sustainable performance and provides management insights into how SMEs could survive and achieve sustained growth through corporate culture.

Keywords: flexibility culture; control culture; leadership style; innovation capability; sustainable performance

1. Introduction

How to achieve sustainable development is of great concern for SMEs [1]. SMEs have played a significant role in promoting positive economic growth, higher employment rates, a smaller income gap, a more competitive market, and in improved productivity and innovation [2,3]. Their development, however, has been of great concern in recent years as they generally fail within a short time. Take the average lifespan of SMEs, for example: it is only 3.7 years for Chinese SMEs, among which more than half close within 5 years [4]. The COVID-19 pandemic, in particular, has driven tens of thousands of SMEs out of business [5], imposing greater pressure on them. Survival, no doubt, is a prerequisite for the development and growth of SMEs, and sustainable development is key to relieving such pressure [6]; therefore, how to achieve sustainable development is an unavoidable issue for them [7]. Corporate sustainability can be simply put as the ability of a firm to nurture and support long-term growth by effectively meeting the expectations of stakeholders [8,9]. Given its significant implications, researchers are interested in understanding the causal factors of sustainable performance and propose various antecedents, including institutions [10], technology [11], intellectual capital [12], human resource management [13], knowledge sharing [14], lean processes [15], corporate culture [16], etc.

However, our review of the extant corporate culture and sustainable performance literature reveals several research gaps that require further exploration. First, the findings that corporate culture affects sustainable performance are inconsistent. Lozano [17], for example, has argued that corporate culture hinders company reform, as sustainable development demands innovation and cultural changes within an organization; in other words,



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corporate culture is not conducive to sustainable development. In contrast, scholars such as Galpin et al. [18], Linnenluecke and Griffiths [19], and Baumgartner [20] have argued that corporate culture helps generate and promote sustainable development. We argue that this inconsistency could be a result of the different types of corporate culture, which would affect sustainable development to varying degrees. Hence, there is a lack of clarity about which aspects of corporate culture drive sustainable performance; addressing this issue will enrich the research related to the relationship between corporate culture and sustainable performance.

Second, the research on the underlying mechanism of corporate cultures affecting sustainable performance is still incomplete, and the boundary conditions need to be developed. The existing literature [18,19,21] has only a generic prescription for how organizations can contribute to sustainable performance through culture, i.e., studies have concluded that culture can contribute to sustainable performance, but there is no clear guidance on the specific ways in which this can be carried out. Moreover, culture is embedded in the organization, and its effectiveness is greatly influenced by the environment in which it operates. Analyzing culture in isolation will not accurately predict its role and must consider the interaction of culture with other operational-related factors (e.g., leadership style).

Third, research on how SMEs could improve their sustainable performance through corporate culture is scant [3,6]. Large companies have survived and thrived to some extent, but sustainability remains a top priority for SMEs. Moreover, SMEs often have fewer resources and lack the technology and human resources needed for sustainable development, so promoting sustainable development through a not-so-expensive intangible resource— culture—is a rational choice for them, as any company can intentionally shape its own corporate culture. Unfortunately, there are few related studies that take SMEs as research objects, and it is not known how to enhance sustainable performance through culture.

Fourth, many of the existing studies concerning corporate culture and sustainable performance are qualitative research [18–20] with inadequate data support for the findings [21]; therefore, the applicability of the findings beyond the context of the study is yet to be improved.

To address these research gaps, we build on the resource-based view [22], such that we model the mediating role of innovation capability in bridging the link between corporate culture and sustainable performance, as well as the moderating effect of leadership style on the relationship between corporate culture and innovation capability (Figure 1). We consider both flexibility culture and control culture [23], and their interactions with leadership style (transformational and transactional leadership) [24]. Thus, we can assess how different corporate cultures promote or inhibit sustainable performance through innovation capabilities, and how corporate cultures can be paired with leadership styles to better enhance innovation capabilities. We tested the framework using self-reported questionnaire data from Chinese SMEs. The 186 matched questionnaire data from managers and employees strongly support our predictions. With these insights, the main contribution of this study is to clarify the path, mechanism, and boundary conditions through which corporate culture could promote or inhibit sustainable performance, thus enriching the theoretical literature on corporate sustainable performance. The findings also provide insights into how SMEs could survive and seek sustainable development through corporate culture.

This paper is structured as follows: theoretical background and hypotheses, methodology and research setting, main results, and a discussion on the theoretical and practical implications as well as directions for future studies.



Figure 1. A research framework on the relationship between corporate culture and sustainable performance.

2. Theoretical Background and Research Hypothesis

2.1. Resource-Based View

The resource-based view (RBV) focuses on factors internal to the firm that lead to a sustained competitive advantage; it provides an important framework for explaining and predicting the basis of a firm's competitive advantage and performance [22]; it sustains that differences in organizational performance are a consequence of the heterogeneity of firms' resources. In RBV, firms develop a competitive advantage based on a unique mix and application of resources which are valuable, rare, inimitable, and non-substitutable [22]. Wernerfelt [25] defined resources as "anything that might be thought of as a strength or weakness of a given firm." Specifically, Barney claimed that firm resources include all assets, capabilities, organizational processes, attributes, information, knowledge, etc., controlled by a firm that enable it to conceive of and implement strategies that improve its efficiency [22]. Scholars such as Fiol [26], Klein [27], and Kayworth and Leidner [28] argue that corporate culture is also an essential part of firm resources. This study builds on the resource-based view to explore how corporate culture, an intangible firm resource, can bring SMEs a competitive advantage (sustainability in this study).

Based on RBV, Hart further proposes the adoption of a natural-resource-based view (NRBV) to develop firm-specific competitive advantages by tactfully managing the firm's relationship with the natural environment [29]. Sustainable development is one of the three strategic capabilities considered important by NRBV, and it is not restricted to environmental concerns but also involves focusing on economic and social concerns [29]. Therefore, this study argues that it is imperative for SMEs to move towards sustainability when using culture as an intangible resource.

2.2. Corporate Sustainable Performance

Sustainable development is broadly defined as "development which meets the needs of the present without compromising the ability of future generations to meet their own needs" [30], and it is worth noting that it is not simply equivalent to ecologicalization or environmental protection [31]. It is often regarded as a combination of economic growth, social equity, and environmental protection in the academia [32]. When sustainability was integrated into business development, the concept of corporate sustainability was born and

was later redefined by scholars as "a business and investment strategy that aims to use best business practices to meet and balance the needs of current and future stakeholders" [33] based on their research focus.

Specifically, a business in pursuit of survival and sustained growth shall consider meeting its business objectives, improving its market position, generating sustained profit growth, and improving its capacity in the market where it has already led and in the potential area where it aims to expand into. This is to ensure that the business can survive over a considerable period of time [9,34]. Accordingly, corporate sustainable performance is a metric for quantifying and assessing corporate sustainability, measuring the extent that a business incorporates economic, environmental, and social factors into its operation and how these factors would ultimately impact business and society [32].

There is a rich body of literature on sustainable development, much of which, however, has prioritized environmental protection and, to some extent, has neglected the economic and social dimensions [31]. Meanwhile, there are also only a few studies on sustainable performance [31]. This study will address those shortcomings.

2.3. Corporate Culture

Corporate culture is a specific set of values and fundamental beliefs rooted within a firm that provides a code of conduct and guides the firm's activities and behaviors [35]. Existing studies have classified organizational culture in different ways according to various purposes, among which Quinn and Rohrbaugh [23] proposed the competing-values framework (CVF) in 1983, which has since received much attention and recognition from scholars.

CVF argues that firms pursue multiple tasks and outcomes simultaneously, which usually compete with each other [23,36]. For example, the need for flexibility in handling market changes versus for maintaining stability, the need for focusing on the external markets and consumers versus for controlling and monitoring employees internally. These opposing and competing tasks or demands require both flexibility/adaptability, and control/stability in the firm's culture and values [37]. The flexibility–control dimension of the framework thus divides corporate culture into two kinds: one leaning towards flexibility and the other towards control.

This classification is in line with the culture and values among Chinese companies that, on the one hand, praise a control culture characterized by predictability, command, and efficiency to pursue and improve productivity, and on the other hand, emphasize a flexibility culture characterized by creativity, flexibility, spontaneity, and risk-taking so to achieve collective participation and innovation goals [23,37,38]. Therefore, this study classified corporate culture into flexibility and control culture based on the flexibility–control perspective of the framework. The former is characterized by creativity, spontaneity, and risk-taking, while the latter is characterized by command, predictability, and efficiency [38].

This study argues that the relationship between corporate culture and sustainable performance deserves much more attention. The existing studies have focused more on the roles of green and ethnic culture in shaping sustainable development, with inconsistent conclusions and inadequate data validation. As to what a sustainability-oriented organizational culture is, there are few theoretical foundations [19]. This study will address these issues.

2.4. Leadership Style

Leadership style can be viewed as invariant behavioral patterns and characteristics that are expressed in the behavior of leaders [39]. Burns [24] was the first to introduce the concept of transformational and transactional leadership style, which were viewed by him as being at opposite ends of a continuum. The subsequent studies by scholars including Bass [40], however, argue that they have different connotations and are two separate concepts, a classification that is well received in academia and has been adopted in much research e.g., [41–46].

Transformational leadership values employees' ideals and values, motivates them to prioritize the interests of the organization, and drives them to achieve the best out of themselves [40,41]. To be specific, transformational leaders create a solid foundation by consolidating creativity, perseverance, and understanding of others' needs. This leadership believes that employees are credible and purposeful, that everyone has a unique contribution to make, and that problems can be solved in a timely manner [40,47]. Transformational leaders establish a vision and goals and connect others to that vision so that everyone takes greater responsibility for the accomplishment of goals, and they lead and educate employees to foster a culture of innovation and growth rather than maintaining established standards [48]. Transformational leaders also take responsibility for the growth of their subordinates, who are empowered to develop their full potential within the established vision [49]. In general, this can be summarized as the "4Is"—Individualized Consideration, Intellectual Stimulation, Inspirational Motivation, and Idealized Influence—which are proposed by Avolio, Waldman, and Yammarino [48].

Transactional leaders, instead, make clear what employees would receive in return for the correct behaviors. They believe in a fair return for employees' efforts and ensure their behavior is in conformity with corporate norms [41,50]. Leaders of this style see a contractual relationship between the organization and employees, and they focus on short-term organizational goals and reward employees who achieve them. They pursue short-term, individual goals wherein achieving higher individual performance matters more than realizing the organizational vision [42,43,47]. It can be inferred that transactional leaders typically guide their subordinates with clear roles and tasks based on organizational legitimacy, relying on rewards and punishments to influence employees, prioritizing performance and emphasizing standards and procedures.

This study argues that the leadership style has an impact on how employees engage with corporate culture; in other words, the impact of corporate culture changes under different leadership styles, which may explain why there is inconsistency in existing findings on corporate culture. Therefore, this study will explore the moderating effect of the two leadership styles.

2.5. Corporate Culture and Innovation Capability

Culture is an intangible resource for a company [26–28], but resources do not necessarily provide a competitive advantage. Clearly, corporate culture does not always meet all of the VRIN guidelines [22]; consequently, it cannot directly bring a competitive advantage to the company [51]. In this case, scholars argue that only by integrating resources with some other capabilities, resources, or competitive activities of the company can the resource develop into a long-term competitive advantage for the company [51]. In other words, the corporate culture cannot directly help promote sustainable performance but requires some mediators. Innovation capability was chosen as a mediator because it is a core capability necessary for SMEs to survive.

Businesses across sectors are striving for innovation in order to succeed in the markets where they operate [52,53]. Relevant debates in academia have focused mostly on the concept of "innovation capability" [52,54]. As the key to gaining a competitive edge and ensuring success, innovation capability refers to a firm's ability to acquire and assimilate new knowledge and transform it into new products or services [55]. A great deal of research has been conducted on how firms acquire and enhance their innovation capabilities, producing many findings [54], among which corporate culture is seen as one of the determinants [56–61]. Unfortunately, Mendoza-Silva [54], through a systematic literature review, found that there is still a theoretic gap in terms of which corporate culture could enhance or inhibit a firm's innovation capability.

This study hypothesizes that flexibility culture has a positive influence on innovation capability. First, studies have shown that such culture is one of the values that are most related to innovation culture [62,63], which directly improves innovation capability [56]. Second, flexibility culture emphasizes openness, creativity, entrepreneurship, and risk-

taking [38], which in turn motivate employees to see innovation as a fundamental corporate value and live up to it. This would inspire innovative behaviors among employees and ultimately enhance innovation capability [64]. Judging from the organizational design, organizations with flexibility culture are more organic in design [65], which has been proven by studies to better facilitate innovation capability [66]. Finally, organizations with flexibility culture emphasize empowerment, employee participation, and mutual learning [67,68], all of which could improve the innovation capability [69]. In summary, this study proposes the following hypothesis:

Hypothesis 1 (H1). Flexibility culture could positively impact innovation capability.

Control culture, on the other hand, is a corporate value characterized by command, predictability, and efficiency [38]. This study hypothesizes that a control culture inhibits the innovation capability. First, judging from an organizational design, such culture would lead to a more mechanical organizational design accompanied by a high degree of formalization and a lack of flexibility, all of which could complicate innovation [60,70] and thus inhibit the innovation capacity. Second, a control culture usually implies centralization [23,38], and centralized organizations often have a low innovation capability [71]. Such culture emphasizes command and obedience; in other words, business activities would go as planned containing employee creativity, and following orders to hit targets is more appreciated [23,38], a style that is a far cry from an innovation culture [72] and could instead damage the innovation capability.

Finally, employees in a control environment tend to perceive rewards as constraints. They believe that it is through rewards, a formal organizational arrangement, that the firm constrains, controls, or supervises their work [23,38,73]. Such culture, therefore, renders rewards less effective and reduces the intrinsic motivation and proactiveness of employees, compounding a situation where rewards crowd out employees' intrinsic motivation and further makes rewards less effective on innovation. In summary, this study proposes the following hypothesis:

Hypothesis 2 (H2). Control culture could negatively impact innovation capability.

2.6. Corporate Innovation Capability and Sustainable Performance

According to RBV [22], innovation capability, as a key resource of firms, is particularly critical in the pursuit of innovation goals [74,75] and is a key driver of business growth, performance, and a sustained competitive edge [76]. The NBRV further argues that a firm's competitive edge fundamentally lies in its relationship with the natural environment [29], so sustainable development represents a new goal that firms will inevitably pursue, and it has indeed been proved that innovation is a major driver of sustainable development [77]; Boadu, Xie, Du, and Dwomo-Fokuo [78] contend that innovation plays an influential role in the firm's development and sustainability, especially in an exhaustively aggressive business environment. Moreover, activities that drive sustainable development are increasingly analyzed as a source of competitive edge for firms [79]. Therefore, with the ability to innovate, firms are bound to pursue sustainable development in order to gain a sustained competitive edge [29]. This provides the theoretical basis for this study.

We infer that the corporate innovation capability (in both technology and management [80]) has a positive impact on sustainable performance. Specifically, first, in terms of technological innovation, firms with strong capabilities are more competent in increasing their market share, earning higher profits, and improving economic sustainability [81] through continued improvements in terms of product performance, quality, and production process [82] so to enhance core competitiveness. On the other hand, the stronger the technological innovation capability is, the more capable firms are in improving their resource efficiency, delivering low-pollution, low-energy consumption, high value-added products [83], and improving their sustainable performance. Second, as to the management innovation, it is mainly achieved by reforming management methods and approaches. An effective management innovation could help businesses better manage risks and consolidate resources to bring about more new knowledge, methods, and techniques [84,85], thus improving their sustainable performance. Finally, organizational innovation is a type of management innovation. With stronger organizational innovation, a firm is more capable of improving its overall flexibility and adaptability [86] by applying advanced management methods such as adjusting its organizational structure, incentives, and decision-making mechanisms and building a learning atmosphere. Improved flexibility and adaptability, in turn, helps the firm effectively capitalize on available resources and improve its innovation efficiency so to establish its leading role in the industry, and increase its contribution to social sustainability [86].

In conclusion, innovation capability could enhance corporate sustainable performance in economy, environment, and society. Therefore, this study proposes the following hypothesis:

Hypothesis 3 (H3). Innovation capability could positively impact sustainable performance.

2.7. Moderating Effects of Leadership Style

2.7.1. The Moderating effect of Transformational Leadership

When the core leaders of a business practice transformational leadership, they challenge the status quo, encourage creativity, and give full play to the autonomy and creativity of employees. They motivate and encourage employees to work in the company's interests beyond theirs [24,40]. Companies under this leadership are more likely to develop a positive and open working atmosphere where creativity, risk-taking, and dedication are more likely to be enhanced among employees, so that the environment is more conducive to innovation.

Second, transformational leaders usually make employees aware of the importance of their work and responsibilities through intellectual stimulation, spiritual inspiration, idealized influence, and personalized care [48]. They stimulate the higher-level needs employees so that they can consciously and proactively realize their potential and attain higher levels of performance [40,47,49]. Employees, thus, are motivated and satisfied in terms of intelligence, spirituality, beliefs, and personal needs, which in turn help lay a foundation for innovation.

Finally, as transformational leaders like to challenge the status quo, encourage new ideas, and promote changes, they become models for innovation [87]. Employees, influenced by their charisma, emulate them and internalize their ideals. In addition, a study by Aragón-Correa et al. [88] has found that transformational leaders also create a positive learning climate by motivating their subordinates, and that learning also has a positive impact on innovation [88]. Overall, transformational leadership lays a foundation for staff innovation.

It can be inferred that transformational leadership is compatible with openness, creativity, entrepreneurship, and risk-taking, which are promoted by flexibility culture [38]; this is in contrast to the corporate values of command, predictability, and efficiency promoted by the control culture [38]. Undoubtedly, both corporate culture and leadership style could exert substantial influence on employee behaviors. However, transformational leadership in this study represents extension information, going beyond corporate culture. According to Feldman and Lynch's accessibility–diagnosticity theory [89], highly accessible and diagnosable extension information causes dilution or enhancement effects on original cognition [90,91]. Notably, extension information that is inconsistent (consistent) with prior information will produce dilution (enhancement) effects [89,92]. We can therefore safely infer that transformational leadership has an enhancing effect on the relationship between flexible culture and innovation capability and a diluting effect on the relationship between control culture and the innovation capability. Therefore, we propose the following hypothesis. **Hypothesis 4 (H4).** *Transformational leadership positively moderates the relationship between flexibility culture and innovation capability.*

Hypothesis 5 (H5). *Transformational leadership negatively moderates the relationship between control culture and innovation capability.*

2.7.2. The Moderating Effect of Transactional Leadership

When the core leaders of a business practice transactional leadership, they specify tasks, methods, and rewards for employees and demand behaviors be corrected in a timely manner in conformality with norms and standards [24,50]. Under this leadership, employees are task-oriented with short-term individual goals and act in line with requirements, which are not ideal for innovation [45]. It can be inferred that transactional leadership is consistent with the corporate value of command, predictability, and efficiency advocated by control culture [38]; it, however, is incompatible with the openness, creativity, entrepreneurship, and risk-taking promoted by flexibility culture [38]. Similarly, according to the accessibility–diagnosticity theory [89] mentioned above, we can safely infer that transactional leadership has a diluting effect on the relationship between flexible culture and the innovation capability [89,92]. Therefore, we propose:

Hypothesis 6 (H6). *Transactional leadership negatively moderates the relationship between flexibility culture and innovation capability.*

Hypothesis 7 (H7). *Transactional leadership positively moderates the relationship between control culture and innovation capability.*

3. Method

3.1. Sample and Procedure

In this research, a questionnaire survey was used to obtain primary data to validate the theoretical model shown in Figure 1. Please note that "managers" in this study refers to the middle and senior managers. In order to avoid the common method bias, we adopted paired sampling; in other words, managers were paired with their direct reports, and each set of questionnaires consisted of two parts. The first part was the manager questionnaire (A) where managers evaluated the culture, innovation, and sustainable performance of their organizations. The second part was the employee questionnaire (B) where employees evaluated the leadership style of their immediate supervisors. The A–B questionnaires were paired to form a set of questionnaires that met the purpose of this study. To achieve an effective matching, we used a coding system in the study. Before the survey, managers and employees were selected and numbered, and questionnaires M and B were then numbered separately, with the number of each set of questionnaires that match their own numbers at different times and locations.

We commissioned a specialty market-research agency in China to collect data. The targets of this study were Chinese SMEs; therefore, the agency selected 500 SMEs as samples through stratified random sampling from the available SMEs directory. These SMEs, from Chengdu, Shanghai, Xi'an, Beijing, Guiyang, Guangzhou, Qingdao, Shenyang, and Lanzhou, covered various regions in northwest, southwest, northeast, and southeast China, and included private, state-owned, and foreign-funded companies or Sino–foreign joint ventures across the retail, wholesale, foods, manufacturing, beverage, software, textile, and environmental industries, etc.

The agency then reached out to them by phone and email, seeking cooperation while further assessing their eligibility based on the SME standard set by the Ministry of Industry and Information Technology of China and the National Bureau of Statistics of China and other government agencies. Among these companies, 196 declined to participate and 21 were unreachable. Of the remaining 283 companies, 26 failed to meet the sample standards. As a result, 257 SMEs were identified for study.

The agency provided further training to these participants via phone or email, covering instructional phrases and dos and don'ts. The formal survey was conducted through emails and on-site interviews. Respondents were told in advance that the data collected were confidential and restricted to scientific research use only. Incentives were also provided by the agency to ensure the survey be taken seriously.

After four months of research, the research agency collected 212 manager questionnaires (response rate: 82.5%) and 246 employee questionnaires (response rate: 95.7%). The numbers were checked, with 209 sets of questionnaires successfully matched. Finally, a total of 186 sets of effective questionnaires were secured, with an efficiency rate of 37.2% (186/500) after eliminating 23 sets of questionnaires that were carelessly filled out, left blank, or largely left incomplete. Table 1 shows the demographic profile of organizations and respondents.

3.2. Measures

To ensure reliability and validity, this study used scales from authoritative journals that are well-established and frequently used. As they are from English literature, presented in a language different from the research setting, the translation and back-translation procedure recommended by Brislin [93] was applied to ensure accuracy. All the items in the questionnaire are listed in Table 2.

Corporate culture was measured by the measurement scales from Liu, Ke, Wei, Gu, and Chen [38] and Deshpandé, Farley, and Webster Jr [37], which include two dimensions: flexibility culture and control culture. Each variable is measured by four items.

Leadership style was classified into two types—transformational and transactional leadership [24]—and was measured with the MLQ scale developed by Bass and Avolio [94]. Eight items were used to measure transformational leadership; five items were used to measure transactional leadership. These questionnaires were filled out by employees based on how they perceived their immediate supervisors.

Corporate sustainable performance measures the level of sustainable development of a firm. Sustainable development requires that a firm, while pursuing its short-term economic interests, should maintain its long-term interests by achieving both social and environmental performance [9,34]. This calls for a measurement of sustainable performance in economic, social, and environmental dimensions [95]. In terms of economic performance, respondents were, as suggested by the practice of Judge and Douglas [96], asked to compare and score (1 for "much worse" and 5 for "much better") their company's overall performance compared to its main competitors in four areas: return on investment, earnings growth, sales growth, and market share. These items emphasized the competitive behaviors and financial performance of organizations. Environmental performance was also measured in line with the practice of Judge and Douglas [96] by asking respondents to compare and score their company's overall performance on the following four areas compared to its main competitors: compliance with environmental regulations; limitation of environmental impacts beyond compliance; prevention and mitigation of environmental crises; and education of employees and the public about the environment. These items emphasized businesses' pro-active commitments and efforts in environmental protection. Social performance was measured with reference to the research methods and scales developed by scholars including Kalchschmidt et al. [97], Eikelenboom and de Jong [98], and Wijethilake [99], where respondents were asked to compare and score their company's overall performance on the following four areas compared to its main competitors: customer satisfaction, employee satisfaction, community recognition, and investor recognition.

Items	ns Categories		Items	Categories	%
	Profile of Organizations:				
	State-owned	17.2%		Male	67.74%
Ownership	Private	76.9%	– Gender	Female	32.26%
e whereinip	Joint ventures	2.7%		Senior managers	18.82%
	Foreign-funded	3.2% Positio		Managers	31.18%
	50 and below	16.7%	_	Employees	50%
	51 to 100	24.2%		High school and below	4.84%
Employees	101 to 200	40.3%	- Education	Three-year college	20.97%
	201 to 300	14%	- Education	Bachelor	54.57%
	300 and above	4.8%	_	Master and above	19.62%
	Below 1 year	6.5%		Below 30 years old	30.1%
	1–3 years	11.8%	- A.go	30–40 years old	32.25%
Firm age	3–5 years	38.7%	– Age	41–50 years old	23.94%
	5–10 years	40.9%	_	Above 50 years old	13.7%
	Above 10 years	2.2%			
	Retailing and wholesale	12.37%	_		
	Foods and beverage	9.68%	_		
	Software and Services	19.89%	_		
Inductor	Textile	6.45%	_		
maustry	Transportation and logistics	6.99%	_		
	Manufacturing/engineering	24.19%	_		
	Environmental	9.13%	_		
	Others	11.29%	_		
	Chengdu	18.82%	_		
	Shanghai	8.6%	_		
	Xi'an	9.68%			
Coographia	Beijing	7.53%			
location	Guiyang	11.29%			
	Guangzhou	10.75%			
	Qingdao	10.22%			
	Shenyang	12.9%			
	Lanzhou	10.22%			

 Table 1. Demographic profile of organizations and respondents.

Construct	Item	Factor Loadings	Sources	
	Cronbach's α = 0.814; CR = 0.8776; AVE = 0.6456; Respondent: managers			
	FC_1: Sense of loyalty and corporate culture bring all employees together	0.841		
Flexibility culture	FC_2: The company challenges status quo and has a preference for risk-taking	0.627		
	FC_3: The company always prioritizes quality products and services	0.896		
	FC_4: The company invites new ideas for business growth from employees	0.824	[37,38]	
Control culture				
	CC_1: Regulation and system hold all staff together	0.893		
	CC_2: The company emphasizes durability and stability	0.890		
	CC_3: The company takes the production-oriented approach	0.820		
	CC_4: The company values work achievements	0.826		
	Cronbach's α = 0.871; CR = 0.8995; AVE = 0.5288; Respondent: employees			
	TFL_1: He/she advises employees to approach tasks from new perspectives	0.728		
	TFL_2: He/she encourages employees to analyze problems with different views	0.740		
Transformational leadership	TFL_3: He/she encourages employees to solve problems with different approaches	0.727		
1	TFL_4: He/she is always optimistic about the future	0.641	[94]	
	TFL_5: He/she sets a clear vision and motivates employees to work hard	0.767		
	TFL_6: His/her behavior is respected and recognized by employees	0.768		
	TFL_7: He/she believes that employees have their own needs, abilities, and ambitions	0.746		
	TFL_8: He/she helps bring employee strengths into play	0.692		
	Cronbach's α = 0.875; CR = 0.9099; AVE = 0.6699; Respondent: employees			
	TAL_1: He/she sets clear rewards for employees who hit targets	0.748		
	TAL_2: He/she rewards and helps employees so to motivate them to work harder	0.763	[94]	
Transactional leadership	TAL_3: He/she focuses on inconformity and exception errors	0.879		
	TAL_4: He/she devotes much energy to handling deviations, complaints, and mistakes	0.857		
	TAL_5: He/she is concerned with employee mistakes and is aware of problem and mistake details	0.837		

 Table 2. Measurement model evaluation.

Construct	Item	Factor Loadings	Sources
	Cronbach's α = 0.873; CR = 0.9143; AVE = 0.7276; Respondent: managers		
Innovation Capability	IC_1: Our company often comes up with new ways to solve legacy issues	0.818	
Cupuomity	IC_2: Our company is very creative in operations	0.890	[100,101]
	IC_3: Our company often seek for new approaches	0.886	-
	IC_4: Many of our new products or services are on offer	0.815	-
	Cronbach's α = 0.815; CR = 0.9548; AVE = 0.6385; Respondent: managers; 1 for "much worse" and 5 for "much better"		
	SP_1: Return on investment	0.784	
	SP_2: Earnings growth	0.844	_
	SP_3: Sales growth	0.819	
	SP_4: Market share.	0.768	
Companyla	SP_5: Comply with environmental regulations	0.832	_
Sustainable performance	SP_6: Limit environmental impacts beyond compliance	0.832	_
1	SP_7: Prevent and mitigate environmental crises	0.832	- [96–99]
	SP_8: Educate employees and the public about the environment	0.760	
	SP_9: Customer satisfaction	0.691	-
	SP_10: Employee satisfaction	0.833	_
	SP_11: Community recognition	0.806	_
	SP_12: Investor recognition.	0.774	

Table 2. Cont.

Note: Unless otherwise specified, all items were scored on 5-point Likert scales (1 =strongly disagree, and 5 =strongly agree).

Innovation capability was measured through scales that were developed by scholars including Hurt et al. [100] and Calantone et al. [101] and were modified in the SME context, containing four items.

Four controlled variables were selected for this study based on the existing literature. (1) Size. Larger firms are generally more resourceful than smaller ones, so the firm size tends to impact strategies and sustainable performance, among other things [102]. This variable was coded as "1" (0 to 50 employees), "2" (51 to 100 employees), "3" (101 to 200 employees), "4" (201 to 300 employees), or "5" (300 or more employees)". (2) Ownership. Ownership structures could exert diverse impacts on corporate sustainable performance [103]. Enterprises in this study were categorized into four types: "1" (state-owned), "2" (private), "3" (joint venture), or "4" (foreign-funded). (3) Industry. This was included as some enterprises in themselves were in the green and environmental-protection industry. A dummy variable was adopted and was denoted as "1", indicating a firm that was part of the green and environmental protection industry or "0", indicating other types of businesses. (4) Firm age. This was chosen largely because the longer a firm is in business, the higher the reputational capital it may have and the more inclined it is to build and maintain sustainable performance [104]. The variable was coded as "1" (within 1 year), "2" (1 to 3 years), "3" (3 to 5 years), "4" (5 to10 years), or "5" (11 years and beyond).

4. Results

4.1. Reliability and Validity Testing

Reliability testing was first performed where Cronbach's alpha coefficient and combined reliability (CR) of the relevant variables were calculated, with results shown in Table 2 indicating that the reliability of all variables is greater than 0.7 and a CR greater than 0.8. This shows that the scale has good internal consistency and has passed the reliability test.

With respect to validity, it was assessed by convergent and discriminant validity [105]. Accordingly, confirmatory factor analysis (CFA) was carried out to test the convergent validity. A first-order CFA was performed on six variables via AMOS 24.0, which showed that $\chi^2/df = 1.430$ (<3), RMSEA = 0.048 (<0.05), CFI = 0.944 (>0.9), IFI = 0.945 (>0.9), and TLI = 0.933 (>0.9), indicating that the model has a good fit [106]. Then, standardized factor loadings were observed. As shown in Table 2, the factor loadings for all times are greater than 0.7 except FC_2, SP_9, TFL_4, and TFL_8, whose factor loadings are between 0.6 and 0.7, which is acceptable [107]. Finally, AVEs, calculated based on factor loadings (Table 2), turned out to be higher than 0.5 in all cases. In summary, the scale has good convergent validity.

Furthermore, discriminant validity was confirmed using the Fornell-Larcker criterion [108]. As illustrated in Table 3, the square root of the average variance extracted for each construct was higher than the correlations of the constructs with all other factors, confirming discriminant validity. We also used a more sophisticated method of the heterotrait–monotrait ratio of correlations (HTMT) [109]. The HTMT ratio test results ranged from 0.127 to 0.772, which were below the recommended value of 0.85 [109], thus indicating that all constructs are independent of each other and, accordingly, discriminant validity is present in this study (see Table 4).

In conclusion, the measurement items of all variables in this study have high reliability and validity and could accurately reflect the essence of variables, so they could be used for hypothesis testing.

Variable	Mean	S.D.	1	2	3	4	5
1. Flexibility Culture	3.579	0.9579	0.8034	-0.511 ***	0.425 ***	0.150 *	-0.113
2. Control Culture	2.448	1.1129	-0.518 ***	0.8579	-0.545 ***	-0.183 **	0.311 ***
3. Innovation Capability	3.235	0.8029	0.440 ***	-0.552 ***	0.8529	0.373 ***	-0.670 ***
4. Sustainable Performance	3.041	0.7186	0.164 *	-0.192 **	0.382 ***	0.7991	-0.088
5. Transactional Leader	2.959	1.1760	-0.138	0.332 ***	-0.678 ***	-0.102	0.8185
6. Transformational Leader (MV)	3.209	0.9844	0.178 *	-0.104	0.155 *	0.099	-0.158 *

Table 3. Mean, standard deviation, and data analysis.

Notes: 1. The square root of AVE is shown on the diagonal of the matrix; 2. Inter-construct correlation is shown below the diagonal; adjusted correlations for the potential common method variance are above the diagonal [110]; 3. *, **, *** represent significance at the 0.05, 0.01 and 0.000 levels, respectively; 4."MV" refers to maker variable; 5. The transformational Leader's square root of AVE is 0.7271.

4.2. Common Method Bias

Since the data in this study were obtained from self-reports, there is a potential risk of common method bias (CMB) [111], so a test is necessary. According to the recommendations of Podsakoff and Organ [111], we first used Harman's singe-factor test to identify whether there was a serious CMB. All variables were loaded into the principal component analysis, and unrotated factors with eigenvalues greater than 1 were extracted. The first factor emerged as 21.559% of the total variance, far below the threshold of 50%. So, it is preliminarily inferred that CMB is not a serious concern in this research.

Harman's single-factor test, however, only provides an initial assessment and is insufficient to prove that the CMB is not a pervasive issue here [112]. Therefore, we applied

the marker variable approach [110]. Transformational leader (Cronbach's alpha = 0.871), which is theoretically unrelated to at least one variable in the analysis, served as the marker variable. We used the lowest positive correlation between the transformational leader and other implemented latent variables (r = 0.09) to adjust the correlations between the variables. As none of the correlations between the substantial variables were insignificant after the marker variable adjustment, a common method bias was unlikely to be a major concern. Table 3 shows the means, standard deviations, and correlations of all the variables.

Construct	1	2	3	4	5
1. Flexibility Culture					
2. Control Culture	0.613				
3. Innovation Capability	0.514	0.628			
4. Sustainable Performance	0.206	0.222	0.439		
5. Transformational Leader	0.222	0.127	0.176	0.158	
6. Transactional Leader	0.166	0.366	0.772	0.148	0.254

Table 4. Heterotrait-monotrait (HTMT) between study constructs.

4.3. Hypothesis Testing

According to Gefen, Straub, and Boudreau [113], hierarchical regression analysis is appropriate for investigating the influencing mechanisms in a conceptual framework, and the main purpose of this study was to explore the mechanism by which different corporate cultures affect sustainable performance. Moreover, the stepwise regression approach reveals the explanatory power of each set of variables [114]. Therefore, linear regression analysis was applied to test the hypotheses via SPSS 25.0. To avoid multicollinearity, we meancentered each variable, and the regression results are shown in Table 5. In terms of main effects, corporate innovation capability as a dependent variable, the flexibility and control culture as independent variables, and controlled variables were all included in Model 1. The results indicated that flexibility culture (FC) could significantly influence the innovation capability (IC) ($\beta = 0.186$, t = 2.712, p < 0.01), supporting H1; on the contrary, control culture (CC) could significantly and negatively impact the corporate innovation capability $(\beta = -0.477, t = -6.905, p < 0.001)$, supporting H2. Most previous studies have also confirmed the positive role of culture on innovation capability from different perspectives (e.g., [56,58,59,61,115]). Meanwhile, the results of H2 confirm the negative effects of culture, echoing previous studies (e.g., [17,60]). Corporate sustainable performance was then loaded into Model 4 as a dependent variable and innovation capability as an independent variable. The results showed that innovation capability could significantly improve the corporate sustainable performance ($\beta = 0.367$, t = 5.269, p < 0.001), verifying H3, consistent with previous research [116]. Taken together, this study is an integration of previously inconsistent findings.

In terms of moderating effects, controlled variables, flexibility culture, control culture, transformational leadership, and the interaction term between transformational leadership and the two types of culture (TFL × FC and TFL × CC) were all included in Model 2 with corporate innovation capability as a dependent variable. The results showed that transformational leadership could enhance the positive relationship between flexibility culture and the corporate innovation capability ($\beta = 0.473$, t = 7.264, p < 0.001) and diminish the negative relationship between control culture and the innovation capability ($\beta = 0.245$, t = 3.762, p < 0.001). In addition, the inclusion of a moderator resulted in a substantial increase in R² and adjusted R², suggesting an increased explanatory power of the model and supporting H4 and H5. Following the same approach, Model 3 showed that transactional leadership could further enhance the negative relationship between control culture and the innovation capability ($\beta = -0.113$, t = -2.044, p < 0.05), and the R² and adjusted R² also improved substantially compared with that of Model 1, suggesting an increase in the

explanatory power of the model and a support for H7. The data analysis, however, failed to prove that transactional leadership could attenuate the positive relationship between flexibility culture and the innovation capability ($\beta = -0.063$, t = 1.176 p > 0.05), so H6 was not supported. Previous research has considered the impact of corporate culture on leadership style [117], or they both act as independent variables affecting the business operations [118]; however, few studies have considered the impact of the interaction between the two on a firm's innovation capability. Finally, it is worth noting that the variance inflation factor (VIF) scores for the main and moderating effects are below 3 in all cases, so the possibility of multicollinearity could be ruled out [107].

** * 1 1		SP						
Variable		Model1	Model 2	Model 3	Model 4			
Controlled Variable								
Firm Size		0.074	0.045	0.001	0.022			
Ownership		-0.177 **	-0.134 *	0.041	-0.046			
Firm age		0.123 *	0.154 **	-0.081	-0.042			
Industry		0.085 0.052 0.031		0.141*				
		Main	Effect					
FC	H1	0.186 **	0.306 ***	0.234 ***				
CC	H2	-0.477 ***	-0.414 ***	-0.185 **				
IC	H3				0.367 ***			
Moderating Effect								
TFL			0.060					
TAL				-0.582 ***				
$\text{TFL} \times \text{FC}$	H4		0.473 ***					
$TFL \times CC$	H5		0.245 ***					
$TAL \times FC$	H6			0.063				
$\text{TAL}\times\text{CC}$	H7			-0.113 *				
R ²		0.392	0.536	0.653	0.167			
Adjusted R ²		0.371	0.513	0.635	0.144			
F value		19.209 ***	22.625 ***	36.780 ***	7.207 ***			
Power (1-β err prob)		1	1	1	0.99			

Table 5. Linear regression results.

Notes: 1. *, **, *** represent significance at the 0.05, 0.01 and 0.000 levels, respectively; 2. "FC" refers to flexibility culture, "CC" refers to control culture, "IC" refers to innovation capability, "SP" refers to sustainable performance, "TFL" refers to transformational leader, and "TAL" refers to transactional leader.

Power is a function of the statistical significance (α) set for a Type 1 error, sample size, and the effect size examined [119]. A series of power analyses were completed using GPOWER 3 software [119]. We calculated power values for each dependent variable; in all instances, power values for the effect size and Type I error of 0.05 exceeded Cohen's recommended criterion of 0.80 [120] (see Table 5). Overall, these tests suggest that we have adequate power to validate our model.

To visualize the moderating effects, we plotted the interaction using Preacher et al.'s [120] procedure of computing simple slopes at high and low moderator levels. Figure 2a indicates that the positive relationship between flexibility culture and innovation capability is substantially enhanced when a business practices higher transformational leadership, further validating H4. Figure 2b indicates that the negative relationship between control culture and innovation capability is attenuated when a business practices higher transformational leadership.

ship, further verifying H5. Figure 2c indicates that the negative relationship between control culture and innovation capability is enhanced when a business practices higher transactional leadership, further confirming H7.



Figure 2. Moderating effects of leadership style. (a) Transformational leadership's moderating effect on the relationship between flexibility culture and innovation capability. (b) Transformational leadership's moderating effect on the relationship between control culture and innovation capability. (c) Transactional leadership's moderating effect on the relationship between control culture and innovation capability.

Finally, this study followed Preacher and Hayes' [121] mediation guidelines. We used a bootstrapping process incorporating control variables; Table 6 shows the results. We separately tested the innovation capability's mediating effects on the relationship between flexibility culture and sustainable performance, and between control culture and sustainable performance is significant (coefficient = 0.1562, 95% CI [0.0811, 0.2453]). Additionally, the direct effect of flexibility culture and sustainable performance is not statistically significant (coefficient = -0.0053, 95% CI [-0.1551, 0.1445]), suggesting complete mediation, which further validates H1 and H3. Similarly, the indirect effect between control culture and sustainable performance is significant (coefficient = -0.2154, 95% CI [-0.3112, -0.1215]) and the direct effect is not significant (coefficient = 0.0254, 95% CI [-0.1411, 0.1918]), also indicating complete mediation, further corroborating H2 and H3. Together, these empirical results imply that innovation capability plays a fully mediating role in the relationship between corporate culture and sustainable performance.

Table 6. Mediating Effects of Corporation Innovation Capability.

Model	La Parat Effect	DestCE	95% Confidence Interval				95% Confidence Interval	
	Indirect Effect	BOOUSE	BootLLCI	BootULCI	Direct Effect	BOOUSE	BootLLCI	BootULCI
FC-IC-SP	0.1562	0.0416	0.0811	0.2453	-0.0053	0.0759	-0.1551	0.1445
CC-IC-SP	-0.2154	0.0480	-0.3112	-0.1215	0.0254	0.0844	-0.1411	0.1918

Note: FC refers to flexibility culture, CC refers to control culture, IC refers to corporate Innovation capability, and SP refers to corporate sustainable performance.

5. Discussions and Conclusions

5.1. Findings

Based on the resource-based view and the existing literature, this study has developed a framework to explore corporate culture's influence on corporate sustainable performance. The culmination of these efforts is the following two significant results: first, as predicted, the results show that flexibility and control culture are positively and negatively related to innovation capability, respectively, and that the latter mediates their influence on sustainable performance. This finding validates that corporate culture could positively or negatively affect corporate sustainable performance through innovation capability. Previous research conclusions are inconsistent. Some scholars have found that corporate culture has a boosting effect on sustainable development [18,19,21], while some scholars believe that corporate culture has a negative impact [17]. This study addresses this inconsistency, and we argue that the reason is that there are different types of culture. A control culture, for example, is detrimental to sustainable performance, while a flexibility culture is instrumental to it.

Second, when a business practices higher transformational leadership, the positive relationship between flexibility culture and innovation capability is enhanced, while the negative relationship between control culture and innovation capability is weakened. When a business practices higher transactional leadership, the negative relationship between control culture and innovation capability is enhanced. However, transactional leadership's moderating effect on the relationship between flexibility culture and innovation capability was insignificant, contradicting the previously determined hypotheses. The possible explanation is that leadership styles vary considerably, even within the same company. It might be that the studied manager is a transactional leader, while the majority of other managers in the same company are transformational ones. In this case, the corporate culture plays a bigger role than that individual leader's leadership style. The findings have confirmed the moderating effect of leadership style between corporate culture and innovation capability, and that whether the innovation capability could be improved is influenced by the leadership style, even when the same corporate culture is adopted in companies. This finding is a deepening of previous research [117,118] on corporate culture and leadership style.

5.2. Theoretical Implications

This study makes three significant contributions to corporate sustainable performance literature. Previous studies [18,20,21] have mostly examined culture as a whole in terms of its impact on sustainable performance and ignored the diversity of cultures. This study classifies corporate culture into flexibility and control culture and finds that the two cultures promote or inhibit corporate sustainable performance, respectively, through innovation capability. This, on the one hand, finds a way out for the contradictory conclusions [17–19,21] in academia about the relationship between corporate culture and sustainable development, that is to say, different cultures affect firms differently; on the other hand, it also reveals the underlying mechanism through which corporate culture contributes to corporate sustainable performance. Thus, this study enriches the understanding of sustainable performance by incorporating flexibility and control culture as predictors and clarified the underlying mechanism.

Second, culture is embedded in the organization, and its effectiveness is greatly influenced by the environment in which it operates. However, previous studies [17–21] have rarely considered the interaction between culture and other organizational factors when discussing the relationship between organizational culture and sustainable performance but have separated culture and discussed it separately; analyzing culture in isolation will not accurately predict its role (e.g., the leadership style). This study considered the interaction between leadership style and organizational culture, and the data collected confirmed our prediction. Correspondingly, this study enriches the theoretical literature on corporate sustainable performance by integrating culture with leadership style.

Third, although promoting sustainable performance through culture is an important path for SMEs, previous research on corporate culture and sustainable performance has rarely focused on SMEs [3,6]. Using SMEs as the subject of this study, this research identifies pathways for SMEs to promote sustainable performance through culture, which helps to expand the scope of theories related to sustainable performance.

Generally, the theoretical contribution of this study focuses on clarifying the path, mechanism, and boundary conditions through which corporate culture promotes and inhibits sustainable performance, which greatly enrich the theoretical literature on corporate sustainable performance.

5.3. Management Implications

The findings of this study have provided insights into how SMEs could survive and grow sustainably through corporate culture. First, for SMEs, especially the tech companies that see sustained innovation and growth as a must, flexibility culture rather than a control one should be cultivated within the organization. In addition to this, business leaders should assume a transformational style, shunning away from the transactional one. In other words, pair flexibility culture with transformational leaders. Second, for labor-intensive companies that are less demanding from employees in terms of innovation, a control culture and transactional leadership shall be cultivated; in other words, pair control culture with transactional leaders. Finally, SMEs should know that innovation capability is key to sustainable development, so they should focus on improving it in order to achieve economic, social, and environmental sustainability.

5.4. Limitations and Future Research

Despite numerous strengths, this study still has a few limitations: First, the research data were all obtained from self-reports, and although the common method bias is not a serious concern, it should be improved. Future studies could consider obtaining data from multiple sources. For example, indicators such as research-and-development costs and the number of patents could be used for measuring the innovation capability, indicators such as the return on net assets, asset turnover, and debt ratio can be used for measuring economic performance, indicators such as carbon emissions and environmental capital investment can be used for measuring environmental performance, and indicators such as employee welfare and supplier relationships can be used for measuring corporate social performance. Second, this study focuses on Chinese SMEs. Whether the findings are applicable to large or foreign enterprises is debatable. Future studies could look at large ones in countries in and outside of China to assess the applicability of the theory in a broader context. Finally, this study only examined the mediating effect of innovation capability, and the corporate culture could surely promote or inhibit corporate sustainable performance through other means. Future studies could further explore the underlying mechanism between corporate culture and sustainable performance.

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