



Article

Understanding How Organizational Culture Affects Innovation Performance: A Management Context Perspective

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Abstract: This study takes the management context perspective to investigate how the social context and performance management context can jointly improve organizational innovation performance. We propose that organizational culture factors, including psychological safety, collectivism, and power distance, are antecedents of social context and performance management context. We collected survey data from 301 employees in Chinese organizations. Our data analysis results show that the social context and performance management context fully mediate the effects of psychological safety, collectivism, and power distance on innovation performance. Specifically, psychological safety and collectivism have positive indirect effects, whereas power distance has a negative indirect effect on innovation performance. Our findings offer insights regarding how firms can develop management contexts to enhance their innovation performance, which contributes to both research and practice in innovation management.

Keywords: organizational culture; psychological safety; collectivism; power distance; social context; performance management context; innovation performance; SEM



Citation: Zhang, W.; Zeng, X.; Liang, H.; Xue, Y.; Cao, X. Understanding How Organizational Culture Affects Innovation Performance: A Management Context Perspective. Sustainability 2023, 15, 6644. https://doi.org/10.3390/su15086644

Academic Editor: Alina Badulescu

Received: 22 March 2023 Revised: 11 April 2023 Accepted: 12 April 2023 Published: 14 April 2023



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1. Introduction

In the increasingly competitive global business environment, sustainable development has become the strategic goal of many enterprises. Strong innovation ability can effectively improve the sustainable development ability of enterprises, and innovation performance is the most direct and effective measurement of the effect of enterprise innovation activities. Therefore, innovation performance is an important embodiment of improvements to the sustainable development ability of enterprises. To achieve sustainability, organizations must innovate at all levels to make their products and services stand out in competitive markets and provide value to their customers. As a fundamental element of organizational competitiveness, innovation is considered an indispensable business process that must be properly managed to promote firm performance in terms of profitability, productivity, quality of services, and customer and employee satisfaction [1]. One way organizations and managers can promote innovation is through good innovation management internally [2]. The most innovative companies are those that not only focus on product, service, and technology innovation but also develop a proper innovation culture to create a lasting internal environment that fosters innovations [3,4].

The improvement of innovation capability and performance of organizations has become a major concern. Scholars have explored various approaches to enhancing innovation capability and performance, including the formulation and implementation of enterprise strategy and the use of innovation management techniques and tools [5]. Some studies have also investigated the relationship between organizational elements and innovation performance from the organizational level, examining the influence of organizational culture, structure, and atmosphere on innovation performance [6], and the impact of organizational

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care and social work environment on employee innovation behaviors [7]. Despite these efforts, few studies have explored the underlying mechanism of this relationship.

Previous studies focused on the relationship between organizational culture and innovation performance but did not explore the specific elements of psychological safety, collectivism, or power distance on the operation of innovation performance nor clarify the influencing mechanism of organizational culture on innovation performance. Against this backdrop, this paper explores the mechanism of culture on innovation performance from the perspective of management context. Specifically, we adopt a management context perspective to investigate how the social context and performance management context can enhance organizational innovation performance. We posit that collectivism and power distance are two central cultural factors affecting innovation in Chinese enterprises, with employee psychological safety also having an impact. Accordingly, the study categorizes organizational culture factors impacting firm innovation into three dimensions: psychological safety, collectivism, and power distance. This research is novel in that it views management context as a mediating variable in the relationship between organizational culture and innovation performance, examining the mechanism of organizational culture's impact on innovation performance from the perspectives of both the social context and performance management context. The findings of this research enrich our understanding of the mechanism of organizational culture's impact on innovation performance and offer practical guidance to organizations in developing management contexts to enhance innovation performance.

2. Literature Review

We posit that organizational culture factors such as psychological safety, collectivism, and power distance serve as antecedents to the management context. Management context, consisting of the social context and performance management context, has a profound impact on the innovation performance of an enterprise. It does so by influencing both the "soft" and "hard" elements of the enterprise. Hence, it suggests that organizational culture has a significant impact on the innovation performance of an enterprise through its influence on the management context. This research will conduct a comprehensive review of the relevant literature on each element to support our proposed framework.

2.1. Organizational Culture

Culture is a set of shared meanings that make it possible for members of a group to interpret and act upon their environment [8]. In general, organizational culture is defined as a "combination of artifacts (also called practices, expressive symbols, or forms), values and beliefs, and underlying assumptions that organizational members share about appropriate behavior" [9]. Organizational culture depends on its existence in a definable organization, in the sense of many people interacting with each other to accomplish some goal in their defined environment [10,11]. Organizational culture might create an environment that would impact both business and operational performance [12]. While there are many different elements of organizational culture, in this study, we focus on the elements that are most relevant to organizational innovations. Therefore, we focus on three specific organizational culture elements: psychological safety, collectivism, and power distance because of their potential impact on firms' innovation management. We discuss each element in detail as follows.

2.1.1. Psychological Safety

The concept of psychological safety was applied at the individual and team levels in the early stage. At the individual level, psychological safety refers to employees' self-presentation, action implementation, or function without worrying about the negative impact or adverse consequences on their image, status, or career [13]. Psychological safety at the team level is defined as a shared belief among group members, or a collective atmosphere within the team, that enables employees to take on interpersonal risks within

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the team [14]. Team psychological safety involves, but goes beyond, interpersonal trust; it describes an organizational culture characterized by interpersonal trust and mutual respect [14]. Baer & Frese further extend the concept of psychological safety to the organizational level, believing that organizational psychological safety is a scenario in which formal and informal organizational practices and procedures guide and support open and honest interpersonal interactions in the work environment [15].

Kahn studied three different psychological conditions of people at work—meaning, security, and usability, and proposed that "psychological safety refers to feeling able to show and use oneself without fear of negative consequences on self-image, status or career " [13]. Edmondson believes that psychological safety describes members' cognition of interpersonal relationships, inclusiveness, mutual assistance, and reliability of problem-solving in the work environment. Moreover, when organizational members have high psychological safety, they will be more courageous in making innovations [14]. Scholars have treated psychological safety as an organizational phenomenon and believe that the organizational climate of psychological safety is particularly important to enhance the breakthrough innovation capability of enterprises. Moreover, the organizational climate of psychological safety is positively related to the innovation performance and innovation ability of small and medium-sized enterprises [16]. Baer and Frese found that psychological safety not only has positive effects on long-term organizational change and goal achievement but also contributes to the development of organizational culture in enterprises, thus promoting the impact of process innovation on organizational performance [15].

2.1.2. Collectivism

Hofstede's five dimensions of national culture include power distance, collectivism (vs. individualism), masculinity (vs. feminism), uncertainty avoidance, and long-term (vs. short-tem) orientation [17,18]. Hofstede believes that in an individualistic society, people only care about themselves and their immediate family members, and their relationships with others are relatively distant. In a collectivist society, people are closely intertwined in the social network, and everyone values loyalty to network members and has emotional dependence on their group [17]. Triandis divides collectivism into two dimensions: horizontal collectivism and vertical collectivism [19]. Collectivism provides security and resources to members of the group [20]. Mayfield et al. found that collectivism had a strong positive influence on the performance of teams [21]. Collectivism within the team improves the loyalty of employees to the organization. In a collective environment, employees are more inclined to cooperate and share knowledge with others, which will likely improve the efficiency of innovation and improve their organization's innovation performance.

2.1.3. Power Distance

Power distance is another dimension of national culture proposed by Hofstede. According to Hofstede, power distance reflects the degree of acceptance of individuals of power inequality in groups, organizations, or enterprises [17]. With low power distance within the organization, members are more willing to express their personal views and share knowledge with one another and are more inclined to participate in organizational decision-making, which stimulates individual creativity. When there is a high power distance within the organization, members of the organization are more susceptible to the influence of those with higher status [22]. Managers tend to rely on authority and power to make decisions, will communicate less with employees, and pay little attention to employees' input.

Research has shown that leader power distance can interact with a team's perceived ability to influence, impacting team innovation [23]. In cultures with high power distance, leaders may be more likely to influence subordinates through the use of power and may be less willing to delegate authority, which can limit opportunities for employees to express and implement innovative ideas. Power distance often leads to the concentration of decision

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rights at the top and results in difficulties in learning and innovation, which have a negative impact on the innovation performance of organizations.

2.2. Organizational Context

Organizational context is defined as the systems, processes, and beliefs that build an effective work ethic and positive engagement within the organization [24,25]. This includes both "hard" and "soft" elements in the workplace [26], each playing a distinctive role [27]. Soft elements refer to the social context, defined as the extent to which an organization builds a trustworthy and supportive environment for employees that inspires them to mirror these behaviors within the organization [26]. Hard elements refer to the performance management context, defined as the extent to which the organization sets performance goals to motivate its members to meet expectations and strive for more ambitious goals [26].

2.2.1. Social Context

Social context refers to the organizational environment characterized by trust and support [27]. A trusting social context creates a caring, harmonious, respectful, and reciprocal atmosphere that gives employees a sense of belonging or commitment to the organization and hence encourages them to reciprocate by behaving in ways that benefit organizational interests, such as acceptance of organizational direction and decisions [28]. Social context has been found to provide support for creativity and innovation by organizational members in their working environment [29]. Abdul et al. argue that social context is important in organizational strategy because it promotes innovative ways of thinking among employees [30]. Social context affects team efficacy. A supportive context could reduce obstacles to organizational progress and allows team members to feel confident about their chances of success [14,31]. The social context has a profound impact on both the organization and individual employees [25]. Scott and Bruce found that individual problem-solving methods and working group relationships affect innovation behavior through the perception of social context, both directly and indirectly [25].

2.2.2. Performance Management Context

The Performance Management Context (PMC) can be defined as the extent to which an organization establishes performance goals to motivate its members to meet expectations and strive to achieve more ambitious goals [26]. It includes two key characteristics—discipline and stretch—which shape employee behavior. Discipline refers not only to the existence of clear, open, and consistent management systems that regulate employee behavior and attitudes but also to the provision of clear standards, goals, and consistent sanctions that hold employees accountable and direct their work efforts. On the other hand, stretch refers to challenging goals or targets that require employees to go beyond their current capabilities. Such goals can help employees develop new skills, enhance their performance, and achieve higher levels of success. Stretch goals are significant because they encourage employees to grow and develop while also enabling organizations to attain higher levels of innovation and success. In general, establishing discipline and stretch in the work environment is key to developing acceptance and commitment to innovative performance goals [32,33].

It is important to note that the PMC shares some commonalities with specific interventions, such as reward/punishment strategies. However, these approaches differ in important ways. Although both aim to drive employee behavior in the expected direction, management interventions use economic consequences to manipulate employee behavior and evaluate outcomes based on specific, predefined rules [34]. In contrast, the PMC reflects a broader set of oversight activities that apply to all tasks [35]. It is different in that it focuses on setting performance goals and motivating employees to meet them rather than on the economic outcomes that follow. In this sense, the PMC's scope is broader, focusing on the setting of performance objectives and aligning them with the organization's values and purpose. It aims to foster a culture of excellence, innovation, and shared values

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that can help employees respond effectively to constantly changing work challenges and promote team innovation [36,37].

2.3. Innovation Performance

Innovation performance is crucial for the survival and development of an enterprise, as it reflects the outcome of the firm's innovation behavior [38]. At the individual level, innovation performance pertains to original and valuable products, ideas, or projects. Several studies have indicated that personal factors and social networks significantly impact innovation performance. Personal characteristics, job satisfaction, and psychological state are recognized as the key factors that influence innovation performance [39]. In addition, personal social networks can also positively affect innovative behavior and the overall innovation performance of the enterprise.

At the organizational level, innovation performance refers to the successful implementation of original ideas [40]. Prior research has shown the influence of organizational culture, organizational care, [41] and social background [42] on innovation performance. Organizations can improve innovation performance by motivating employees' innovative behavior and improving their welfare [7]. They can also encourage innovation by developing innovation management systems, thereby creating a conducive environment for innovation and enhancing innovation performance [27].

3. Research Hypothesis

Based on the existing research on organizational culture on innovation performance, we developed a research model (Figure 1) to study how the social context and performance management context can improve organizational innovation performance from a management context perspective. It is proposed that organizational culture influences innovation performance through these two organizational contexts. The hypotheses are discussed as follows.

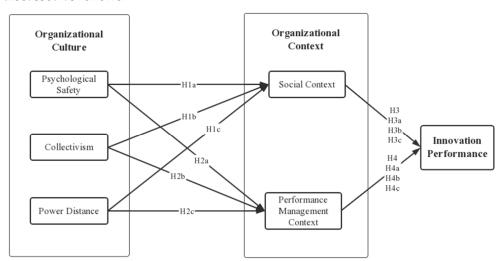


Figure 1. A conceptual model.

3.1. The Influence of Organizational Culture on Organizational Context

3.1.1. The Impact of Organizational Culture on Social Context

Psychological safety as an organizational culture construct helps to integrate individuals into groups [43]. When employees feel a high level of psychological safety, the pressure caused by innovation risk will be reduced, and they are not afraid of making mistakes when trying new ideas at work, which stimulates a positive social context for innovation in the organization. Psychological safety may be construed as a context factor that affects employee work motivation [44]. It enables employees to break through the existing thinking and working framework and inspires innovative solutions and ideas [13,45]. When employees establish a sense of psychological safety that encourages innovation within the

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organization, they will spontaneously learn new knowledge and skills and dare to put forward innovative ideas [46]. If all employees of an organization feel a strong sense of psychological safety, together, they can create a vigorous and lasting social context that is conducive to innovation.

Hypothesis 1a. *Psychological safety has a positive impact on social context.*

Previous investigations into the impact of team collectivism on the social environment have produced inconsistent results. Some researchers argue that collectivism negatively impacts innovation [17], while others posit that it is beneficial [47]. This research posits that team collectivism positively impacts enterprise innovation. Collectivism emphasizes the internalization of team norms and goals, leading to increased identification and compliance among team members. This, in turn, fosters the exchange of information and knowledge in a collaborative manner [48]. As such, collectivism promotes a harmonious organizational culture that values collaboration and creates a social environment that encourages interaction and cooperation among team members. Thus, collectivism can promote the social context, which promotes unity and cooperation in innovation activities.

Hypothesis 1b. *Collectivism has a positive impact on social context.*

Regarding the impact of organizational power distance, some studies suggest that a low power distance culture can facilitate the development of an informal environment, reducing the reliance on formal communication processes, thereby promoting information exchange and expediting decision-making [49]. In contrast, a high power distance accentuates the hierarchy within an organization, impedes collaboration and communication across different roles, and constrains innovative thinking. It also tends to decrease the level of information sharing and limit effective interaction among group members [50]. The power distance within an organization creates a divide between superiors and subordinates, hindering the formation of a social context within a team. In organizational cultures with high power distance, leaders typically adopt authoritarian methods to control employees and rarely consider suggestions from employees [51]. Consequently, the authority of power distance tends to induce compliance with authority, weakening independent thinking, thus diminishing autonomy in innovative activities, obstructing the generation of innovative ideas, and, hence, affecting the social environment of innovation within an enterprise [52].

Hypothesis 1c. *Power distance has a negative impact on social context.*

3.1.2. The Impact of Organizational Culture on Performance Management Context

Numerous studies have indicated that psychological safety in an organization has a significant impact on both individual and team performance [53]. As an aspect of organizational culture, psychological safety is viewed as an amalgamation of the collective traits of individuals and teams [43]. A secure working environment reduces psychological distance among team members, strengthens team relationships, and enhances trust among members [44]. Psychological safety within the enterprise stimulates interpersonal vitality and enhances team members' dedication to innovative work [54]. The strengthening of psychological safety encourages individual contributions to team identity, fortifies employees' control over their work, and increases supervisory support, thus creating a more effective performance management context [44]. It is evident that a lively innovative atmosphere and high psychological security among employees promote strong innovation, ultimately leading to an overall improvement in the team's innovation efficiency.

Hypothesis 2a. There is a positive correlation between psychological safety and the performance management context.

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In the context of innovation, collectivism has been found to facilitate the establishment of common goals and values in the organizational environment, promote interdependence among team members, enhance interaction and compliance norms, and create a harmonious performance management context [27,55]. A strong collectivist culture in an organization encourages cooperation among team members instead of individualistic competition [56], which fosters collective wisdom and inspires team members to innovate. Furthermore, teams composed of collectivist individuals demonstrate higher levels of emotional, informational, and evaluative support among members [57]. Collectivism not only fosters a positive innovation climate within the team, but also enhances employees' sense of identity and loyalty to the organization, aligns individual goals with collective goals [58], and promotes members' willingness to adhere to institutional discipline constraints in pursuit of common goals [27,36], thereby reducing associated costs and improving the efficiency of innovation management. Therefore, a strong collectivist culture is beneficial for the establishment of performance management systems and measures.

Hypothesis 2b. Collectivism has a positive impact on the performance management context.

The impact of power distance on performance management is a crucial concern. A high level of power distance is associated with a hierarchical organizational structure and communication barriers between managers and subordinates, which impedes open communication between the two levels of the organization [59]. Leaders with high power distance are less likely to display enabling leadership behaviors [23]. This leads to decision-making without seeking employees' opinions, thus ignoring their ideas. The existence of power distance makes managers hesitant to assign tasks or resources to team members, thereby reducing the team's ability to obtain innovative resources. The presence of power distance also hinders creative thinking and motivation within the team, which ultimately affects the effectiveness of performance management and increases the cost of innovation management.

Hypothesis 2c. *Power distance negatively affects the performance management context.*

3.2. The Impact of Organizational Context on Innovation Performance

3.2.1. The Impact of Social Context on Innovation Performance

In the current era of intensified global competition and rapid technological progress, organizations increasingly recognize the significance of providing a positive work experience for their employees. As such, numerous studies have been conducted to investigate the influence of social context on employees' work in organizations. Several researchers, such as Chandra [60], Xiao [61], MChukri and Alptekin [62], and Szczepazynska-Woszczyna [63] have extensively explored this topic. It has been observed that organizational culture can play a crucial role in supporting innovation [64]. When an organization has a social context that fosters innovation, it creates an environment where employees are more willing to embrace novel ideas and technologies, seek innovative collaborations, and share new ideas with others. In such an environment, employees are more likely to feel valued and supported, which motivates them to work toward achieving organizational goals.

Therefore, it is evident that a positive social environment can significantly improve innovation performance. By providing a work culture that encourages creativity, experimentation, and risk-taking, organizations can unleash the potential of their employees to come up with innovative ideas that can drive business success. Overall, organizations that prioritize a supportive and innovative social environment are likely to attract and retain top talent and achieve long-term success. Based on this, the following hypothesis is proposed:

Hypothesis 3. *The social context has a positive impact on innovation performance.*

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3.2.2. The Impact of the Performance Management Context on Innovation Performance

Regarding the performance management context, it is imperative for enterprises to redefine and clarify the innovation strategy. A clearly defined innovation strategy serves as a crucial guide in shaping the performance management context and establishing an effective performance management system, which can help enterprises and employees set clear, consistent, and challenging performance goals [36,37]. In order to support the innovation strategy, the organization should implement supporting management measures and adjust the organizational structure to further improve the performance management context. The allocation of resources, including staff and equipment, is also deemed necessary for the successful implementation of a performance management context. Such a context can effectively enhance the overall innovation tendency of the team, encourage employees to participate in innovative behavior, and ultimately improve the innovation performance of the enterprise. Research has shown that the implementation of an innovation management system can have a positive impact on the innovation ability and understanding of an organization, thereby improving the quality of innovation and ultimately influencing the innovation performance of an organization [65]. Based on the above, it is hypothesized that:

Hypothesis 4. *The performance management context has a positive impact on innovation performance.*

3.3. The Mediating Role of Organizational Context

3.3.1. The Mediating Role of Social Context

Combining the logics behind H1a, H1b, H1c, and H3, it is evident that social contexts play a mediating role between psychological safety, collectivism, and power distance and innovation performance. Thus, the following hypotheses are proposed:

Hypothesis 3a. Social context mediates the relationship between psychological safety and innovation performance.

Hypothesis 3b. Social context mediates the relationship between collectivism and innovation performance.

Hypothesis 3c. Social context mediates the relationship between power distance and innovation performance.

3.3.2. The Mediating Role of the Performance Management Context

Combining the logics behind H2a, H2b, H2c, and H4, it is evident that the performance management context plays a mediating role between psychological safety, collectivism, and power distance and innovation performance. Thus, the following hypotheses are proposed:

Hypothesis 4a. The performance management context mediates the relationship between psychological safety and innovation performance.

Hypothesis 4b. The performance management context mediates the relationship between collectivism and innovation performance.

Hypothesis 4c. The performance management context mediates the relationship between power distance and innovation performance.

4. Method

4.1. Sample

We conducted a survey to test the hypotheses. Our sample included high-tech enterprises in three major cities in China: Xi'an, Chengdu, and Guangzhou. We contacted MBA students in business schools and gave them information-collection questionnaires

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to obtain basic information about their respective enterprises and screened out high-tech enterprises. We got in touch with companies through them and sent out questionnaires through the mail. In addition, we also developed an online questionnaire and mobilized colleagues and friends to forward the questionnaire to collect more samples. To guarantee the soundness and legitimacy of the questionnaire, a pretest was conducted on 50 employees before the formal data collection. Then, in the formal survey, questionnaires were emailed to 52 companies. Out of a total of 420 surveys sent, we received usable responses from 142 junior staff (71% response rate), 105 middle managers (75% response rate), and 54 executives (67.5% response rate) across 44 functional departments. The respondents came from different departments and positions and had different ranks, which ensured the diversity of the sample. After the elimination of incomplete responses, a total of 301 valid questionnaires were acquired, resulting in a response rate of 71.7%.

4.2. Measurement

The six latent variables in our research model were all measured using a 5-level Likert scale. The measurement items were adapted from established and validated scales whenever possible. The items were translated from English into Chinese and revised based on the context of the study.

Three items from the scale developed by Hurley and Hult were used to measure social context [64]. Psychological safety was assessed using three items from Edmondson's psychological safety scale [14]. Collectivism was measured using three items from the scale developed by Doney, Cannon, and Mullen [66], and power distance was measured using five items from the scale developed by Farh, Hackett, and Liang [67]. We combined items from scales developed by Adams, Bessant, and Phelps [68], Alexe and Alexe [69], and McGinnis and Ackelsberg [70] to measure performance management context. Finally, we used a five-item measure developed by Zhang and Li [71] to measure innovation performance.

4.3. Construct Validity and Correlations

The reliability of the measures was evaluated using Cronbach's alpha coefficient and composite reliability (CR) (Table 1). The Cronbach's alpha coefficient of each latent variable was greater than 0.7, indicating high internal consistency of the data, and the CR was greater than 0.7, indicating good reliability. The validity of the measures was tested using discriminant validity and convergent validity. The results indicated that the square root of the average variance extracted (AVE) of each variable was greater than the correlation of the variable with all other variables, demonstrating good discriminant validity (Table 2). Additionally, the standardized factor loadings of all items were greater than 0.5, and the corresponding AVE of all latent variables was greater than 0.5, indicating good convergent validity.

The Cronbach's alpha coefficient measures the internal consistency or reliability of a set of survey items, and the formula for Cronbach's alpha is:

$$\alpha = \frac{N * \overline{c}}{\overline{v} + (N-1) * \overline{c}}$$

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Table 1. The reliability and validation factor analysis of the variables.

Variable	Question Item	Factor Loading	Cronbach's Alpha	AVE	C.R.
Social context	In our company, technological innovation is easily accepted In our company, management actively seeks innovative ideas	0.875 0.908	0.913	0.782	0.915
	In our company, innovation is readily accepted in program/project management	0.872			
Psychological safety	If you make a mistake on this team, it is often held against you People on this team sometimes reject others for being different	0.811 0.829	0.848	0.651	0.848
saicty	It is difficult to ask other members of this team for help In our company, there is close cooperation between	0.777 0.778			
Collectivism	team members High loyalty to other people and institutions Interact in an interdependent, cooperative mode	0.802 0.586	0.785	0.561	0.790
	Managers should make most decisions without consulting subordinates	0.801	0.887	0.617	0.889
Power distance	It is frequently necessary for a manager to use authority and power when dealing with subordinates	0.878			
	Managers should seldom ask for the opinions of employees Managers should avoid off-the-job social contact	0.837			
	with employees	0.695	0.960	0.752	0.960
	Our company has the sufficient resource Our company has sufficient resources to invest in innovation	0.697			
	(including talents, funds, facilities, equipment, etc.)	0.847			
Performance management	Our company attaches great importance to the management of innovative knowledge (including knowledge generation, storage, and exchange)	0.837			
context	Our company has a clear innovation strategy	0.866	0.500		
	Our company will adjust the organizational structure to promote innovation	0.802			
	Our company's organizational culture is conducive to innovation	0.899			
	Our company will develop supporting management measures to promote innovation	0.891			
	Our company can conduct effective project management in innovative projects	0.902			
	Our company has a mature process for commercializing innovative products	0.870			
Innovation performance	Our company has a high frequency of launching new products/services	0.863			
	Our company has a relatively short development cycle for innovative products	0.760	0.937	0.754	0.939
	Our company's innovative products are well received by the market	0.885			
	The new products developed by our company are of high quality	0.904			
	Our company has a strong ability to develop markets with new products	0.899			

Table 2. Variable correlation coefficients table.

	Innovation Performance	Performance Management Context	Social Context	Psychological Safety	Collectivism	Power Distance
Innovation performance	(0.868)					
Performance management context	0.788 **	(0.867)				
Social context	0.593 **	0.646 **	(0.884)			
Psychological safety	-0.108	-0.001	0.013	(0.807)		
Collectivism	0.507 **	0.601 **	0.520 **	0.07	(0.749)	
Power distance	-0.052	-0.189 **	-0.221 **	-0.593 **	-0.152 **	(0.785)

Note: ** indicates significance at the 0.01 level.

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5. Results

In this research, structural equation modeling (SEM) was employed to test the hypotheses. SEM is a multivariate technique based on a structural model representing causal relations among several variables. The research model was fitted with the maximum likelihood estimation method by using AMOS 24.0. As presented in Table 3, the model fit well with the data with a CMIN/DF value of 2.304, a comparative fit index (CFI) of 0.942, a Tucker-Lewis index (TLI) of 0.933, an incremental fit index (IFI) of 0.942, and a root mean square error of approximation (RMSEA) of 0.066. These values are within the recommended range, indicating that the model had a good fit to the data. The results of the hypothesis tests for the 11 direct effects are displayed in Figure 2 and Table 4. Additionally, Mplus was employed to perform a standardized Bootstrap mediation effect test on the three parallel mediations, and the results are reported in Table 5.

Table 3. Fit indexes of the SEM test.

Metric	CMIN/DF	RMSEA	TLI	IFI	CFI
Judgment criteria	<3	< 0.08	>0.9	>0.9	>0.9
Correcting model data	2.304	0.066	0.933	0.942	0.942
Fits	ideal	ideal	ideal	ideal	ideal

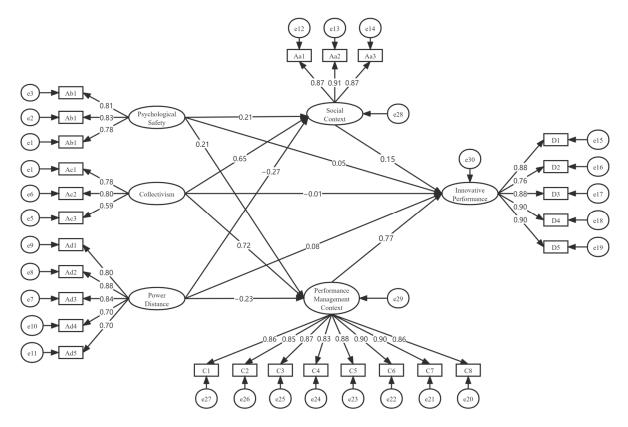


Figure 2. Structural equation model.

As Table 4 shows, psychological safety had a significant positive effect on social context with a standardized path coefficient of 0.215 (p < 0.05). Collectivism also demonstrated a significant positive effect on social context with a standardized path coefficient of 0.655 (p < 0.05). On the other hand, power distance had a significant negative effect on social context, with a standardized path coefficient of -0.275 (p < 0.05). These findings support H1a, H1b, and H1c.

The results also showed that psychological safety had a significant positive effect on the performance management context, with a standardized path coefficient of 0.219 (p < 0.05).

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> Collectivism demonstrated a significant positive effect on the performance management context with a standardized path coefficient of 0.716 (p < 0.05). Meanwhile, power distance was found to have a significant negative effect on the performance management context, with a standardized path coefficient of -0.247 (p < 0.05). These results provide support for H2a, H2b, and H2c.

> The standardized path coefficient between social context and innovation performance was found to be 0.137 (p < 0.05), thereby supporting H3 that social context has a significant positive impact on innovation performance. Similarly, the standardized path coefficient between performance management context and innovation performance was 0.790 (p < 0.05), thereby verifying H4 that the performance management context has a significant positive impact on innovation performance. However, the coefficients of the path between psychological safety and innovation performance, the path between collectivism and innovation performance, and the path between power distance and innovation performance were insignificant (p < 0.05), indicating that none of these three constructs has a significant effect on innovation performance.

Hypothesis	Standardization	S.F.
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Table 4. Results of the hypothesis test for the direct effects.

Results Path Coefficient 0.215 ** 0.064 H1a: Psychological safety \rightarrow social context Supported 0.655 ** H1b: Collectivism \rightarrow social context 0.122Supported -0.275**H1c: Power distance \rightarrow social context 0.060 Supported 0.219 ** 0.059 H2a: Psychological safety → performance management context Supported H2b: Collectivism → performance management context 0.716 ** 0.126 Supported H2c: power distance → performance management context -0.247 **0.056 Supported

H3: Social context \rightarrow innovation performance

H4: Performance management context \rightarrow innovation performance

Following Hayes, we applied the Bootstrap method to assess the mediation effect by using Mplus. The number of Bootstrap samples was set to 2000. As displayed in Table 5, the direct effect of psychological safety on innovation performance was 0.047 (95% CI: -0.15, 0.195), which was not significant. However, the indirect effect path of "psychological safety \rightarrow social context \rightarrow innovation performance" had a value of 0.042 (95% CI: 0.006, 0.115), indicating that social context played a significant mediating role between psychological safety and innovation performance. Similarly, the indirect effect of "psychological safety → performance management context → innovation performance" was 0.212 (95% CI: 0.077, 0.442), signifying that performance management context also played a mediating role between psychological safety and innovation performance. Thus, H3a and H4a were supported.

0.137 *

0.790 **

0.064

0.078

Supported

Supported

The direct effect of collectivism on innovation performance was -0.008 (95% CI: -0.179, 0.181), which was not significant. However, the indirect effect path of "collectivism \rightarrow social context \rightarrow innovation performance" had a value of 0.098 (95% CI: 0.002, 0.195), indicating that social context played a significant mediating role between collectivism and innovation performance. Similarly, the indirect effect of "collectivism \rightarrow performance management context \rightarrow innovation performance" was 0.562 (95% CI: 0.445, 0.729), signifying that performance management context also played a mediating role between collectivism and innovation performance. Thus, H3b and H4b were supported.

The direct effect of power distance on innovation performance was 0.084 (95% CI: -0.067, 0.276), which was not significant. However, the indirect effect path of "power distance \rightarrow social context \rightarrow innovation performance" had a value of -0.048 (95% CI: -0.129, -0.007), indicating that social context played a significant mediating role between collectivism and innovation performance. Similarly, the indirect effect of "collectivism \rightarrow performance management context \rightarrow innovation performance" was -0.209 (95% CI:

^{*} *p* < 0.05, ** *p* < 0.01.

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-0.456, -0.07), signifying that performance management context also played a mediating role between power distance and innovation performance. Thus, H3c and H4c were supported.

Table 5. Standardize	d Bootstrap	mediation	effect test.
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	Path	Estimate	S.E.	95% Confide Lower	ence Interval Upper
Direct	Psychological safety → Innovation Performance	0.047	0.085	-0.15	0.195
T 11 .	psychological safety \rightarrow social context \rightarrow Innovation Performance	0.042	0.027	0.006	0.115
Indirect	Psychological safety \rightarrow performance management context \rightarrow Innovation Performance	0.212	0.088	0.077	0.442
Direct	Collectivism \rightarrow Innovation Performance	-0.008	0.094	-0.179	0.181
т 11 .	$Collectivism \rightarrow social context \rightarrow Innovation Performance$	0.098	0.048	0.002	0.195
Indirect	Collectivism \rightarrow performance management context \rightarrow Innovation Performance	0.562	0.071	0.445	0.729
Direct	Power Distance \rightarrow Innovation Performance	0.084	0.087	-0.067	0.276
т 11 .	Power Distance \rightarrow social context \rightarrow Innovation Performance	-0.048	0.029	-0.129	-0.007
Indirect	Power Distance \rightarrow performance management context \rightarrow Innovation Performance	-0.209	0.091	-0.456	-0.07

To corroborate the survey findings, we interviewed some of the responding companies and identified some real-world cases that could demonstrate the impact of psychological security, collectivism, and power distance on innovation performance.

In an IT company, ZX Co., an employee developed the idea of a digital twin network to provide digital support capability and a real-time simulation verification environment. This innovation was adopted by the company, which greatly improved its business process efficiency. The employee attributed his achievement to the innovation-friendly culture of the company. As he noted, "there is no pressure for me to come up with innovative ideas, and I'm not afraid of trying innovative ideas. Even if the idea fails, nobody will blame me. We simply analyze why it failed and come up with more ideas. I feel comfortable and enjoy trying different new things". This example suggests that employees in ZX Co. have a sense of psychological safety, which helps to mitigate innovation risks and pressures. As a result, employees have the courage to innovate, which has a positive impact on organizational innovation performance.

In a retail company, PF Co., the marketing department proposed a new way to increase customer loyalty, which helped to increase the company's revenue. One employee in marketing commented, "We have a great team. We have great personal relationships with each other and closely work together. When we were working on the customer loyalty project, everybody contributed to make the idea better. As you know, two heads are better than one". This case suggests that the collectivism of an enterprise promotes the exchange of information and knowledge in a cooperative way, and employees are more inclined to collaborate with others, which will improve organizational innovation performance.

In a manufacturing company, KR Co., an employee in the human resources department told us that he once proposed using AI to improve the hiring process, but his proposal never received any attention. "I know that even if the idea is great, managers won't take it seriously because they rarely pay attention to our suggestions. They don't think we can provide useful input". Another employee added, "In the past, people propose new ways to improve our hiring, but the leadership mostly ignore them. As time goes by, few people even bother proposing anything new". It suggests that in a company with high power distance, employees are reluctant to propose innovative ideas due to the low likelihood of being considered. As a result, the overall organizational innovation performance will be impaired.

6. Discussion

6.1. Implications for Research

Our findings contribute to the development of theoretical understandings regarding the mechanisms underlying corporate innovation performance. Emphasizing the significance of psychological safety, collectivism, and power distance, our study highlights the positive impact these variables have on innovation performance, fostering the sharing of Sustainability **2023**, 15, 6644 14 of 18

innovative ideas and enhancing creativity. By incorporating the social context and performance management context as key variables, this study offers new perspectives on the antecedents of positive outcomes in innovation performance. These results have important implications for the existing literature on team leadership and creativity and provide guidance for organizations seeking to promote creativity and improve innovation performance.

Furthermore, our findings shed light on the potential interpersonal and contextual risks that may arise in the process of innovation, particularly in the context of Chinese enterprises, where psychological safety, collectivism, and power distance are prevalent. By utilizing social context and performance management context, our study suggests avenues for enhancing innovation performance in these enterprises.

6.2. Implications for Practice

The research conducted revealed that organizational culture has a significant impact on the management context and, subsequently, the innovation performance of an organization. As a result, it is imperative for organizations to strengthen their organizational culture, which can be accomplished in the following three aspects: psychological safety, collectivism, and power distance.

First, psychological safety has a positive influence on stimulating the innovation capability of organizational members. Organizations can enhance the psychological safety of their employees by promoting organizational justice through fair performance evaluations and ensuring procedural justice, which help build employees' trust in the organization and the belief that their hard-earned results will not be taken away. A safe and secure work environment reduces the sense of self-preservation among employees and encourages them to be more courageous and experiment with new working methods, which leads to improved innovative performance. Moreover, organizations should foster a culture of mutual respect and trust, as it enables employees to openly express their opinions and contributes to team innovation.

Second, in the context of Chinese enterprises, collectivism has a positive impact on the management context and innovation performance. When employees possess a strong collectivism tendency, they tend to have a positive perception and emotional attachment to the team, and they align their goals, interests, and needs with the team. This leads to behaviors that are beneficial to the achievement of organizational goals and enhances task performance and organizational citizenship behavior. To promote collectivism in an organization, effective supervision and restraint mechanisms should be put in place, a sense of solidarity and mutual assistance should be fostered, and unnecessary boundaries should be eliminated. Furthermore, members of the organization should tolerate and respect each other's differences, cultivate tolerance and cooperation, and condense the collective strength of the organization.

Third, for most organizations, a high power distance has a detrimental effect on the promotion of innovative thinking. A culture of high power distance creates high interpersonal risk and low psychological safety, leading to formal communication that relies on rules and processes rather than encouraging individual autonomy or discussion among members [50]. This hinders the stimulation of individual innovative thinking [52]. Organizations should consciously shorten the power distance by allowing and encouraging direct communication between employees of different power levels, breaking the hierarchical concept, and fostering a culture of equality. This can be achieved by promoting independent thinking, encouraging challenges to authority, and encouraging discussions about innovative ideas and behaviors within the organization.

6.3. Limitations and Future Research

The limitations and future research prospects of our study are addressed in this section. First, we acknowledge that the findings of our study, based on data collected from high-tech enterprises in China, may not be generalizable to other industries or countries. However, we believe that the relationship between psychological safety, collectivism, power distance,

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and corporate performance not only exists in Chinese enterprises but also in enterprises in other countries. The degree of existence may be different due to different cultures, which highlights the need for future research to consider a broader range of samples and geographical locations.

Second, the limitations of our study in terms of sample size suggest the need for future research to incorporate both quantitative and qualitative methods, such as in-depth interviews and focus group research, to strengthen the robustness of the data.

Third, the impact of economic globalization and the sharing economy on innovation-driven development strategies highlights the significance of considering both the external social environment and internal organizational environment on enterprise innovation performance. It is suggested that future research consider these factors from a more diverse, multilevel, and multiperspective approach.

Finally, our research focuses on the impact of internal organizational factors on enterprise innovation performance. However, there are additional avenues for future research to consider, such as the relationship between the talent ecosystem and innovation performance, the influence of social and performance management contexts, and the impact of psychological safety, collectivism, power distance, and interaction terms on innovation. Through further research, it is expected that the mechanisms underlying enterprise innovation performance can be more fully understood, leading to the establishment of a more positive social context and more efficient performance management strategies, resulting in improved innovation performance for enterprises.

7. Conclusions

This research is novel in that it views management context as a mediating variable in the relationship between organizational culture and innovation performance, examining the mechanism of organizational culture's impact on innovation performance from the perspectives of both the social context and the performance management context. The results of the analysis suggest that psychological safety and collectivism have a positive influence on social context but no direct effect on innovation performance. On the other hand, organizational context, encompassing both social context and performance management context, mediates the relationship between psychological safety, collectivism, and innovation performance. Power distance, on the other hand, has a negative effect on the social context and the performance management context and no direct effect on innovation performance, with organizational context again playing a mediating role in the relationship between power distance and innovation performance. In summary, organizational culture is a crucial intangible organizational asset that can be directed toward accomplishing strategic objectives related to innovations [72]. A soft social context can be used to influence the innovation atmosphere within the organization, thereby improving its innovation performance. A well-structured governance system, adequate resources for innovation, and a culture that fosters psychological safety and encourages innovation can lead to higher innovation efficiency and improved innovation performance. The findings of this research enrich our understanding of the mechanism of organizational culture's impact on innovation performance and offer practical guidance to organizations in developing management contexts to enhance innovation performance.

Author Contributions: Conceptualization, W.Z., X.Z., H.L., Y.X. and X.C.; methodology, W.Z., X.Z., H.L., Y.X. and X.C.; formal analysis, W.Z., X.Z. and H.L.; writing-original draft preparation, W.Z., X.Z. and H.L.; writing—review and editing, W.Z., X.Z., H.L., Y.X. and X.C.; supervision, H.L.; funding acquisition W.Z., X.Z. and X.C. All authors have read and agreed to the published version of the manuscript.

Funding: Shaanxi Social Science Foundation Project (2019S031); Shaanxi Soft Science Program Research Project (2022KRM172); Project of Scientific Research Program of Xi'an University of Finance and Economics (20FCJH004); Graduate Innovation Fund Project of Xi'an University of Finance and Economics (21YCZ06).

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Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data are available upon request to the authors.

Conflicts of Interest: The authors declare no conflict of interest.

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