

The Impact of Adhocracy Organizational Culture, Empowering Leadership, and Organizational Creativity on Firm Performance in Chinese Internet Companies

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Abstract

Organizational creativity is an important determinant of firm performance nowadays, particularly in Internet companies in China. However, there is a limited amount of research that has investigated the determinants of organizational creativity at the organizational level. This study, grounded in transformational leadership theory, deepens our understanding of the adhocracy organizational culture in China. It demonstrates how empowering leadership can foster organizational creativity, leading to improved firm performance, particularly in knowledge-intensive firms like Internet companies. In total, 138 managers from 41 Internet companies are listed in the top 100 Internet companies listed in the China Internet Enterprise Comprehensive Strength Index (2023) report. The findings of the PLS-SEM analysis showed that ad hoc organizational culture and empowering leadership significantly impact organizational creativity and, in turn, improve firm performance. Moreover, this study also found that empowering leadership can be implemented well as a higher-order construct by using the disjoint two-stage approach. This study fills in the research gaps in transformational leadership theory by particularly focusing on the role of empowering leadership within an organization. In addition, this study also offers recommendations for top management in high-tech industries, especially Internet companies, to invest in developing novel work procedures and operational protocols, encouraging employees with creative ideas and implementation, and solving problems with new approaches.

Keywords

Organizational creativity, Adhocracy organizational culture, Empowering leadership, Higher-order construct, PLS-SEM

Introduction

Internet companies have become vitally significant nowadays by growing twice as fast as the rest of the economy; more importantly, they provide jobs at six times the rate of the global economy (World Bank Group, 2024). In China, Internet companies present prominent value to the country's social stability and economy by employing at least 200 million people (South China Morning Post, 2023). However, in 2023, China's Internet enterprise size index¹ dropped by 5.7 percent compared with 2022, which was the first year-on-year decline in this data since 2013 (Internet Society of China, 2023). One of the major challenges for Chinese Internet companies is the increase in Internet penetration; the average Internet traffic growth dropped from 47 percent to 29 percent between 2020 to 2022 (Telecom Review, 2022). Since Chinese Internet companies are mostly regarded as a cohesive and homogeneous set of companies (Vecchi & Brennan, 2022), many firms blindly imitate the products and service models of their competitors, resulting in inefficient competition such as low-price competition (Cui, 2023). Given the high level of competition, it is important for research to investigate the effective management of Internet companies that might improve their performance for surviving in a dynamic and changing business environment.

Organizational creativity is found to be significantly and positively associated with firm performance (Phan, 2019), particularly in Internet companies (Nodoushani et al., 2017). Organizational creativity can foster innovation and lead to unique products or applications, which is crucial for surviving in a competitive market (Nodoushani et al., 2017). Nevertheless, only a limited amount of research has investigated the determinants of organizational creativity, such as management practices and resources (Marić et al., 2022), leader's creative behavior (Alfarsi, 2022), and organizational encouragement (Ayinaddis, 2023). Additional investigation is crucial for academics to enhance the comprehension of which leadership styles and organizational cultures can promote organizational creativity, thereby improving firm performance, particularly within intensive knowledge-based firms such as Internet companies.

To address these research gaps in organizational creativity, this study investigates the effect of 'empowering leadership' and 'adhocracy organizational culture' on organizational creativity, as well as the influence of organizational creativity on the firm performance of Internet companies in China. 'Empowering leadership' is defined as a leadership style that grants employees authority, autonomy, and resources to make decisions along with taking action in their roles (He, 2023; Ye et al., 2023). Therefore, empowering leadership may

¹ The size index is calculated through indicators of corporate operating income, Internet business income, number of employees, and market value (Internet Society of China, 2023).

promote the potential of creativity within an organization. Prior studies have stated that empowering leadership is a multi-dimensional construct (Ahearne et al., 2005; Amundsen & Martinsen, 2014; Zhang & Bartol, 2010). However, most previous studies measure the empowering leadership construct by creating a single composite score (Dennerlein & Kirkman, 2022; J. Peng et al., 2023; M. Y. P. Peng et al., 2023), from which might arise the challenges of aggregation and weighting for the multi-dimensional construct (Keogh et al., 2021). Therefore, it is essential to measure empowering leadership by creating a second-order term. In addition, an 'adhocracy organizational culture' is characterized by decentralized management that emphasizes employee empowerment, flexibility, adaptability, and innovation to promote creativity (Hung et al., 2022). Organizational creativity and firm performance may be improved under an adhocracy organizational culture.

Based on transformational leadership theory (Bass & Avolio, 1994), the first objective of this study is to examine the effects of the adhocracy organizational culture and the empowering leadership of Internet companies on their organizational creativity. The second objective is to measure empowering leadership by considering the second-order construct. The last objective is to investigate the influence of organizational creativity on the firm performance of Internet companies. The overall outcomes of this study are anticipated to make a significant contribution to the understanding of the importance of organizational creativity in relation to firm performance, as well as its antecedents. From the managerial perspective, the findings of this study offer meaningful insights for management regarding organizational culture and leadership style that improve organizational creativity, and in turn, enhance firm performance.

Literature Review

Organizational Creativity in Internet Companies

Creativity and innovation are related yet distinct concepts. Creativity precedes innovation, as creativity refers to generating new ideas, while innovation focuses on implementing these ideas to create value (Ayinaddis, 2023; Skliarenko et al., 2023). According to Moghaddam and Covalucci (2016), creative processes can be categorized into three levels: *macro*, which encompasses significant social developments; *meso*, which encompasses activities at the organizational and small group level; and *micro*, which encompasses processes within an individual. From the perspective of the *meso* level, organizational creativity is defined as the collaborative work by members in a complex social system to create novel, valuable products, services, ideas, procedures, or processes (Helzer & Kim, 2019). In other words, organizational creativity is influenced by the behaviors and traits of individual employees, as well as the complex social interactions that occur within the group (Alfarsi, 2022). As such, creativity can be defined as the result of a process or behavior

that incorporates the generation, assessment, and choice of ideas that add value (Alfarsi, 2022). An Internet company is a kind of high-technology industry, so it is essential to develop its organizational creativity to retain a crucial competitive advantage (Lv et al., 2021). Previous studies have confirmed that having a high degree of organizational creativity within high-tech companies enhances innovativeness, competitiveness, and performance whether at the individual or organizational level (Grimpe et al., 2019; M. Y.-P. Peng et al., 2019). In summary, fostering organizational creativity within high-technology industries is crucial.

Transformational Leadership Theory

The transformational leadership theory suggests that positive outcomes of leadership arise from the process of transforming 'followers' into employees with distinct and permanent behavioral patterns, theoretically improving individual, group, and organizational results (Siangchokyoo et al., 2020). In the transformational leadership theory, it is significant to clarify the distinction between the concept of *transformational leadership* and *transformational leaders*, while the former concerns the *process* by which 'leaders' transform 'followers', the latter focuses on the characteristics and behaviors attributed to individual 'leaders' who fit within this grouping (Golden & Shriner, 2019; Siangchokyoo et al., 2020). The concept of the transformational leader comprises four dimensions, namely, idealized influence, inspirational motivation, individualized consideration, and intellectual stimulation (Golden & Shriner, 2019). *Intellectual stimulation* refers to the degree to which a leader motivates followers to challenge established norms and discover innovative solutions to issues (N. Karuthi, 2022). *Individualized consideration* means leaders try to develop and empower followers by knowing their unique talents and needs (Malik, 2023). *Inspirational motivation* refers to a leader's capacity to effectively communicate and reflect on a goal while displaying optimism and excitement (Kehr et al., 2023). Idealized influence refers to the extent to which leaders are trusted, respected, and admired (Afshari, 2021). The process of *transformative leadership* involves assessing current procedures, discussing enhancements, developing an improvement plan, interacting with stakeholders, making decisions cooperatively, and predicting results in performance, collective efficacy, and organizational commitment (Muchiri et al., 2012; van Oord, 2013). Importantly, empowerment plays a crucial role in transformational leadership. Amundsen and Martinsen (2014) state that the empowering leader is a critical component of transformational leadership, which is a leadership style linked to the concept of empowerment. More specifically, empowering leaders direct the motivation of their followers by establishing an atmosphere that fosters inspiration among employees (Maynard et al., 2012).

Hypotheses Development

The Effects of Adhocracy Organizational Culture on Empowering Leadership and Organizational Creativity

'Organizational culture' includes in its definition the shared beliefs, values, and viewpoints of its members, as well as a unified knowledge and perception of things that distinguishes the firm (Hung et al., 2022). An organization with an adhocracy culture is flexible and externally focused, as it emphasizes acquiring new resources and having a distinct and ideal vision that fosters creativity and risk-taking (Golden & Shriner, 2019), leading to enhanced innovation and effective knowledge management (Njagi et al., 2020). In an adhocracy organization, the top management demonstrates a high level of innovation and entrepreneurship, while the employees exhibit a spirit of adventure, innovation, freedom, and self-expression (Hung et al., 2022). Zacka (2016) states that organizational culture is influenced by adhocracy through the promotion of a leadership approach that entrusts practical judgment and improvisation to lower-level operators, thereby facilitating rapid reactions to unanticipated situations. Empowering leadership can be facilitated within an adhocracy organizational culture since empowering leadership enhances internal motivation and successful work achievement of employees by sharing power and allocating autonomy and responsibilities (Cheong et al., 2019). The positive impact of adhocracy organizational culture has been found in previous studies in the field of professionalism in Kenya (Njagi et al., 2020), and the professional sports industry in South Korea (Jeong et al., 2019). In addition, a vast number of previous studies proved that an organization with an adhocracy culture can lead to creativity and innovation within an organization (Fernandes et al., 2023; Gao et al., 2020; Kumar & Sharma, 2018; Porcu et al., 2017). Thus, this study of internet firm performance in China formulated the following two hypotheses, hypothesis 1 (H1) and hypothesis 2 (H2):

H1: Adhocracy organizational culture positively impacts empowering leadership in Internet companies.

H2: Adhocracy organizational culture positively impacts organizational creativity in Internet companies.

The Effect of Empowering Leadership on Organizational Creativity

Alawamleh et al. (2023) mentioned that diversity, empowerment, training, and development are the strong driving forces of organizational creativity. Empowerment brings a sense of autonomy and control to employees, which can stimulate creative thinking and problem-solving abilities (Sumanth et al., 2023). According to Amundsen and Martinsen (2014), the empowering leader is an important component of transformational leadership

theory that is linked to the concept of empowerment. Empowering leadership prioritizes the distribution of authority to subordinates (Ahmad et al., 2023). Thus, empowered employees demonstrate various kinds of behaviors, including assuming responsibility, addressing concerns, ideas, and opinions, and participating in creative workplace behaviors (Wang et al., 2022). More specifically, empowered employees are more willing to take opportunities, challenge the current situation status, innovate, and thereby boost the firm's creative capacity (Ahmad et al., 2023). Previous studies have demonstrated that empowering leadership positively influences employee creativity in the workplace, especially in the high-tech industries (Chow, 2017; Y. Lang et al., 2022; Liu et al., 2020). Therefore, the following third hypothesis (H3) was formulated for internet firm performance in China:

H3: Empowering leadership positively impacts organizational creativity in Internet companies.

The Effect of Organizational Creativity on Firm Performance

Organizational creativity plays a crucial role in influencing firm performance. It fosters an environment that encourages innovation, resulting in the development of new services, products, and procedures that can provide a competitive advantage (Khan et al., 2021). Creative employees are more likely to generate useful and new ideas that can lead to significant improvements in operational efficiency and customer satisfaction (Baccarella et al., 2021). Furthermore, a creative organizational culture can enhance employee engagement and commitment, leading to increased productivity and improved firm performance (Jin & Kim, 2022). Baláž et al. (2023) indicate that fostering organizational creativity can positively impact innovation performance, subsequently leading to improved market performance, especially in highly dynamic markets. Additionally, the synergy between organizational and technological innovations is essential for enhancing firm performance (Baccarella et al., 2021). Therefore, the following fourth hypothesis (H4) was formulated for internet firm performance in China:

H4: Organizational creativity positively impacts the firm performance of Internet companies.

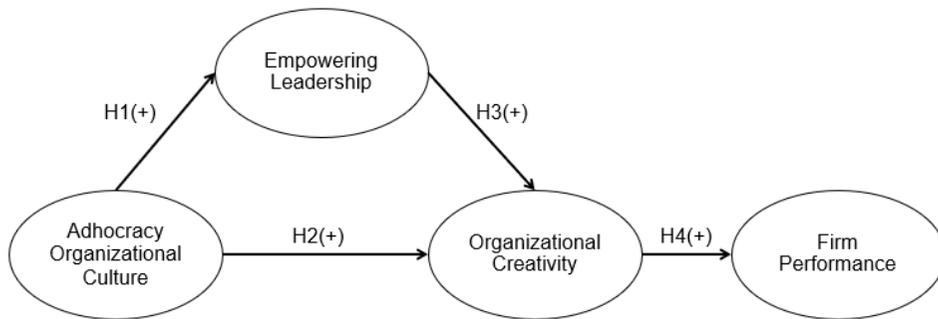


Figure 1 The Conceptual Model

Source: Author, 2023

Research Methodology

Samples and Data Collection

The population of this research comprised Internet companies in China, with the sampling frame consisting of managerial officers employed in the top 100 Internet companies listed in the China Internet Enterprise Comprehensive Strength Index (2023) report (Internet Society of China, 2023). The reasons for choosing them as the sampling frame are as follows. First, the top 100 Internet companies are likely to be larger in terms of the number of users, revenue, employee count, market capitalization, and market influence compared to other Chinese Internet companies. Second, these companies predominantly belong to certain high-performing sectors within the Internet industry, such as e-commerce, social media, and technology services. Third, the geographic distribution of these companies is concentrated in major economic hubs and technology centers in China, such as Beijing, Shanghai, and Guangdong province.

Managers were chosen as the target respondents because managers are required to possess a comprehensive perspective of an organization and the capability to adapt to a constantly changing and multifaceted environment (Coimbra & Proença, 2022). The firms listed in this report represent the leading companies in China's Internet industry as well as the main trends in the development of the Internet industry (Internet Society of China, 2023). After receiving approval from the institutional review board of the National Institute of Development Administration (ECNIDA 2023/0085), the human resource departments of these Internet companies were contacted in advance by email to ask for permission and assistance to distribute the online questionnaire link to all levels of management. The cover letter was sent with an online questionnaire link to explain the objectives of this research and its ethics policy in the email. Data collection was undertaken between October 7 to November 1, 2023. In all, 138 managers from 41 firms participated in this survey. After filtering out the

questionnaire with the same option for all items or finishing it within 120 seconds, there were 95 valid responses, yielding a 68.8 percent response rate at the individual level. In addition, a respondent rate at the organizational level of 41 percent is adequate for analysis since Baruch and Holtom (2008) mention that the average response rate for organizational-level studies was 35.7 percent.

In the end, there were 67 (70.5 percent) male managers and 28 (29.5 percent) female managers out of 95 participants. Additionally, the average age of the respondents was 32.82 years (S.D. = 7.94). Lastly, 44 (46.3 percent) managers hold a bachelor's degree, 23 (24.2 percent) managers hold a master's degree, another 23 (24.2 percent) managers hold degrees below a bachelor's degree, and 5 (5 percent) managers hold a doctoral or above degree among all respondents in this study.

Measures

A self-administered survey was conducted to collect data. All items except firm performance are measured by a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). Firm performance was adopted from the scale of Yau et al. (2007), a scale that is a subjective measure of firm performance and has been widely applied in previous studies (Charoensukmongkol, 2022; Tarsakoo & Charoensukmongkol, 2019). The seven-point Likert scale ranging from 1 (much worse than major competitors) to 7 (much better than major competitors) was applied to measure firm performance. In addition, organizational creativity was measured by a 10-item scale developed by J. C. Lang & Lee (2010). The sample item is "Organizational members welcome the implementation of new ideas." Empowering leadership is measured by the scale developed by Zhang and Bartol (2010) which is adapted from the study of Ahearne et al. (2005). There are four sub-dimensions of empowering leadership: providing autonomy from bureaucratic constraints, expressing confidence in high performance, fostering participation in decision-making, and enhancing the meaningfulness of work. Each sub-dimension contains three items. The sample items are "My manager helps me understand how my job fits in to the bigger picture", "My manager makes many decisions together with me", "My manager believes that I can handle demanding tasks", and "My manager allows me to do my job my way" for four sub-dimensions of empowering leadership, respectively. The scale of adhocracy organizational culture is measured by a 6-item scale that is adopted from a study by Pasricha et al. (2018). The sample item is "My organization is a very dynamic and entrepreneurial place. People are willing to take risks." In addition, the original items were translated into Chinese since the target population comprises Chinese managers. The back-translation technique (Klotz et al., 2023) was implemented and verified by a panel of bilingual specialists.

Data Analysis

Partial least square structural equation modeling (PLS-SEM) was applied to assess the proposed model of this study. On one hand, considering that the sample size of this study is somewhat limited ($n = 95$), PLS-SEM provides more flexibility than covariance-based SEM because it produces less bias estimation when the sample size is small (Charoensukmongkol, 2022). On the other hand, PLS-SEM is suitable to be applied when the latent variable scores are required for follow-up analyses (Hair et al., 2019). In this study, empowering leadership is considered as a higher-order construct, and the disjoint two-stage approach was applied to estimate it. Therefore, SmartPLS 4.0.9.2 (Ringle et al., 2024).

Research Findings

In this study, *empowering leadership* is considered a higher-order construct, so the disjoint two-stage approach was applied for the analysis. Hair Jr. et al. (2023) state that the two-stage approaches provide more modeling flexibility than the (extended) repeated indicators approach. Thus, this section is divided into several steps for the systematic evaluation which are suggested by Sarstedt et al. (2019), which are (1) Stage 1 - the measurement model assessment of lower-order construct (LOC), (2) Stage 2 - the measurement model assessment of higher-order construct (HOC), (3) multicollinearity and common method bias (CMB) assessment, (4) Stage 2 – the structural model assessment, and (5) the structural model robustness checks.

The measurement model assessment of lower-order construct (LOC)

Since this study involves the reflective constructs only, it is essential to measure the discriminant validity, factor loadings, average variance extracted (AVE), Cronbach's Alpha (CA), and composite reliability (CR) (Hair et al., 2022), given that the disjoint two-stage approach was used for the evaluation of HOC, 'empowering leadership'. In the process of Stage 1, the evaluation considers all measurement models involving the lower-order components (Sarstedt et al., 2019). Thus, the LOC of 'empowering leadership' was directly connected to the other conceptually related constructs as Figure 2 shows, and then the following steps were performed.

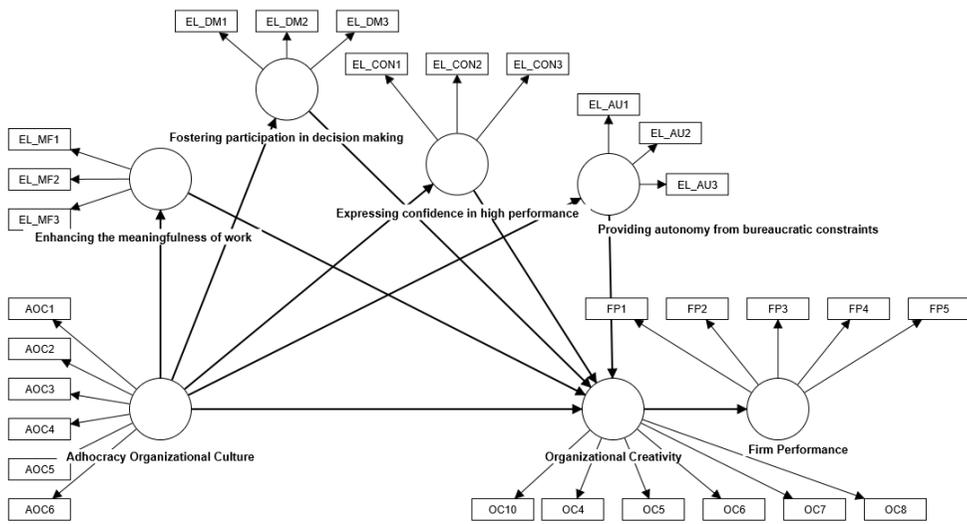


Figure 2 Stage 1 of the Disjoint Two-Stage Approach

Source: Author, 2023

Firstly, factor loadings and cross-loading were computed to determine an indicator’s dependability. Based on the results, four items of organizational creativity were removed because they are below the threshold value of 0.708, e.g., “OC1: organizational members generate many original ideas”, “OC2: We have no qualms about trying out new ideas”. The rest of the factor loadings meet the threshold of 0.708 and at the significant level of 0.05 (Hair et al., 2019), as Table 1 illustrates. In the meantime, the finding showed that each indicator’s loadings are higher for its particular construct than any other construct, so the standard is met (Hair et al., 2022). Next, CA and CR were evaluated to check the internal consistency reliability of all constructs. According to Table 1, the results demonstrate that all constructs pass the threshold of 0.70 for both CA and CR (Hair et al., 2019). Moreover, AVE was applied to measure convergent validity, and all results were above the threshold value of 0.5 (Hair et al., 2019).

Table 1 Indicator Loadings, reliability and validity in Stage 1

Indicators	Loadings	CA	CR	AVE
Adhocracy Organizational Culture		0.94	0.95	0.77
AOC1	0.85			
AOC2	0.91			
AOC3	0.88			
AOC4	0.85			

Table 2 Indicator Loadings, reliability and validity in Stage 1 (continued)

Indicators	Loadings	CA	CR	AVE
AOC5	0.90			
AOC6	0.86			
Providing autonomy from bureaucratic constraints		0.80	0.88	0.71
EL_AU1	0.76			
EL_AU2	0.90			
EL_AU3	0.87			
Expressing confidence in high performance		0.77	0.87	0.69
EL_CON1	0.89			
EL_CON2	0.84			
EL_CON3	0.75			
Fostering participation in decision making		0.82	0.89	0.73
EL_DM1	0.86			
EL_DM2	0.86			
EL_DM3	0.86			
Enhancing the meaningfulness of work		0.85	0.91	0.77
EL_MF1	0.91			
EL_MF2	0.84			
EL_MF3	0.88			
Firm performance		0.89	0.91	0.68
FP1	0.72			
FP2	0.90			
FP3	0.87			
FP4	0.78			
FP5	0.85			
Organizational creativity		0.91	0.93	0.70
OC4	0.79			
OC5	0.79			
OC6	0.87			
OC7	0.79			
OC8	0.90			
OC10	0.87			

Source: Author, 2023

Lastly, discriminant validity was tested by both the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio (Hair et al., 2022). Table 1 shows that the square root of AVE for all constructs fulfill the criteria for discrimination since they are higher than the correlation coefficient with other constructs. In addition, the findings of HTMT are lower than a threshold value of 0.9, which is also permissible (Franke & Sarstedt, 2019).

Table 3 Intercorrelations and HTMT of the Latent Variables in Stage 1

	AOC	EL_AU	EL_CON	EL_DM	EL_MF	FP	OC
AOC	0.88						
EL_AU	0.41 (0.46)	0.85					
EL_CON	0.46 (0.54)	0.62 (0.80)	0.83				
EL_DM	0.46 (0.52)	0.61 (0.77)	0.71 (0.90)	0.86			
EL_MF	0.52 (0.57)	0.59 (0.72)	0.70(0.85)	0.66 (0.79)	0.88		
FP	0.46 (0.49)	0.40 (0.47)	0.45 (0.52)	0.35 (0.39)	0.45(0.50)	0.83	
OC	0.68 (0.73)	0.53 (0.62)	0.61 (0.71)	0.55 (0.62)	0.65 (0.73)	0.53 (0.54)	0.84

Note: the square root of AVE is presented in diagonal; value within bracket is the value of HTMT ratio; AOC = Adhocracy Organizational Culture, EL_AU = Providing Autonomy from Bureaucratic Constraints, EL_CON = Expressing Confidence in High Performance, EL_DM = Fostering Participation in Decision Making, EL_MF = Enhancing the Meaningfulness of Work, FP = Firm Performance, OC = Organizational Creativity.

Source: Author, 2023

The Measurement Model Assessment of Higher-Order Construct (HOC)

After the LOC's measurement assessment is validated by passing all the standard thresholds, this study moves on to the second step, that is, measuring the HOC's measurement model as a whole. According to the disjoint two-stage approach, the LOC scores were used as input for the second-stage HOC indicators; all the other nonhierarchical constructs are examined with their original indicators (Becker et al., 2023), as Figure 3 illustrates.

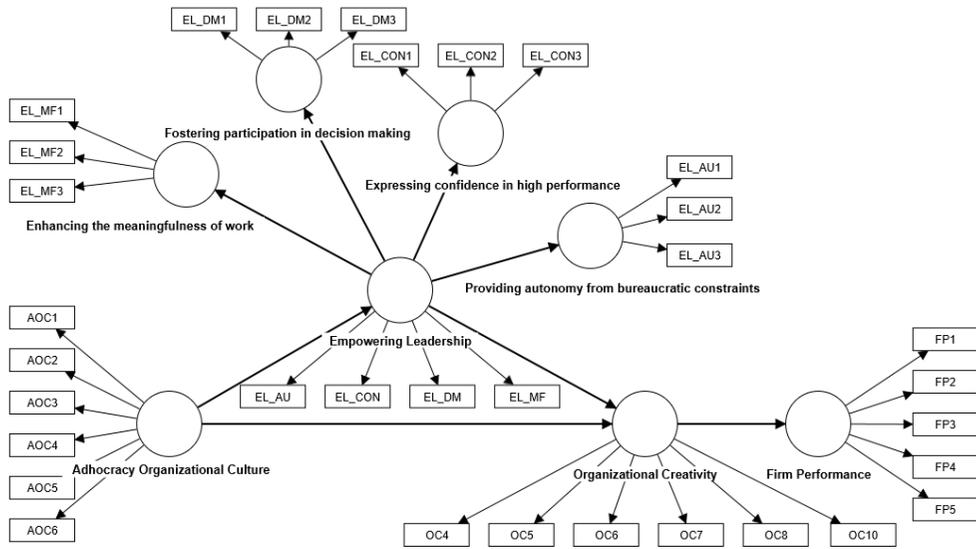


Figure 3 Stage 2 of the Disjoint Two-Stage Approach

Source: Author, 2023

In stage 2, the HOC’s measurement model was assessed by exploring the relationship between HOC and its LOC. The default setting of the path weighting scheme was used to estimate HOC in PLS-SEM (Sarstedt et al., 2019). Table 3 shows factor loadings, reliability and validity of HOC reached the threshold value (Hair et al., 2019).

Table 4 Indicator loadings, reliability, and validity of HOC

Sub-constructs of HOC Empowering Leadership	Loadings	CA	CR	AVE
Empowering Leadership		0.88	0.92	0.74
Providing autonomy from bureaucratic constraints	0.82			
Expressing confidence in high performance	0.89			
Fostering participation in decision making	0.87			
Enhancing the meaningfulness of work	0.86			

Source: Author, 2023

Additionally, Table 4 shows that the results achieve the standard criteria of both the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio, which determines a good discriminant validity of HOC (Franke & Sarstedt, 2019; Hair et al., 2019).

Table 5 Intercorrelations and HTMT of the Latent Variables in Stage 2 (continued)

	AOC	EL	FP	OC
AOC	0.88			
EL	0.54 (0.59)	0.86		
FP	0.46 (0.49)	0.48 (0.53)	0.83	
OC	0.68 (0.73)	0.68 (0.76)	0.53 (0.54)	0.84

Note: the square root of AVE is presented diagonally; the value within bracket is the value of the HTMT ratio; AOC = Adhocracy Organizational Culture, EL = Empowering Leadership, FP = Firm Performance, OC = Organizational Creativity.

Source: Author, 2023

Common Method Bias (CMB) Assessment and Multicollinearity

Since Harman's single-factor method has found many conceptual deficiencies in previous studies (Baumgartner et al., 2021; Howard & Henderson, 2023), this study used a marker variable that is theoretically not related to all other constructs to check the potential possibility of CMB (Jaakkola & Terho, 2021). The results show that all marker variable paths were insignificant and close to zero; meanwhile, the path coefficients and significances of the proposed model were not changed when the marker variable was included. Thus, the results indicate that CMB is not a major issue in this study. In addition, the full variance inflation factor (VIF) was used to check multicollinearity in this study. The findings demonstrated this study did not contain a problem with multicollinearity since the maximum VIF value was 2.65, which is lower than the threshold value of 3 (Hair et al., 2019).

The Structural Model Assessment

To investigate the results of the proposed hypotheses and the explanatory power of the conceptual model, the PLS algorithm with 300 iterations, bootstrapping 5000 times, and blindfolding with 7 omission distances were performed (Hair et al., 2019). In addition, the effect size (f^2) was measured to examine the strength of the relationship among variables. Based on Table 5, the findings present adhocracy organizational culture has positive and significant effects on both organizational creativity ($\beta = 0.45$, $t > 1.96$, $p < 0.05$; $f^2 = 0.35$), and empowering leadership ($\beta = 0.54$, $t > 1.96$, $p < 0.001$; $f^2 = 0.41$). Empowering leadership has a positive and significant effect on organizational creativity ($\beta = 0.44$, $t > 1.96$, $p < 0.05$; $f^2 = 0.34$). Organizational creativity has been found to positively and significantly impact firm performance ($\beta = 0.53$, $t > 1.96$, $p < 0.001$; $f^2 = 0.38$). Moreover, the R^2 was measured for the explanatory power in the model. The findings show the model has a nearly substantial value on organizational creativity ($R^2 = 0.60$), and weak values on both empowering leadership ($R^2 = 0.29$) and firm performance ($R^2 = 0.28$). Lastly, Q^2 was tested for the predictive accuracy of

the proposed PLS path model. The results illustrate the predictive accuracy at a nearly large level for organizational creativity ($Q^2 = 0.41$), and similarly medium level for both empowering leadership ($Q^2 = 0.21$), and firm performance ($Q^2 = 0.16$).

Table 6 Hypotheses Testing

Hypotheses Path	β Coefficient	T- statistics	P- value	f square	Result
H1: Adhocracy organizational culture → Organizational creativity	0.45	2.99	0.00	0.35	Supported
H2: Adhocracy organizational culture → Empowering leadership	0.54	5.84	0.00	0.41	Supported
H3: Empowering leadership → Organizational creativity	0.44	3.33	0.00	0.34	Supported
H4: Organizational creativity → Firm performance	0.53	6.32	0.00	0.38	Supported

Source: Author, 2023

To more fully investigate the conceptual model, this study also analyzes the mediating effect of empowering leadership between adhocracy organizational culture and organizational creativity. By following the procedures and regulations mentioned by Zhou et al. (2021), the mediating effect of empowering leadership was examined by performing bootstrap (5000 times). According to Table 6, empowering leadership has a complementary partial mediating effect in this model.

Table 7 Mediation Analysis

Path	Effects	Estimate	Bootstrap 5000 Times		Percentile 95%		Conclusion	
			S.E.	T- Statistics	P- Value	Low		Upper
Adhocracy organizational culture →	Direct	0.45	0.15	2.99	0.00	0.10	0.67	Complementary Partial Mediation
	Indirect	0.24	0.11	2.24	0.03	0.09	0.49	
Empowering leadership →	Total	0.68	0.07	10.45	0.00	0.53	0.80	
Organizational creativity	Effects							

Source: Author, 2023

The Structural Model Robustness Checks

Sarstedt et al. (2019) demonstrated that structural model robustness checks are an aspect that requires special attention when validating higher-order constructs. To ensure the robustness of structural model results, nonlinear effects, endogeneity, and unobserved heterogeneity should be designed (Sarstedt et al., 2020). Since this study contains only 95 valid data sets, it is not enough to test the unobserved heterogeneity by using the finite mixture PLS (FIMIX-PLS) module, so unobserved heterogeneity was excluded in this study.

Quadratic effects are implemented in PLS path models to check the potential nonlinear effects in this study (Hair Jr. et al., 2023). The results showed that there were only two significant path models in the quadratic effect among eight path models, indicating that the relationships among the constructs of the proposed model in this study are linear by nature (Sarstedt et al., 2020). In addition, a Gaussian copula was applied for the endogeneity test (Hair Jr. et al., 2023). The findings were similar to quadratic effects, that is only two paths are significant among eight path models. In other words, endogeneity is not a key issue in this study (Sarstedt et al., 2020).

Discussion

The findings of hypothesis testing support the effects of organizational-based mechanisms on organizational creativity thereby enhancing firm performance in Internet companies. Firstly, the findings confirm the positive effect of organizational creativity on firm performance in Internet companies. The result is in line with previous studies that creativity in the workplace is an important factor in improving firm performance, especially in the high-tech industries (Baccarella et al., 2021; Jin & Kim, 2022). This is also supporting firms living in a dynamic environment, organizational creativity can play a vital role for survival (Baláž et al., 2023). Secondly, the findings support that adhocracy organizational culture and empowering leadership are significant determinants of organizational creativity in Internet companies, which are consistent with previous studies (Fernandes et al., 2023; Gao et al., 2020; Jeong et al., 2019; Kumar & Sharma, 2018; Njagi et al., 2020; Porcu et al., 2017). Moreover, empowering leadership plays a significant partially mediating role between adhocracy organizational culture and organizational creativity in this study. This is common according to Hung et al. (2022), because the top management demonstrates a high level of innovation when the organization fosters an adhocracy culture. The results of effect size in this study illustrate that the effect of adhocracy organizational culture is slightly higher than empowering leadership on organizational creativity in Internet companies. This is also common because organizational culture comprises the shared values, beliefs, and viewpoints of its members (Hung et al., 2022), and appropriate leadership will be performed within this particular culture. Lastly, this point of view is also proven by the finding of this study, that

adhocracy organizational culture positively impacts empowering leadership. This finding is in line with a study by Cheong et al. (2019), that indicates empowering leadership can be facilitated under the adhocracy organizational culture.

Theoretical Contributions

This study fills in the research gaps of transformational leadership theory by particularly focusing on the role of empowering leadership within an organization. Given that empowerment is an important component of transformational leadership theory, this study proves that empowering leadership plays a vital role in organizational context by enhancing organizational creativity, thereby increasing firm performance. More importantly, this study considers *empowering leadership* as a multi-dimensional construct, measured by a higher-order construct. This approach fills gaps left by previous studies, which relied on creating a single composite score and avoids potential problems related to aggregation and weighting (Keogh et al., 2021). *Empowering leadership* can be defined by the following attitudes and approaches, or *dimensions*, in order of significance: expressing confidence in an employees' high-performance potential, fostering participation in decision-making, enhancing the meaningfulness of work, and providing autonomy from bureaucratic constraints in this study. In addition, this study adds evidence to the field of organizational creativity by considering not only its outcome but also its determinants. It provides a deeper understanding of the particular leadership styles and organizational cultures that can promote organizational creativity.

Practical Contributions

This study offers recommendations for top management in high-tech industries, especially Internet companies. First and foremost, Internet companies should focus on creating a flat culture that emphasizes innovation, risk-taking, and flexibility since adhocracy organizational culture significantly enhances organizational creativity. Thus, companies could implement practices such as encouraging exploration, providing resources for innovation, and creating a supportive atmosphere for creative and innovative ideas among employees. Moreover, because *empowering leadership* significantly improves organizational creativity, companies should focus on training leaders to be able to fairly and appropriately empower their teams, and provide support and resources to employees within organizations. Specifically, leaders should express their confidence in high performance, and foster employees' participation in decision-making. Lastly, Internet companies should invest in developing novel work procedures and operational protocols, encouraging employees with creative ideas and implementation, and solving problems with new approaches since organizational creativity is shown to improve their performance.

Conclusion

Based on the transformational leadership theory, this study was conducted to explore the effects of organizational-based mechanisms, adhocracy organizational culture, and empowering leadership, on organizational creativity, thereby enhancing the firm performance in Internet companies. Overall, the findings of this study add evidence that strongly suggest organizational creativity enhances a firm's performance in the high-tech industry, particularly Internet companies. Furthermore, this study provides empirical evidence that adhocracy organizational culture and empowering leadership are significant determinants of increasing organizational creativity. This filled a gap in the existing literature by exploring the determinants of organizational creativity in the field of organizational culture and leadership style. Lastly, this study measures *empowering leadership* by considering it as a higher-order construct, as well as testing the higher-order model with robustness checks. It indicates that higher-order empowering leadership can increase the bandwidth of content.

Limitations and Recommendations

Despite the contributions that the current study offers, there are several limitations. Firstly, the sample size is small due to the time and fund limitations, which limits some further explanation based on various statistical analyses such as FIMIX-PLS. Moreover, it is challenging to ensure that the sample accurately represents the vast and diverse Chinese Internet industry. For instance, key characteristics of respondents such as age, gender, and educational background may be underrepresented or overrepresented, leading to the lack of generalizability of the findings. Future research may collect a bigger size of sample for deeper analysis. Additionally, future research may consider using Bayesian analysis (e.g. Bayesian finite mixture models, BFMMs) as an alternative to FIMIX-PLS since it can handle limited data effectively (Etz & Arroyo, 2015). Secondly, the sampling frame in this study was focused on the top 100 Internet companies listed in the China Internet Enterprise Comprehensive Strength Index (2023) report, which limits a comparative study between the top and top and smaller or less-well-performing internet companies within China. Company managers within this narrow profile sampled here might have similar professional experiences, levels of education, and access to resources, leading to more homogeneous responses. As such, future studies may extend the sampling frame by including the companies that are not on the list to highlight differences and similarities. Lastly, only the *empowering leadership* type was chosen from transformational leadership theory in this study, which constitutes a limitation in the consideration of other potential leadership types from transformational leadership theory. Future studies are encouraged to consider other leadership types from transformational leadership theory to explore their effects on organizational creativity.

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