International Journal of Advanced Multidisciplinary Research and Innovation

E-ISSN: 3107-6157 editor@ijamri.com

Volume 2, Issue 5, September-October 2026

Effective Project Management in the Industry in Eastern and Western Regions of China: A Contemporary Systems Approach

Li Cunming[1], Dr. Amiya Bhaumik[2]

[1]PhD Scholar, Lincoln University College. Malaysia
Email: phd.licunming@lincoln.edu.my
ORCID: 0009-0005-3328-7348
[2]President (Chancellor), Lincoln University College
Email– amiya@lincoln.edu.my
ORCID ID: 0000-0002-9188-2269

Abstract

The ability to combine managerial, technological, organisational and environmental capabilities is becoming a key characteristic of effective project management and differs from the use of the traditional planning techniques. In this research, factors that affect the effectiveness of project management in industrial organisations in Eastern and Western regions of China are explored and examined using a modern system approach. All respondents were enlisted by using a quantitative cross sectional survey design with an equal sample size of 100 in Eastern China and 100 in the Western China. A total of eight constructs were measured including Project planning and control, Leadership and team capability, communication and stakeholder management, Digital technology integration, Risk management and adaptability, Systems integration and organisational coordination, regional project environment and Project management effectiveness. Descriptive statistics, Cronbach's alpha, Pearson correlation, multiple regression, independent-samples t-test and hierarchical regression were used. The Cronbach's alpha was acceptable for all constructs, ranging from 0.823 to 0.877. Positive correlation results exist between all the elements of project management and project management effectiveness. The overall multiple regression model was significant, with an $F(6,193) = 36.38$, $p < 0.001$ and $R2 = 0.531$. Communication and stakeholder management ($\beta = 0.269$) and systems integration and organisational coordination ($\beta = 0.279$) were the best predictors. The leadership and team capability, digital technology integration, and overall project management effectiveness scores for Eastern China were statistically significantly higher, and the effect sizes for both were small. A hierarchical regression analysis also confirmed that a set of systems integration, regional project environment explained a further 33.2% of the variance over and above that accounted for by geographical region. The results confirm that effective

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

industrial project management does not depend exclusively on location but on the alignment of managerial, technological, manpower and environmental capacities.

Keywords: project management effectiveness; systems thinking; Eastern China; Western China; digital technology; stakeholder management; industrial projects

1. Introduction

1.1 Background

The focus of project management has extended beyond the costs, time and scope to one where the performance of a project is influenced by the interplay between communication, leadership, Digital, risk management and organisational coordination. Evidence suggests that communication management is strongly correlated with project success [1] and that structured communication is a necessity when uncertainty and disruption abound [2] when the project manager is associated with the competencies needed to address project issues and risks. China is a relevant country as its industries function in areas of unequal technological, innovation and infrastructure environments. The research evidence shows significant regional differences, with studies on Chinese regional innovation revealing a high degree of geographical heterogeneity [14]. Also, recent evidence on the digital economy suggests a digital economic development gradient, from east to west [15].

1.2 Research Problem

Most studies to date address leadership, technology, and stakeholder management or risk individually when dealing with project performance. In complex industrial projects, however, (where decisions about people, technology, resources, stakeholders and external conditions have interacting effects), the effects are interdependent. Another example of barriers to digital transformation is found in Chinese research where fragmented data, lacking infrastructure, and limited technical staff were identified [5]. A systems-oriented regional comparison is therefore needed to determine whether effective project management is primarily attributable to geographical location or to the capabilities embedded within project organisations.

1.3 Aim, Objectives, Research Questions and Hypothesis

Aim

To examine the factors influencing effective project management in industrial organisations in the Eastern and Western regions of China using a contemporary systems approach, with particular attention to regional differences and the interaction of organisational, technological, managerial, and environmental factors.

Research Objectives

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

- **RO1:** To assess the influence of project planning and control, leadership and team capability, communication and stakeholder management, digital technology integration, risk management and adaptability, and systems integration on project management effectiveness in Chinese industries.
- **RO2:** To compare project management practices and project management effectiveness between industrial organisations in the Eastern and Western regions of China.
- **RO3:** To examine the extent to which the regional project environment and organisational systems contribute to variations in project management effectiveness across Eastern and Western China.

Research Questions

- **RQ1:** How do project planning and control, leadership and team capability, communication and stakeholder management, digital technology integration, risk management and adaptability, and systems integration influence project management effectiveness in Chinese industries?
- **RQ2:** What differences exist in project management practices and project management effectiveness between industrial organisations in the Eastern and Western regions of China?
- **RQ3:** To what extent do the regional project environment and organisational systems contribute to differences in project management effectiveness across Eastern and Western China?

Research Hypothesis

- **H_0 (Null Hypothesis):** There is no significant relationship between contemporary project management factors and project management effectiveness in industrial organisations across the Eastern and Western regions of China.
- **H_1 (Alternative Hypothesis):** There is a significant relationship between contemporary project management factors and project management effectiveness in industrial organisations across the Eastern and Western regions of China.

1.4 Significance of the study

This study is important because it brings together factors that affect project management effectiveness in industrial organisations in Eastern and Western China in a unified view. The research takes a current and systems-focused approach which goes beyond traditional cost, time, scope requirements and measures the interaction of leadership, stakeholder communication, digital technology, risk management, organisational coordination and the regional project environment. The study also provides comparative evidence of regional variation of the project management practices. The results can contribute to the project managers, industry organisations, and policy makers in identifying priority projects for ability building, resource provision, digitalisation of effort, and for coordinated project governance in various regional settings.

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

2. Literature Review and Theoretical Framework

2.1 Contemporary Project Management

Modern project management is practising success within projects as being multi-faceted. The organizational culture, communication and the clarity of scope have an effect on outcomes [1] and identification and the assessment of the risk are particularly significant in complex chains of industrialization in construction [3]. Stakeholder engagement is also vital for sustainable project success, and for engaging in multiple actor decision-making management [6].

2.2 Project Management in China's Industrial Sector

The Chinese projects are situated in the context of complex organisational and technological settings. Organisational leadership can directly control the behaviour of teams and, as such, its performance in project management [4] and transformational leadership has a positive impact in increasing flexibility and project success [9]. In China, the evaluation of performance incorporates various critical success points instead of traditional cost and schedule metrics, with continued growth and evolution of this approach [8].

2.3 Eastern and Western Regional Context

Skilled labour, the digital infrastructure, innovation networks and supporting institutions may be affected by conditions at the regional level. Cao et al. [14] noted large regional variations in the innovation efficiency overall across China. Tong and Tang [15] noted that the level of development of the digital economy is still higher in eastern China, as are east-west differences. Such inequalities provide a rational basis for examining whether project-management capability also differs geographically.

2.4 Contemporary Systems Approach

Projects are conceptualised as both technical and human, organisational, environmental systems in systems thinking. Omotayo et al. [12] demonstrate that project complexity, stakeholder involvement, and social interactions are the elements that will interact in determining project outcomes. Likewise, Ghamarimajd et al. [13] find systems thinking and system dynamics are found useful for tackling relationships between interacting stakeholders and construction risks. Projects can also continuously learn from and adapt to fluctuations in the environment, through the process of organisational learning and resilience [11].

2.5 Conceptual Framework

Project planning and control (PPC), leadership and team capability (LTC), communication and stakeholder management (CSM), digital technology integration (DTI), risk management and adaptability (RMA), and systems integration and organisational coordination (SIO) are hence identified as factors of project management effectiveness (PME). Contextual factors include regional project environment (RPE) and Eastern/Western location. Both research approaches related to digital adoption and maturity in major projects

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

in China have attested to the dependence of technology implementation on technological and organisational conditions, and of digital maturity on interactions of infrastructure, personnel and organisational capability [7, 10].

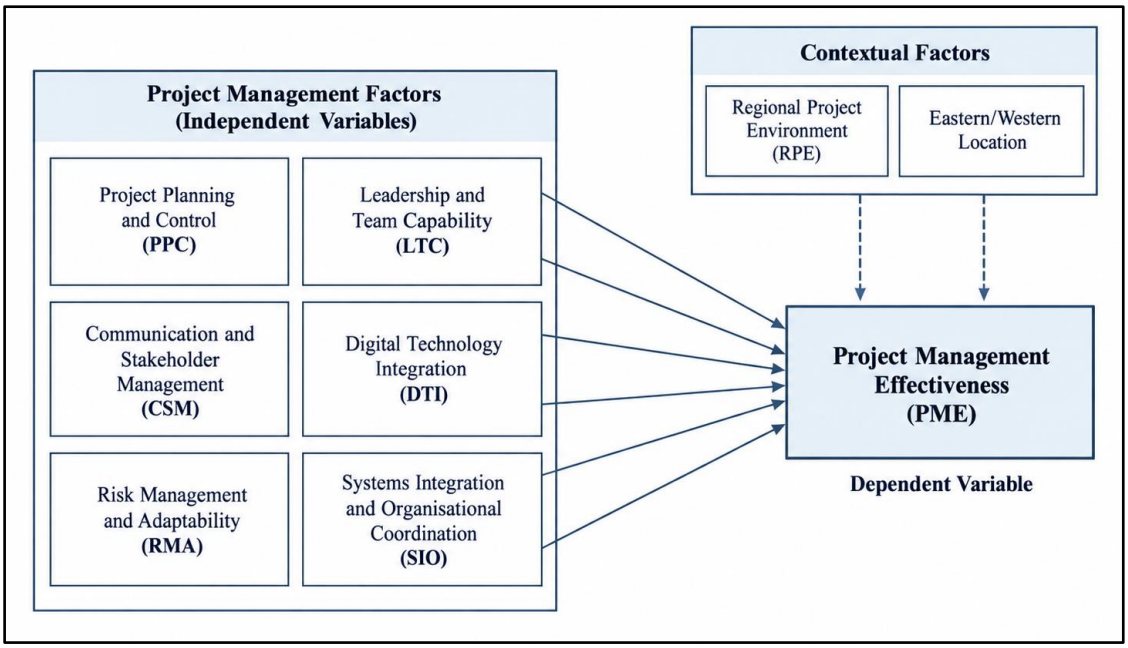

Figure 1: Conceptual Framework

3. Research Methodology

3.1 Research Design

The quantitative cross sectional research design was adapted for investigating inter-relations between the constructs of the project management and comparing between Eastern and Western China. The design was suitable because it allowed for associations, predictive effects and regional differences in the associations to be measured at a specific moment.

3.2 Population and Sampling

The target population comprised professionals involved in industrial projects, including managers, engineers, coordinators, supervisors and technical specialists. Eligibility was based on involvement in project activities. The collected answers remained balanced in Eastern China (n = 100) and Western China (n = 100) with a total of 200 responses.

3.3 Data Collection

A structured questionnaire contained ten demographic variables and 44 measurement statements. The measurement model comprised PPC (5 items), LTC (5), CSM (5), DTI (5), RMA (5), SIO (6), RPE (6) and PME (7). Answers were measured using a five-point Likert scale (1 = strongly disagree; 5 = strongly agree).

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

3.4 Data Analysis

Each construct has an average of its items that was then considered a composite score. Respondent characteristics were described in terms of frequencies and percentages. Reliability was tested using Cronbach's alpha and constructs were summarised with means and standard deviations. The bivariate relationships were examined using Pearson correlation. Multiple linear regression used for testing RO1/RQ1, overall hypothesis. RO2/RQ2 was analyzed with independent-samples t-tests using Cohen's d. For the final analysis, hierarchical regression was used, in which the region was entered first and then SIO and RPE. Diagnostic analysis confirmed acceptable independence, normality, homoscedasticity and multicollinearity.

3.5 Ethical Considerations

Participation was voluntary, and responses were analysed at aggregate level. There was no personalizing variables needed in the statistical analysis. Strict confidentiality was observed and informed participation and use of information was maintained for academic research.

4. Results and Findings

4.1 Respondent Profile

The sample contained 200 respondents, equally divided between Eastern and Western China. Males represented 57.5% and females 39.0%. The 25 to 34 age bracket made up 37.0% of the largest age group; with 46.5% having bachelor's degrees and 37.5% holding master's degrees. The highest percentage (28.0%) included engineers. The manufacturing sector accounted for 27.0% of the respondents, followed by construction 16.5%. Nearly half (47.5%) of these worked in large enterprises, and 58.5% indicated that they were involved in the project extensively or had direct responsibility for the project's management. They are characteristics of a professionally diverse sample, and have significant exposure to industrial projects.

Table 1. Respondent demographic profile

Variable	Distribution, n (%)
Gender	Male 115 (57.5%); Female 78 (39.0%); Prefer not to say 5 (2.5%); Other 2 (1.0%)
Age	<25: 15 (7.5%); 25-34: 74 (37.0%); 35-44: 47 (23.5%); 45-54: 43 (21.5%); ≥55: 21 (10.5%)
Education	Diploma 17 (8.5%); Bachelor's 93 (46.5%); Master's 75 (37.5%); Doctoral 13 (6.5%); Other 2 (1.0%)
Position	Project Manager 23 (11.5%); Coordinator 23 (11.5%); Engineer 56 (28.0%); Supervisor 21 (10.5%); Functional Manager 22 (11.0%);

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

	Senior Manager 11 (5.5%); Technical Specialist 30 (15.0%); Other 14 (7.0%)
Experience	<5 years 53 (26.5%); 5-10 years 57 (28.5%); 11-15 years 46 (23.0%); 16-20 years 25 (12.5%); >20 years 19 (9.5%)
Industry	Manufacturing 54 (27.0%); Construction 33 (16.5%); Engineering 20 (10.0%); Energy 13 (6.5%); Infrastructure 21 (10.5%); IT 15 (7.5%); Transport/Logistics 22 (11.0%); Industrial Services 13 (6.5%); Other 9 (4.5%)
Region	Eastern China 100 (50.0%); Western China 100 (50.0%)
Organisation size	Small 31 (15.5%); Medium 74 (37.0%); Large 95 (47.5%)
Project involvement	Limited 24 (12.0%); Moderate 58 (29.0%); High 67 (33.5%); Direct responsibility 51 (25.5%)
Project duration	<1 year 61 (30.5%); 1-2 years 71 (35.5%); 3-5 years 60 (30.0%); >5 years 8 (4.0%)

Figure 2 below presents the principal age distribution of respondents.

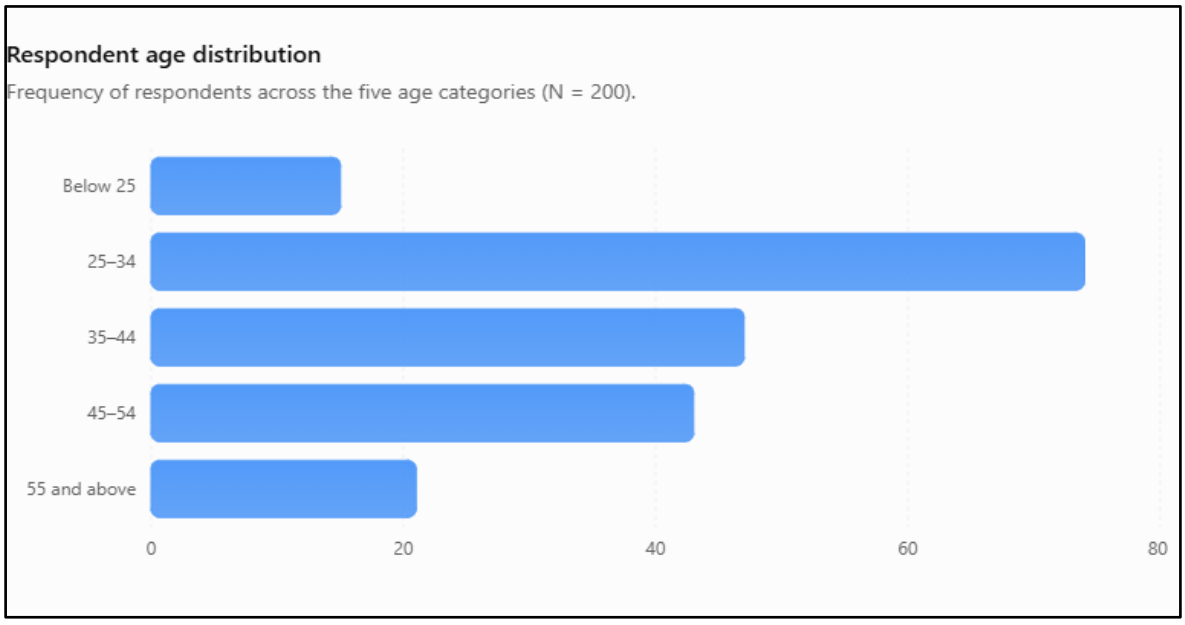

Figure 2: Respondent Age Distribution

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

4.2 Project Management Effectiveness

The reliabilities of all 8 scales were higher than the accepted reliability criterion of 0.70. The internal consistency was good with the Cronbach's alpha ranging between 0.823 to 0.877 on the PPC to SIO respectively. Evaluations of construct varied moderately with a mean centered on the descriptive score of 3.2. LTC had the highest mean (M = 3.255), while PME averaged 3.214.

Table 2. Reliability and descriptive statistics

Construct	Items	Cronbach's α	Mean	SD
PPC	5	0.823	3.242	0.746
LTC	5	0.855	3.255	0.787
CSM	5	0.845	3.249	0.752
DTI	5	0.855	3.223	0.779
RMA	5	0.832	3.217	0.755
SIO	6	0.877	3.245	0.778
RPE	6	0.862	3.227	0.746
PME	7	0.877	3.214	0.760

The results of the Pearson analysis showed all factors were significantly positively correlated to PME at the $p < 0.001$ level. SIO produced the strongest association ($r = 0.549$), followed by CSM ($r = 0.511$) and LTC ($r = 0.462$). This pattern supports a systems perspective because organisational coordination and stakeholder communication were more strongly associated with effectiveness than any isolated technical practice.

Table 3. Correlations with project management effectiveness

Predictor	r with PME	p-value
PPC	0.365	<0.001
LTC	0.462	<0.001
CSM	0.511	<0.001
DTI	0.401	<0.001
RMA	0.411	<0.001

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

SIO	0.549	<0.001
RPE	0.335	<0.001

Multiple regression was used as a better test of RO1 and RQ1. The six-factor model was significant, $F(6,193) = 36.38$, $p < 0.001$, with $R^2 = 0.531$ and adjusted $R^2 = 0.516$. So, together, the six contemporary factors of project management accounted for 53.1% of PME variation. When considered together all 6 predictors were significant. SIO ($\beta = 0.279$) and CSM ($\beta = 0.269$) had the strongest standardised effects, followed by LTC ($\beta = 0.199$).

Figure 3 below visualises these effects.

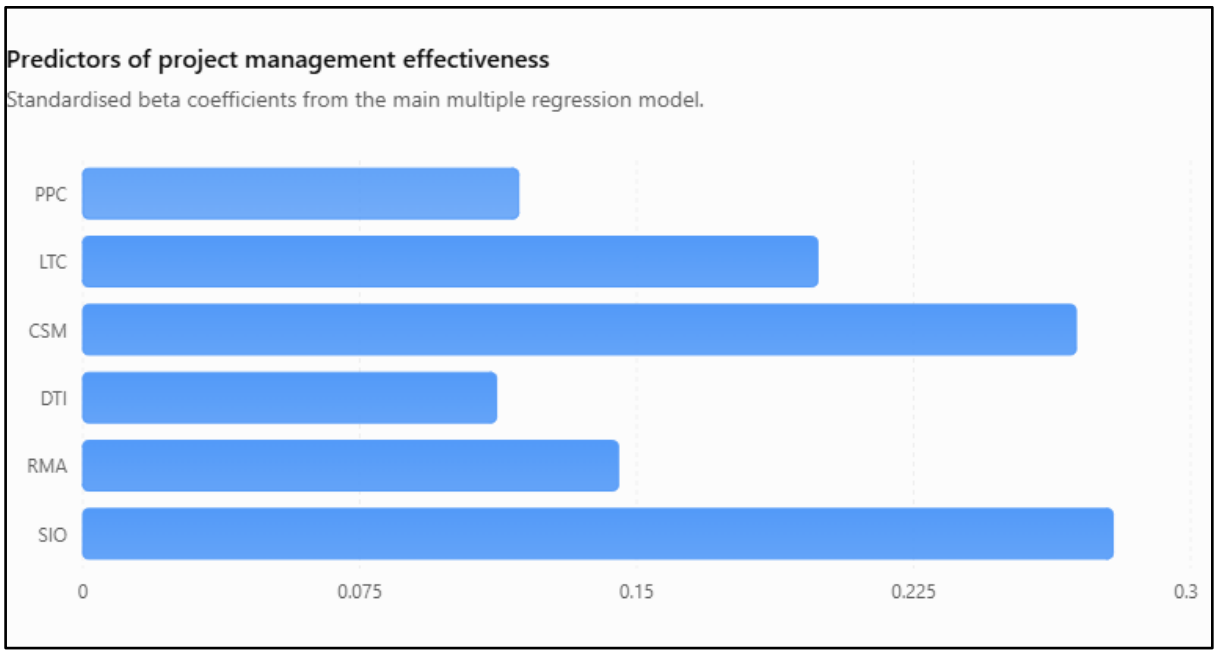

Figure 3: Predictors of project management effectiveness

Table 4. Multiple regression predicting project management effectiveness

Predictor	B	Standardised β	t	p-value
PPC	0.121	0.118	2.222	0.027
LTC	0.192	0.199	3.637	<0.001
CSM	0.273	0.269	4.904	<0.001
DTI	0.110	0.112	2.048	0.042
RMA	0.145	0.145	2.662	0.008
SIO	0.273	0.279	4.895	<0.001

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

Model: $R = 0.729$; $R^2 = 0.531$; adjusted $R^2 = 0.516$; $F(6,193) = 36.38$; $p < 0.001$.

Regression assumptions were satisfactory: Durbin-Watson = 1.904, Jarque-Bera p = 0.689, Breusch-Pagan p = 0.348, maximum VIF = 1.338 and maximum Cook's distance = 0.038. Accordingly, no serious residual, heteroscedasticity, multicollinearity or influential-case problem was detected.

4.3 Eastern-Western Comparison

Table 5. Eastern-Western regional comparison

Higher mean scores on all eight constructs were found in Eastern China, however only three differences reached significance at the 5% level. Leadership and team capability was higher in Eastern China (M = 3.370) than Western China (M = 3.140), t(198) = 2.084, p = 0.038. Digital technology integration was also higher in the East (3.342 versus 3.104), t(198) = 2.181, p = 0.030. Finally, PME was significantly higher in Eastern China (3.320 versus 3.107), t(198) = 1.994, p = 0.048. Regional effects were small (Cohen's d value 0.282-0.308).

Construct	Eastern Mean	Western Mean	t	p	Cohen's d	Decision
PPC	3.256	3.228	0.265	0.791	0.037	NS
LTC	3.370	3.140	2.084	0.038	0.295	Significant
CSM	3.338	3.160	1.682	0.094	0.238	NS
DTI	3.342	3.104	2.181	0.030	0.308	Significant
RMA	3.226	3.208	0.168	0.867	0.024	NS
SIO	3.343	3.147	1.797	0.074	0.254	NS
RPE	3.313	3.140	1.649	0.101	0.233	NS
PME	3.320	3.107	1.994	0.048	0.282	Significant

Figure 4 below illustrates the Eastern-Western mean pattern across all constructs.

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

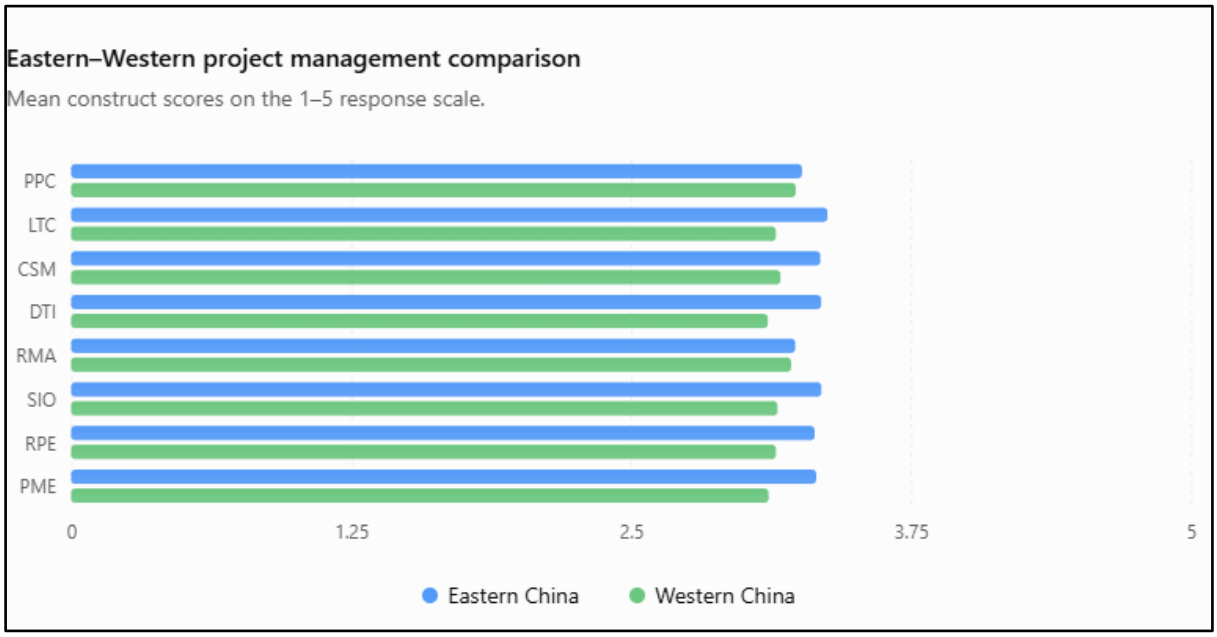

Figure 4: Comparison of East-West project management

4.4 Systems-Level Findings

Hierarchical regression clarified the role of context. Region alone explained only 2.0% of PME variance and was significant at $p = 0.048$. When SIO and RPE were added, explained variance increased to 35.2%, representing an additional 33.2% (F-change = 50.29, $p < 0.001$). In the final model, SIO ($\beta = 0.494$, $p < 0.001$) and RPE ($\beta = 0.219$, $p < 0.001$) were significant, while the region itself became non-significant ($\beta = 0.052$, $p = 0.370$). Thus, project systems and environmental capability explained effectiveness more strongly than the simple Eastern/Western location label.

Table 6. Hierarchical regression for systems and regional environment

Model	Predictors	R^2	Adjusted R^2	ΔR^2	Model p
Model 1	Region	0.020	0.015	-	0.048
Model 2	Region + SIO + RPE	0.352	0.342	0.332	<0.001

Final-model predictor	Standardised β	p-value
Region (East = 1)	0.052	0.370
SIO	0.494	<0.001
RPE	0.219	<0.001

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

Hypothesis Testing Summary

Table 7. Overall hypothesis decision

Hypothesis	Statistical evidence	Decision
H0: No significant relationship exists between contemporary project-management factors and PME	$F(6,193) = 36.38$; $R^2 = 0.531$; $p < 0.001$	Rejected
H1: A significant relationship exists between contemporary project-management factors and PME	Significant overall regression; all six predictors $p < 0.05$	Supported

H_1 is thus supported by the evidence and H_0 is rejected. Contemporary project-management capabilities have a statistically significant collective relationship with project management effectiveness.

5. Discussion

5.1 Interpretation

Results indicate that the effectiveness of a project is dependent on multiple and complementary project skills rather than a single management practice. The main regression accounts for 53.1% of this explanation, which is quite large and shows that the planning, leadership, communication, technology and flexibility toward risk, systems integration aspects are together very important. The most successful impact of SIO corroborates systems-thinking study, which views project performance as an emergent outcome of how the project parts are inter-dependent [12], [13].

Communication and stakeholder management came in as the second strongest predictor. This corroborates previous research that the quality of the communication used links to enhance project results [1] and that engaging stakeholders is vital to successful project delivery [6]. Risk management was also important, in confirmation of the fact that systematic risk identification and mitigation lead to improved project performance, and that stakeholder engagement can amplify this impact [3], [16].

Leadership and team capacity had a high level of predictive value for PME. This is in line with Luo et al. [4] reporting the effect of organisational leadership with influence over management performance in complex projects, and Han et al. [9] who showed that leadership has an effect in relation with promoting project success, in part, through team flexibility. These findings suggest that industrial organisations should treat technical

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

project systems and human capability as mutually reinforcing rather than separate management domains.

5.2 Regional Differences

Although the effect size was small, the scores for LTC and DTI and PME were significantly higher in Eastern China. Evidence of an ongoing geographical inequality in the digital economy aligns with the DTI result in China [15]. The innovation conditions are also diverse in the region, between the different provinces [14]. However, the absence of significant regional differences for five of the eight constructs cautions against assuming that geography automatically determines project capability.

5.3 Systems Perspective

The hierarchy analysis suggests the support of contemporary systems interpretation is strongest. Initially, Region forecasted PME but it dropped out later after the incorporation of SIO and RPE. So, the regional effect was mainly accounted for by organisational integration and the project environment. This is congruent with prior research which confirmed that the successful adoption of digital transformation in the construction industry in China requires infrastructure, skills, technology and organization to work together [5, 10, 7]. Organisational learning and resilience are also good examples of adaptive capacities that support project organisations in responding to changing conditions [11].

5.4 Theoretical and Managerial Implications

A change from the fragmented model of success towards an interconnected project system is supported theoretically by the study. Project managers should thus have his mind on not transposing specific practices. From a managerial point of view, organisations need to focus on cross-functional coordination, well-structured communication among their stakeholders, building up teams and ensuring interoperable digital systems. Geographical challenges may be especially overcome by focussed development of digital skills, while the evidence shows that improving organisational systems can make up for geographical disadvantage. Integrated performance frameworks developed for Chinese projects similarly emphasise combinations of critical success factors and performance indicators [8].

6. Conclusion and Recommendations

The research aimed to analyse the effective practice of industrial project management taking an insights-based contemporary systems approach in both Eastern and Western China. All six managerial predictors were significant and the PME main regression accounted for 53.1% of PME. The contributions that systems integration and communication/stakeholder management made were the most significant. Small differences were seen between the leadership and team capability, digital integration and PME of Eastern China. The leadership, team capability and digital integration along with PME of Eastern China were significantly great but this difference was small.

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

Most importantly, the hierarchical results indicated that there was a significant amount of variance explained by organisational systems and regional project environment that was not explained by geographical region alone. Hence, for the industrial organization, it is crucial to simultaneously leverage cross-functional integration, communication with stakeholders, leadership capabilities, digital infrastructure and adaptive risk management. The government's focus should be on targeted assistance to the Western-region companies in building Digital Skills and Human Skills. The cross-sectional and self-reported design restricts causal interpretation, while broad industry coverage may conceal sector-specific differences. Further studies are recommended to adopt longitudinal designs, utilize province level samples and industry-specific comparison to study change of systems capabilities over time.

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

References

1. Muneer, M., Khan, N., Awais Hussain, M., Shuai, Z., Khan, A. A., Farooq, R., Moawwez, M. A., and Tariq, M. A. U. R. 2022. A Quantitative Study of the Impact of Organizational Culture, Communication Management, and Clarity in Project Scope on Constructions' Project Success with Moderating Role of Project Manager's Competencies to Enhance Constructions Management Practices. Buildings, 12(11), 1856. https://doi.org/10.3390/buildings12111856
2. Subramaniam, C., Ismail, S., Rani, W. N. M. W. M., and Mahdiyar, A. 2022. Improving Project Communications Management Practices in the Construction Sector during the COVID-19 Pandemic: A Malaysian Scenario. Buildings, 12(9), 1291. https://doi.org/10.3390/buildings12091291
3. Ji, F., Shi, J., Zhu, T., and Hu, X. 2022. Risk Assessment in the Industry Chain of Industrialized Construction: A Chinese Case Study. Buildings, 12(10), 1688. https://doi.org/10.3390/buildings12101688
4. Luo, L., Yang, Y., Wu, G., Zheng, J., and Liu, D. 2023. Effects of Organizational Leadership on Project Citizenship Behavior and Management Performance in Complex Construction Projects. Buildings, 13(1), 259. https://doi.org/10.3390/buildings13010259
5. Zhang, N., Ye, J., Zhong, Y., and Chen, Z. 2023. Digital Transformation in the Chinese Construction Industry: Status, Barriers, and Impact. Buildings, 13(4), 1092. https://doi.org/10.3390/buildings13041092
6. Wu, S.-W., Yan, Y., Pan, J., and Wu, K.-S. 2023. Linking Sustainable Project Management with Construction Project Success: Moderating Influence of Stakeholder Engagement. Buildings, 13(10), 2634. https://doi.org/10.3390/buildings13102634
7. Zhang, J., Zhang, M., Ballesteros-Pérez, P., and Philbin, S. P. 2023. A new perspective to evaluate the antecedent path of adoption of digital technologies in major projects of construction industry: A case study in China. Developments in the Built Environment, 14, 100160. https://doi.org/10.1016/j.dibe.2023.100160
8. Guo, H.-S., Liu, M.-X., Xue, J., Jian, I. Y., Xu, Q., and Wang, Q.-C. 2023. Post-COVID-19 Recovery: An Integrated Framework of Construction Project Performance Evaluation in China. Systems, 11(7), 359. https://doi.org/10.3390/systems11070359
9. Han, H., Ma, F., and Liu, X. 2024. Transformational leadership and project success: the serial meditating roles of team flexibility and team agility. Frontiers in Built Environment, 9. https://doi.org/10.3389/fbuil.2023.1334413

10. Zhu, H., Wang, L., Li, C., Philbin, S. P., Li, H., Li, H., and Skitmore, M. 2023. Building a Digital Transformation Maturity Evaluation Model for Construction Enterprises Based on the Analytic Hierarchy Process and Decision-Making Trial and Evaluation Laboratory Method. Buildings, 14(1), 91. https://doi.org/10.3390/buildings14010091
11. Jiao, P., and Bu, W. 2024. The Impact of Organizational Learning on Organizational Resilience in Construction Projects. Buildings, 14(4), 975. https://doi.org/10.3390/buildings14040975
12. Omotayo, T. S., Ross, J., Oyetunji, A., and Udeaja, C., 2024. Systems Thinking Interplay Between Project Complexities, Stakeholder Engagement, and Social Dynamics Roles in Influencing Construction Project Outcomes. Sage Open, 14(2). https://doi.org/10.1177/21582440241255872
13. Ghamarimajd, Z., Ghanbaripour, A., Tumpa, R. J., Watanabe, T., Mbachu, J., and Skitmore, M., 2024. Application of systems thinking and system dynamics in managing risks and stakeholders in construction projects: A systematic literature review. Systems Research and Behavioral Science, 42(6), 1465-1479. https://doi.org/10.1002/sres.3032
14. Cao, X.-Y., Wu, X.-L., and Wang, L.-M., 2023. Innovation network structure, government Randamp;D investment and regional innovation efficiency: Evidence from China. PLOS ONE, 18(5), e0286096. https://doi.org/10.1371/journal.pone.0286096
15. Tong, L., and Tang, L., 2025. Regional Differences and Spatial-Temporal Evolution Characteristics of Digital Economy Development in China. Sustainability, 17(10), 4737. https://doi.org/10.3390/su17104737
16. Song, J., Munyinda, M., and Adu Sarfo, P., 2025. Examining the impact of risk management practices on sustainable project performance in the construction industry: the role of stakeholder engagement. Frontiers in Built Environment, 11. https://doi.org/10.3389/fbuil.2025.1575827

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

Appendix

Appendix 1: Questionnaire

Section A: Respondent Profile

A1. Gender

- Male
- Female
- Prefer not to say
- Other

A2. Age

- Below 25 years
- 25-34 years
- 35-44 years
- 45-54 years
- 55 years and above

A3. Highest Educational Qualification

- Diploma
- Bachelor's Degree
- Master's Degree
- Doctoral Degree
- Other

A4. Current Position

- Project Manager
- Project Coordinator
- Engineer
- Supervisor
- Department/Functional Manager
- Senior Manager
- Technical Specialist
- Other

A5. Years of Professional Experience

- Less than 5 years

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

- 5-10 years
- 11-15 years
- 16-20 years
- More than 20 years

A6. Industry Sector

- Manufacturing
- Construction
- Engineering
- Energy
- Infrastructure
- Information Technology
- Transportation and Logistics
- Industrial Services
- Other

A7. Region in Which You Primarily Work

- Eastern China
- Western China

A8. Size of Your Organisation

- Small enterprise
- Medium enterprise
- Large enterprise

A9. Your Level of Involvement in Projects

- Limited involvement
- Moderate involvement
- High involvement
- Direct responsibility for project management

A10. Typical Project Duration

- Less than 1 year
- 1-2 years
- 3-5 years
- More than 5 years

Response Scale

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

1 = Strongly Disagree

2 = Disagree

3 = Neutral

4 = Agree

5 = Strongly Agree

Section B: Project Management Practices

Construct 1: Project Planning and Control

PPC1

Project objectives are clearly defined before project implementation begins.

PPC2

Project activities are supported by clear schedules and implementation plans.

PPC3

Required financial, human, and technical resources are adequately planned before project execution.

PPC4

Project progress is regularly monitored against established schedules and targets.

PPC5

Corrective actions are taken promptly when project performance deviates from the original plan.

Construct 2: Leadership and Team Capability

LTC1

Project leaders provide clear direction to project team members.

LTC2

Project managers encourage effective teamwork and collaboration.

LTC3

Project managers involve appropriate team members in important project decisions.

LTC4

Project team members possess the knowledge and skills required to perform their responsibilities.

LTC5

Project leaders manage disagreements and conflicts effectively.

Construct 3: Communication and Stakeholder Management

CSM1

Key project stakeholders are identified at an early stage of the project.

CSM2

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

Project information is communicated clearly to relevant stakeholders.

CSM3

Stakeholders receive project information when it is needed.

CSM4

Stakeholder expectations are considered during project decision-making.

CSM5

Project teams maintain effective communication with internal and external stakeholders.

Construct 4: Digital Technology Integration

DTI1

Digital technologies are effectively used for project planning.

DTI2

Digital tools are used to monitor project progress and performance.

DTI3

Project team members have adequate access to appropriate project-management technologies.

DTI4

Digital systems support effective information sharing among project participants.

DTI5

The organisation effectively integrates digital technologies into project-management processes.

Construct 5: Risk Management and Adaptability

RMA1

Potential project risks are systematically identified before major project activities begin.

RMA2

Project risks are regularly assessed throughout the project lifecycle.

RMA3

Appropriate measures are implemented to reduce the impact of identified risks.

RMA4

Project teams respond effectively to unexpected changes and disruptions.

RMA5

Project plans are adapted when significant organisational or environmental changes occur.

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

Section C: Contemporary Systems Approach

Construct 6: Systems Integration and Organisational Coordination

SIO1

Different departments cooperate effectively during project implementation.

SIO2

Project activities are effectively coordinated across different organisational functions.

SIO3

People, processes, technology, and resources are integrated effectively within projects.

SIO4

Project managers consider how decisions in one area may affect other areas of the project.

SIO5

Feedback from different project activities is used to improve subsequent decisions.

SIO6

Project-management decisions consider both internal organisational conditions and external environmental conditions.

Section D: Regional and External Environment

Construct 7: Regional Project Environment

RPE1

The regional infrastructure available to my organisation supports effective project implementation.

RPE2

My organisation has adequate access to skilled project-management professionals within the region.

RPE3

The regional business environment supports successful project implementation.

RPE4

Access to technology and digital infrastructure in the region supports project-management activities.

RPE5

Government policies and institutional support within the region facilitate industrial project implementation.

RPE6

The regional supply chain and supporting industrial networks contribute positively to project performance.

Section E: Project Management Effectiveness

Construct 8: Project Management Effectiveness

PME1

International Journal of Advanced Multidisciplinary Research and Innovation
E-ISSN: 3107-6157 editor@ijamri.com
Volume 2, Issue 5, September-October 2026

Projects in my organisation generally achieve their stated objectives.

PME2

Projects in my organisation are generally completed within acceptable time limits.

PME3

Projects are generally completed within approved or acceptable budgets.

PME4

Project outcomes generally meet required quality standards.

PME5

Project resources are used efficiently.

PME6

Major project stakeholders are generally satisfied with project outcomes.

PME7

Projects contribute positively to the strategic objectives of the organisation.