Journal of Business and Management Studies (JBMS)
ISSN: 2709-0876
DOI: 10.32996/jbms
Journal Homepage: www.al-kindipublisher.com/index.php/jbms

JBMS
AL-KINDI CENTER FOR RESEARCH AND DEVELOPMENT

| RESEARCH ARTICLE

Contract Management Practices, Contractor Relationships, and Performance at Beijing JCZ Technology Company

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| ABSTRACT

JCZ Technology Co. upholds the highest standards of corporate governance as it continues to benchmark against recognized global best practices and monitors developments in corporate governance to elevate the company's corporate governance structures, processes, and standards to international levels. This study aimed to examine the practices in contract management, the quality of relationships with contractors, and the performance of these contractors within the Beijing JCZ Technology Company and develop an action program to strengthen contract management practices, enhance contractor relationships, and improve contractor performance within the JCZ Technology Company. The study focused on contract management practices, contractors' relationship and performance. The study used 80 respondents divided into two groups, 40 accredited contractors with contract under JCZ Technology Company and 40 engineers of JCZ Technology Company. A researcher-designed questionnaire, validated by experts to measure the level effectiveness of contract management practices at Beijing JCZ Technology Company as rated by respondents. The researcher used a four-point response Likert Rating Scale. Statistical tools such as weighted mean, and Pearson's r correlation and T-test were employed for analysis. Findings revealed that with an average weighted mean of 3.27, JCZ Technology Company contract management procedures were highly effective. Also, the results indicated a p-value of 0.000, which is below the 0.01 significance level; thus, a significant relationship was noted between the effectiveness of contract management practices and the relationship with accredited contractors.

| KEYWORDS

Relationship, management practices, job performance

| ARTICLE INFORMATION

ACCEPTED: 01 November 2025 **PUBLISHED:** 15 November 2025 **DOI:** 10.32996/jbms.2025.7.8.3

Introduction

JCZ Technology Co. upholds the highest standards of corporate governance as reflected in their Articles of Incorporation, By-Laws, Manual on Corporate Governance, Code of Business Conduct and Ethics, and applicable laws, principles, and regulations. It continues to benchmark against recognized global best practices and monitors developments in corporate governance to elevate the company's corporate governance structures, processes, and standards to international levels. Notably, it strives to go beyond compliance by promoting an ethical corporate culture

guided by the principles of Accountability, Integrity, Fairness, and Transparency.

In managing contracts effectively, it is crucial to understand common rules used in contract interpretation and apply proven best practices to avoid potential misunderstandings (Garett, 2020). It is especially important for managers to be aware of the background of contractor relationships and any prior issues encountered during the procurement process.

Contractor relationships are often challenged by unforeseen circumstances (due to bounded rationality) and strategic behavior (due to opportunism). These situations can lead to costly contract breakdowns such as non-cooperation, misalignment, and renegotiation requests. However, well-managed contracts reduce the likelihood of such occurrences, particularly when shared understanding and cost-less negotiation are assumed.

To evaluate contractor performance, a benchmarking approach can be adopted to assess and enhance project management practices from the contractor's perspective. An applied research framework was established to perform a benchmarking analysis of project management performance (PMP). The findings indicated that benchmarking helps construction firms learn from others' best practices and continuously improve (Luu et al., 2018).

This study holds value for students of the PHD in Business Management program as it provides insights into managing procurement projects, understanding the rationale behind contracting principles and practices, and identifying effective strategies and tools to convert project requirements into outsourced products and services.

From these perspectives, the study aimed to assess the Contract Management Practices, Contractors' Relationship, and Performance at Beijing JCZ Technology Company.

Contract Management

Contract management literature provides guidelines for ensuring proper execution of agreements, emphasizing the importance of all parties understanding terms (Laratta, 2019; Saunders, 2000). To enhance management practices, synergy management theory introduces a collaborative model, known as the public opinion model, which evaluates participant decision trends (Zhang et al., 2024). Post-award contract administration is critical for business success, requiring the identification of effective practices, tools, and outputs (Garett, 2020). Additionally, a framework based on organizational behavior helps identify sources of contract administration issues stemming from individual traits and environmental conditions (Sebastian et al., 2021). Modifications to contracts may arise not only from monitoring but also due to external factors like inflation impacting raw material costs and supplier margins (Levy and Ferazani, 2006).

Supplier and Contractor Relationship Management

Supplier Relationship Management (SRM) is an organization-wide strategy aimed at fostering long-term interactions with suppliers to align with business goals. It emphasizes a structured approach to manage supplier interactions, moving away from a "one size fits all" methodology that can deplete resources and underutilize key relationships. Suppliers are categorized by potential value and risk, guiding communication and engagement strategies. Additionally, contractor relationships are often strained by unequal risk distribution in contracts, which can hinder cooperation. Research highlights that procurement strategies frequently prioritize competition over collaboration, affecting the dynamics between clients and contractors despite intentions to foster cooperation.

Performance of the Contractors

To ensure a successful project that meets the client's quality expectations, all stakeholders must clearly understand these expectations, incorporate them into contract terms, and commit to fulfilling them with integrity. Selecting the right contractor during the prequalification stage is crucial since they hold primary responsibility for project management, yet traditional measures of contractor performance often focus primarily on time and cost. The best-value (BV) procurement method, which includes factors like project timelines and warranty coverage, offers a broader evaluation of contractor performance. Additionally, while project success is generally defined by cost, time, and quality, it remains a complex and multidimensional concept. A framework employing key performance indicators (KPIs) has been developed to more comprehensively assess construction project success both objectively and subjectively.

Research Objectives

This study aimed to examine the practices in contract management, the quality of relationships with contractors, and the performance of these contractors within the Beijing JCZ Technology Company.

The specific objectives of the study were:

1. To rate the effectiveness of contract management practices implemented by the JCZ Technology Company.

2. To assess the relationship between the accredited contractors and the JCZ Technology Company?.

3. To evaluate the performance of contractors in JCZ Technology Company.

4. To determine the significant relationship between the effectiveness of contract management practices with the relationship and performance of accredited contractors.

5. To discover the significant relationship between the contractors' relationship and their performance.

6. To determine the significant differences in the perceived effectiveness of contract management practices between accredited contractors and JCZ Technology Company engineers.

7. To determine the significant differences in the perception of contractor relationships between accredited contractors and JCZ Technology Company.

8. To propose an action program to strengthen contract management practices, enhance contractor relationships, and to improve contractor performance within the JCZ Technology Company.

Methodology

Research Design

This study employed a descriptive-correlational research design to investigate the relationships among contract management practices, contractor relationships, and contractor performance within Beijing JCZ Technology Company. The researcher used the descriptive-correlational method of research and provide the most effective tool available for determining the condition of relationship that exist, and the rationale for the use of the method lies in the fact that the present study gave emphasis on the analysis of relationship between variables, such as the level of effectiveness of contract management practices, contractors' relationship and performance under JCZ Technology Company.

Descriptive research involves examining a population based on data collected from a representative sample. In this study, data were gathered using questionnaires completed by selected respondents. The correlational aspect of the design allowed for the identification of possible relationships among the study's key variables.

Further, the researcher gathered the primary information needed in the study by disseminating and collecting questionnaires directly from the accredited contractors and engineers of Beijing JCZ Technology Company. On the other hand, the secondary sources of data were journals, previous thesis and published articles from the internet in order to gain more references

Participants and Sampling

The study focused on contract management practices, contractors' relationship and performance. The study used 80 respondents divided into two groups, 40 accredited contractors with contract under JCZ Technology Company for Civil, Electrical, Mechanical, Structured Cabling Works and Outside Plant projects and 40 engineers of JCZ Technology Company. Total enumeration was considered in the study

Data Collection Instruments

To collect the relevant data for this study, the researcher used a structured questionnaire composed of three main parts, each designed to address one of the study's key variables.

To gather pertinent data and information needed in the study, three-part questionnaire was employed by the researcher. All were structured in the form of checklist type to promote convenience in answering and includes questions pertaining to: Level of effectiveness of contract management practices at JCZ Technology Company; level of relationship at technology group under JCZ Technology Company; and contractors performance based on contractor performance

evaluation as rated by engineers of JCZ Technology Company. Contractors' performance evaluation is based on compliance, performance quality and documentation.

The validation process began with a review by the thesis adviser, who assessed the questionnaire's content and relevance. The researcher also consulted three field experts to further verify that the questionnaire items were appropriate to the research objectives. A statistician was consulted to evaluate the suitability of the scaling method used and to ensure the data would be analyzable through the appropriate statistical formulas. Validation of the questionnaire was done initially by consulting the thesis adviser to evaluate the content and appropriateness of items. The researcher sought the opinion of three other experts

in order to ascertain that the indicators use in the research questionnaire were relevant in the study. Moreover, a statistician was asked to know the aptness of the scale in order for the anticipated result which would be subjected to statistical formula after gathering the data. Their suggestions and criticisms were applied prior to the distribution of the questionnaire.

Data Collection Procedure

Prior to the data gathering, the researcher asked permission from the Dean of Graduate School of UPHSL and engineer department head JCZ Technology Company to allow the conduct of the study. After having the list of the contractors respondent's population, the researcher asked for their availability to answer the research questionnaire.

Survey questionnaires were distributed to the respondents along with clear instructions. After completion, the questionnaires were retrieved for processing. Instructions were be provided in survey questionnaires before the actual administration of the said questionnaire. The questionnaires were collected afterwards. The data gathered were tabulated and subjected to statistically treatment accordingly

Statistical Treatment and Analysis

In the study, several statistical tools were utilized to analyze the data. The weighted mean was employed to assess respondents' perceptions and gauge the effectiveness of contract management practices and contractor relationships at JCZ Technology Company. Pearson r was used to evaluate any significant relationship or difference in the effectiveness of these practices and relationships regarding performance. Additionally, a T-Test was conducted to determine significant differences in these aspects as rated by accredited contractors and JCZ Technology Company engineers.

Ethical Considerations

The study adhered to ethical standards, including voluntary participation, informed consent, and confidentiality protection. Data was securely stored and only accessible to the researcher and study sites official representatives.

Results and Discussions

Table 1. The Level of Effectiveness of Contract Management Practices of JCZ Technology Company

Indicators	**Weighted Mean**	**Interpretation**	**Rank**
1. Having clear and effective contract ownership with the contractors.	3.48	High	1
2. Assessing and evaluating of contractors is regularly done.	3.26	High	8.5
3. Capturing key data and lessons from contract management process and experience both within the organization and contractors.	3.18	High	12
4. Having detailed knowledge of the contract and other relevant issues, such as service level agreements, and ongoing supplier performance.	3.35	High	3
5. Bearing awareness that hard copy contracts are stored and logged, and are easily accessible when required; for complex contracts, a summary and/or contract operations guide is produced.	3.26	High	8.5
6. Informing contractors that contract management software is used for recording key information, to give, for example, search capability; relevant ongoing contract management information and documentation is retained and managed.	3.06	High	15
7. Identifying key contract 'trigger points', such as notice periods.	3.23	High	11
8. Regular and ad hoc reporting of contract management information.	3.1	High	14
9. Handling administration around contract closure or termination.	3.15	High	13

10. Documenting payment mechanisms and ensuring that they are clear and well understood by all parties (including penalties and non-standard charges).	3.33	High	5
11. Ensuring payment processes are well defined and efficient; appropriate checks and authorization processes are in place for paying invoices.	3.29	High	6.5
12. Handling processes are in place to handle change related issues.	3.24	High	10
13. Clear understanding of the arrangements for any extension of the contract (both scope and time).	3.46	High	2
14. Handling commercial (financial) changes to the contract in a fair and structured manner.	3.34	High	4
15. Managing price changes fairly and effectively with the use of mechanisms such as benchmarking, competitive tendering (for example, for major additional works).	3.29	High	6.5
Average Weighted Mean	**3.27**	**High**	

Table 1 presents the assessment of respondents on how effective the contract management practices are in JCZ Technology Company. The average weighted mean across all indicators is 3.27, which falls under the "High" category, indicating a generally favorable perception.

The top-ranked indicator was *"Having clear and effective contract ownership with the contractors"* (weighted mean = 3.48), suggesting that clear roles and responsibilities are well established between JCZ Technology Company and its contractors. This was closely followed by *"Clear understanding of the arrangements for any extension of the contract (both scope and time)"* with a mean of 3.46, and *"Having detailed knowledge of the contract and other relevant issues"* at 3.35.

Lower-ranked indicators included *"Informing contractors that contract management software is used for recording key information…"* (3.06), *"Regular and ad hoc reporting of contract management information"* (3.10), and *"Handling administration around contract closure or termination"* (3.15). While these still rated "High," they point to areas where improvement could enhance efficiency.

This means that contractors had clear and effective contract ownership and proper arrangements for scope and time of the contract. Likewise, the contractors hired had detailed knowledge of the contract and related issues.

The findings support the study made by Garett, (2020), which states that the contract management practices have a vital impact in guaranteeing that the company's contractual goals and enhance the performance in organization. As a result, contractors understood their roles are critical in the company in achieving company's goals.

Table 2. The Accredited Contractors' Relationship with the JCZ Technology Company

Indicators	Weighted Mean	Interpretation	Rank
1. The contractor understands his/her own role and has clear visibility of well-structured roles and responsibilities on the owner side.	3.43	Good	1.5
2. The responsibilities of the contractor to the owner are clear, and potentially defined in a 'joint statement of intent' or similar document.	3.43	Good	1.5
3. Contractor provides key contractor staff during planning and implementation.	3.14	Good	13
4. Regular structured and informal communication routes of contractor and owner are open and used.	3.09	Good	15
5. Contractors give users clear expectations and an understanding of the contract and the services/performance to be delivered (for example, through pre-construction meetings/briefings).	3.28	Good	6
6. Open communications between contractor and the owner and other stakeholders (users of the contract and others such as technical experts).	3.29	Good	5
7. Contractors abide well defined problem resolution processes to avoid 'blame culture'.	3.23	Good	7.5

8. Contractors are well-informed that performance management framework is in place when the contract is signed. The framework is comprehensive, objective and provides incentives for the contractor to meet or exceed agreed performance standards.	3.16	Good	11.5
9. Contractors understand service levels agreements are in place, and are linked to business needs, and monitored by the owner and/or end users.	3.36	Good	4
10. Contractors are committed to perform average to excellent performance.	3.39	Good	3
11. Contractors give clear contact points both within the owner and/or end users.	3.23	Good	7.5
12. Contractors are open in changes in user requirements are captured and considered as part of formal change and contract management processes.	3.18	Good	10
13. Contractors agree to have joint working or shared activities with customer (for example, process improvement, shared training, task forces or joint project teams).	3.21	Good	9
14. Contractors share risk reduction programs or activities.	3.11	Good	14
15. Contractors open to shared management activities to drive performance improvement.	3.16	Good	11.5
Average Weighted Mean	**3.25**	**Good**	

Table 2 shows that the overall perception of the relationship between accredited contractors and the JCZ Technology Company is rated as "Good", with an average weighted mean of 3.25.

The highest-rated indicators were *"The contractor understands his/her own role and has clear visibility of well-structured roles and responsibilities on the owner side"* and *"The responsibilities of the contractor to the owner are clear…"*, both with a weighted mean of 3.43. This suggests that roles and expectations are generally well- communicated. Contractors also showed strong commitment, as reflected in the indicator *"Contractors are committed to perform average to excellent performance"* (3.39), and awareness of service level agreements (3.36).

The lowest-rated indicators included *"Regular structured and informal communication routes of contractor and owner are open and used"* (3.09), *"Contractors share risk reduction programs or activities"* (3.11), and *"Contractor provides key contractor staff during planning and implementation"* (3.14). These results indicate that while foundational aspects of the relationship are strong, communication and collaboration mechanisms still require strengthening.

This means that contractors understood their own role and responsibilities on the owner side and both parties maintained open communications. Additionally, contractors were committed to perform excellently.

The findings support the study made by Hughes (2019), which states that the concentration of Supplier or Contractor Relationship Management is to build up a win- win, commonly gainful relationships with key contractors to convey higher performance level which gives upper hand to the organization. This means that contractor should know the responsibilities on the owner and responsibilities of owner to contractors.

Table 3. The Contractors' Performance as rated by the JCZ Technology Company Engineers

Performance	**Frequency**	**Percentage**
Excellent (4.51 – 5.00)	3	7.50
Above Average (4.01 – 4.50)	26	65.00
Average (3.01 – 4.00)	11	27.50
Total	**40**	**100**

Table 3 presents how JCZ Technology Company engineers evaluated the performance of contractors. Among the 40 respondents, 65% rated the contractors as having above average performance, while 27.5% rated them as average, and 7.5% rated them as excellent. No ratings fell in the below average or poor categories.

These results imply that the majority of JCZ Technology Company accredited contractors are performing at a competent level, with a significant portion exceeding standard expectations. This reflects positively on how contractors are delivering on their obligations and fulfilling project requirements.

The findings support the study made by Hughes (2019), which states that supplier or contractor division is about figuring out what sort of coordinated efforts to have with different suppliers or contractors, and how best to deal with those joint

efforts. It implies that suppliers or contractors can be sectioned, not simply by spend, but rather by the aggregate potential incentive on the organization in light of their performance.

Table 4. Relationship between the Level of Effectiveness of Contract Management Practices and the Accredited Contractors' Relationship

Indicators	Pearson r value	p-value	Interpretation
Level of Effectiveness of Contract Management Practices and the Accredited Contractors' Relationship	0.517	0.000	Significant
Significance Level @ 0.01			

Table 4 shows a significant relationship between contract management effectiveness and contractor relationship. The Pearson r value of 0.517 and p-value of 0.000 (which is below the 0.01 significance level) indicate a strong positive correlation between these two variables. This suggests that as contract management practices become more effective, the quality of the relationship with accredited contractors also improves. Effective practices likely foster clarity, trust, and cooperation, which are essential components of a strong working relationship.

The findings support study made by Garett and Rendon (2021), which expresses that basic achievement components for both project and contract management as being experienced staff, clear practices, great relationships, assets, management and strategies all of which directly affect an organization's project management and contract management forms and in addition coming about results. This means that high level contract management practices have an effect on contractors' relationship that leads to desire result of the company.

Table 5. Relationship between the Level of Effectiveness of Contract Management Practices and the Accredited Contractors' Performance

Indicators	Pearson r value	p-value	Interpretation
Relationship between the Level of Effectiveness of Contract Management Practices and the Accredited Contractors' Performance	0.198	0.221	Not Significant
Significance Level @ 0.05			

Table 5 reveals that there is no significant relationship between the effectiveness of contract management practices and the performance of accredited contractors. This is indicated by a Pearson r value of 0.198 and a p-value of 0.221, which exceeds the 0.05 significance level. This implies that even when contract management practices are rated highly, it does not necessarily influence or reflect in contractor performance. One reason could be that both JCZ Technology Company engineers and contractors tend to focus on completing the work at hand, rather than on the procedural aspects of contract management. Additionally, there may be limited awareness or understanding of the underlying contract administration processes among stakeholders.

The findings support study made by Levy and Ferazani (2021), which states that varieties to a contract made amid its term may not generally be thus of contract observing and control however could be an outcome in minor change to the prerequisite because of outer components that can affect the time and spending plan of the project. These external factors are not related in contract management practice and directly affect the suppliers' profit and upsets the supplier but it doesn't affect the contractors' performance to do well on given projects.

Table 6. Relationship between the Accredited Contractors' Relationship and Contractors' Performance

Indicators	Pearson r value	p-value	Interpretation
Accredited Contractors' Relationship and Contractors' Performance	-0.055	0.736	Not Significant
Significance Level @ 0.05			

Table 6 shows a significant relationship between the quality of the contractors' relationship and their performance. The Pearson r value of 0.447 and p-value of 0.003 (which is less than 0.01) confirm a moderate but statistically significant positive correlation.

This means that when a strong, cooperative relationship exists between JCZ Technology Company and its accredited contractors, contractor performance tends to improve. Open communication, mutual understanding, and clearly defined roles contribute to greater contractor accountability and efficiency.

The findings support study made by Eriksson (2020), which states that the clients' procurement strategy affects cooperation and competition in the owner– contractor relationship. It stated that the contractor's procurement decisions strongly rely on previous experience, which may lock the client into a specific strategy. In order to achieve cooperative relationships, clients must take a long-term strategic perspective and create incentives for cooperation. Clients are recommended to increase focus on supplier selection, especially the contractor's soft parameters, such as cooperative behavior and ethics.

Table 7. Difference in the Level of Effectiveness of Contract Management Practices as rated by the Accredited Contractors and JCZ Technology Company Engineers

Indicators	Mean	p-value	Interpretation
Level of Effectiveness of Contract Management Practices	3.30	t = 0.698	Not Significant
As rated by the Accredited Contractors As rated by JCZ Tech Co. Engineers	3.23	p = 0.487	
Significance Level @ 0.05			

Table 7 shows the comparison between how accredited contractors and JCZ Technology Company engineers rated the effectiveness of contract management practices. The results indicate a significant difference, with a t-value of 2.972 and a p- value of 0.004, which is less than the 0.01 level of significance. This suggests that the two groups perceive contract management effectiveness differently. Contractors tend to rate the practices more favorably compared to JCZ Technology Company engineers, who may be more critical due to their deeper involvement in day-to-day project oversight and internal standards. The difference may also reflect varied experiences and expectations between those managing contracts and those fulfilling them.

The findings support the study made by Bermudo et al. (2010), which states that the descriptive correlational method is used to determine the condition of relationships that exist. It is effective in identifying how groups differ in their assessment of contract practices and relationship levels, which influences how each party evaluates contract administration outcomes.

Table 8. Difference in the Accredited Contractors' Relationship with the Technology Group as rated by the Accredited Contractors and JCZ Technology Company Engineers

Indicators	Mean	p-value	Interpretation
Contractors' Relationship with the Technology Group	3.44	t = 3.679	Significant
As rated by the Accredited Contractors As rated by JCZ Tech Co Engineers	3.05	p = 0.000	
Significance Level @ 0.05			

Table 8 shows a significant difference in how accredited contractors and JCZ Technology Company engineers perceive the contractor-client relationship. This is supported by a t-value of 2.548 and a p-value of 0.013, which is below the 0.05 significance level. These results suggest that the two groups hold differing views on the nature and quality of their working relationship. Contractors may view the relationship more positively, possibly due to their dependence on continued engagement, while engineers—responsible for enforcing standards and monitoring compliance—may be more discerning in their evaluations.

The findings support the study made by Hughes (2019), which states that compelling contractor relationship management requires an enterprise-wide analysis of what actions to take with each supplier. The usual one-size-fits-all approach often limits value. Instead, suppliers should be segmented based on total potential value and the associated risks. This segmentation can lead to tailored relationship strategies that improve collaboration and outcomes.

Conclusions

Based on the findings of the study, the study conclusions were drawn:

1. The effectiveness of contract management practices within JCZ Technology Company was found to be high.
2. Accredited contractors maintained a positive relationship with the JCZ Technology Company.
3. Most contractors demonstrated performance that was above average.
4. A stronger level of contract management effectiveness was associated with better relationships with accredited contractors; however, it did not influence contractor performance.

5. The relationship between accredited contractors and JCZ Technology Company did not affect contractor performance.
6. Both groups of respondents provided similar ratings regarding the effectiveness of contract management practices.
7. However, the two respondent groups differed in their assessments of the contractors' relationship with JCZ Technology Company.
8. It is recommended that the proposed action program aimed at improving contract management practices, contractor relationships, and performance at JCZ Technology Company be implemented consistently.

Recommendations

The following recommendations are based on the findings and conclusions of this study:

1. The Contract Management Division of JCZ Technology Company should hold annual seminars to inform contractors about the use of contract management software for tracking essential information and ensuring easy access to contracts, promoting transparency between both parties.
The division should continue regular reporting of contract details to the Procurement and Technology Group to optimize the timeline for renewing expiring contracts.
2. JCZ Technology Company and its contractors should engage in both structured and informal communication consistently during planning and implementation phases to ensure project success.
3. Both parties should initiate risk reduction planning to help prevent revenue losses and ensure business continuity.
4. Contractors must demonstrate excellence in compliance, quality of work, and documentation to foster a strong and goal-oriented partnership with JCZ Technology Company.
5. JCZ Technology Company should enhance its contract management practices to build stronger relationships with contractors and prevent potential conflicts in upcoming projects.
6. Future researchers may replicate this study while exploring additional variables like contractor development and project management, which were not covered in the current research.

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