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Factors Contributing to the Underperformance of Local Contractors in Sistan and Baluchestan Province, Iran

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Abstract

This study investigates and prioritizes the factors associated with the underperformance of local contractors in Sistan and Baluchestan Province, Iran, in delivering construction projects and managing contracting businesses. Contractor performance is considered at both project and firm levels, including schedule, cost, quality, contractual compliance, financial stability, business continuity, and competitiveness. A quantitative, descriptive-analytical survey was conducted using responses to a researcher-developed questionnaire. The dataset comprised 50 completed questionnaires and 44 core items covering seven explanatory dimensions: managerial; financial and economic; technical and operational; human resources; contractual and legal; environmental and social; and institutional and stakeholder-related factors. Internal consistency was high, with a Cronbach's alpha of 0.987 for the 44 core items. Because the construct scores deviated significantly from normality, Spearman's rank correlation and the Friedman test were used. All seven dimensions were positively and significantly associated with contractor underperformance ($p < 0.001$). Contractual and legal factors showed the strongest association ($\rho = 0.813$), followed by technical and operational factors ($\rho = 0.798$) and financial and economic factors ($\rho = 0.765$). In contrast, environmental and social factors received the highest average rank in perceived severity, followed by institutional and stakeholder-related factors and human-resource factors. These findings indicate that contractor underperformance is multidimensional: contextual constraints are widely perceived, while contractual and legal problems have the closest statistical association with underperformance in this sample. The results support integrated interventions involving contract administration, technical capacity, cash-flow management, workforce development, stakeholder coordination, and region-sensitive support for local contractors. Since the study is based on 50 respondents and correlational analyses, the findings should not be interpreted as evidence of causation.

Keywords: Local contractors, Construction project performance, Contractor underperformance, Contract management, Sistan and Baluchestan, Small and medium-sized enterprises.

1 | Introduction

The construction industry is central to economic and regional development because it transforms financial, human, and technical resources into infrastructure and public assets. Roads, water and wastewater networks, public buildings, housing, energy facilities, schools, and healthcare facilities contribute to access to essential

services, employment, and regional productivity. In developing economies, the performance of construction projects is particularly consequential because delays, cost overruns, and quality deficiencies can postpone the public and economic benefits expected from infrastructure investment. Research on construction projects has repeatedly shown that delays and cost increases can produce consequences extending beyond an individual project, affecting contractual relationships, organizational resources, and wider social outcomes [1], [2].

Despite advances in project planning, monitoring, and control, construction projects continue to face uncertainty, resource constraints, price fluctuations, scope changes, contractual risks, and coordination challenges. These conditions can interact and lead to delayed completion, additional costs, rework, reduced productivity, quality problems, claims, and disputes. Recent reviews likewise emphasize that delays and cost overruns usually arise from multiple interacting managerial, financial, technical, contractual, institutional, and environmental factors rather than from a single cause [3], [4]. Consequently, contractor performance should be examined through an integrated framework rather than by focusing on one isolated project outcome.

Project success also extends beyond physical completion within the agreed time, cost, and quality parameters. For contracting firms, unresolved claims, financing costs, delayed payments, and the loss of skilled personnel can weaken liquidity and threaten business continuity even when a project is eventually completed. Conversely, sound organizational systems, financial planning, and contract administration can help firms identify emerging problems and limit their effects. Evaluating contractors therefore requires attention to both project performance and the long-term viability of the contracting company, an approach also emphasized in research on small and medium-sized construction enterprises [5–7].

This issue is particularly relevant to local contractors in Sistan and Baluchestan Province, where geographical scale, dispersed project locations, access to specialized resources, infrastructure limitations, and the availability and retention of skilled workers may shape the conditions under which projects are delivered. The performance of local contractors is not only a firm-level concern: It is also connected to local employment, the use of regional capabilities, the effectiveness of infrastructure investment, and the development of the local construction market. Research on small and medium-sized enterprises suggests that their performance is influenced by the interaction of internal capabilities with the business environment, procurement and contracting systems, access to finance, and interorganizational relationships [8], [9].

Nevertheless, findings from other regions cannot automatically be transferred to Sistan and Baluchestan. Existing studies often focus on a particular outcome—such as delay or cost overrun—or examine only one set of determinants. Fewer studies integrate project-level outcomes with the sustainability of the contracting firm while simultaneously comparing managerial, financial and economic, technical and operational, human-resource, contractual and legal, environmental and social, and institutional and stakeholder-related factors in a specific regional setting. This creates a contextual and analytical gap that calls for local empirical evidence.

Accordingly, this study aims to identify, examine, and prioritize the factors associated with the underperformance of local contractors in Sistan and Baluchestan Province in executing construction projects and managing contracting businesses. Underperformance is treated as a multidimensional construct encompassing project delays, unanticipated cost increases, reduced quality, failure to meet contractual obligations, financial difficulties, limited business continuity and development, and declining competitiveness. The study addresses two related questions: which factor groups are perceived as most severe, and which factor groups are most strongly associated with contractor underperformance? Distinguishing these questions is important because the most widely experienced constraints may not be those with the strongest statistical association with the outcome.

The study contributes a regional, multi-dimensional assessment based on the views of people with direct professional experience of construction projects. Its practical purpose is to inform more targeted responses: improving contract and claims management, strengthening technical and operational capacity, supporting cash-flow and cost control, investing in workforce development, improving coordination among project

stakeholders, and adapting institutional support to local conditions. The findings are intended to support contractor capacity-building while maintaining project requirements for time, cost, quality, and accountability.

2 | Literature Review

2.1 | Multidimensional Performance in Construction

Construction performance is commonly discussed in terms of schedule, cost, and quality, but these indicators alone may not capture the consequences of project delivery for the contracting organization. Delays and cost overruns can interact with financing constraints, contractual disputes, resource availability, and stakeholder coordination. Recent studies and reviews describe construction underperformance as the outcome of interacting factors across managerial, financial, technical, contractual, and external environments [10], [11]. For contractors, performance assessment should therefore incorporate both project outcomes and indicators of organizational resilience, including liquidity, continuity of operations, retention of personnel, and the capacity to compete for future work [12].

Managerial capability affects the planning and control of project schedules, progress, resources, internal responsibilities, and decisions. Weak planning, ineffective coordination, limited managerial experience, and inadequate use of project-management tools can make it difficult to detect deviations and respond in time. Research on construction SMEs in Iran has highlighted the importance of organizational capabilities, technology, and human resources to firm success [13]. Studies of project delays also point to the combined role of management, design, finance, and decision-making rather than a single operational deficiency [14].

Technical and operational capacity includes access to suitable equipment and materials, practical experience, quality control, compliance with standards, and coordination of site activities. Deficiencies in these areas can contribute to rework, inefficient resource use, schedule slippage, and reduced quality. Human-resource capacity is closely connected to these issues: Shortages of skilled personnel, difficulties recruiting specialists, migration, retention problems, and mismatches between workers' skills and project requirements can constrain both operational delivery and organizational development [15], [16]. These relationships suggest that training, retention, practical experience, and systematic capability development should be considered together.

Contractors must finance ongoing labor, equipment, materials, and overhead costs while payments may depend on measurement, certification, and administrative approval. Limited working capital, delayed receivables, price volatility, weak cost control, and restricted access to finance can therefore undermine the ability to maintain operations. Research on construction SMEs and project risks has identified financial conditions and payment mechanisms as important considerations for contractor performance [17], [18].

Contractual and legal arrangements shape the allocation of risk, the interpretation of obligations, the treatment of variations, and the resolution of claims. Ambiguous tender documents, limited contractual knowledge, ineffective management of changes and claims, and delayed contractual payments may generate disputes and additional pressure on a contractor's resources. Research on claims and dispute resolution emphasizes documentation and the management of contractual processes, while studies of project closeout show that claims and settlement issues can continue to affect a firm after physical work has ended [9], [10]. Contract management should therefore be understood as a core component of contractor capability rather than a purely administrative function.

Contractors operate within geographical, social, market, and institutional contexts that may be beyond their direct control. Distance from suppliers, dispersed project sites, infrastructure limitations, restricted access to specialist services, and limited training opportunities can increase the complexity of construction delivery. Research on construction procurement has also examined how procurement approaches can contribute to social and economic development, including local employment and capacity-building [11]. Such benefits,

however, depend on the ability to connect local participation with practical capability, appropriate procurement arrangements, and project requirements.

Project outcomes also depend on interactions among clients, contractors, consultants, suppliers, public agencies, and local stakeholders. Delayed decisions, lengthy administrative processes, inadequate coordination, and unclear expectations can disrupt project execution. Stakeholder research emphasizes the importance of identifying relevant actors, maintaining communication, and clarifying project responsibilities to reduce conflict and improve delivery [12]. The business environment of SMEs is similarly shaped by regulation, policy, industrial networks, competition, and technological conditions [6]. These findings support examining external and institutional influences alongside the internal capabilities of contractors.

The reviewed literature points to seven interrelated dimensions: managerial; financial and economic; technical and operational; human resources; contractual and legal; environmental and social; and institutional and stakeholder-related factors. However, three gaps remain relevant to the present study. First, project-focused studies do not always examine the sustainability of the contractor as a business. Second, results obtained in other geographic or institutional settings may not reflect the constraints experienced by local contractors in Sistan and Baluchestan. Third, the seven dimensions are not always assessed together in a framework that distinguishes perceived severity from the strength of association with underperformance. The present study addresses these gaps by assessing all seven dimensions against a multidimensional measure of contractor underperformance and by using both correlation analysis and factor ranking.

3 | Research Methodology

3.1 | Research Type and Design

The present study is applied in terms of purpose because its findings address the practical problem of local contractor performance and may be used to identify areas requiring managerial, financial, technical, and institutional improvement. In terms of nature, the study is descriptive–analytical and correlational. The descriptive component examines the status and perceived importance of the factors under study, while the analytical component examines the relationships between the independent factors and the underperformance of local contractors.

The study follows a quantitative approach and uses a survey method. Theoretical information is obtained from library and documentary sources, while the main study data are collected through a researcher-developed questionnaire. This approach is consistent with the approved research proposal, which emphasizes using documentary studies to identify indicators and field research to assess the importance and influence of the factors.

3.2 | Study Population

The study population comprises individuals with direct experience or professional knowledge related to construction projects in Sistan and Baluchestan Province. As specified in the research proposal, this population includes active contractors, managers of contracting companies, project managers, technical and implementation specialists, managers and experts in executive agencies acting as clients, and consultants and supervisors involved in the province's construction projects.

These groups were selected because they are directly connected to issues such as project planning and control, financing, implementation, human-resource management, contracts, client–consultant relationships, and the province's environmental conditions. Their responses can therefore provide a more realistic picture of the factors affecting the performance of local contractors.

3.3 | Sampling Method and Sample Size

Given the specialized nature of the study population and the need for respondents to have relevant experience, purposive sampling is used for the quantitative component. Under this approach, the questionnaire is distributed to people with professional experience in provincial construction projects or with contracting companies, executive agencies, and consulting firms.

The research proposal specifies that the sample size is to be determined using either the Morgan table or the Cochran formula.

3.4 | Research Variables

The research model consists of seven independent variables and one dependent variable. The independent variables are managerial factors; financial and economic factors; technical and operational factors; human-resource factors; contractual and legal factors; environmental and social factors; and institutional and stakeholder-related factors. The dependent variable is the underperformance of local contractors in project delivery and the management of contracting businesses.

In this study, underperformance is not limited to complete project failure or suspension. Its main dimensions include execution delays, unanticipated cost increases, declining quality, failure to fulfill contractual obligations, financial problems, inability to sustain and develop the company's activities, and reduced competitiveness.

3.5 | Data Collection Instrument

The main data collection instrument is a researcher-developed questionnaire. It was structured around the main dimensions of the study and the items associated with each dimension. Responses are measured on a five-point Likert scale ranging from "very low" to "very high," allowing respondents to indicate the perceived effect or severity of each indicator in relation to the underperformance of local contractors.

The initial version of the items covers seven groups of independent factors and one section concerning the consequences of underperformance. This chapter focuses on the measurement structure of the variables; technical details concerning the form design and questionnaire-development process are not included in the methodology text.

Table 1. Dimensions and main indicators in the initial questionnaire.

Variable/Construct	Main Indicators	Number of Items
Managerial factors	Weak planning, time and progress control, inappropriate decision-making, unsuitable organizational structure, insufficient use of project-management tools, weak coordination, limited managerial skills and experience	7
Financial and economic factors	Lack of liquidity, difficulty securing working capital, delayed receipt of receivables, fluctuations in material and equipment prices, weak cost control, difficulties obtaining financial resources, weak financial planning	7
Technical and operational factors	Inadequate equipment and machinery and weak technical knowledge, limited execution experience, difficulty procuring materials and equipment, weak quality control, noncompliance with standards, weak operational planning, poor operational coordination	7
Human-resource factors	Shortage of specialists, difficulty recruiting skilled workers, migration and difficulty retaining specialists, mismatch between employee skills and project requirements	4
Contractual and legal factors	Limited contract knowledge, weak management of variations and claims, ambiguity or deficiencies in tender and contract documents, delays in contractual payments	4

Table 1. Continued.

Variable/Construct	Main Indicators	Number of Items
Environmental and social factors	Regional infrastructure constraints, geographical conditions and access difficulties, limited training and specialist facilities, migration of skilled workers and relevant social conditions	4
Institutional and stakeholder-related factors	Weak client–contractor coordination, insufficient consultant cooperation, lengthy administrative processes, pressures and expectations of local stakeholders	4
Underperformance of local contractors	Delays, cost increases, reduced quality, failure to meet obligations, financial problems, inability to sustain and develop business activity, reduced competitiveness	7

Note: The item counts reflect the initial version of the instrument and may change slightly after face and content validity are assessed.

3.6 | Measurement Scale and Scoring

The main questionnaire items are measured using a five-point Likert scale. Each response option is assigned a numerical score, with higher scores indicating greater perceived severity or importance of the factor. Each construct score is calculated as the mean of its items. Using the mean preserves the original response scale and facilitates comparisons across the study dimensions.

Table 2. Scoring of the five-point Likert scale.

Response Option	Score
Very low	1
Low	2
Moderate	3
High	4
Very high	5

3.7 | Questionnaire Validity

Instrument validity refers to the extent to which the items appropriately represent the concept being measured. In this study, face and content validity are used for the initial assessment of the instrument. According to the research proposal, the questionnaire is to be reviewed by five faculty members specializing in construction management and ten senior contracting managers. The review focuses on clarity of wording, the fit between each item and its construct, adequate coverage of the study dimensions, and the removal of potential overlap or ambiguity.

Because the questionnaire is still at the finalization stage, its validity cannot yet be treated as confirmed. The expert review will provide the basis for finalizing the instrument.

3.8 | Questionnaire Reliability

Reliability indicates the stability and internal consistency of the items measuring a construct. Cronbach's alpha is selected to assess reliability. According to the research proposal, reliability is to be calculated from a pilot test involving approximately 30 members of the target population, with an alpha value above 0.70 considered acceptable.

Cronbach's alpha is calculated separately for each multi-item construct. If a dimension shows low reliability, the relationship between each item and the construct's total score, as well as the effect of deleting the item on alpha, will be examined. However, item deletion will not be based solely on the statistical value; conceptual consistency will also be considered.

3.9 | Data Collection Procedure

Field data are collected electronically through a questionnaire link. The link is distributed to eligible members of the target population, and responses are recorded in a data file without an initial manual-entry step. The electronic form makes it possible to check whether the main responses are complete and to reduce data-entry errors.

Test responses or responses submitted solely to check the technical operation of the form are not treated as study data. Only genuine and usable responses are included in the final dataset for analysis.

3.10 | Data Analysis Methods

Data are analyzed at both descriptive and inferential levels, primarily using SPSS. Descriptive analysis uses frequencies, percentages, means, standard deviations, minima, and maxima to summarize responses and study constructs.

For inferential analysis, the distribution of construct scores is first examined using descriptive indicators and appropriate tests, such as the Shapiro–Wilk or Kolmogorov–Smirnov test. Pearson’s correlation coefficient is used to examine relationships between the independent factors and the underperformance variable when parametric assumptions are met; Spearman’s correlation coefficient is used under nonparametric conditions. The significance level is set at 0.05.

To compare and prioritize the seven factor groups, construct mean scores are used for an initial comparison, and the Friedman test is applied when appropriate. Multi-criteria decision-making methods, such as the Analytic Hierarchy Process (AHP) and TOPSIS, are mentioned in the research proposal as possible analytical options but require specific data, such as pairwise comparisons or a decision matrix. They are therefore not treated as the primary methods for the current questionnaire structure.

If the sample size is sufficient and the relevant statistical assumptions are met, multiple regression is also used to examine the relative contribution of the factors to explaining local contractor underperformance. This analysis allows the relative predictive contributions of managerial, financial, technical, human-resource, contractual, environmental, and institutional factors to be compared.

Table 3. Summary of data analysis methods.

Analytical Objective	Method / Indicator
Describe responses and constructs	Frequencies, percentages, means, standard deviations, minimum and maximum
Assess reliability	Cronbach’s alpha
Assess data distribution	Shapiro–Wilk or Kolmogorov–Smirnov test and descriptive indicators
Examine relationships between variables	Pearson’s or Spearman’s correlation
Prioritize factors	Comparison of means and, when needed, the Friedman test
Assess relative contributions of factors	Multiple regression, if sample size and assumptions are adequate

3.11 | Research Ethics

Participation is voluntary, and the overall purpose of the study is explained to respondents at the beginning of the questionnaire. The collected information is used only for the academic purposes of the thesis, and results are reported in aggregate form.

Unnecessary identifying information is not collected, and the confidentiality of responses is emphasized. Respondents are free to select their answers, and test data or responses that do not meet the required conditions are excluded from the final dataset.

4 | Results

4.1 | Data Screening and Preparation

The data in this chapter were extracted from the responses recorded in the study questionnaire. A total of 50 questionnaires were present in the data file, and all 50 were retained for analysis. No missing data were observed across the 44 main questionnaire items, and no respondent was removed from the analysis. In addition to the 44 main items, two supplementary questions appeared at the end of the form: One asked respondents to directly evaluate the seven factor groups, and the other asked for an overall assessment of the underperformance of local contractors.

For analysis, Likert-scale responses were coded numerically: “very low” = 1, “low” = 2, “moderate” = 3, “high” = 4, and “very high” = 5. Each construct score was calculated as the mean of its corresponding items. Because separate demographic and professional variables were not recorded in the final form, the analyses in this chapter focus on item responses and relationships among the study constructs.

Table 4. Status of the data used in the analysis.

Indicator	Value
Number of questionnaires	50
Number of main items	44
Number of main constructs	8
Responses excluded	0
Missing data across the main items	0

4.2 | Reliability of the Research Instrument

Cronbach’s alpha was used to assess the internal consistency of the items in each construct. The alpha coefficient for all 44 main items was 0.987. In addition, alpha exceeded 0.70 for every construct. These results indicate satisfactory internal consistency among the items of each dimension and an appropriate level of reliability for the research instrument.

Table 5. Cronbach’s alpha results for the study constructs.

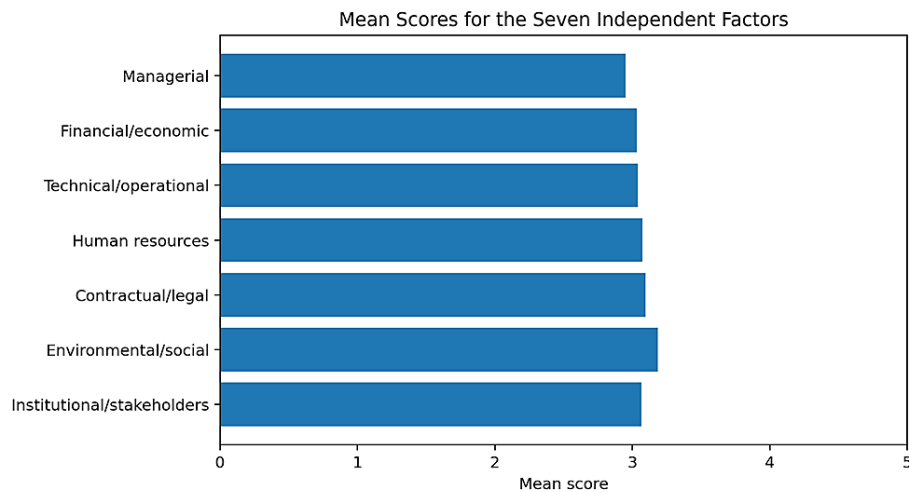
Construct	Number of Items	Cronbach’s Alpha
Managerial factors	7	0.907
Financial and economic factors	7	0.943
Technical and operational factors	7	0.937
Human-resource factors	4	0.887
Contractual and legal factors	4	0.920
Environmental and social factors	4	0.922
Institutional and stakeholder-related factors	4	0.926
Underperformance of local contractors	7	0.938
All main items	44	0.987

4.3 | Descriptive Statistics for the Study Constructs

The means of the seven independent constructs ranged from 2.951 to 3.185. Environmental and social factors had the highest mean (3.185), followed by contractual and legal factors (3.095) and human-resource factors (3.075). Managerial factors had the lowest mean (2.951). The mean score for the underperformance of local contractors was 3.074.

Table 6. Descriptive statistics for the study constructs.

Construct	Mean	Standard Deviation	Minimum	Maximum
Managerial factors	2.951	0.920	1.000	5.000
Financial and economic factors	3.031	1.002	1.000	5.000
Technical and operational factors	3.040	0.977	1.000	5.000
Human-resource factors	3.075	0.945	1.000	5.000
Contractual and legal factors	3.095	0.953	1.000	5.000
Environmental and social factors	3.185	0.975	1.000	5.000
Institutional and stakeholder-related factors	3.065	1.011	1.000	5.000
Underperformance of local contractors	3.074	0.959	1.000	5.000

**Fig. 1. Comparison of the mean scores for the seven factors associated with local contractor underperformance.**

An examination of the items measuring the dependent variable shows that “project execution delays” and “financial problems within the contracting company” shared the highest mean score among the underperformance indicators (3.14 each). They were followed by “inability to sustain and develop the company’s activities” and “reduced company competitiveness,” each with a mean of 3.12. The lowest mean in this group was for “reduced project execution quality” (2.98).

Table 7. Descriptive statistics for the underperformance indicators.

Indicator	Mean	Standard Deviation
Project execution delays	3.14	1.143
Unanticipated cost increases	3.02	1.134
Reduced project execution quality	2.98	1.204
Failure to fully meet contractual obligations	3.00	1.143
Financial problems within the contracting company	3.14	1.050
Inability to sustain and develop company activities	3.12	1.118
Reduced company competitiveness	3.12	1.062

4.4 | Normality of the Construct Distributions

Given the sample size of 50, the Shapiro–Wilk test was used to examine the normality of construct scores. The significance level for every construct was below 0.05; therefore, the assumption of normally distributed

scores was rejected. Accordingly, Spearman's correlation coefficient was used to examine relationships among variables, and the Friedman test was used to compare factor rankings.

Table 8. Shapiro-wilk test results for the study constructs.

Construct	W Statistic	Significance Level	Result
Managerial factors	0.940	0.013	Non-normal
Financial and economic factors	0.940	0.013	Non-normal
Technical and operational factors	0.935	0.008	Non-normal
Human-resource factors	0.936	0.010	Non-normal
Contractual and legal factors	0.923	0.003	Non-normal
Environmental and social factors	0.929	0.005	Non-normal
Institutional and stakeholder-related factors	0.910	0.001	Non-normal
Underperformance of local contractors	0.928	0.005	Non-normal

4.5 | Testing the Research Hypotheses

Spearman's correlation coefficient was used to examine the relationship between each of the seven independent factors and the underperformance of local contractors. All relationships were positive and statistically significant. The strongest relationship was observed for contractual and legal factors ($\rho = 0.813$), followed by technical and operational factors ($\rho = 0.798$) and financial and economic factors ($\rho = 0.765$). The weakest relationship, although still positive and statistically significant, was associated with human-resource factors ($\rho = 0.706$).

Table 9. Spearman correlation results and status of the hypotheses.

Hypothesis	Independent Factor	Spearman's ρ	Significance Level	Result
1	Managerial factors	0.739	< 0.001	Supported
2	Financial and economic factors	0.765	< 0.001	Supported
3	Technical and operational factors	0.798	< 0.001	Supported
4	Human-resource factors	0.706	< 0.001	Supported
5	Contractual and legal factors	0.813	< 0.001	Supported
6	Environmental and social factors	0.747	< 0.001	Supported
7	Institutional and stakeholder-related factors	0.728	< 0.001	Supported

Accordingly, all seven research hypotheses were supported at the level of statistical association. The positive coefficients indicate that greater reported problems in each dimension were associated with higher underperformance scores for local contractors. Contractual and legal factors showed the strongest correlation with underperformance.

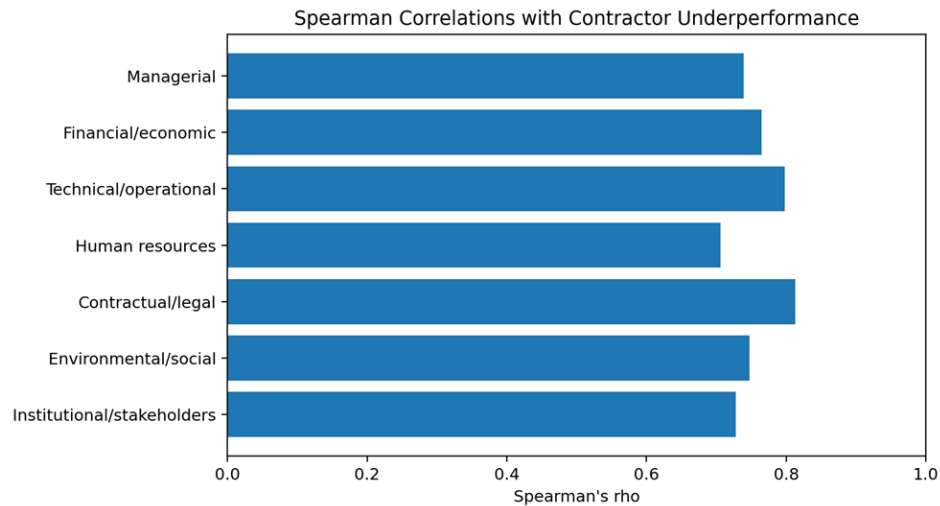


Fig. 2. Spearman correlation coefficients between the seven factors and local contractor underperformance.

4.6 | Ranking the Factors Associated with Underperformance

The Friedman test was conducted to compare the seven factor groups simultaneously. The chi-square statistic was 15.795, with a significance level of 0.015. Thus, differences in the respondents' rankings of the factors were statistically significant. Based on the mean ranks, environmental and social factors ranked first (mean rank = 4.75), followed by institutional and stakeholder-related factors and human-resource factors.

Table 10. Friedman ranking of the seven factor groups.

Rank	Factor	Mean Rank	Construct Mean
1	Environmental and social factors	4.75	3.185
2	Institutional and stakeholder-related factors	4.19	3.065
3	Human-resource factors	4.13	3.075
4	Contractual and legal factors	4.10	3.095
5	Technical and operational factors	3.80	3.040
6	Financial and economic factors	3.71	3.031
7	Managerial factors	3.32	2.951

Note: The Friedman test yielded $\chi^2 = 15.795$, $df = 6$, and $p = 0.015$.

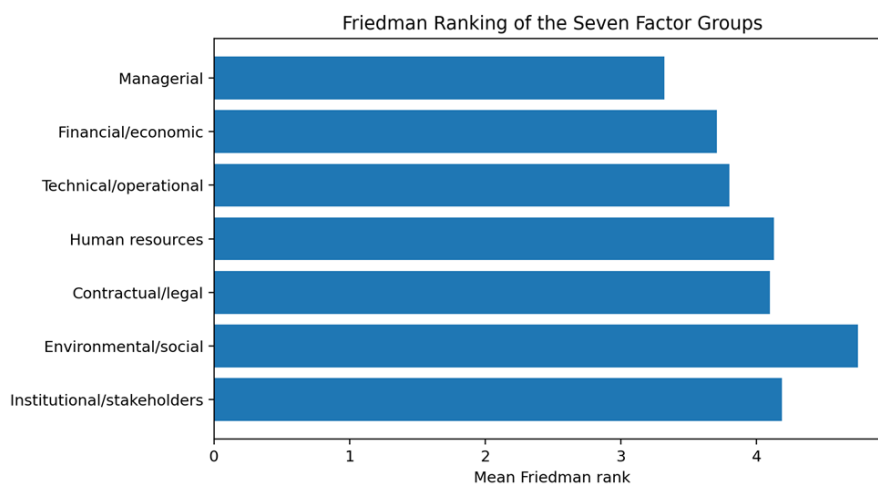


Fig. 3. Ranking of the factors associated with underperformance based on the Friedman Test.

4.7 | Results of the Supplementary Questionnaire Questions

In the supplementary question asking respondents to directly evaluate the seven factor groups, environmental and social factors again achieved the highest mean (3.32). They were followed by institutional and stakeholder-related factors (3.26) and contractual and legal factors (3.24). This result generally aligns with the ranking of the main constructs and highlights the perceived importance of environmental, institutional, and contractual dimensions.

Table 11. Direct assessment of the seven factor groups in the supplementary question.

Factor	Mean	Standard Deviation
Managerial factors	3.18	1.063
Financial and economic factors	3.00	1.010
Technical and operational factors	2.90	1.055
Human-resource factors	3.04	1.029
Contractual and legal factors	3.24	1.061
Environmental and social factors	3.32	1.253
Institutional and stakeholder-related factors	3.26	1.121

For the final question, respondents' overall assessment of the underperformance of local contractors had a mean of 3.24 and a standard deviation of 1.001. The "moderate" and "high" options were most frequent, each selected by 19 respondents. In total, 22 respondents selected either "high" or "very high."

Table 12. Frequency distribution of the overall assessment of local contractor underperformance.

Response Option	Frequency	Percentage
Very low	4	8.0
Low	5	10.0
Moderate	19	38.0
High	19	38.0
Very high	3	6.0
Total	50	100.0

5 | Discussion of the Findings

This section interprets the findings from the analysis of 50 questionnaires in relation to the research problem, hypotheses, and theoretical foundations. The main objective was to identify and analyze factors associated with the underperformance of local contractors in Sistan and Baluchestan Province in executing construction projects and managing contracting businesses. The results showed that all seven dimensions studied were positively and significantly associated with underperformance. The issue is therefore multidimensional and cannot be attributed solely to an internal company weakness or a single external constraint.

Two indicators should be distinguished when interpreting the results: first, the perceived severity of each factor, reflected in the mean scores and Friedman ranks; and second, the strength of each factor's relationship with underperformance, measured by Spearman's correlation. This distinction matters because a factor may be widespread and highly visible in contractors' operating environment, while a different factor may have a closer statistical association with underperformance.

5.1 | Summary of the Main Findings

The overall mean score for the underperformance of local contractors was 3.074. In the final overall-assessment question, the mean was 3.24, and 44% of respondents assessed underperformance as "high" or

“very high.” In contrast, 38% selected “moderate,” while 18% selected “low” or “very low.” This distribution suggests that, in the sample examined, underperformance was considered a notable issue, although its perceived severity varied among respondents.

Among the outcome indicators, “project execution delays” and “financial problems within the contracting company” had the highest means (3.14 each). They were followed by “inability to sustain and develop company activities” and “reduced company competitiveness,” both with means of 3.12. This pattern suggests that underperformance is visible not only in project delivery but also in the economic stability and future prospects of the contracting business. The multidimensional nature of such outcomes is also consistent with research on project success and construction cost and schedule performance [2], [5], [6], [8], [9].

In terms of the strength of the relationship with the dependent variable, contractual and legal factors ranked first (Spearman’s $\rho = 0.813$), followed by technical and operational factors ($\rho = 0.798$) and financial and economic factors ($\rho = 0.765$). All coefficients were positive and significant at $p < 0.001$. In contrast, the Friedman test identified environmental and social factors as the most severe in respondents’ assessments (mean rank = 4.75), followed by institutional and stakeholder-related factors and human-resource factors.

Table 13. Summary of the main study results.

Factor	Spearman’s ρ with Underperformance	Mean Friedman Rank	Rank by Perceived Severity
Managerial factors	0.739	3.32	7
Financial and economic factors	0.765	3.71	6
Technical and operational factors	0.798	3.80	5
Human-resource factors	0.706	4.13	3
Contractual and legal factors	0.813	4.10	4
Environmental and social factors	0.747	4.75	1
Institutional and stakeholder-related factors	0.728	4.19	2

5.2 | Discussion and Interpretation of the Findings

5.2.1 | Contractual and legal factors

The strongest statistical relationship in the study was found for contractual and legal factors. Spearman’s $\rho = 0.813$ indicates that greater problems involving limited contract knowledge, ineffective management of variations and claims, ambiguous tender or contract documents, and delayed contractual payments were associated with higher underperformance scores. This result is managerially important: project outcomes depend not only on a contractor’s technical ability, but also on how the contract is prepared, understood, administered, and managed. Research on construction delays, stakeholder management, and delayed contractor payments similarly highlights the importance of contract administration, payment processes, and coordination among parties [6], [10], [13].

5.2.2 | Technical and operational factors

Technical and operational factors had the second-strongest relationship with underperformance ($\rho = 0.798$). The dimension includes inadequate equipment and machinery, insufficient practical experience, difficulties obtaining materials, weak quality control, noncompliance with standards, and deficient operational planning and coordination. The result indicates that weak implementation capacity can lead to delays, rework, lower quality, and inefficient resource use even when contractual and financial conditions are otherwise favorable. Previous research on construction SMEs, project delays, and contractor success has emphasized technical capability, equipment, planning, and competent project teams [1], [5], [6], [16], [17]. Systematic work on construction quality also identifies the importance of quality-related management factors [15].

5.2.3 | Financial and economic factors

Financial and economic factors had the third-strongest relationship with underperformance ($q = 0.765$). Insufficient liquidity, difficulty securing working capital, delayed receivables, fluctuations in the prices of materials and equipment, weak cost control, and restricted access to finance can reduce a contractor's ability to sustain operations. In contracting businesses, expenditure occurs continuously, whereas payment depends on the certification of statements and the payment cycle. The gap between outgoing and incoming cash flows can therefore slow project activity and place pressure on the company. Prior studies of small contractors, cost overruns, payment delays, and construction cost estimation have documented the relevance of financial conditions, price fluctuations, and cash-flow management [7], [9], [13], [14]. In the present study, "financial problems within the contracting company" was also one of the two outcome indicators with the highest mean. This overlap suggests that finance functions both as a background condition and as a visible consequence in the cycle of underperformance.

5.2.4 | Environmental and social factors

Environmental and social factors ranked first in perceived severity in the Friedman test, and their construct mean of 3.185 was the highest among the seven factors. The dimension includes geographical conditions and dispersed project locations, regional infrastructure limitations, access difficulties, a shortage of training and specialist facilities, and the migration of skilled workers. This finding is consistent with the contextual characteristics of Sistan and Baluchestan Province: Geographic scale, distance from some supply centers, and restricted access to selected resources can increase project costs and implementation complexity. Research on the operating environment of small and medium-sized contractors and on construction procurement's socioeconomic objectives underscores the relevance of external conditions and the development of local capacity [3], [12], [17].

From a theoretical perspective, the finding can be interpreted through the contingency approach: organizational performance depends partly on the fit between internal capabilities and environmental conditions. Regional development goals, employment, and the use of local capacity are more likely to be achieved when they are deliberately incorporated into procurement and contracting arrangements. Local status by itself does not guarantee either an advantage or a disadvantage; the key issue is whether a firm can translate local knowledge into implementation capability, supply networks, workforce access, and effective management of regional conditions [3], [12].

5.2.5 | Managerial factors

Managerial factors had a positive and significant relationship with underperformance ($q = 0.739$), although they ranked seventh by mean Friedman rank. The difference indicates that a lower perceived-severity rank does not necessarily mean that a factor is unimportant. Weak planning, time and progress control, decision-making, organizational structure, internal coordination, and limited use of project-management tools were still strongly associated with underperformance. Research on contractor-oriented project success evaluation, sustainable project management, and contractor success factors similarly emphasizes planning, organizational systems, and management capability [1], [2], [11], [16]. Thus, even if respondents perceived managerial problems as less severe than environmental constraints, improving planning, monitoring, and decision-making remains an important area that contracting companies can address directly.

5.2.6 | Institutional and stakeholder-related factors

Institutional and stakeholder-related factors ranked second in perceived severity (mean rank = 4.19), and their correlation with underperformance was 0.728. Weak client-contractor coordination, inadequate consultant cooperation, lengthy administrative processes, and pressures or expectations from local stakeholders can disrupt decision-making and project execution. This result suggests that a substantial share of performance risk arises outside the formal boundaries of the contracting company and therefore requires multi-party cooperation. Research on multidimensional performance measurement for small and medium contractors,

stakeholder-management performance, and construction procurement supports the importance of client, consultant, supplier, and institutional relationships in construction outcomes [4], [10], [12].

Consequently, attributing all project problems to the contractor's capabilities provides an incomplete picture. The performance of clients, consultants, administrative bodies, suppliers, and other stakeholders should also be considered when evaluating project outcomes [4], [10].

5.2.7 | Human-resource factors

Human-resource factors had the lowest correlation coefficient among the seven dimensions ($\rho = 0.706$), but the relationship remained positive and statistically significant. This dimension also ranked third in perceived severity according to the Friedman test. Shortages of specialists, difficulties recruiting skilled workers, the migration and retention of experts, and mismatches between employee capabilities and project requirements can limit a company's technical and managerial performance. Its third-place perceived-severity ranking indicates that access to and retention of skilled personnel are noticeable challenges for local contractors. Studies on Iranian construction SMEs, the operating environment of smaller contractors, and contractor success identify human resources, technical capacity, and organizational capabilities as important to business performance [1], [3], [7], [16]. In the provincial context, recruitment alone is unlikely to ensure a sustainable human-capital base unless it is accompanied by retention plans, training, and opportunities for professional development.

5.2.8 | Interpreting the difference between factor rankings and correlation strength

An important finding is that the factor order based on the Friedman test differs from the order of the correlation coefficients. Environmental and social factors ranked first in perceived severity, whereas contractual and legal factors had the strongest relationship with underperformance. Similarly, technical and operational factors ranked fifth in perceived severity but second in correlation strength.

This difference is not a statistical contradiction because the two analyses answer different questions. Friedman ranks indicate which problems respondents experience as more widespread or severe, whereas correlation coefficients indicate which factors vary more closely with the underperformance score. The results therefore suggest that environmental and social constraints are more pervasive in the operating context of local contractors, while contractual and legal problems, when they intensify, are more closely associated with underperformance outcomes. This distinction is important for setting management and policy priorities.

6 | Conclusion

This study examined factors associated with the underperformance of local contractors in Sistan and Baluchestan Province, Iran, using 50 completed questionnaires. The findings indicate that underperformance is multidimensional and cannot be adequately explained by either internal firm weaknesses or external constraints alone. All seven examined dimensions—managerial, financial and economic, technical and operational, human resources, contractual and legal, environmental and social, and institutional and stakeholder-related factors—showed positive and statistically significant associations with underperformance (all $p < 0.001$).

Contractual and legal factors had the strongest association with underperformance (Spearman's $\rho = 0.813$), followed by technical and operational factors ($\rho = 0.798$) and financial and economic factors ($\rho = 0.765$). Meanwhile, the Friedman ranking identified environmental and social factors as the most severe in respondents' assessments, followed by institutional and stakeholder-related factors and human-resource factors. This difference is meaningful: the most commonly perceived constraints are not necessarily those most closely associated with the underperformance score. Environmental and social conditions may be widely experienced in the regional context, whereas contractual and legal difficulties showed the strongest statistical association with the measured outcome in this sample.

The outcome indicators further show that project delays and financial problems within contracting firms had the highest mean scores (3.14 each), followed by difficulties sustaining and developing the business and declining competitiveness (3.12 each). These results reinforce the need to assess contractor performance at both project and firm levels. A project may face difficulties not only through delays or cost increases, but also through the financial and organizational effects that limit a contractor's ability to continue operating and undertake future projects.

In practical terms, the findings support several complementary priorities. First, local contractors should strengthen contract literacy, tender-document review, variation and claims management, record keeping, and payment follow-up. Second, technical capacity can be improved through realistic work planning, equipment and material procurement, quality-control procedures, and systematic development of operational experience. Third, contractors and clients should give greater attention to cash-flow forecasting, working-capital requirements, cost monitoring, and predictable payment processes. Fourth, workforce policies should combine recruitment with training, retention, and career development. Finally, public agencies, clients, consultants, and local stakeholders should improve coordination and consider the geographical and infrastructure conditions affecting projects in the province. Local-contractor support is most likely to be effective when it builds measurable capability while preserving standards for quality, time, cost, and accountability.

These conclusions should be interpreted in light of the study's limitations. The analysis is based on 50 respondents, and the results reflect the perceptions and experiences represented in this sample. The correlational design identifies associations but does not establish causality. Further research could use larger and more diverse samples, compare contractors by size and project type, and combine survey results with project records on delays, cost changes, claims, payment cycles, and business continuity. Such work would help test the stability of the present findings and develop more precise, evidence-based interventions for local contractors.

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