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Bid Evaluation Criteria for Successful Project Delivery in Private Sector

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Abstract

This study developed project-specific bid evaluation criteria for private construction projects in Pampanga by determining the importance project managers assigned to contractor attributes and supporting bid documents. Anchored in Utility Theory, Prospect Theory, Multi-Attribute Utility Theory, and Decision Theory, the study employed a quantitative research design using survey questionnaires. A total of 150 licensed engineers and architects with at least 10 years of professional experience participated through judgmental sampling. Data were analyzed using the Relative Importance Index to rank contractor attributes and bid documents according to project type and respondent profile. The findings showed that Technical and Managerial Capability received the highest weight for residential and industrial projects, while Experience and Past Performance ranked first for commercial projects. Bid Price was the dominant criterion for infrastructure projects, whereas Financial Capacity consistently received the lowest weight across all project categories. Differences were also observed according to professional and organizational profiles. Engineers and consultants prioritized Technical and Managerial Capability, architects emphasized Experience and Past Performance, and client representatives assigned the greatest importance to Bid Price. Most supporting bid documents received relatively balanced weights; however, Health, Environmental, Safety, and Social Management Plans and records of historical contract non-performance, pending litigation, and litigation history were consistently rated lower. The study concluded that contractor selection should use a project-specific, multi-criteria framework rather than rely solely on the lowest bid. Further research was recommended on the relationship between contractors' contractual history and actual project performance and on infrastructure bid criteria using performance specifications. The study supports SDGs 8, 9, 11, 12, and 16 by promoting competent contractors, reliable infrastructure, efficient resource use, safer project delivery, and transparent procurement decisions. Its sustainability impact lies in strengthening economic, institutional, operational, environmental, and occupational performance in private construction projects.

Keywords: Bid Documents, Bid Evaluation Criteria, Contractor Attributes, Contractor Selection, Financial Capacity, Private Construction Projects, Project Managers, Relative Importance Index, Technical and Managerial Capability

1. Introduction

Successful construction project delivery depends greatly on procurement decisions, particularly bid evaluation and contractor selection. Project performance is commonly measured through cost, time, and quality under the Iron Triangle framework (Egboga & Daniel, 2022), although broader indicators such as safety, stakeholder satisfaction, profitability, and environmental performance are also relevant. Tendering therefore serves not only to obtain competitive prices but also to determine whether contractors possess the capabilities required to complete projects successfully. Although the lowest-bid method remains widely used, price alone does not always provide the greatest value. Multi-criteria, performance-based, quality-based, and combined cost-and-quality approaches consider broader contractor qualifications. This study aims to develop bid evaluation criteria for private construction projects in Pampanga by identifying the importance project managers assign to contractor attributes and corresponding bid documents.

1.1 Construction Project Success and Contractor Selection

The Iron Triangle evaluates project success according to completion within schedule, approved budget, and expected quality (Egboga & Daniel, 2022). These indicators remain widely used in assessing project execution (Pollack et al., 2018). Achieving them requires effective project management and procurement practices directed by project managers throughout project planning, implementation, monitoring, and completion (Giri, 2019). Procurement includes prequalification, tendering, contract award, and contract administration. Weaknesses during these stages may negatively affect project implementation (Buzzetto et al., 2020). Tendering allows contractors to submit competitive proposals based on project requirements and enables clients to obtain suitable offers (Laryea, 2021). Contractor selection is critical because contractor competence affects project cost, schedule, workmanship, and quality. Clients must therefore use evaluation approaches that identify the contractor capable of delivering the greatest project value (Singh et al., 2024). Selecting contractors solely according to price may not produce the best outcome (Laryea, 2021), leading to increased support for approaches that

consider qualifications beyond cost (FIDIC, 2017). Contractor evaluation may involve Multi-Criteria Selection, Average Bid Selection, Performance-Based Selection, Quality Based Selection, and combined cost-and-quality approaches. The importance assigned to each criterion may vary according to project type, location, and requirements (Kamaruddeen et al., 2019).

1.2 Contractor Attributes and Bid Documents for Successful Project Delivery

Project success is interpreted differently because construction projects vary in complexity, objectives, and stakeholder expectations (HMINA & HNICHE, 2022). Although the Iron Triangle remains widely used (Pollack et al., 2018), broader measures include cost, cash flow, safety, client satisfaction, employee satisfaction, environmental performance, profitability, and organizational learning (Silva et al., 2016). Critical Success Factors include project-related, team-related, project-manager, client, contractor, and external factors. Contractor-related factors involve financial stability, technical expertise, managerial competence, health and safety, and working conditions (Singh & Sharma, 2020). These factors substantially influence project outcomes. Contractor competence directly affects project completion (Göküz & Akiner, 2025). An unsuitable contractor may cause delays, increased costs, poor workmanship, and disputes (Chen et al., 2021). Contractor attributes commonly include technical and managerial capability, financial capacity, experience, past performance, reputation, safety, and available resources (Singh & Sharma, 2020). Studies identified firm reputation, management capability, past performance, financial capacity, and environmental considerations as important factors (Shankar & Radhika, 2017). Bid price, innovation, and health and safety were also found to influence project performance (Kiiru et al., 2024). Financial stability was highly prioritized in Pakistan (Maqsoom et al., 2019), while management capability, technical capability, financial capacity, and past performance were prominent in Malaysia (Kamaruddeen et al., 2019). Other important factors included local partnerships, technical expertise, resource availability, and client relationships (Aznar et al., 2017); past performance, equipment management, safety, and relevant experience (Kumar & Dhevasena, 2021); and price, financial capability, equipment support, and contractor performance (Khakimin et al., 2022). Financial health, bid price, previous projects, experience, schedules, and after-sales services were likewise identified as major evaluation factors (Naji et al., 2022). In Nigeria, experience, technical expertise, management capability, knowledge of policies, and tendered price received the highest rankings (Osazuwa & Chukwuemeka, 2024). Compliance with bid requirements, financial capability, past performance, and reputation were also identified as critical factors (Aranuwa & Sade, 2023). These attributes are measured through bid documents. Common eligibility documents include business registration, permits, tax clearance, audited financial statements, licenses, ongoing and completed contracts, financial-capacity records, and bid security. Technical submissions include personnel, equipment, organizational structures, methods, schedules, and safety or environmental plans, while financial submissions include the Bill of Quantities, detailed estimates, and cash-flow schedules (Government Procurement Policy Board, 2008). Similar requirements are prescribed by the World Bank (2020), FIDIC (2011), Asian Development Bank (2021), and Japan International Cooperation Agency (2023). These documents provide verifiable evidence of contractor qualifications and serve as measurable bases for bid evaluation.

1.3 Contractor Bid Evaluation Practices in Pampanga and Other Contexts

Contractor-selection priorities differ across countries. Financial stability was emphasized in Pakistan (Maqsoom et al., 2019), managerial and technical capability in Malaysia (Kamaruddeen et al., 2019), local partnerships in Australia (Aznar et al., 2017), past performance in India (Kumar & Dhevasena, 2021), and experience and technical expertise in Nigeria (Osazuwa & Chukwuemeka, 2024). These differences show that bid evaluation must reflect project requirements, local conditions, and client priorities. The Asian Development Bank (2021) and Japan International Cooperation Agency (2023) generally support awarding contracts to the lowest evaluated bidder that substantially complies with the required conditions. In contrast, FIDIC (2017) recognizes Quality-Based Selection, Lowest Workable Cost, and Cost-and-Quality approaches because the lowest bid does not always deliver the best value. In the Philippines, Republic Act No. 9184 (2002) traditionally provided for the Lowest Calculated Responsive Bid. Republic Act No. 12009 (2023) later introduced the Most Economically Advantageous Responsive Bid, which may consider technical, environmental, social, quality, and price criteria. The present study focuses on private construction projects in Pampanga, where contractor selection may place greater emphasis on bid price than on technical and other qualifications. This practice may increase the risk of delays, added costs, poor quality, and disputes. Initial savings from cheaper bids may eventually lead to greater financial losses during implementation (Khanal, 2019). The study is limited to lump-sum or fixed-price contracts designed by the client. It focuses on the importance assigned by project managers to contractor attributes and bid documents rather than on the detailed procedures of prequalification, bid preparation, post-qualification, or full tender administration.

1.4 Theoretical and Conceptual Basis of Multi-Criteria Bid Evaluation

Utility Theory explains that decision-makers select alternatives expected to provide the greatest usefulness or satisfaction (Akkaya, 2021). In contractor selection, this involves choosing the bid that provides the greatest overall project advantage. Prospect Theory proposes that people tend to avoid losses more strongly than they pursue equivalent gains (Ikhtiar Alam, 2022). This may explain why lower-priced bids are sometimes preferred over technically superior but more expensive proposals because higher prices are perceived as greater risks (Gautam & Kumar, 2021). Multi-Attribute Utility Theory

supports decisions involving several criteria by assigning values and weights to different contractor attributes (El Sawalhi & El Agha, 2017). Decision Theory likewise supports systematic choices by helping decision-makers assess risks, uncertainties, and multiple alternatives (Cao, 2023). The study identifies contractor attributes from related literature, matches these attributes with relevant bid documents, and asks project managers to assign importance to each criterion. The Relative Importance Index is then used to rank the factors and develop bid evaluation criteria according to project type and project-manager profile.

1.5 Research Gap and Rationale for Developing Bid Evaluation Criteria

The lowest-bid method selects the bidder offering the lowest price while meeting basic requirements (Reta & Alyew, 2022). It remains common because of its simplicity, immediate cost savings, and perceived transparency (Letarge et al., 2016). However, it may encourage unrealistically low bids, unqualified contractors, delays, cost overruns, poor quality, and disputes (Dave et al., 2017). Although this method may reduce initial cost, it does not guarantee the best schedule and quality performance (Cheaitou et al., 2019). These limitations have encouraged the use of multi-criteria selection, which considers broader contractor capabilities (Kamaruddeen et al., 2019). Projects are more likely to achieve favorable outcomes when contractor selection is not based on price alone (Maqsoom et al., 2019). Performance-based selection considers previous and potential contractor performance, including completed work, similar project experience, technical personnel, manpower, and workload (Shukery et al., 2016). Quality Based Selection prioritizes competence and qualifications before price negotiation (Shelton, 2018; Benezra, 2020). This approach may reduce risks, improve cost estimates, and strengthen project quality (Gransberg et al., 2020). The research gap is the absence of a structured, project-specific bid evaluation framework for private construction projects in Pampanga. Existing national and international criteria may not fully reflect local project conditions and the priorities of project managers. This study therefore examines how project managers assign importance to contractor attributes and bid documents and uses the results to develop project-specific evaluation criteria.

1.6 Alignment of Contractor Bid Evaluation with Relevant Sustainable Development Goals

The study supports SDG 8 - Decent Work and Economic Growth by promoting contractor competence, occupational safety, financial stability, and reliable construction performance. Effective selection may reduce losses from delays, rework, disputes, and contractor failure. It aligns with SDG 9 - Industry, Innovation and Infrastructure by developing a structured framework that supports reliable infrastructure delivery, technical competence, and innovation. Innovation was identified as a factor affecting construction project performance (Kiiru et al., 2024). The study also contributes to SDG 11 - Sustainable Cities and Communities by supporting the timely, safe, and high-quality delivery of buildings and infrastructure. It relates to SDG 12 - Responsible Consumption and Production by encouraging efficient use of financial, labor, material, and equipment resources. Finally, it supports SDG 16 - Peace, Justice, and Strong Institutions by promoting transparent, consistent, evidence-based, and defensible bid evaluation.

1.7 Contribution of Effective Contractor Selection to Multidisciplinary Sustainability

The study contributes to economic and institutional sustainability by helping clients select contractors based on value, competence, experience, financial capacity, and performance rather than initial price alone. This may reduce cost overruns, delays, poor workmanship, disputes, and contractor non-performance. It also supports technological and operational sustainability through the assessment of personnel, equipment, construction methods, scheduling, and innovation. Environmental and occupational sustainability are addressed through criteria involving environmental management, health, and safety. By improving contractor selection in Pampanga's private construction sector, the proposed framework may strengthen accountability, efficient resource use, project quality, and the long-term reliability of residential, commercial, and institutional developments.

2. Material and methods

2.1 Research Design

The study will employ Quantitative Data Analysis, which involves the systematic collection and evaluation of measurable and verifiable information. This design is appropriate because the research examines quantifiable variables, particularly the level of importance project managers assign to specific bid evaluation criteria. Survey questionnaires will be used to gather the required data. Inferential Statistics will also be applied because it uses an inductive approach that allows conclusions about a population to be drawn from information obtained from a sample. It therefore enables findings from a specific group to be generalized to the broader population.

2.2 Locale of the Study

The study will be conducted within the private construction sector in Pampanga. It will cover project managers involved in various construction activities, including construction management, design, planning, procurement, commercial management, quality assurance, quality control, safety, and environmental management. Respondents may be selected from the target area or the nearest accessible locations relevant to the study.

2.3 Respondents of the Study

The respondents will be project managers responsible for overseeing the overall delivery of construction projects. They were selected because their roles provide them with a broad and relatively balanced understanding of project performance, particularly in relation to time, cost, and quality. Respondents may be of any age or gender but must be licensed professional engineers or architects employed by either client or consultant organizations. They must have at least ten years of professional experience and must be involved in residential, commercial, institutional, industrial, or infrastructure projects. These qualifications are intended to ensure that the respondents possess sufficient technical competence, credibility, and industry expertise.

2.4 Sample and Sampling Procedure

The study will include no fewer than 150 project managers. This minimum sample is considered sufficient to generate reliable findings from which conclusions may be drawn and applied to the target population. Judgmental Sampling, a form of Non-Probability Sampling, will be used to select the respondents. This technique allows the researcher to intentionally choose qualified participants based on professional judgment. The researcher's experience and knowledge of the construction industry will guide the identification of respondents who meet the established criteria.

2.5 Research Instrument

Survey questionnaires will serve as the primary research instrument. The questionnaire items will be developed and finalized based on the review of related literature to ensure their relevance to the objectives of the study. The questionnaires will be administered in both printed and electronic formats. Electronic copies will be prepared through Google Forms and distributed using various digital platforms, while printed questionnaires will be personally provided to accessible respondents. The use of both formats will improve the efficiency, accessibility, and timeliness of data collection.

2.6 Data Gathering Procedure

The survey questionnaire will first be presented to the thesis adviser for review, improvement, and approval before data collection begins. After approval, the researcher will identify prospective respondents through Judgmental Sampling within Pampanga and nearby accessible locations. A brief interview will be conducted to confirm whether each prospective respondent satisfies the required professional qualifications and experience. Qualified project managers will then receive either printed or electronic questionnaires, with the researcher aiming to obtain the largest feasible number of valid responses. After the completed questionnaires have been retrieved, the responses will be entered and organized using a digital spreadsheet. The gathered data will then be consolidated and prepared for statistical analysis, interpretation, formulation of conclusions, and development of recommendations.

2.7 Data Analysis Techniques

The data will be analyzed using the Relative Importance Index, a non-parametric technique commonly applied in construction and facilities management studies to evaluate structured questionnaire responses, particularly ordinal-scale measurements of perceptions and attitudes (Sakhare & Patil, 2019). The Relative Importance Index is appropriate because the study seeks to determine and rank the importance of contractor attributes and bid documents according to the assessments of project managers. The method will provide a direct and understandable presentation of the relative importance of each evaluation criterion.

3. Results and Discussion

3.1 Profile of the Project Managers

Of the 210 questionnaires distributed electronically and personally across different construction sites and locations, 150 valid responses were included, representing a 71% response rate. Engineers comprised 84% of the respondents, while architects accounted for 16%. Most respondents worked for consultants at 79%, while 21% represented client organizations. In terms of experience, 70% had 10-15 years, 23% had 16-20 years, and 7% had 21-25 years of professional practice. Residential project managers accounted for 43%, followed by commercial at 37%, industrial at 13%, and infrastructure at 7%. The profile indicates that the findings were derived mainly from experienced engineers working for consulting organizations. Residential and commercial project managers formed the majority, while industrial and infrastructure practitioners had smaller representation. These differences provide context for interpreting the assigned weights because professional background, organizational role, experience, and project type influenced the respondents' evaluation priorities.

3.2 Importance of Contractor Attributes by Project Type

3.2.1 Residential Projects

For residential projects, Technical & Managerial Capability received the highest relative weight at 36%. Experience & Past Performance ranked second at 27%, followed by Bid Price at 25%. Financial Capacity obtained the lowest weight at 12%. The findings show that residential project managers placed greater emphasis on contractors' technical and managerial

ability than on price. Their preference suggests that contractors must demonstrate sufficient personnel, equipment, planning, and management capability to meet the requirements of residential construction. Experience and previous performance also received considerable importance, while financial capacity was treated as a supporting rather than dominant criterion.

3.2.2 Commercial Projects

For commercial projects, Experience & Past Performance received the highest weight at 33%, closely followed by Technical & Managerial Capability at 32%. Bid Price accounted for 22%, while Financial Capacity received the lowest weight at 13%. The close ranking of experience and technical capability indicates that commercial project managers valued both demonstrated performance and the present ability to manage complex project requirements. Compared with these qualifications, price was less influential, suggesting that commercial project selection should consider contractor reliability, experience, personnel, resources, and management systems rather than cost alone.

3.2.3 Industrial Projects

For industrial projects, Technical & Managerial Capability ranked first at 34%, followed closely by Experience & Past Performance at 33%. Bid Price received 24%, while Financial Capacity obtained 10%. Industrial project managers therefore prioritized the contractor's technical competence, managerial systems, and relevant experience. The narrow difference between the two highest-rated attributes indicates that both current capability and established performance are essential in industrial construction. Price remained important but was secondary to the contractor's ability to execute technically demanding work.

3.2.4 Infrastructure Projects

For infrastructure projects, Bid Price received the highest relative weight at 37%. Technical & Managerial Capability followed at 27%, Experience & Past Performance at 26%, and Financial Capacity at 10%. Unlike the other project groups, infrastructure project managers gave the greatest importance to price. This result indicates that cost considerations were more dominant in infrastructure procurement, although technical capability and previous performance still represented more than half of the total evaluation weight when combined. The finding demonstrates that evaluation priorities differ according to project type and perceived project requirements.

3.3 Importance of Contractor Bid Documents

3.3.1 Bid Documents for Residential Projects

Within Technical & Managerial Capability, most residential-project documents received weights of approximately 9%, including legal registrations, permits, licensing, organizational structure, personnel, equipment, subcontractors, method statements, and project schedules. Health, Environmental, Safety, and Social Management Plans received only 4.52%. Under Experience & Past Performance, the list of ongoing projects received the highest weight at 29.58%, followed by general and specific construction experience at 28.88% and average annual project turnover at 27.86%. Historical contract non-performance, pending litigation, and litigation history received 13.68%. Financial-capacity documents were almost equally weighted, ranging from 24.41% to 25.35%. The results indicate that residential project managers considered most technical and financial documents similarly important because they collectively demonstrate the contractor's ability to execute the work. However, environmental and safety plans and records of litigation or non-performance received substantially lower weights. This pattern suggests that respondents placed greater emphasis on current qualifications, resources, experience, active workload, and financial documentation than on adverse historical records and formal management plans.

3.3.2 Bid Documents for Commercial Projects

Commercial project managers assigned approximately 9% to most documents under Technical & Managerial Capability. Method Statements obtained the highest individual weight at 9.85%, followed by the list of key personnel at 9.82%, detailed construction schedule at 9.74%, and detailed mobilization schedule at 9.71%. Health, Environmental, Safety, and Social Management Plans obtained only 3.83%. Under Experience & Past Performance, general and specific construction experience received 28.75%, ongoing projects 27.80%, annual project turnover 27.26%, and historical contract non-performance and litigation 16.19%. Financial documents ranged from 24.17% to 25.99%, with cash flow or proposed payment schedule receiving the highest weight. The commercial-project findings emphasize the importance of methodology, personnel, construction planning, and mobilization. These documents directly indicate how a contractor intends to organize and execute a commercial project. Experience and ongoing project information were also highly valued, while the nearly equal distribution among financial documents shows that no single financial measure was considered sufficient on its own.

3.3.3 Bid Documents for Industrial Projects

For industrial projects, technical and managerial documents received relatively balanced weights ranging from 8.13% to 9.81%. The detailed construction schedule ranked highest at 9.81%, followed by PCAB License and Registration at 9.61%

and Method Statements at 9.51%. Health, Environmental, Safety, and Social Management Plans received 8.52%, which was closer to the other technical-document weights than in the residential and commercial groups. Under Experience & Past Performance, general and specific experience received 27.58%, ongoing projects 27.30%, annual turnover 27.02%, and historical contract non-performance and litigation 18.11%. Financial documents ranged from 24.30% to 25.70%. The relatively even technical-document weights indicate that industrial project managers viewed contractor capability as a combination of legal compliance, personnel, equipment, methods, scheduling, mobilization, and safety or environmental planning. The higher relative value assigned to Health, Environmental, Safety, and Social Management Plans compared with other project types suggests that these concerns were more integrated into industrial-project evaluation.

3.3.4 Bid Documents for Infrastructure Projects

For infrastructure projects, Method Statements received the highest technical-document weight at 10.43%, followed by PCAB License and Registration at 10.22% and detailed mobilization schedule at 10.00%. Most other technical documents ranged from 8.48% to 9.78%, while Health, Environmental, Safety, and Social Management Plans obtained 5.43%. Under Experience & Past Performance, general and specific construction experience ranked highest at 28.09%, followed by ongoing projects at 27.53%, annual turnover at 26.40%, and historical contract non-performance and litigation at 17.98%. Financial documents ranged from 23.81% to 26.19%, with Audited Financial Statements receiving the highest weight. Infrastructure project managers emphasized methodology, licensing, mobilization, and relevant experience. These documents provide direct evidence that contractors can organize, resource, and implement infrastructure work. The relatively equal financial-document weights further indicate that financial capacity should be examined through several complementary records rather than a single measure.

3.4 Lower-Ranked Bid Documents

Across the project types, most technical, experiential, and financial documents received relatively similar weights. The two consistent exceptions were Health, Environmental, Safety, and Social Management Plans and Historical Contract Non-performance, Pending Litigation, and Litigation History. The former received particularly low weights in residential, commercial, and infrastructure projects, while the latter received the lowest weight within Experience & Past Performance for every project category. The low importance assigned to Health, Environmental, Safety, and Social Management Plans is consistent with the study of Khakimin et al. (2022), which found that Occupational Health & Safety did not significantly affect project performance in the Seba Pier Port Facilities Project. Similarly, Kamaruddeen et al. (2019) ranked Health and Safety Management third to the last among the ten leading contractor-selection criteria in Sarawak, Malaysia. These findings indicate that although health and safety remain necessary, the respondents did not regard them as leading differentiators among contractors. Historical contract non-performance and litigation may likewise have received limited attention because these records were less frequently emphasized in comparable contractor-selection studies.

3.5 Developed Bid Evaluation Criteria by Project Type

3.5.1 Residential Bid Evaluation Criteria

The developed residential-project criteria allocated approximately 36% to Technical & Managerial Capability, 27% to Experience & Past Performance, 25% to Bid Price, and 12% to Financial Capacity. Within the technical category, the individual documents generally received similar weights, except for the lower weight assigned to Health, Environmental, Safety, and Social Management Plans. Within experience and performance, ongoing projects received the greatest weight, while litigation and contract non-performance received the lowest. The residential framework therefore prioritizes technical and managerial qualifications while maintaining meaningful consideration of experience and price. This distribution reflects the view that successful residential delivery requires capable management and execution rather than exclusive reliance on the cheapest offer.

3.5.2 Commercial Bid Evaluation Criteria

The commercial-project framework assigned approximately 33% to Experience & Past Performance, 32% to Technical & Managerial Capability, 22% to Bid Price, and 13% to Financial Capacity. General and specific construction experience received the greatest weight within the experience category, while Method Statements received the highest technical-document weight. This framework balances demonstrated experience and present technical capability. Commercial projects may require contractors to coordinate multiple specialized activities, schedules, personnel, and resources; therefore, previous experience and detailed execution methods were valued more heavily than price.

3.5.3 Industrial Bid Evaluation Criteria

For industrial projects, approximately 34% was assigned to Technical & Managerial Capability, 33% to Experience & Past Performance, 24% to Bid Price, and 10% to Financial Capacity. The detailed construction schedule received the highest technical-document weight, while general and specific construction experience ranked highest under experience and performance. The industrial framework reflects the technical demands of industrial construction. It gives nearly equal priority to capability and past performance, indicating that contractors must demonstrate both the resources to undertake the work and evidence of successful experience in comparable activities.

3.5.4 Infrastructure Bid Evaluation Criteria

The infrastructure-project framework allocated 37% to Bid Price, 27% to Technical & Managerial Capability, 26% to Experience & Past Performance, and 10% to Financial Capacity. Method Statements ranked highest within the technical category, while general and specific construction experience obtained the highest weight within Experience & Past Performance. This framework differs from the other three because price is the dominant criterion. Nevertheless, technical capability and experience remain substantial components. Infrastructure evaluation should therefore consider cost strongly while retaining sufficient weight for methodology, mobilization, licensing, experience, and contractor performance.

3.6 Differences According to Project Manager Profile

3.6.1 Profession

Engineers assigned the highest weight to Technical & Managerial Capability at approximately 34%, followed by Experience & Past Performance at 28%, Bid Price at 26%, and Financial Capacity at 12%. Architects gave the greatest importance to Experience & Past Performance at approximately 38%, followed by Technical & Managerial Capability at 32%, Bid Price at 18%, and Financial Capacity at 12%. These results show that engineers placed stronger emphasis on a contractor's present technical and managerial ability, while architects prioritized proven experience and previous performance. Despite these differences, both professions rated contractor qualifications more highly than price and financial capacity.

3.6.2 Organizational Type

Project managers representing clients assigned the highest weight to Bid Price at 40%. Technical & Managerial Capability followed at approximately 25%, Financial Capacity at 18%, and Experience & Past Performance at 17%. In contrast, consultant-side project managers assigned approximately 36% to Technical & Managerial Capability, 33% to Experience & Past Performance, 21% to Bid Price, and about 11% to Financial Capacity. The findings indicate a clear difference in organizational priorities. Client-side project managers were more cost-oriented, whereas consultants placed greater emphasis on technical competence and demonstrated performance. This difference may reflect the client's direct concern with financial commitments and the consultant's responsibility for technical quality and project execution.

3.6.3 Professional Experience

Project managers with 10-15 years of experience assigned approximately 32% to Technical & Managerial Capability, 30% to Experience & Past Performance, 25% to Bid Price, and 12% to Financial Capacity. Those with 16-20 years and 21-25 years of experience assigned approximately 38% to Technical & Managerial Capability, making it the leading attribute in both groups. Technical & Managerial Capability therefore remained the dominant criterion regardless of professional tenure, although its importance increased among the more experienced respondents. This suggests that prolonged industry exposure may reinforce the perceived importance of technical resources, management systems, methodology, and execution capability in contractor selection.

3.7 Overall Interpretation of the Bid Evaluation Framework

The developed criteria show that project managers assigned different levels of importance to contractor attributes according to project type and professional profile. Technical qualifications dominated residential and industrial projects, experience and performance slightly led commercial projects, and price dominated infrastructure projects. Engineers and consultants prioritized technical capability, architects emphasized experience and past performance, and clients placed the greatest weight on price. Despite these differences, most supporting bid documents received relatively balanced weights. The developed framework conforms to Utility and Decision Theories, which hold that individuals make choices intended to maximize usefulness and satisfaction (Akkaya, 2021). The differing attribute weights indicate that project managers evaluated usefulness according to the particular demands of each project and their organizational responsibilities. The nearly equal weights assigned to most supporting documents also reflect the principle of Multi-Attribute Utility Theory because contractor evaluation requires several complementary criteria rather than a single indicator. Overall, the results support a project-specific, multi-criteria approach to contractor selection in which Bid Price, Technical & Managerial Capability, Experience & Past Performance, and Financial Capacity are weighted according to the intended construction project.

4. Conclusion & Recommendations

The study found that Technical & Managerial Capability and Experience & Past Performance were the leading contractor-selection attributes for residential, commercial, and industrial projects, while Bid Price was the primary consideration for infrastructure projects. Financial Capacity consistently received the lowest weight across all project types. The importance assigned to contractor attributes also differed according to professional and organizational profiles: engineers and consultants prioritized Technical & Managerial Capability, architects emphasized Experience & Past Performance, and client representatives placed the greatest importance on Bid Price. Most supporting bid documents received nearly equal

importance, except Health, Environmental, Safety, and Social Management Plans and Historical Contract Non-performance, Pending Litigation, and Litigation History, which consistently received lower weights. These findings enabled the development of project-specific bid evaluation criteria intended to support holistic and successful contractor selection.

Further research should examine the relationship between contractors' contractual history and actual project performance because project managers assigned relatively limited importance to records of non-performance, pending litigation, and litigation history. Additional research should also develop and assess bid evaluation criteria for infrastructure projects using performance specifications, since the criteria established in the present study were based only on projects using prescriptive specifications.

The findings are limited to the perspectives of project managers involved in private construction projects in Pampanga and to the specific contractor attributes and bid documents evaluated in the study. The developed criteria are primarily applicable to lump-sum or fixed-price contracts designed by the client. Moreover, the infrastructure-project findings were based only on prescriptive specifications and may not represent projects governed by performance specifications.

Compliance with ethical standards

The study was conducted with due regard for responsible research practice throughout the selection of respondents, administration of survey questionnaires, data collection, and analysis. The research instrument was reviewed and approved by the thesis adviser before data gathering, and only project managers who met the established professional qualifications and experience requirements were included. The gathered responses were used solely for the purposes of the study and were organized and analyzed systematically in accordance with the approved research procedures.

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