

Key Factors for the Selection of Project Management Consultants

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Abstract

Selecting the appropriate Project Management Consultancy (PMC) firm is one of the prime factors contributing to project success. Different owners use different factors in their selection process based on their own perception. Owners sometimes use ill-defined criteria that do not align with the requirements of their projects. Most of the time, these poor selections become the reason behind the projects' failure. The objective of this paper is to assess the key factors used in the selection process. The selection factors are identified through literature review. A survey is then developed and distributed to 60 professionals in the UAE construction industry in which all factors are compared with each other. Thirty-five completed surveys were collected and analyzed. The Analytical Hierarchy Process (AHP) is used for data analysis. According to the overall results, the highest weight was for the financial package (45%). The technical package had around 34% leaving the commercial and marketing package with the lowest weight of 21%. The top three factors were contract condition, overall fee and duration. On the other hand, the three least important factors were research, development and innovation, the firm's organization and classification and specialty.

Keywords

Project management, firm selection, AHP, UAE construction industry

1. Introduction

Project management is a fast growing profession. The growing complexity of construction projects necessitates the need for project management and project management consultancy firms. The use of project management has significantly increased in the past years; mainly due to the need for expertise that can drive projects in the right path. Project management is defined by the Project Management Institute (PMI) as the application of knowledge, skills, tools and techniques to project activities to meet project requirements (PMBOK, 2013). Project management helps achieve the project objectives such as time, cost, quality, safety and customer satisfaction.

Project Management Consultancy (PMC) firms assist clients throughout the different phases of their projects. PMI (2013) described the PMC firm as a professional consulting firm with knowledge and experience in the specialized area of assisting organizations to improve their practice of project, program and or portfolio management. Selecting the appropriate PMC is of paramount importance. Wu *et al.* (2009) recognized that in any contract, firm selection is an essential factor which influences performance. The PMI guide (2010) listed the selection criteria that include experience, familiarity with the industry, technical competence, developing practical recommendations, trust, managing work within a schedule and budget,

PMI credentials, past experience, approach in meeting goals, innovation, and financial bid. The construction industry is an extremely competitive industry, which makes the selection process even more challenging. Some of the current selection processes can be considered incomplete, biased and lacking many of the essential attributes (Fong and Choi, 1997). In order to avoid the consequences of poor selection, Fong and Choi (1997) recommended that the choice of a consultant must be made on a value for money basis, with proper weights of criteria for skill, experience and previous performance. El-Sayegh (2009) recommended the selection of Construction Management at Risk companies using several criteria.

Several papers have been published on developing criteria decision models for selecting contractors, engineering consultants, construction managers and even individuals. However, not much light has been shed on selecting project management consultants (PMC). The main objective of this paper is to assess the selection factors for the appropriate Project Management Consultancy firm for managing construction projects using the Analytic Hierarchy Process (AHP). This paper gives an insight on the key factors that can be applied in the selection process along with the corresponding degree of importance.

2. Research Methodology

The first step was to identify the factors used in selecting the appropriate PMC firms. This is accomplished through literature review and interviews with industry professionals. A comprehensive list of 23 factors was developed. The factors were then divided into three categories to facilitate AHP calculations. The Analytic Hierarchy Process (AHP) was selected for the data analysis. The AHP is a tool that is primarily used when dealing with complex, unstructured and multi-attribute decisions (Partovi, 1994). A survey was designed to incorporate those categories along with their factors. Sixty surveys were distributed among the industry professionals, out of which, 35 completed surveys were registered. Figures 1 and 2 summarize the respondents' profile. In terms of their role, the respondents were distributed as follows: 13 owner, 12 contractors and 10 consultants.

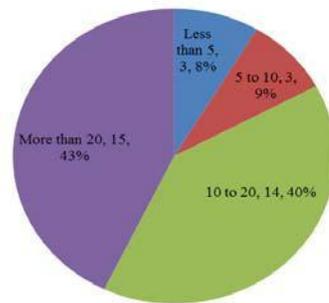


Figure 1. Respondents Profile According to Years of Experience

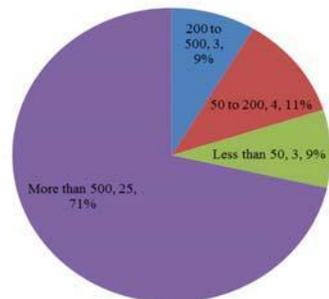


Figure 3. Respondents According to Size of Projects in AED Millions

Respondents were asked to perform pair-wise comparisons for all the factors in each group and amongst the three categories using the scale suggested by Saaty (1999) as presented in Table 1.

Table 1. Ratio Scales of AHP (Saaty, 1999)

Intensity	Definition	Explanation
1	Equal importance	Two attributes are of equal importance
3	Moderate importance	Experience and judgment slightly favor one attribute over another
5	Strong importance	Experience and judgment strongly favor one attribute over another
7	Very strong importance	An attribute is favored very strongly over another
9	Extreme importance	The evidence favoring one attribute over another is of the highest possible order of affirmation

The *Expert Choice* software was used to perform the AHP calculations. The resulting local and global weights for all factors and their groups were recorded along with the inconsistency ratio. According to Saaty (1999), the inconsistency ratio should be less than 0.10.

3. Selection Factors

The selection factors were divided into three packages: technical, commercial and marketing, and the financial package. The technical package contains several sub-factors. Therefore, it was further divided into three groups: project management capabilities; policies and strategies; and company profile. The “Project Management” group includes time management, cost management, design management, construction management and risk management. The ability to ensure timely project completion is one of the main duties of the PMC firms. The ability to manage cost is equally important. PMC firms must show their planning, estimating and cost controlling ability in any project. Cost management can be measured by records of savings in previous projects and by looking at the records of projects that were completed within budget (Shen *et al.*, 2004). The PMC firm must coordinate with the main stakeholders in order to avoid any project delays. Isik *et al.* (2008) defines risk management as the process in which a firm identifies, analyses, responds, monitors, and controls all sorts of risks. Construction projects encounter a number of risks.

The “Policies and Strategies” group includes QA/QC Policies, HSE plans, R&D and Innovation, Sustainability and change control. Each professional firm should have a QA/QC (Quality Assurance/Quality Control) policy. Firms are evaluated on their QA/QC programs and personnel (Bubshait and Algobali, 1996). The PMC firm needs also to have a Health, Safety and Environment (HSE) plan for the project. The R&D and innovation criterion refers to the ability of the PMC firm to keep up with the technological advancement and to come up with innovative solutions to the project. Change control is an important function of the PMC firm.

The “Company Profile” group includes classification and specialty, technical ability, firm’s organization, performance on previous projects and professional qualifications. According to Watt *et al.* (2009), classifying companies depend on their size and past experience. The PMC firm needs to be specialized in the type of work. The PMC should have the technical ability to manage the project. This includes the personnel and other resources. The firm’s organization affects its ability to manage projects. Hatush and Skitmore (1997) highlighted the past experience as a part of the technical information and that it only deals with the type and size of the projects. Professional qualification is becoming a very important criterion in evaluating companies.

The “Commercial and Marketing” package includes financial standing, marketing systems, client relationships and commitment. According to Watt *et al.* (2009), analysis of accounts, credit rating, liquidity ratio, financial capacity and business turnover-cash flow are some of the terms that can explain the financial standing of a company. Having proper marketing systems can help in reflecting the level of services the company provides. Client supplier relationships, as a factor, have many attributes; such as trust, responsiveness and the ability of establishing a team work environment (Watt *et al.*, 2009) . Without commitment and dedication, completing a project successfully would not be possible. Trust, as well, is a crucial mutual factor among all jobs in the world. The lack of dedication to the job will lead to conflicts and disputes that can affect any project.

The “Financial” package includes the overall fee, duration, staff rates and contract conditions. Most authors and project management guides fully agree with having the overall fee, or final price, as one of the major factors. Similar to all consultancies and human resource based firms, project management consultancy firms' main resource is their staff. The overall fee that is submitted to the client usually covers a specific duration after which any further extension of time would require the presence of specific professionals from the project management consultant. That is in order to account for the staff whose hourly staff rates are submitted by the PMC firms, making it possible for the client to quantify the risk associated with expanding the PMC duration.

4. Results

The main objective of this study is to assess the key selection factors for PMC firms in the UAE construction industry. The collected data was analyzed using AHP to determine the local and global weights of each criterion and group. The local weight refers to the weight of the criterion within its group, while the global weight refers to the weight of the criterion relative to the overall selection. Table 2 shows the weights for the different factors, groups and packages.

Within the “Technical” package, project management is way more important than company profiles and policies and strategies. The Local weight for project management is more than 54%, while the other two groups are almost even. Results indicate that professionals consider the project management skills as the most important group in evaluating technical packages. Globally, project management group is weighed at around 19% which is almost the weight of the commercial and marketing package. The factors, within project management, are of equal importance. It is interesting to see that risk management is getting more and more recognized as management skill, which means that professionals are really finding risk management essential for any project.

Within the “Commercial and Marketing” package, surprisingly, commitment, trust and dedication turned to be the most important factor in this group with a weight of 36%. This is interesting because as it can be seen, professionals tend give more weight to firms who are trustful and ethically driven than to its financial standing (27%). Client relationships are as important as the financial standing. Within the “Financial” package, all the factors have close weights. The most important factor turned out to be contract conditions with a weight of 30%, followed by 27% for the overall fee.

The financial package turned out to be the most important package with a weight of 0.453, followed by the technical package and the commercial package with weights of 0.334 and 0.212 respectively. It was expected that the technical package to be the most important. However, it seems that professionals still consider money as the governing factors. Firms work hard on their technical packages considering that technical profiles would be given the higher weight which does not seem to be the case according to the survey results. The top three factors were contract condition, overall fee and duration. On the other hand, the three least important factors were R&D and innovation, firm’s organization and classification and specialty.

Table 2. Main Packages, Groups and all Factors – Overall

	L-Local	G-Global
Technical Package	0.334	0.334
Project Management	0.546	0.182
Time Management	0.173	0.032
Cost Management	0.200	0.036
Design Management	0.197	0.036
Construction Management	0.220	0.040
Risk Management	0.210	0.038
Policies and Strategies	0.248	0.083
QA/QC Policies	0.244	0.020
HSE Plan	0.276	0.023
R&D and Innovation	0.099	0.008
Project Sustainability	0.206	0.017
Change Control	0.174	0.014
Company Profile	0.206	0.069
Classification and Specialty	0.081	0.006
Technical ability	0.240	0.017
Firms Organization	0.103	0.007
Performance on previous projects	0.345	0.024
Professional Qualifications	0.232	0.016
Commercial & Marketing Package	0.212	0.212
Financial Standing	0.270	0.057
Marketing Systems	0.098	0.021
Client Relationships	0.271	0.058
Commitment, Trust & dedication	0.361	0.077
Financial Package	0.453	0.453
Overall Fee	0.270	0.122
Duration	0.226	0.102
Staff rates	0.208	0.094
Contract Conditions	0.297	0.135

5. Conclusions

Twenty three factors for selecting project management consultancy firms (PMC) were identified based on the literature review. The factors were divided into three main categories. The Analytic Hierarchy Process (AHP) was used to assess the weight of these factors based on the responses of thirty five professionals working in the UAE construction industry. Project stakeholders must fully understand the real function of project management consultancy firms in order not to expect more or less of the PMC's job. Many clients are not aware, when they hire a PMC firm, that they are the final decision makers and that they should not depend on the PMC firm in making decisions and should rather simply take their recommendations into consideration. The results are important as they shed the light on the key factors for selection the Project Management Consultancy firms. The use of these firms is on the rise and there in a need to select the appropriate firm to increase the chances of project success. Having properly selected and defined factors by owners would definitely help PMC firms in presenting their capabilities and specialties.

References

- Bubshait, A. and Al-Gobali, K. (1996). "Contractor prequalification in Saudi Arabia". *Journal of Management in Engineering*, Vol. 12, No. 2, pp.50–54.
- Doloi, H. (2009). "Analysis of prequalification criteria in contractor selection and their impacts on project success". *Construction Management and Economics*, Vol 27, pp.1245-1263.
- El-Sayegh, S. (2009). "Multi-Criteria Decision Support Model for Selecting the Appropriate Construction Management at Risk Firm". *Construction Management and Economics*, Vol. 27, No. 4, pp. 385-398.
- Fong, P. and Choi, S. (1997). "Final Contractor Selection Using the Analytical Hierarchy Process". *Construction Management and Economics*, Vol. 18, pp.547-557
- Hatush, Z. and Skitmore, M. (1997). "Criteria for contractor selection". *Construction Management and Economics*, Vol. 15, No. 1, pp. 19–38.
- Isik, Z., Arditi, D., Dikmen, I. and Bigonul, T. (2008). "Impact of Corporate Strengths/Weaknesses on Project Management Competencies". *International Journal of Project Management*, Vol 27, pp.629-637.
- Partovi, F. (1994). "Determining what to benchmark: an analytic hierarchy process approach". *International Journal of Operations and Production Management*, Vol. 14, No. 6, pp. 25-39.
- PMBOK (2013). *A guide to the Project Management Body of Knowledge*, Fifth Edition, Project Management Institute, US.
- PMI (2013). Project Management Institute. <http://www.PMI.org>
- PMI Guide (2010) . *A Guide on how to select a Project Management Consultancy*. Project Management Institute, pp.1-7.
- Saaty, T. (1999). *Decision Making for Leaders: The Analytic Hierarchy process for Decisions in a Complex World*, RWS Publications, Pittsburgh.
- Shen, L., Li, Q., Drew, D. and Shen, Q. (2004). "Awarding construction contracts on multi criteria basis in China". *Journal of Construction Engineering and Management*, Vol. 130, No. 3, pp. 385–393.
- Watt, D., Kayis, B. and Willey, K. (2009). "Identifying key factors in the evaluation of tenders for projects and services". *International Journal of Project Management*, Vol 27, pp.250–60.
- Wu, W., Shih, H. and Chan, H. (2009). "The Analytic Network Process for Partner Selection Criteria in Strategic Alliances". *Expert Systems with Applications*, Vol. 36, pp. 4646-4653.