

Assessments of construction project managers' competence and its impact on project success. The case of Bahir Dar city public building construction projects

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Abstract - Most building construction projects in Ethiopia have a problem to complete with the scheduled time frame, estimated budget, expected quality, etc. Those problems are a combination of technical and human skill factors. Thus, the purpose of this research is to assess the competence of construction project managers and its impacts on project success in the case of Bahir Dar city public building construction projects. The study covers only Grade -1 general and building contractors. Purposive sampling technique was used to select the research population. Both primary and secondary data are collected to achieve the intended research objectives. Questionnaires and semi-structured interviews were employed as instruments of data collection. The respondents were project managers, site engineers, office engineers and site supervisors. Questionnaires were distributed to project sites for 57 participants. Furthermore, 9 semi-structured interviews were conducted with project managers and project coordinators. The data were analyzed using SPSS 20 and MS-Excel 16. The findings of this study revealed that: in hard competence, like time management, financial management, cost management and quality management, project managers have high level of competence. Whereas, in integration management, scope management, procurement management, PM software competence, risk management, safety management and environmental management, project managers have a medium level of competence. The findings of this study also revealed that: in soft competence, like communication, organizing, team working, positive work attitude and conflict management, the project managers have high level of competence. 8While, in leadership, flexibility & alertness, problem-solving, human resource management and creativity & innovation, project managers have a medium level of competence. The top five project success criteria that were impacted by the competence of project managers were found to be project cost, project time, technical specifications and functional requirements, clients' satisfaction and stakeholders' relationship. The study results also shows that project managers' competencies have high level of impact on project success.

Keywords: Building Construction Projects, Project Managers, Competencies, Hard Competence, Soft Competence, Project Success

1. Introduction

The construction industry plays a significant role in the economy of developing countries like Ethiopia, next to agriculture, it provides the largest employment opportunities (1). Despite the construction industry's significant contribution to the economy and the critical role it plays, the development and the performance of the industry still remains generally low. Construction project's purpose is to timely complete within the scheduled time, cost, quality. Thus, project management methods have been developed to ensure the achievement of these aims (2). However, many projects in developing countries encounter considerable time and cost overruns, fail to realize

their intended benefit or even totally terminated and abandoned before or after their completion. According to Yimam (2011), the main reason for project failure in developing countries is not only the absence of general resources or financial resources but the lack of project management capability.

Regarding construction project management in Ethiopia, studies have indicated the need to improve the capacity of contractors in project management knowledge areas of construction project management "(3), (4)". Lack of awareness on the benefit and application of project management combined with the presence of few trained project managers (3). Research work by Long (2000) have indicated that poor managerial capability of contractors is one of the critical problems of the construction industry in developing countries. Thus, improving the managerial capability of contractors need to be one

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of the priority considerations for improvement of capability of contractors in developing countries. Dlungwana and Rwelamila (2004) have also strongly emphasized the importance of improving the management skills of contractors. As most of the works of contractors is managed as a project, improving the contractors' project management capability can significantly contribute to the overall improvement of contractors' capability to deliver successful projects.

In the construction sector, the project leader may be the project manager or project coordinator based on the level of responsibility given to him/her by the client (5). Project managers' knowledge, skills and personal attributes are clearly a vital factor in the delivery of successful projects (6). This involves project managers possessing a variety of skills relating to the standard objectives of project completion within a set specification, under time, cost and quality constraints. Projects may fail due to external factors that are beyond the control of the project manager. However, the competence of the project manager constitutes a critical parameter among the many variables that directly affect the outcome of project (7). Therefore, assessing the project managers' competence is one of the critical role to evaluate factors that contribute to projects failure or success.

The continuous improvement effort of project managers' competence requires knowledge of where the current status is, where is the required status, and the gap between the two (3). So far, little or no research has been done in Ethiopia on the assessments of competence of construction project managers. Thus, this research is undertaken to assess the competence of construction project managers and investigate the impact of construction project managers' competence on project success in Bahir Dar city public building construction projects.

2. Literature review

Project managers' competence is a key factor influencing the final outcome of projects (Stephen et al., 2002). Detailed literature on the management practices of construction projects in Ethiopia is difficult to find (Jekale, 2004). Despite this, this research has tried to summarize existing literature in different parts of the world in the area. Therefore, based on previous research studies and literature review, the most important project

managers' hard competencies will be studied based on " (6), (7), (8), (9), (10), (4), (11), (12), (13)" project integration management, project scope management, project time management, project cost management, project quality management, project risk management, project procurement management, PM software competence, project safety management, project environmental management, and project financial management. The most important project managers' soft competencies based on " (14), (15), (16), (8), (10), (17), (18), (12), (2), (13)" are communication, leadership, problem-solving, team working, organizing, flexibility & alertness, creativity & innovation, human resource management (HRM), conflict management and positive work attitude

Furthermore, based on previous research studies and literature stated above, the project success criteria that may be impacted by project managers' competence will be studied based on " (20), (13), (21), (22), (23), (24), (25), (7)". This include sustainability and reliability, clients' satisfaction, project time, stakeholders' relationship, project cost, technical specifications & functional requirements, end-user satisfaction, health, safety & environment (HSE), supplier satisfaction, and team satisfaction.

3. Research methodology

Research is a process of collecting, analyzing and interpreting data to provide the solution for questions or problems. With this regard research, design and methodology is, therefore, a means to tie up all the research processes jointly and guides the researcher to achieve the objectives of the study. Research methodology refers to the overall approach taken, the theoretical basis from which the researcher derives his/her thought (26). Kothari (2004), identified that there are two basic approaches to the research; quantitative approach and the qualitative approach.

Therefore, this research used both qualitative and quantitative approaches to realize the competence of construction project managers and its impacts on project success in the public building construction projects of Bahir Dar city.

In this research, it is decided to study the whole population, i.e. 25 public building construction projects in Bahir Dar city. Four of those projects were inactive and did not have the personnel needed to fill out the questionnaire, one site

refused to participate in the research due to either privacy issues, or the fact that there has been a great workload. Therefore, this leaves 20 public building construction projects as the population for this research.

Purposive sampling technique was used to select building construction projects in Bahir Dar City, based on research scope and purpose. This research has surveyed entire population, i.e. 20 active public building construction projects in Bahir Dar city and therefore, the sample size for the study is equal to the population size. The sampling unit for this study is the Grade-1 contractors' project manager.

Two types of data have been used in the study: primary and secondary. Secondary data has been collected from previous literature such as books, journals, thesis, dissertations, and annual reports. While primary data has been collected via questionnaire and interview.

In this study, descriptive statistics (mean, frequency and percentage) were used to analyze the quantitative data found from the questionnaire. Statistical package for social sciences (SPSS) version 20 software and excel 2016 were used to assist in analyzing the quantitative data. The five-point Likert's scale (1, 2, 3, 4, and 5) is used to calculate the mean score which helps to assess the competence of construction project managers and to assess competence level of impact on project success in building construction site and to investigate the impacts of construction project managers' competence on project success criteria.

For the inferential statistics of this study, the average mean scores of the respondents were interpreted based on the following criteria: $[5 \text{ (high range)} - 1 \text{ (low range)}] / 3 = 1.33 \text{ (interval)}$ (Ahmad, 2017)

4. Research Data Analysis and discussion

The competence of construction project managers, the impact of project managers' competence on project success and project managers' competence components level of impact on project success are analyzed and discussed in this portion below.

Table 1: Mean scores of the project managers' hard competence.

Variable	Average mean	
Hard competence	scores of	

	respondents	Interpre Tation
Project time management	3.9649	High
Project Financial Management	3.9474	High
Project cost management	3.807	High
Project quality management	3.807	High
Project integration management	3.614	Medium
Project scope management	3.5439	Medium
Project procurement management	3.5263	Medium
PM software competence	3.3158	Medium
Project risk management	3.2807	Medium
Project Safety Management	3.2105	Medium
Project Environmental Management	3.0351	Medium

(1) Project Time Management

This study has assessed the Bahir Dar city public building construction project managers' competence on; ability to prepare project schedule; ability to monitor the projects' progress in terms of planned versus actual schedule; ability to monitor project milestones and deliver the project within the agreed time. Hence, as clearly indicated in Table (1), the average mean score of respondents for project time management is 3.9649, which is between 3.67 and 5. Therefore, this average mean score result indicated that the project managers have a high level of status on project time management competence in Bahir Dar city public building construction projects.

(2) Project Financial Management

On this heading, this study has assessed the project managers' competence on; ability to identify key financial issues to be addressed; the ability to acquire and manage the financial resources for the project concerned with revenue source and analyzing/updating net cash flows; able to manage the day-to-day costs of the project resources in Bahir Dar city public building construction projects. According to PMI (2), project financial management is concerned about identifying key financial issues to be addressed

and assigning project roles, responsibilities and reporting relationships. Financial Management is distinctly different from cost management which relates more to managing the day-to-day costs of the project for labor and materials.

Based on a questionnaire survey, as shown in Table (1), the average mean score of respondents is 3.9474, which is within the range of 3.67 and 5. Therefore, the assessment result indicated that the construction project managers of Bahir Dar city public building construction projects have a high level of status on project financial management competence.

(3) Project Cost Management

On this competence component, the researcher has assessed the competence of construction project managers on the ability to determine resources needed to perform project activities, ability to develop project budget based on resources needed, and ability to control the project budget throughout the project life cycle in Bahir Dar city public building construction projects. Based on a questionnaire survey, as indicated in Table (1), the average mean score of respondents' for project cost management is 3.807, which is within the range of 3.67 and 5. Hence, this indicated that the Bahir Dar city public building project managers have a high level of competence on project cost management

(4) Project Quality Management

In this regard, the researcher has been concerned on the assessments of the Bahir Dar city public building construction project managers' competence regarding the ability to identify relevant quality standards, to determine methods to meet the standards and to control results to monitor compliance and eliminate unsatisfactory performance. Therefore, as it is clearly indicated in Table (1), the average mean score of respondents for project quality management is 3.807, which is between, 3.67 and 5. Hence, the average mean score result indicated that the project managers have a high level of competence

(5) Project Integration Management

On this heading, the researcher has assessed the Bahir Dar city public building construction project managers' competence on; ability to prioritize tasks based on project objectives; ability to identify, define, combine and integrate project management activities and processes; like initiation, planning, execution, monitoring and controlling and closing. Based on the questionnaire survey, as indicated in Table (1), the average mean score of respondents on project integration management competence is

3.614, which is between 2.34 and 3.66. Hence, the project managers have a medium level of status on project integration management competence in Bahir Dar city public building construction projects.

(6) Project Scope Management

On this competence component, this study has assessed the Bahir Dar city public building construction project managers' competence regarding ability to determine and control what needs to be and not to be included in a project; ability to frequently monitor the scope of the project to identify changes and to validate the scope of the project at the beginning of the project; ability to make sure that the project delivers on the scope that has accepted and to make sure the project stays within scope.

As clearly shown in Table (1), based on the questionnaire survey, the average mean score of the respondents for project scope management is 3.5439, which is between 2.34 and 3.66. Therefore, the average mean score result indicated that Bahir Dar city public building construction project managers have a medium level of status on project scope management.

(7) Project Procurement Management

For this study, the researcher has assessed the project managers' ability to manage the process of attaining goods, services, or results from outside the project team in order to complete the required work in Bahir Dar city public building construction projects. As shown in Table (1), the average mean score of respondents for project procurement management competence is 3.5263, which ranges between 2.34 and 3.66, indicated that the project managers have a medium level of competence in Bahir Dar city public building construction projects.

(8) PM Software Competence

This study has assessed the PM software competence of the Bahir Dar city public building construction project managers, which includes, know and able to apply PM-related software such as; MS Project, Primavera and other. Based on a questionnaire survey, as indicated in Table (1), the average mean score of respondents for PM software competence is 3.3158, which is between 2.34 and 3.66. Hence, the result indicated that the project managers have a medium level of status on PM software competence in Bahir Dar city public building construction projects

(9) Project Risk Management

In this regard, this study has assessed the Bahir Dar city public building construction project managers' competence on; the ability to manage the risks of the project and the ability to provide risk management planning, ability to identify risks, ability to implement risk planning and risk monitoring. As shown in Table (1), the average mean score of respondents' project risk management is 3.2807, which is between 2.34 and 3.66. Hence, this result indicated that the project managers have a medium level of competence on project risk management in Bahir Dar city public building construction projects.

(10) Project Safety Management

On this regard, this study has been concerned on the assessments of the project managers' competence on; the ability to analyze the hazards inherent in the work and ability to take the measurement; ability to apply and implement the safe construction practices on-site in accordance with the requirements of the plan in Bahir Dar city public building construction projects. As shown in Table (1), the total mean score of respondents for project safety management competence is 3.2105, which is within the range of 2.34 and 3.66. Therefore, this average mean score result indicated that project managers have a medium level of competence.

(11) Project Environmental Management

On this heading, the researcher has assessed the Bahir Dar city public building construction project managers' competence regarding the ability to determine impacts the project will bring to the environment and the ability to satisfy the identified environmental standards. As indicated in Table (1), the average mean score of respondents is 3.0351, which is between 2.34 and 3.66. Therefore, the mean score result indicated that the project managers have a medium level of competence on project environmental management in Bahir Dar city public building construction projects.

Table 2: Mean scores of the project managers' soft competence.

Variable	Average mean scores of respondents	Interpretation
Soft competence		
Communication	3.9474	High

Organizing	3.8596	High
Team working	3.8421	High
Positive work attitude	3.7895	High
Conflict management	3.7544	High
Leadership	3.6491	Medium
Flexibility & alertness	3.6316	Medium
Problem solving	3.614	Medium
Human resource management	3.4737	Medium
Creativity & innovation	3.193	Medium

(1) Communication

This research has been concerned on assessment of the Bahir Dar city public building construction project managers' competence on; the ability to motivates and inspires the team; builds relationships within and outside the team; delegates appropriately; demonstrates team organization and governance; promotes team morale and productivity: demonstrates personal commitment to the team.

Based on a questionnaire survey, as clearly shown in Table (2), the average mean score of the respondents is 3.8421. The average mean is between 3.67 and 5. Thus, the mean score result indicated that the project managers have a high level of status on team working.

(2) Positive Work Attitude

On this competence component, the researcher has been concerned on the assessment of the Bahir Dar city public building construction project managers' competence on; commitment to success; high self-esteem and enthusiasm; trustworthiness; fairness; acting assertively; behaving ethically; coping with authority and managing self. Therefore, as indicated in Table (2), the average mean score of respondents for positive work attitude competence is 3.7895, which is between 3.67 and 5. It is indicated that the project managers have a high level of status on positive work attitude competence.

(3) Conflict Management

On conflict management competence, this study has assessed the Bahir Dar city public building construction project managers' competence on; ability to seek a consensus, resolving differences and aligning views; getting people to agree and accept upon terms and conditions of a certain

situation. Thus, as shown in Table (2), the average mean score of the respondents is 3.7544. The result exists within the range of 3.67 and 5. Hence, the result indicated that the Bahir Dar city public building construction project managers have a high level of status on conflict management.

(4) Leadership

On this competence component, the researcher has assessed the Bahir Dar city public building construction project managers' competence on; the ability to establish vision and direction, to empower and inspire people to achieve project success; the knowledge to make decision and; ability to make decision; ability to keep project moving toward successful completion in face of aggressive schedules. As it is indicated in Table (2), based on a questionnaire survey, the average mean score of the respondents is 3.6491, which is between 2.34 and 3.66. Therefore, this result indicated that the project managers have a medium level of status on the competence of leadership in Bahir Dar city public building construction projects.

(5) Flexibility & Alertness

On this heading, the researcher has assessed the project managers' competence on; adaptability; ability to work under pressure and; the ability to handle multi-task in Bahir Dar city public building construction.

Based on a questionnaire survey, as it is indicated in Table (2), the average mean score of the respondents is 3.6316, which is between 2.34 and 3.66. Therefore, this result indicated that the Bahir Dar city public building construction project managers have a medium level of status on flexibility & alertness competence component.

(6) Problem-Solving

In this study, the researcher has been concerned on the assessments of project managers' competence on; the ability to solve practical problems and deal with variables in situations where only limited standardization exists; trouble-shooting mentality and proactively identify potential problems in Bahir Dar city public building construction projects. Hence, based on the questionnaire survey assessment, as shown in Table (2), the average mean score of the respondents is 3.614, which is within the range of 2.34 and 3.66. Thus, this result indicated that the project managers have a medium level of status on problem-solving competence component.

(7) Human Resource Management

On this heading, this study has assessed the Bahir Dar city public building construction project

managers' competence on; ability to perform staff recruitment, selection, training and evaluating people in the project. Therefore, based on the questionnaire survey result, as shown in Table (2), the average mean score of respondents is 3.4737, which is between 2.34 and 3.66. This result indicated that the project managers have a medium level of status on this competence component.

(8) Creativity & Innovation

On the project managers' creativity & innovation competence component, this study has assessed the Bahir Dar city public building construction project managers' competence on; inventiveness; open-mindedness; innovation and change and; acting as a change agent in the project. Therefore, based on a questionnaire survey, as shown in Table (2), the average mean score of the respondents is 3.193, which is between 2.34 and 3.66. This indicated that Bahir Dar city public building construction project managers have a medium level of status on creativity & innovation competence component.

Table 3: Mean scores and ranking on the impacts of project managers' competence on project success criteria

Variable	Total mean score	Rank
Project cost	3263	1
Project time	2386	2
Technical specifications & functional requirements	2386	2
Clients' satisfaction	1684	4
Stakeholders relationship	4.2982	5
Sustainability and reliability	4.2456	6
Team satisfaction	4.1754	7
End-user satisfaction	4.1053	8
Health, safety and environment (HSE)	4.0877	9
Supplier satisfaction	3.667	10

As clearly indicated in Table (3), the project cost is ranked first by the respondents with an average mean score of 3263. This implies that the project

managers' competence has high impacts on project cost in Bahir Dar city public building construction projects.

Table (3) shows that project time and, technical specifications & functional requirements have been equally the second-ranked project success criteria by having the average mean score of 2386. This result indicated that the project time and, technical specifications & functional requirements can be affected by the competence of the project manager.

Clients' satisfaction was ranked fourth by having the average mean score of 1684, as shown in Table (3). This result also indicated that the clients' satisfaction can be affected by the competence of the project manager.

The fifth-ranked project success criteria that were impacted by project managers' competence is found to be stakeholders' relationship with the average mean score of 4.2982, as shown in Table (3). This result indicates that the stakeholders' relationship can be affected by the competence of the project manager.

Table 4: Mean scores and ranking the project managers' hard competence components' level of impact on project success

Variable	Total mean score	Rank	Interpretation
Hard competence			
Project procurement management	2211	1	High
Project cost management	4.2982	2	High
Project time management	4.1579	3	High
Project Financial Management	4.1579	3	High
Project quality management	4.1404	5	High
Project integration management	4.0175	6	High
Project scope management	4	7	High
Project Safety Management	3.8947	8	High
Project risk management	3.7895	9	High
Project Environmental Management	3.7544	10	High
PM software	3.5263	11	Medium

competence			
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The first ranked competence component with the highest impact in project success is found to be project procurement management with the average mean score of 2211 (exist in high levels of impact range). The respondent's average mean score also revealed that the project managers' procurement management competence has high levels of impact on project success.

Project cost management has been ranked by the respondents in the second position with the average mean score of 4.2982 (exist in high levels of impact range). This average mean score result indicated that project managers with insufficient ability to determine resources needed to perform project activities, ability to develop project budget based on resources needed, and ability to control the project budget throughout the project life cycle has high levels of impact on project success.

Project time management and project financial management are equally third-ranked with the average mean score of 4.1579 (exist in high levels of impact range). This study found that project managers' ability to prepare project schedules; ability to monitor the projects' progress in terms of planned versus actual schedule; ability to monitor project milestones and deliver the project within agreed time has high levels of impact on project success.

Project quality management is put on the fifth rank with the average mean score of 4.1404 (exist in high levels of impact range). This study revealed that lack of project managers' competence in time management has high levels of impact on project success.

Project integration management has been ranked by the respondents in the sixth position with the average mean score of 4.0175 (exist in high levels of impact range). Thus, a project manager with insufficient competence in project integration management has high levels of impact on project success.

Project scope management is seventh-ranked with the average mean score of 4 (exist in high levels of impact range). Therefore, a project manager with insufficient competence in project scope management has high levels of impact on project success.

Project safety management has been ranked by the respondents in the eighth position with the average mean score of 3.8947 (exist in high levels of impact range). This indicated that the project managers' ability to analyze the hazards inherent in the work and ability to take the measurement; ability to apply and implement the safe construction practices on-site in accordance with the requirements of the plan have high levels of impact on project success.

Project risk management has been ranked in the ninth position with the average mean score of 3.7895 (exist in high levels of impact range). Thus, the project managers' competence on; ability to manage the risks of the project and ability to provide risk management planning, ability to identify risks, ability to implement risk planning and risk monitoring has high levels of impact on project success.

Project environmental management is put on tenth ranks by having an average mean score of 3.754 (exist in high levels of impact range). Therefore, this study revealed that the project managers' competence in project environmental management has high levels of impact on project success. Finally, PM software competence is put on the eleventh rank with a mean score of 3.5263, which is within the range of 2.34 and 3.66. Thus, the result indicated that the project managers' PM software competence has medium levels of impact on project success in the Bahir Dar city public building construction projects.

Table 5: Mean scores and ranking of the project managers' soft competence components level of impact on project success

Variable	Total mean score	Rank	Interpretation
Soft competence			
Team working	4.1579	1	High
Positive work attitude	4.1404	2	High
Communication	4.0877	3	High
Leadership	4.0351	4	High
Organizing	4.0175	5	High
Problem solving	4	6	High
Conflict management	3.9825	7	High
Flexibility & alertness	3.9298	8	High

Human resource management	3.8596	9	High
Creativity & innovation	3.7544	10	High

Team working has been ranked by the respondents in the first position with the average mean score of 4.1579 (exist in high levels of impact range). Therefore, the study revealed that the project managers' team working competence has high levels of impact on project success.

Positive work attitude is put on the second rank by having the average mean score of 4.140 (exist in high levels of impact range).

The third-ranked competence components with the highest impact in project success is found to be communication with the average mean score of 4.0877.

Leadership competence is put on the fourth rank by having an average mean score of 4.0351 (exist in high levels of impact range). Therefore, the study revealed that the project managers' leadership competence has high levels of impact on project success.

The fifth-ranked competence components with the highest impact in project success are found to be organizing with the average mean score of 4.0175. Thus, this study showed that project managers' ability to understand the organizational formal structure, the chain of command, positional power, rules, regulations, and the standard has high levels of impact on project success.

The sixth, seventh and eighth competence components with the highest impact in project success are found to be problem-solving, conflict management and flexibility & alertness with the average mean scores of 4, 3.9825 and 3.9298 respectively.

Human resource management has been ranked by the respondents in the ninth position with the average mean score of 3.8596 (exist in high levels of impact range). Therefore, this study revealed that the competence of project managers on human resource management has high levels of impact on project success. According to Umer et al. (3), poor team planning and development, including understaffing, vague responsibilities and instability, lead to a lack of staff motivation and

direction, causing slow down the progress of the project.

The last ranked competence component with the highest impact in project success is found to be creativity & innovation competence with an average mean score of 3.7544 in the Bahir Dar city public building construction projects

5. Conclusion

This section summarizes the results from the research and draws conclusions from the collated data. Thus, the following are the major findings of the research work.

- I. On the project managers' hard competence assessment, the competence areas of project time management, project financial management, project cost management and project quality management of construction project managers have shown comparatively higher competence on Bahir Dar city public building construction projects. Whereas, the competence areas of project integration management, project scope management, project procurement management, PM software competence, project risk management, project safety management and project environmental management of construction project managers have shown a comparatively medium level of competence.
- II. On the project managers' soft competence assessment, the competence areas of communication, organizing, team working, positive work attitude and conflict management of construction project managers have shown comparatively higher competence on Bahir Dar city public building construction projects. Whereas, the competence areas of leadership, flexibility & alertness, problem-solving, human resource management and creativity & innovation of construction project managers have shown a comparatively medium level of competence.
- III. Project managers' competence has an impact on project success criteria. Project cost, project time, technical specifications and functional requirements, clients' satisfaction and stakeholders' relationship were the top five project success criteria that were impacted by the competence of project managers in the Bahir Dar city public building construction projects.

- IV. All project managers' soft and hard competence components have a high level of impact on project success except PM software competence of hard competence component has a medium level of impact on project success.

6. Recommendations

Based on the conclusion made above, this research recommends the following points;

1. The construction companies, as well as the construction industry, should develop a set of assessment tools for evaluation of project managers' competence, such as questionnaires, to determine their own competency strengths and weaknesses and do a continuous assessment to enable them based on the assessment result. The higher management department should evaluate their project managers' competencies to figure out what they are lacking off. This helps project managers to elevate their performance which reflects on projects' outcomes.
2. The construction companies, as well as the construction industry, should use the project managers' hard and soft competence components as selection criteria of project managers. Furthermore, the construction industry should use the project managers' hard and soft competence results as the main criteria for bid evaluation.
3. The company should design different workshops and training that could solve project managers' competency gaps.

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