



A STUDY ON PROJECT MANAGER SKILL DEVELOPMENT IN CONSTRUCTION COMPANIES IN CHENNAI REGION

R.Balamurugan,

Professor of Civil Engineering,

Kumaran Institute of Technology, Chennai

Abstract

Successful project managers are in high demand as organizations strive to deliver successful projects at a faster pace in increasingly complex environments. There are a few critical skills that make project managers successful. This paper deals with construction companies' project manager skills. It outlines the various aspects of project manager skills and such skills are identified and quantified. This paper concludes with some interesting findings.

Introduction

Pant and Baroudi, (2008) describe how "project management is being viewed as the 'new' form of general management which enables organizations to integrate, plan, and control schedule-intensive and one-of-a-kind endeavors in order to improve overall organizational performance". According to Anantatmula, (2010) the role of a project manager is perceived to be more challenging than that of a functional manager given that the former has to work across functional and organizational environments. Project managers are constantly challenged to cope with different kinds of problems in the accomplishment of unique outcomes expected to result from limited resources and within critical time constraints. Moreover, they are required to coordinate the work of people from different disciplines in order to accomplish the defined tasks while coping with the complexity, uncertainty and constraints of the project itself.

Driven by the project's specific characteristics and goals, project managers can choose to adopt a particular leadership style. Müller and Turner, (2010) note that, different types of projects require different leadership styles, the project manager's competencies should be taken in consideration to effectively assign them to projects. As per the report by Carbone and Gholston, (2004) some organizations are placing project managers in jobs that follow such discipline based only on their technical ability; however, it is recognized that apart from the technical competencies, such as the use and application of tools and techniques, people skills are also essential to project managers who wish to deliver successful projects. Even as the perception on effective people managers has shifted from the idea that they only require managerial competencies, the necessary cross-functional team management skills are being overlooked and little is being done to develop them.

Skills required for project managers

Project management is not an easy job. In fact, it's several not-easy jobs, including the initiation, planning, executing, controlling, and closing of a project. Even more difficult, that project is delegated to a team of choosing, given specific goals to achieve over a defined timeline for a determined budget.

With project management methodology in increasing demand, employers are actively searching for individuals who can lead project teams and deliver quality products in suitable timeframes. While these leaders are expected to have the same strong management skills of any manager, the nature of project management stresses the value of certain skills over others. Here are five crucial skills for project management professionals.

Communication

One of the most important skills for project managers is great communication. Good communication and effective leadership typically go hand-in-hand. Project management involves leading teams from different departments who may not be used to working together. Members may have different skills and may be expected to bring something unique to the table. A communicator who can provide clear instructions and expectations for their teams may increase work productivity and efficiency. Another key to communication is awareness of word choice, tone and body language. Project managers aim for clarity and sensitivity, and have an ability to speak clear and concise with all team members.

Time Management

The ability to manage time and prioritize tasks is an essential characteristic of efficient project managers. Workers may respond better to managers who are able to stay on task, avoid procrastination and complete work on time. In addition to personal time management, project managers must be able to maximize productivity and minimize distractions in several key project areas. It's also important for project managers to avoid the temptation of managing too much. Good managers can adapt to changes in the project, and develop a trust between team members, rather than micromanage.

Organizational Awareness

There are several different types of organizational structure in project management and all have an impact on management style. In businesses with a functional organizational structure, a traditional business hierarchy tasks senior executives with overall project quality. In a project-based organizational structure, project teams are given a degree of autonomy to manage projects as they see fit, ultimately placing project managers in positions of overall responsibility. Awareness of how an organization is structured and how project teams are formed is very important for project management professionals. Managers must have a clear sense of the current chain of command and whether they or senior executives will bear responsibility for final deliverables.

Problem Solving

Project management tends to follow a specific problem-solving framework. While each of these points can certainly be discussed in further detail, successful project managers generally have at the very least a basic understanding of the following ordered problem-solving approach.

Be proactive in finding new, potential problems rather than waiting to see if anything goes wrong. Clearly define the problem and what are trying to solve to help provide a clear set of objectives and a pathway to success. Analyze the problem in detail to uncover any variables that may help identify the root of the issue. Develop an awareness of all possible solutions to the problem and their respective pros and cons. Choose the best solution from each of the options in the previous step. Oversee the implementation of the solution and adjust to meet any complications. Pause to reflect on your problem-solving attempt to determine its strengths and weaknesses.

Leadership

It may seem obvious, but strong leadership skills are crucial for project managers. This trait combines strong communication skills with a calm temperament and a positive, can-do approach to problem solving. Leaders must also be able to form and manage teams and communicate with stakeholders. Effective project managers tend to be excellent decision-makers and are able to delegate responsibilities to the team members most equipped to handle them.

Methods and Materials

This study aims at analyzing the managerial skills among the project managers of construction companies in Chennai region. In this study 75 construction companies are selected from the Chennai region representing small size construction companies, medium size construction companies and large size construction companies. From each group 25 project managers are selected as sample under simple random sampling method. The relevant data on project manager skills are collected from them with the help of questionnaire method. The collected data are classified and tabulated with the help of computer programming. The data analysis is carried out with the help of mean, ANOVA two way analysis and t test.

Project Manager Skills

This section deals with respondents' rating on project manager skills. It can be assessed with the help of 15 factors on a 5 point rating scale. These include communication according to needs and requirements, ability to deliver goods on time as well as price, preparation of specific timeline and sequence of activities and use the schedule to manage the overall project targets to ensure its timely completion, negotiation with sponsors and agree to work on the basis of agreement during the time of stating the project, selection of team members based on the technical skills, make everyone to understand the content and coverage of the project, consideration of cost alternatives when developing original project budget plan, outline the clear expectations for the team members, manage the individual and collective performance as a part of the overall project

evaluation plan, right way of conducting the project in time, identification of potential project risks and developing a plan to manage the risks, following flexibility in plan objectives and targets according to the requirement of the situation, consideration of requirements of customers and stakeholders to improve the quality of project outcome, monitoring and reevaluating the significant risks as the project continues, giving deadline to complete the project and expectation of co ordination with team members, informing the project stakeholders about up to date regular meeting and distribution of all performance reports, status, changes and other project documents, proper definition of stakeholders needs and expectations from the project and expectations can be used as tool to explain project scope, inclusion of extra fund in the project to avoid the problem of cost escalation, presentation of project status information in an easy to use and easy to access format to meet stakeholders information needs, delivering goods in time and proper budget are the important aspect of project success and choosing suppliers based on familiarly and past relationship with the organization.

Table 1 Construction Company Size Wise Respondents’ Rating on Project Manager Skills

Variables	Small	Medium	Large	Mean
Communication according to needs and requirements	3.17	3.36	3.91	3.48
Ability to deliver goods on time as well as price	3.36	3.55	4.10	3.67
Preparation of specific timeline and sequence of activities and use the schedule to manage the overall project targets to ensure its timely completion	1.69	1.88	2.13	1.90
Necogotiation with sponsor and agree to work on the basis of agreement during the time of stating the project	2.23	2.42	2.97	2.54
Selection of team members based on the technical skills	3.93	4.02	4.17	4.04
Make everyone to understand the content and coverage of the project	1.80	1.99	2.54	2.11
Consideration of cost alternatives when developing original project budget plan	2.17	2.36	2.91	2.48
Outline the clear expectations for the team members	3.08	3.27	3.82	3.39
Manage the individual and collective performance as a part of the overall project evaluation plan	3.28	3.47	4.02	3.59
Right way of conducting the project in time	2.38	2.57	3.12	2.69
Identification of potential project risks and developing a plan to manage the risks	3.68	3.87	4.12	3.89
Following flexibility in plan objectives and targets according to the requirement of the situation	2.02	2.11	2.56	2.23
Consideration of requirements of customers and stakeholders to improve the quality of project outcome	2.95	3.14	3.69	3.26

Monitoring and reevaluating the significant risks as the project continues	3.77	3.96	4.21	3.98
Giving deadline to complete the project and expectation of co ordination with team members	3.46	3.75	4.10	3.77
Informing the project stakeholders about up to date regular meeting and distribution of all performance reports, status, changes and other project documents	2.47	2.66	3.21	2.78
Proper definition of stakeholders needs and expectations from the project and expectations can be used as tool to explain project scope	2.00	2.19	2.74	2.31
Inclusion of extra fund in the project to avoid the problem of cost escalation	2.56	2.75	3.30	2.87
Presentation of project status information in an easy to use and easy to access format to meet stakeholders information needs	3.89	4.18	4.23	4.10
Delivering goods in time and proper budget are the important aspect of project success	2.09	2.28	2.83	2.40
Choosing suppliers based on familiarly and past relationship with the organization	2.67	2.86	3.41	2.98
Average	2.79	2.98	3.43	3.07

Source: Computed from primary data

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>F crit</i>
Variation due to project manager skills	29.57249	20	1.478624	164.2916	1.838859
Variation due to company size	4.5374	2	2.2687	252.0778	3.231727
Error	0.36	40	0.009		
Total	34.46989	62			

Data presented in table 1 indicate the construction company wise respondents' rating on project manager skills. It could be noted that out of the 21 indicators of project manager skills, the respondents rate the presentation of project status information in an easy to use and easy to access format to meet stakeholders information needs is the first level project manager skill and it is evident from their secured a mean score of 4.10 on a 5 point rating scale. Selection of team members based on the technical skills is rated at second level project manager skill and it is estimated from the respondents' secured a mean score of 4.04 on a 5 point rating scale. The

respondents rate the monitoring and reevaluating the significant risks as the project continues is the third level project manager skill. It is evident from their secured a mean score of 3.98 on a 5 point rating scale. The respondents rank the fourth level project manager skill by citing the fact that the identification of potential project risks and developing a plan to manage the risks and it is observed from the respondents' secured a mean score of 3.89 on a 5 point rating scale. Giving deadline to complete the project and expectation of co ordination with team members is rated at fifth level project manager skill and it could be known from the respondents' secured a mean score of 3.77 on a 5 point rating scale.

The respondents' rate the ability to deliver goods in time as well as price is the rated sixth level project manager skill and it is revealed from their secured a mean score of 3.67 on a 5 point rating scale. Manage the individual and collective performance as a part of the overall project evaluation plan is rated at seventh level project manager skills and it is observed from the respondents' secured a mean score of 3.59 on a 5 point rating scale. The respondents' rate the communication according to needs and requirements and it is their eighth level ranking. It is evident from their secured a mean score of 3.48 on a 5 point rating scale. The respondents rank the ninth level project manager skill by citing the fact that the outline the clear expectations for the team members as per their secured a mean score of 3.39 on a 5 point rating scale. Consideration of requirements of customers and stakeholders to improve the quality of project outcome is rated at tenth level project manager skills and it is evident from the respondents' secured a mean score of 3.26 on a 5 point rating scale. The respondents rate the choosing suppliers based on familiarly and past relationship with the organization is the eleventh level skill and it could be known from their secured a mean score of 2.98 on a 5 point rating scale. Inclusion of extra fund in the project to avoid the problem of cost escalation is rated at twelfth level project manager skill and it is reflected from the respondents' secured a mean score of 2.87 on a 5 point rating scale. The respondents rank the thirteenth level project manager skill by citing the fact that informing the project stakeholders about up to date regular meeting and distribution of all performance reports, status, changes and other project documents. It is evident from their secured a mean score of 2.78 on a 5 point rating scale. The respondents rank the fourteenth level project manager skill by citing the fact that right way of conducting the project in time and it is clear from their secured a mean score of 2.69 on a 5 point rating scale. Necogotiation with sponsors and agree to work on the basis of agreement during the time of stating the project is rated at fifteenth level skill as per the respondents' secured a mean score of 2.54 on a 5 point rating scale. The respondents' rate the consideration of cost alternatives when developing original project budget plan and it is their sixteenth level ranking. It is evident from their secured a mean score of 2.48 on a 5 point rating scale. The respondents rank the seventeenth level project manager skill by citing the fact that delivering goods in time and proper budget are the important aspect of project success as per their secured a mean score of 2.40 on a 5 point rating scale. Proper definition of stakeholders needs and expectations from the project and expectations can be used as tool to

explain project scope is rated at eighteenth level project manager skills and it is evident from the respondents' secured a mean score of 2.31 on a 5 point rating scale. The respondents rate the following flexibility in plan objectives and targets according to the requirement of the situation is the nineteenth level skill and it could be known from their secured a mean score of 2.23 on a 5 point rating scale. Make everyone to understand the content and coverage of the project is rated at twentieth level project manager skill and it is reflected from the respondents' secured a mean score of 2.11 on a 5 point rating scale. The respondents rank the twenty first level project manager skills by citing the fact that preparation of specific timeline and sequence of activities and use the schedule to manage the overall project targets to ensure its timely completion. It is evident from their secured a mean score of 1.90 on a 5 point rating scale.

The large size construction company respondents' rank the first position in their overall rated skills of the project managers as per their secured a mean score of 3.43 on a 5 point rating scale. The medium size construction company respondents' record the second position in their overall rated skills of the project managers as per their secured a mean score of 2.98 on a 5 point rating scale. The small size construction company respondents' come down to the last position in their overall rated skills of the project managers and it is estimated from their secured a mean score of 2.79 on a 5 point rating scale.

The anova two way model is applied for further discussion. The computed anova value 164.29 is greater than its tabulated value at 5 percent level significance. Hence, the variation among the skills of the project managers is statistically identified as significant. In another point, the computed anova value 252.07 is greater than its tabulated value at 5 percent level significance. Hence, the variation among the company size is statistically identified as significant as per the respondents expressed indicators of project manager skills.

Table 2 Education Wise Respondents' Rating on Project Manager Skills

Variables	Research degree	Post graduation	Under graduation	Diploma	Mean
Communication according to needs and requirements	3.95	3.62	3.34	3.01	3.48
Ability to deliver goods on time as well as price	4.14	3.81	3.53	3.20	3.67
Preparation of specific timeline and sequence of activities and use the schedule to manage the overall project targets to ensure its timely completion	2.17	2.04	1.76	1.63	1.90
Necogitation with sponsor and agree to work on the basis of agreement during the time of stating the project	3.01	2.68	2.40	2.07	2.54
Selection of team members based on the technical skills	4.21	4.18	4.10	3.67	4.04
Make everyone to understand the content and coverage of the project	2.48	2.25	1.97	1.74	2.11
Consideration of cost alternatives when developing original project budget plan	2.95	2.62	2.34	2.01	2.48
Outline the clear expectations for the team members	3.86	3.53	3.25	2.92	3.39
Manage the individual and collective performance as a part of the overall project evaluation plan	4.06	3.73	3.45	3.12	3.59
Right way of conducting the project in time	3.16	2.83	2.55	2.22	2.69
Identification of potential project risks and developing a plan to manage the risks	4.16	4.03	3.85	3.52	3.89
Following flexibility in plan objectives and targets according to the requirement of the situation	2.60	2.37	2.09	1.86	2.23
Consideration of requirements of customers and stakeholders to improve the quality of project outcome	3.73	3.40	3.12	2.79	3.26
Monitoring and reevaluating the significant risks as the project continues	4.25	4.22	3.94	3.51	3.98
Giving deadline to complete the project and expectation of co ordination with team members	4.14	4.01	3.63	3.30	3.77
Informing the project stakeholders about up to date regular meeting and distribution of all performance reports, status, changes and other project documents	3.25	2.92	2.64	2.31	2.78
Proper definition of stakeholders needs and expectations from the project and expectations can be used as tool to explain project scope	2.78	2.45	2.17	1.84	2.31

Inclusion of extra fund in the project to avoid the problem of cost escalation	3.34	3.01	2.73	2.40	2.87
Presentation of project status information in an easy to use and easy to access format to meet stakeholders information needs	4.27	4.24	4.06	3.83	4.10
Delivering goods in time and proper budget are the important aspect of project success	2.87	2.54	2.26	1.93	2.40
Choosing suppliers based on familiarly and past relationship with the organization	3.45	3.12	2.84	2.51	2.98
Average	3.47	3.22	2.95	2.64	3.07

Source: Computed from primary data

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>F crit</i>
Variation due to project manager skills	39.42998	20	1.971499	304.4226	1.747984
Variation due to educational status	8.006429	3	2.66881	412.0956	2.758078
Error	0.388571	60	0.006476		
Total	47.82498	83			

Table 2 reveals data on the education wise respondents’ rating on skills of the project managers. The research degree level educated respondents rank the first position in their overall rated skills of the project managers as per their secured a mean score of 3.47 on a 5 point rating scale. The post graduate degree level educated respondents record the second position in their overall rated skills of the project managers as per their secured a mean score of 3.22 on a 5 point rating scale. The under graduate degree level educated respondents register the third position in their overall rated skills of the project managers as per their secured a mean score of 2.95 on a 5 point rating scale. The diploma level educated respondents turn down to last position in their overall rated skills of the project managers as per their secured a mean score of 2.64 on a 5 point rating scale.

The anova two ways model is applied for further discussion. The computed anova value 304.42 is greater than its tabulated value at 5 percent level significance. Hence, the variation among the skills of the project managers s statistically identified as significant. In another point, the computed anova value 412.02 is greater than its tabulated value at 5 percent level significance. Hence, the variation among the educational status is statistically identified as significant as per the respondents rated skills of the project managers.

Table 3 Working experience Wise Respondents’ Rating on Project Manager Skills

Variables	5-10 years	10-15 years	15-20 years	20-25 years	Mean
Communication according to needs and requirements	2.97	3.26	3.70	3.99	3.48
Ability to deliver goods on time as well as price	3.16	3.45	3.89	4.18	3.67
Preparation of specific timeline and sequence of activities and use the schedule to manage the overall project targets to ensure its timely completion	1.64	1.73	2.02	2.21	1.90
Necogitation with sponsor and agree to work on the basis of agreement during the time of stating the project	2.03	2.32	2.76	3.05	2.54
Selection of team members based on the technical skills	3.63	4.12	4.16	4.25	4.04
Make everyone to understand the content and coverage of the project	1.70	1.89	2.33	2.52	2.11
Consideration of cost alternatives when developing original project budget plan	1.97	2.26	2.70	2.99	2.48
Outline the clear expectations for the team members	2.88	3.17	3.61	3.90	3.39
Manage the individual and collective performance as a part of the overall project evaluation plan	3.08	3.37	3.81	4.10	3.59
Right way of conducting the project in time	2.18	2.47	2.91	3.20	2.69
Identification of potential project risks and developing a plan to manage the risks	3.48	3.91	4.07	4.10	3.89
Following flexibility in plan objectives and targets according to the requirement of the situation	1.72	2.01	2.45	2.74	2.23
Consideration of requirements of customers and stakeholders to improve the quality of project outcome	2.75	3.04	3.48	3.77	3.26
Monitoring and reevaluating the significant risks as the project continues	3.62	3.96	4.15	4.19	3.98
Giving deadline to complete the project and expectation of co ordination with team members	3.26	3.55	4.09	4.18	3.77
Informing the project stakeholders about up to date regular meeting and distribution of all performance reports, status, changes and other project documents	2.27	2.56	3.00	3.29	2.78
Proper definition of stakeholders needs and expectations from the project and expectations can be used as tool to explain project scope	1.80	2.09	2.53	2.82	2.31
Inclusion of extra fund in the project to avoid the problem of cost escalation	2.36	2.65	3.09	3.38	2.87

Presentation of project status information in an easy to use and easy to access format to meet stakeholders information needs	3.89	4.18	4.20	4.23	4.10
Delivering goods in time and proper budget are the important aspect of project success	1.89	2.18	2.62	2.91	2.40
Choosing suppliers based on familiarly and past relationship with the organization	2.47	2.76	3.20	3.49	2.98
Average	2.61	2.90	3.27	3.50	3.07

Source: Computed from primary data

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>F crit</i>
Variation due to project manager skills	39.63846	20	1.981923	155.9653	1.747984
Variation due to company duration	9.850452	3	3.283484	258.3903	2.758078
Error	0.762448	60	0.012707		
Total	50.25136	83			

Data presented in table 3 indicate the working experience wise respondents' rating on project manager skills. The respondents belong 20-25 years working experience group rank the first position in their overall rated skills of the project managers as per their secured a mean score of 3.50 on a 5 point rating scale. The respondents come under the working experience group in the range of 15-20 years register the second position in their overall rated skills of the project managers as per their secured a mean score of 3.27 on a 5 point rating scale. The respondents included in the working experience group 10-15 years occupy the third position in their overall rated skills of the project managers as per their secured a mean score of 2.90 on a 5 point rating scale. The respondents observed in the working experience group 5-10 years turn down to last position in their overall rated skills of the project managers as per their secured a mean score of 2.60 on a 5 point rating scale.

The anova two way model is applied for further discussion. The computed anova value 155.96 is greater than its tabulated value at 5 percent level significance. Hence, the variation among the skills of the project managers is statistically identified as significant. In another point, the computed anova value 258.39 is greater than its tabulated value at 5 percent level significance. Hence, the variation among the working experience groups is statistically identified as significant as per the respondents rated skills of the project managers

Table 4 Sex Wise Respondents' Rating on Project Manager Skills

Variables	Male	Female	Mean
Communication according to needs and requirements	3.82	3.14	3.48
Ability to deliver goods on time as well as price	4.01	3.33	3.67
Preparation of specific timeline and sequence of activities and use the schedule to manage the overall project targets to ensure its timely completion	2.04	1.76	1.90
Necogitation with sponsor and agree to work on the basis of agreement during the time of stating the project	2.88	2.20	2.54
Selection of team members based on the technical skills	4.18	3.90	4.04
Make everyone to understand the content and coverage of the project	2.45	1.77	2.11
Consideration of cost alternatives when developing original project budget plan	2.82	2.14	2.48
Outline the clear expectations for the team members	3.73	3.05	3.39
Manage the individual and collective performance as a part of the overall project evaluation plan	3.93	3.25	3.59
Right way of conducting the project in time	3.03	2.35	2.69
Identification of potential project risks and developing a plan to manage the risks	4.13	3.65	3.89
Following flexibility in plan objectives and targets according to the requirement of the situation	2.57	1.89	2.23
Consideration of requirements of customers and stakeholders to improve the quality of project outcome	3.60	2.92	3.26
Monitoring and reevaluating the significant risks as the project continues	4.32	3.64	3.98
Giving deadline to complete the project and expectation of co ordination with team members	4.11	3.43	3.77
Informing the project stakeholders about up to date regular meeting and distribution of all performance reports, status, changes and other project documents	3.12	2.44	2.78
Proper definition of stakeholders needs and expectations from the project and expectations can be used as tool to explain project scope	2.65	1.97	2.31
Inclusion of extra fund in the project to avoid the problem of cost escalation	3.21	2.53	2.87
Presentation of project status information in an easy to use and	4.21	3.96	4.10

easy to access format to meet stakeholders information needs			
Delivering goods in time and proper budget are the important aspect of project success	2.74	2.06	2.40
Choosing suppliers based on familiarly and past relationship with the organization	3.32	2.64	2.98
Average	3.37	2.76	3.07

Source: Computed from primary data

t statistical value 18.74, df 20, t critical value 1.72

Table 4 shows data on the sex wise respondents’ rating on project manager skills. The male respondents’ rank the first positions in their overall rated skills of the project managers as per their secured a mean score of 3.37 on a 5 point rating scale. The female respondents’ hold the second position in their overall rated skills of the project managers and it is estimated from their secured a mean score of 2.76 on a 5 point rating scale.

The t test is applied for further discussion. The computed t value 18.74 is greater than its tabulated value at 5 per cent level significance. Hence, there is a significant difference between male respondents’ and female respondents’ in their overall rated skills of the project managers.

Conclusion

It could be seen clearly from the above discussion that the respondents’ rate the high level project manager skills by citing the indicators that presentation of project status information in an easy to use and easy to access, format to meet stakeholders information needs, selection of team members based on the technical skills, monitoring and reevaluating the significant risks as the project continues, identification of potential project risks and developing a plan to manage the risks, giving deadline to complete the project and expectation of co ordination with team members, ability to deliver goods on time as well as price and manage the individual and collective performance as a part of the overall project evaluation plan as per their secured a mean score above 3.50 on a 5 point rating scale. The respondents’ report the moderate level project manager skills by stating the facts that communication according to needs and requirements, outline the clear expectations for the team members, consideration of requirements of customers and stakeholders to improve the quality of project outcome, choosing suppliers based on familiarly and past relationship with the organization, inclusion of extra fund in the project to avoid the problem of cost escalation, informing the project stakeholders about up to date regular meeting and distribution of all performance reports, status, changes and other project documents, right way of conducting the project in time, necogitation with sponsors and agree to work on the basis of agreement during the time of stating the project as per their secured a mean score in the range of 2.50 to 3.50 on a 5 point rating scale. The respondents’ rate the low level project manager skills by indicating the facts that consideration of cost alternatives when developing original project budget plan, delivering goods in time and proper budget are the important aspect of project

success, proper definition of stakeholders needs and expectations from the project and expectations can be used as tool to explain project scope, following flexibility in plan objectives and targets according to the requirement of the situation, make everyone to understand the content and coverage of the project and preparation of specific timeline and sequence of activities and use the schedule to manage the overall project targets to ensure its timely completion as per their secured a mean score below 2.50 on a 5 point rating scale. It could be observed that the large size construction company respondents' rank the first position in their rated overall indicators of project manager skills, the medium size construction company respondents' the second and small size construction company respondents' the last.

The result of education wise analysis reveals that the research degree level educated respondents rank the first position in their overall rated indicators of project manager skills, post graduate degree holder respondents the second, under graduate degree level respondents the third and diploma level educated respondents the last. The result of working experience wise analysis reveals that the respondents belong to the 20-25 years working experience group rank the first position in their overall rated indicators of project manager skills, respondents come under the 15-20 years working experience group the second, respondents identified in the 10-15 years working experience group the third, and respondents observed 5-10 years working experience group the last. The result of gender wise analysis reveals that the female respondents lag behind the male respondents in their overall rated indicators of project manager skills.

References

- Pant, I. & Baroudi, B., 2008. Project management education: The human skills imperative. *International Journal of Project Management*, 26(2), pp.124–128.
- Anantatmula, V.S., 2010. Project Manager Leadership Role in Improving Project Performance. *Engineering Management Journal*, 22(1), pp.13–22.
- Carbone, T. a. & Gholston, S., 2004. Project manager skill development: A survey of programs and practitioners. *Engineering Management Journal*, 16(3), pp.10–16.
- Müller, R. & Turner, J.R., 2010. Attitudes and leadership competences for project success. *Baltic Journal of Management*, 5(3), pp.307–329.
- Ramazani, J. & Jergeas, G., 2014. Project managers and the journey from good to great: The benefits of investment in project management training and education. *International Journal of Project Management*, 33(1), pp.41–52.
- Stevenson, D.H. & Starkweather, J.A., 2010. PM critical competency index : IT execs prefer soft skills. *International Journal of Project Management*, 28(7), pp.663–671.
- Robinson, O.C., 2014. Sampling in Interview-Based Qualitative Research: A Theoretical and Practical Guide. *Qualitative Research in Psychology*, 11(1), pp.25–41.
- Willis, B.E., 1995. APM project-management body of knowledge: the European view. *International Journal of Project Management*, 13(2), pp.95–98.
-