

To Study the Importance of Leadership in Construction Project

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Abstract--The aim of this study is to identify the importance and key role of leadership in project management, particularly in the construction field. Projects are conceived and completed by people, who are involved in the whole process execution of project and completion. Project management not only requires an efficient project manager, but also a qualified leader who lead the team effectively. A leader is someone who sets direction in an effort and influences to people to follow that direction. It is most important to have skills in forming, leading and facilitating a project team. Therefore it is important to study and analyse the skill of leadership. This research paper present list of leadership skills retrieved from literature. The feedback of construction experts was obtained through interviews. Subsequently a questionnaire survey is prepared. The questionnaire survey is distributed to Project Manager. This analysis will provide a clearer understanding the concept of leadership in projects, discussing how and why it works, and the ways to make project teams more dynamic and effective. The result from the study are applied to these leadership concepts, an effort understood the role of effective leadership in reducing costs across the whole project process and increasing the project value.

Key words: leadership development; leadership concepts; Project management; Construction industry; Skill analysis

I. INTRODUCTION

The construction industry has agonized from leadership crisis in current years although there is growth of construction companies. This crisis in leadership decelerated the growth of the industry as leaders possessed inadequate essential style to lead and accomplish the preferred goals. Construction industry has a poor reputation of a high accident rate and hazardous activities on site. This reflects by the statistics of high accident rates in recent years in many countries. This problem causes loss of many lives, health, skilled personnel, compensation, and

disrupting the production. It is a consequence of the failure of safety management on construction site.

Leadership plays a vital role in any industry. In India, the construction industry is the second largest industry, after agriculture, and contributes both directly and indirectly towards the country's economic growth. The Indian construction industry is a dominant contributor to the gross domestic product (GDP) of the country. The construction sector employs 33 million people in the country and influences many associated industries such as cement, steel, technology, and skill- enhancement (Jain, 2016). The construction sector is mainly divided into three types of activities in the economy: infrastructure construction, residential construction, and commercial construction which includes business complexes, shopping malls, bridges, dams, roads and urban infrastructure development. As per 2017 reports, Foreign Direct Investment (FDI) received US\$24.3 billion in the construction development sector (townships, housing, infrastructure build-up, and development projects) from April 2000 to March 2017, according to the Department of Industrial Policy and Promotion (DIPP) (IBEF, 2017). This focuses on the fact that well planned and organized construction is the target for Indian construction industry.

In any industry, organizations deal with issues related to management, planning, human resources, and leadership. In this context, the role of leadership style is a crucial factor for the advancement and prosperity of organizational growth. A central and vital aspect of improving the performance of the construction industry is the need for the development of leadership skills in the higher-management in the companies (Skipper, 2004). India has a significant demand for the leadership in the construction industry, for reasons such as project planning, project

performance, project management, job satisfaction, organizational commitment, and efficient communication. Strong leadership behavior is essential for the proper communication of information between the individual team members in the project.

The manager and their leadership skills determine the team communication, and with proper information sharing, the teams' effectiveness increases. In more complex environments and interdependent tasks, proper communication systems and knowledge sharing among team members are vital to maintaining overall organization productivity. The leadership behavior practiced by the management can play a crucial part in the relationship with employees, team collaboration, and cohesiveness' in a project environment

Therefore, the implementation of an appropriate leadership style, and managers with excellent leadership qualities can improve an entire organization. Leaders should consider job satisfaction, employee's performance, and organizational commitment in order to accomplish the organizational goals efficiently. The focus of this research study is to examine and analyze the significance of leadership traits in the construction industry in India. The results of the study can be used to make suggestions for the proper implementation of leadership skills in the construction sector in India

II LITERATURE REVIEW

Chunlin Wu, Nan Li, Dongping Fang 2017 Proposed leadership improvement and its impact on workplace safety in construction projects. Leadership is proven as a key factor impacting safety while researchers and practitioners are fostering proactive approaches to preventing workplace injuries. Practitioners' lack of leadership is one of the major causes for the continuous high-level accident frequency within the construction projects. An important yet still unsettled academic issue is how leadership impacts safety performance of construction projects, and how safety leadership can be improved. In order to probe into the mechanism by which leadership improves project safety, this study develops a safety leadership model for construction projects (SLMCP) in both theoretical and pragmatic perspectives.

Lesetja Justice Boshomane, Dr. Sugandren Naidoo

(PhD) et.al... 2022 Proposed leadership factors influencing successful project delivery. The construction sector is essential to achieving society's long-term development goals; nevertheless, the shift to sustainability is a time-consuming process that poses a leadership challenge. Construction organizations require a clear vision, strategy, and direction toward the common goal of a sustainable future. The study will follow a quantitative approach and a questionnaire to solicit important information from the respondents. The backdrop of the study, problem statement, research questions, aims of the investigation, and importance of the study will be discussed. The literature on leadership covers several leadership styles and their possible implications on organizational performance and management. Studies have shown that leadership impacts worker performance in the construction industry, impacts project success as mediated by leadership styles and help navigate challenges in the construction industry. The study's aim was to look at the impact of leadership variables on project performance.

Younghan Jung , Myung Goo Jeong , Thomas Mills et.al... 2014 Proposed identifying the preferred leadership style for managerial position of construction management. The construction industry is multidisciplinary by nature, operating within many boundaries and collaborating closely with many players, including designers, constructors, owners, and government agencies. Project and organization success depends on well-developed interpersonal skills working at different hierarchy levels to meet varying leadership and performance demands. Leadership styles can be represented with differing combinations of three main decision-making styles: 1) Autocratic, 2) Participatory, and 3) Free-rein. This study hypothesizes that varying managerial positions require different combinations of leadership styles to achieve high levels of performance and successful career. This study surveys eighty-two project executives and managers to identify their preferred leadership style for construction managerial positions. Prof.P.P.Bhangale ,Rajanikant Devalkar et.al...2013 Proposed importance of leadership in construction projects. The purpose of this study was to identify the most important leadership skill required for successful completion of construction projects. Projects are conceived and completed by people, who are involved in the whole process of

project execution and completion. Thus, project management not only requires an efficient project manager, but also a qualified leader who can lead the team effectively. A leader is someone who sets direction in an effort and influences people to follow that direction. It is important to have skills in forming, leading and facilitating a project team. Therefore it is essential to study and analyse the skills of leadership. This research paper present list of leadership skills retrieved from literature. The feedback of construction experts was obtained through interviews. Subsequently a questionnaire survey was prepared. The questionnaire survey was distributed to Project Manager, project Head, engineer.

Intan Bayani bt Zakaria, Mohamad Redhuan Bin Mohamed , Nadira bt Ahzahar and Siti ,Zubaidah bt Hashim et.al...2015 Proposed leadership skills of project manager for a successful construction project. A construction project consists of a diversity of individuals and organizations which are all gathered to achieve a specific task in a specific time. Therefore, leadership is an important characteristic for construction manager in managing construction projects. Leadership skills can improve construction productivity, where its outcomes include effectiveness, satisfaction, and extra effort. The main objective of the study is to identify the influence of project manager's leadership skill toward successful of a construction project. A key element in the success of a company is good leadership skills of a project manager and a project can be managed with minimal problems occur. Apart from that, interpersonal skills are also needed in order to reflect the project manager's ability to bring workers involved in a project.

Mazlan Ismail1, Mohamad Syazli Fathi1 et.al...2018 Proposed leadership in construction: Leadership style practiced in construction project. With the increasing importance of leadership in project-based organizations, innovative leader is essential for the sustainable development of construction projects. Leadership has been identified as one of the factors that contribute to construction organization success. Effective leadership is essential in any company to achieve organizational goals and promote individual professional achievement. Leadership is important in all fields of human endeavour. The leadership role is critical for the smooth running of an organization and

without strong leadership the organization may lose its direction, in particular when trying to achieve its target. Leadership has a direct impact on effective employee engagement. The aim of this paper is to explore the leadership style practiced in construction projects. Leadership is not "one size fits all" concept, and styles or approaches vary significantly among the successful leaders. Leadership styles should be selected and adapted to fit organizations, situations, groups, and individuals.

Mr. Vismay Amishkumar Shah L.J. 2021 Proposed impact and importance of leadership skills as a part of project success in construction industry. Leadership is one of the most subjective matter of all the time. It changes from head to head, company to company, people to people. The Ahmedabad construction industry is growing faster day by day; you will see development in every sector - Private as well as government. The general tendency of measuring the project success is mainly depending on 3 criteria: 1. Does project completed on time? 2. Does project completed within budget? 3. Does project achieved its predefined quality? Because of rivalry among the companies and high competition in market the field of Project management has expanded and attained unavoidable importance. With the technical advancement and increased level of complexity; the project success is largely depending on how it is managed or you can say how it has been led by the project manager. To observe and define importance of leadership skill, leadership style and few project success factors in the accordance with the leadership - A questionnaire survey was conducted to answer specifics like what is leadership according to the people who are in working in industry, which are the important skills which leader must possess, what are the project success factors in accordance with leadership skills etc. which were actually derived from background study and literature review.

Shamas-ur-Rehman Toor, George Ofori et.al...2008 Proposed leadership for future construction industry. Research in the construction industry is beginning to pay more attention to project leadership. Current perception of construction project leaders is largely built around power, authority, and task-orientation. This is due to the traditional focus of the construction industry on technical and managerial features of construction projects. However, greater challenges of modern times and increasingly different business

environment necessitate a renewed vision for leadership research and call for a change in traditional perception and mindset about leadership in the construction industry. Globalization and fast changing nature of construction have necessitated a need for project managers to have and apply different leadership behaviors, competencies and styles.

Mr Hassan Asim Al, Dr Abdussalam shiban et.al...2016 Proposed the impact of manager's leadership skills on construction project performance in Dubai. Dubai represents an icon in terms of development within the United Arab Emirates and Middle East in various fields; especially infrastructure, real estate, and tourism. The construction sector has witnessed a qualitative leap in terms of jobs requirements and type of production expected from people working in Dubai. Therefore, construction organisations are now looking for experienced professionals with effective leadership and management skills rather than technical experience; which is also important.

George Ofori and Shamas-ur-Rehman Toor et.al...2012 Proposed leadership and construction industry development in developing countries. Leadership is important in all fields of human endeavour. Features of the construction process and construction projects render leadership even more essential. Construction projects are expensive and technically demanding and the project teams are large and diverse. The process is long and involves a large number of discrete and interrelated tasks. Because constructed products influence long-term socioeconomic development in developing countries, poor performance on projects can have severe implications for the nation and its citizens. Thus, the need for effective leadership in construction is even more acute. It may be argued that "effective leadership" is one of the primary answers to the problems of the construction industry, including (and perhaps, especially) problems in developing countries. To this end, greater attention should be given to leadership development. The following questions are addressed in this study.

A. SUMMARY

Project importance of leadership has been intensively discussed in recent years. Construction projects are becoming improving year by year because of leadership. In this review to be taken construction projects are expensive and technically demanding and the project

teams are large and diverse. The traditional behavior of construction project managers that is primarily due to several factors which are inherent in the construction industry—must be transformed to meet challenges facing the construction industry. There is the need for a shift in the way project managers function and lead projects. They need to develop as authentic leaders to successfully operate in the increasingly complex working environment.

III RESEARCH METHODOLOGY

1. SITE VISIT

For successful completion of project minimum to maximum no of construction companies and sites data collected to based on topic. Then questionnaire are prepared based on leadership. When mainly data collected by site supervisors to project manager

2. DATA COLLECTION

The survey aimed to evaluate the influence of leadership factors on project success are presented. Following an explanation of the demographic profile of the participants, the outcomes of leadership variables that influence project performance are presented. Following that, the findings of the correlation research between leadership traits and project success has been presented

Data collection mainly collected by

- Online articles based on topics
- Written documents
- Research to experienced peoples

3. QUESTIONNAIRE SURVEY

By adopting a pragmatic approach to the research method, one of the main questions that can be answered using a quantitative approach is to test and check hypotheses Appendix 1 shows the questionnaire, as can be seen it has been designed based on the research questions. The questionnaire is the first step in achieving the aims and objectives of the research. The questionnaires were aimed at employees working inside the head office of specialized construction companies. One of these was a consultancy firm and the other was a contractor's firm. The reason behind choosing office employees was due to the fact that people who work in offices are more attached to the management

process and their knowledge of daily conflicts, decision making and delegations are essential for collecting qualitative data about leadership skills. Also, office employees are more affected by leadership attitudes and styles. Moreover, the questionnaire mainly focused on identifying the most important leadership skills that could build an effective leader. However, it was designed to be flexible in order to receive comments from the respondents.

The questionnaire was divided into four sections: Demographic Information, Perspective of Project Success, Leadership Skills, Employee's Perception of Leadership.

4. ANALYSIS DATA

A detail analysis of data Construction organizations were randomly selected as the targeted respondents to determine leadership skills through questionnaire survey. The organizations will include civil & structure/building consultant and project management consultant. Coverage of such organization was hoped to represent the local construction industry more comprehensively. To analyze project manager as a leader in construction industry, using planning and leadership (CPM)

5 CRITICAL PATH METHOD

The critical path method (CPM) is the most commonly used technique for scheduling in construction. It is sometimes referred to as critical path scheduling because it mainly calculates the minimum time needed to complete a construction project alongside the possible start and end times for the different activities. The critical path method (CPM) is a popular scheduling technique in the construction industry due to its simplicity and effectiveness. It generates a graphical view of a project and calculates how much time and resources are required to complete each activity. It also determines critical activities requiring attention so that the project can be completed on time.

6. NEEDS OF CPM

CPM is constructing a model of the project. Therefore, project managers and superintendents need to have a few essential information points for CPM for project management.

- List of Activities. They need to have a list of all

activities required to complete the project. Managers typically use a work-breakdown structure to list all activities and when they need to be completed.

- The Work-Breakdown Structure is a breakdown of a project into smaller components. These smaller components are organized by hierarchy, or what needs to be completed first.
- The project managers or superintendents must have the duration of each activity. This is important in determining the overall schedule. While using PERT, they should be able to get a reasonably accurate estimate for the total length of each part.
- Project managers or superintendents must consider the various dependencies between activities. In construction, there are specific tasks that MUST happen before other functions because it would be impossible to start them without them. These are dependencies and need to be considered when planning the project.
- Milestones and Deliverables. To know when a task or activity is complete, the project manager must know when the project should end and what the end looks like. Also, many subcontractors are paid based on their deliverables, so knowing what they are paid based on their deliverables, so knowing what the deliverable would look like is essential for many factors.

7. CPM FOR CONSTRUCTION

The critical path method (CPM) is the most commonly used technique for scheduling in construction. It is sometimes referred to as critical path scheduling because it mainly calculates the minimum time needed to complete a construction project alongside the possible start and end times for the different activities. Many construction texts and experienced project managers reference the critical path method as the only practical and usable scheduling procedure. Many computer programs and algorithms for critical path scheduling are available that can effectively and efficiently handle projects with multiple activities. The concept of the critical path method is best illustrated in a project graph (in the old days) or by computer programs that perform the needed calculations without referencing a graph. The

project graph visually represents the web of jobs in a construction project and their relationships with each other. A coding system must be established to identify each construction job required to complete the entire project, accompanied by the length of time needed to accomplish the job and its immediate prerequisite tasks.

Each job is plotted as a circle with coding details and other pertinent data (dates, etc.). Arrows are used to connect the circles (jobs), indicating the sequence relationships. The circles and arrows are depictions of what we refer to as a project network.

A. Identify the Activities

Start by developing a list of activities for the project, generally obtained from the work breakdown structure or the project scope and details. Sequence and duration will be added in subsequent steps. Activities are tagged by name, coding, accounting string, or other identifier and must have a duration or target date in the case of milestones.

B. Determine the Activities' Sequence

A complete and thorough understanding of the sequence of the activities is needed to prepare and connect the list of activities organized in the previous step. The project or construction manager needs to understand the linked or related activities to show the proper connections in the schedule. Contractors sometimes fail to identify these relationships, causing delays and other problems during project execution.

Create the Network

The CPM evolves from summarizing all defined activities and showing the interdependencies between them. All critical work sequences need to be linked with logical coordination and planning. The CPM format should be based on calendar days as the primary planning unit. A CPM schedule should avoid using working days, as such an approach is more likely to lead to confusion and errors.

C. Identify the Critical Path

The critical path is the longest duration path through the network. Activities located on this path cannot be delayed without delaying the project. Because of its impact on the entire project, critical path analysis is an essential aspect of project planning. The path for each

activity can be identified using these parameters:

- ES—Early Start: Earliest time to start a predetermined activity, given that prior activities must be completed first.
- EF—Early Finish: Earliest finish time for the activity.
- LF—Late Finish: Latest time, the activity must be completed without delaying the entire project.
- LS—Late Start: Latest start date that the activity must be started without delaying the project.

The critical path is the path through the project network in which none of the activities have been delayed—that is, the path for which $ES=LS$ and $EF=LF$ for all activities in the path. A delay in the critical path delays the project.

8. ADVANTAGES OF USING CRITICAL PATH METHOD (CPM)

(1) The CPM for project management increases visibility by allowing everyone to understand how the individual tasks fit together and affect the overall project's duration. By dividing a large project into a series of smaller tasks, management and oversight are more accessible, and delays (critical or non-critical) are readily identifiable.

(2) However, the critical tasks will need to be supervised with more attention than others to fully realize the increased efficiency and cost controls that the Critical Path Method provides.

(3) Establishing a critical path schedule is just the beginning. The CPM schedule will need to be updated and monitored regularly to ensure its effectiveness.

IV CONCLUSION

The aim of this project is To study the importance of leadership in construction project. leadership is important for efficient safety performance in the construction industry, it is worth considering how participative leadership practice is reproduced in the industry. The learning process involved in developing leadership behaviors may already begin when young people are socialized into work in the construction industry. Establishing a critical path schedule is just the beginning of project managing of construction scheduling. In the future study of this

project was Importance of leadership.

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