

Enhancing Performance in Construction Project Management Teams

Strategies and Approaches for Achieving Higher Operational Excellence

Sahan Nishok Purasinghe
LIGS University
Hawaii, USA

Abstract:- The seminar paper provides a pragmatic perspective of the topic of enhancing performance in construction project management teams. The paper provides a detailed collated review of several key areas pertaining to construction project management teams and their performance based on the findings of previous research. The study has focused on a range of aspects namely, leadership, competence and capabilities, effective communication, decision-making, interpersonal relationships and emotional intelligence, project management and governance approaches, trust, psychological safety, and team culture. Each sub-topic (aspect) has been structured in a manner that includes a brief introduction to the aspect, its importance for construction projects, the current state in construction projects, strategies, and approaches to eliminate the issues and contribute to increase in the team's overall performance and finally, the novel strategies and tools pertaining to the focus area. The author anticipates that the content provided in this seminar paper shall be beneficial for effective decision making by organizational leadership and for the project leadership and the team to pay more consideration towards the strategies and approaches to enhance the elaborated aspects that are often overlooked in construction projects.

Keywords:- *Performance of Construction Project Teams, Performance of Construction Projects, Improving Productivity of Construction Project Teams, Productivity of Construction Project Teams.*

I. INTRODUCTION

The world economy is highly reliant on construction projects due to the role of significance it plays by establishing the required infrastructure to improve the global gross domestic product and creation of employment directly and indirectly (Tariq & Gardezi, 2022). Construction projects are crucial for addressing social demands by enhancing infrastructure facilities to create a healthy society and to stay on par with other countries by constantly increasing the social reputation of the country (Tariq & Gardezi, 2022). Its criticality is so much that it is widely understood that any lags or mishaps within the engineering and construction sector could heavily influence the economic standpoint of the entire world (Tariq & Gardezi, 2022). Hence, it is safe to say that construction projects are the backbone of all the industries as

facilities required for the functionality of majority of the industries are established through successful construction projects.

Although there has been a wide miscellany of studies done around construction to improve its performance and efficiency, there are still areas with issues that require closer attention namely, schedule overruns, conflicts in between various stakeholders, loss of productivity, issues in performance, lapses of communication and coordination, etc (Tariq & Gardezi, 2022). As per Denicol et al. (2020) large construction projects commonly referred to as megaprojects possess a higher frequency of failure due to a variety of aspects such as the magnitude of the project in terms of cost, scope and resources, greater uncertainty due to the lengthy duration of the project, complexity due to the wide miscellany of moving parts within the project, urgency due to the fact that most of these projects are in alignment with governmental strategic objectives and finally, hardships in managing the institutional structure and organizational politics. Inferior performances of construction projects are in fact classified as global issues due to the dependency of subsequent activities on successful completion and commissioning of construction projects (Tariq & Gardezi, 2022). As per Ingle and Mahesh (2020) due to constant changes in the requirements of customers and increased considerations of the wellbeing of the environment, the achievement of success has been tougher than ever. Some of the challenges are ever changing global market conditions, scarcity of material and skilled workers, shrinking of budgets due to diverse focus and increased competition within the construction industry (Ingle & Mahesh, 2020).

As for Ingle and Mahesh (2020), construction projects that are complete on time, adherence to the budget and compliance with the scope and specifications are considered successful. Profit, turnover, return on investment and other conventional financial metrics are still being used as criteria to determine the performance of projects (Ingle & Mahesh, 2020).

As per Dixit (2020), performance of construction projects is analyzed based on completion of the schedule, cost performance, productivity of tasks completed, and safety performance.

However, the approaches pertaining to analysis of performance have recently been observed to be refined with inclusions of non-financial metrics namely relationships with the customers/users, satisfaction of stakeholders and motivation of employees etc. which are more leaned towards the human elements of projects (Ingle & Mahesh, 2020),

Hence, based on the above it is evident that the success of the construction projects heavily relies on the human elements that are involved in the project. The performance of the construction team is crucial for achieving the ulterior success of the entire project as the tasks pertaining to construction projects should be performed by the team that is assigned to the project. This together with the recent shift in the focus of studies around construction project performance from technical metrics to human-oriented metrics, strategies, and approaches for achieving higher operational excellence within construction project management teams through enhancement of performances have been chosen as the research area for this study.

II. METHODOLOGY

The study has been completed in the form of a literature review and summary. The literature review has been performed using the keywords “Construction Project Teams”, “Performance” by utilizing the google scholar search engine. A total of 28 journal articles have been utilized for the review as the findings seem to duplicate when referring to the last set of journal articles which indicated the feasibility of terminating the literature survey. The findings from the review have then been perused and classified into broader topics as strategies and approaches that could be adopted to enhance the performance in construction project management teams. The recommendations have then been verified for relevance and applicability upon discussion with 5 selected industry practitioners who possess at least 10 years of Project Management experience in Construction.

III. DISCUSSION

A. *Improving Interpersonal Trust, Psychological Safety, and the Team Culture*

Construction projects are often considered as a vital aspect of a country's economy due to its ability to create considerable amounts of jobs for people. This very reason of involvement of a higher number of manpower welcomes a range of issues in construction projects that are not commonly seen in other projects especially around the human elements.

According to AhiagaDagbui et al. (2020), comprehension of aspects pertaining to human resources such as voicing concerns of individuals, teamwork, self-learning, interpersonal cooperation has been seen to be critical to achieve the targeted outcomes. Since construction projects involve greater amounts of stakeholders and larger project teams, the degree of interpersonal trustworthiness and reliability found within the group has determined the level of performance of the project (Kukah et al., 2022, Yang, 2023).

According to AhiagaDagbui et al. (2020), trust has played a direct role in improving the cooperation within the community, which may have been the reason as to why there has been an increase in the performance of construction projects with higher trustworthiness and reliability.

Further, due to higher degree of uncertainty in construction projects, psychological safety too has been an area of concern as this is related to the way in which employees perceive the repercussions of deviating from the norms or voicing their perspective to overcome situational challenges (AhiagaDagbui et al., 2020). Social capital theory which is known to be defined based on trust, has proven to be effective in establishing cooperation and mitigate relational barriers that could act as roadblocks for the intended performance (AhiagaDagbui et al., 2020). According to the theory, it speaks about 3 classification pertaining to social capital namely “bonding” which refers to relationship between within the project team or certain part of the project team, whereas “linking” which refers to the relationship between varying hierarchical levels, and “bridging” which refers to the relationship between two group which could be two different sets of subcontractors who may not share similar work scopes and identities (AhiagaDagbui et al., 2020).

According to AhiagaDagbui et al. (2020), psychological safety backed by effective coaching has been the key to establishing high-performance teams. Further, it is also seen that establishment of psychological safety and a trustworthy environment, has significantly improved the commitment of the entire project team to achieve the shared outcomes (AhiagaDagbui et al., 2020). Trust based relationships within the project team have been found to mitigate the eventuation of conflicts and also to mitigate the consequences if any conflicts arise whereas, the psychological safety has improved collaborative problem-solving and innovative work behaviours within the project team thereby increasing the team performance (AhiagaDagbui et al., 2020). Improvement of the culture of the team and establishment of an environment that is conducive for trust has shown a positive association with the performance of the team (Engebø et al., 2020).

According to Engebø et al. (2020), trust has resulted in establishing unity and inclusivity within the team beyond formal agreements, and effective communication, collaboration and improved teamwork, which has been extremely vital for construction projects that carries a considerable number of risks and interdependencies. According to Khosravi et al. (2020), a trust-rich environment has resulted in team members showing a higher tendency to accept feedback that may conflict with their own perspectives and perceptions. This has increased collaboration within the team to work towards a common goal that is best for the project whilst decreasing the avenues for potential conflicts (Khosravi et al., 2020). Conventional project management approaches followed within construction projects at present, governed by highly complex contractual agreements and stringent surveillance has

impacted the amount of trustworthiness within projects thereby decreasing the avenues for collaboration and catalyzing opportunism among the team members to prioritize their safety over the project's objectives (Engebø et al., 2020). Hence, this has manifested the requirement of integrating project teams and engaging the participants at earlier stages of the project and to create a culture that is based on interpersonal relationships, trust, and ingenuity (Engebø et al., 2020). According to Engebø et al. (2020), accountability and openness for collaboration have directly influenced trust within project teams. Out of all variables that influence performance of project teams, interpersonal trust has found to be the most crucial factor (Yang, 2023).

Coaching has proven to be effective to diminish the friction between team members and to establish interpersonal trust thereby enabling them to perform at the best of their abilities (AhiagaDagbui et al., 2020). According to Suzi Pomerantz (2016), based on a survey that has been conducted at the end of a trust-building coaching program in an organization, 90 percent of the respondents had confirmed that the coaching program has improved interpersonal trust and collaboration within the organization.

Definition and maintenance of ground rules in a way that encourages trust and psychological safety within project teams could be used as an effective approach to improve the performance of the project team (AhiagaDagbui et al., 2020). This could also be reviewed throughout the project by obtaining honest feedback from the employees and stakeholders to ensure the validity of the rules (AhiagaDagbui et al., 2020). According to Whatley (2009), the case study done around effects of ground rules have shown that ground rules formulated with the consent of the team and its implementation have improved the interpersonal trust within the team significantly as there is binding and shall follow with repercussions if not complied with.

Establishing an environment to freely voice the concerns by the employees, adoption of a collaborative approach and prioritizing resolution of issues over fault tracing has shown to improve psychological safety within project teams (AhiagaDagbui et al., 2020). Further, according to Engebø et al. (2020), aligning the interests of the team with objectives of the project with the assistance of higher management such as promoting autonomy to be flexible within controlled scope of work has built trust within project teams. Welcoming ideas of the project team pertaining to team building too has resulted in enhancing trust and psychological safety within team members thereby boosting their morale to actively engage in better teamwork (Soni, 2020).

Adoption of a Project Facilitation Model has seen a surge in popularity for establishing trust, integration, and psychological safety within project teams (AhiagaDagbui et al., 2020). This model engages services of an independent facilitator to formulate the program for cultural change as it makes project team members to voice their concerns freely with no worries about subsequent repercussions

(AhiagaDagbui et al., 2020). According to AhiagaDagbui et al. (2020), the facilitation model has been formulated around the best-for-project principle thereby creating a winning culture with a problem-solving attitude and encouraging joint ownership of problems to enhance unity and inclusivity within the project team. This model also encompasses a pre-construction kickoff meeting to ensure that all the concerns are heard at the earliest possible stage of the project about potential overlaps and derailments, monthly leadership workshops during the project as well as after the project to determine the strengths to be maintained and areas for improvement (AhiagaDagbui et al., 2020).

However, it should be noted that the members to take part in the said workshops should be cautiously picked based on their openness for collaboration and amount of input they could provide into the team to make the change a success (AhiagaDagbui et al., 2020). The aspect that stands out the most in this approach is the practice of enquiry-based pull-type communication instead of instruction-based push-type communication which has enabled efficient identification of shortfalls proactively thereby increasing the performance of the entire project (AhiagaDagbui et al., 2020).

B. Determining the Most Appropriate Project Management & Governance Approach

Due to the complex nature of construction projects, derivation of “one-method fit for all” approach has shown to be nearly impossible. Construction projects follow various delivery methods due to various factors, constraints, and interdependencies. Design-Bid-Build (DBB), Construction Management at Risk (CMR) have seemed to be the preferred contractual options by Clients which, however, have not shown much success in achieving the client's expectations (Ingle & Mahesh, 2020).

Construction projects are often known to involve a diverse range of stakeholders who bear varying degrees of influence within the project. Hence, the success of the project shall be interpreted in a myriad of ways based on the perceptions of stakeholders (Ingle & Mahesh, 2020). This is why an effective project management and governance approach with well-defined critical success factors is required in construction projects to ensure that the project goals align with the expectations of all the stakeholders as relevant, whilst ensuring the productivity of the project team through proper clarity about critical activities and milestones that are required to be achieved (Ingle & Mahesh, 2020).

Prevalence of an effective project management and governance approach equips the project team with the required risk management tools which enable the team to collaborate effectively to increase the potential of eventuating events that could have a positive impact on the project whilst diminishing the possibility of eventuating negative events (Khatib et al., 2022).

The sequential “waterfall” approach and iterative “agile” approach are the most used approaches for delivery of projects. Due to the provision of stability, sequence,

predictability, and complex documentation, construction projects often prefer to adopt the waterfall approach compared to the iterative and incremental agile approach which is often adopted by software and manufacturing projects (Thesing et al., 2021). However, adoption of a hybrid approach has shown success in certain construction projects due to establishment of efficient communication and feedback channels and improved transparency as shown within the “agile” approach whilst adhering the higher-level structure and sequence of the “waterfall” approach (Thesing et al., 2021). Hence, this proves the importance of identifying the best project management and governance approach based on the unique project circumstances such as project scope and uncertainty of customer requirements, instead of blindly following the most used approach (Thesing et al., 2021).

Risk and uncertainty are considered a major area of concern in construction projects due to their dynamic, sequential, and codependent nature alongside its lengthy duration that could span for years based on the magnitude of the project. The project management and governance approaches that have been adopted in construction projects at present tend to show lesser interest towards risk management due to the novelty of technology, lack of flexibility shown in the existing governance structure and complexity of the activities of the project (Denicol et al., 2020). According to Dixit (2020) construction firms are often penalized with severe sanctions due to endangering the safety of the site team that has resulted in adopting an improper project management and governance approach.

According to Denicol et al. (2020), improper definition of roles and responsibilities of the project team and stakeholders and adoption of an improper project delivery approach have given rise to several risks within the project and supply chain that it is part of. Further, the prevalence of a rigid governance structure within construction projects has also been detrimental to the performance of the project due to lack of flexibility to alter the approach as practicable based on circumstances (Denicol et al., 2020).

According to Thesing et al. (2021), the undermentioned steps could be used to determine the most effective and efficient project management approach that shall suit the project,

- Identification of issues that have occurred in past projects of similar nature,
- Proper definition of the issues that have been identified,
- Identification of characteristics of the existing project scope and the project team there by determining how it could relate to the defined issues,
- Identify alternative project delivery options (Analyse and rank those using a weighted scale)
- Determine the best model/approach and verify it using a pilot run.

Proper financial assessment prior to commencement of projects and constant surveillance of the cost performance through earned value analysis alongside quality performance

through routine quality audits are some aspects that should be considered during the formulation of the project management approach for the project (Ingle & Mahesh, 2020). According to Zhao et al. (2017), the case study of building projects in New Zealand, has manifested the importance of the accuracy of initial financial forecasts as well as an effective cost management model which incorporates tools for accurate forecasting and monitoring are vital for the successful completion of a project. Further, based on a case study carried out around quality audits in hospitals has shown that routine quality audits provide the avenue to transmit feedback to the relevant parties there by enabling them to improve delivery of their task there by improving the overall performance of the project (Hut-Mossel et al., 2021).

Further, formulation of a Work, Health and Safety training plan and training programs to encourage continuous professional development for the construction workers are also considered as a vital aspect that needs to be incorporated into the project management and governance approach (Ingle & Mahesh, 2020).

According to Kukah et al. (2022), adoption of novel tools such as Building Informational Modelling (BIM) systems has shown a surge in its popularity due to the ability to improve collaboration in between the stakeholders and to transition towards complete automation.

Further BIM also acts as surveillance tool that has proven to be effective for the project management team to monitor the actual performance of the project compared to planned and to ensure better coordination with suppliers, other stakeholders as well as to improve decision making thereby reducing the number of disputes within the project (Khatib et al., 2022). According to Khatib et al. (2022), the General Manager of Van Wiginin has admitted that BIM has played a significant role in increasing the speed of delivery of projects and its quality. However, the main roadblock for BIM is the cultural change that is required within construction companies to move away from the traditional project management tools (Khatib et al., 2022).

Further, adoption of lean approaches to manage project delivery and coordination in between stakeholders has also shown a surge during recent times (Denicol et al., 2020). Consideration of customer satisfaction, level of competency and human skills within the project team as parameters to measure project performance has seen an increase in recent times which has in return produced much accurate results pertaining to project performance (Khosravi et al., 2020).

C. Improving Interpersonal Skills and Emotional Intelligence

Emotional Intelligence is the potential to self-comprehend one's emotions and the emotions of others and react in a way that aligns with the situation and its environment to achieve a predetermined set of objectives (Kukah et al., 2022). Further, it is also a psychological skill which has a close association with the link between one's

emotion and cognition which enables to attain self-regulation either as a group or individually (Kukah et al., 2022).

According to Yang (2023), males tend to possess an assertive, aggressive and risk-seeking behavior compared to that of females who possess a greater degree of empathy driven behavior that shows higher cooperation and the preference towards nurturing which manifests that females inherently possess a much higher degree of emotional understanding than that of their male counterparts.

Construction projects are often known to involve a much higher amount of manpower than any other project due to its complexity and significant effort driven nature of tasks. Hence, emotional intelligence is a very critical element for the success of the project as this enables construction workers to identify and comprehend their own emotions as well as others to create an emotionally safe and productive space to complete the tasks (Kukah et al., 2022).

According to Khosravi et al. (2020), the success of a project relies more on the human skills and attributes of the project manager and the team than technical competence. Comprehension of Emotional Intelligence enables the project team to improve their ability to work on challenging tasks that require significant effort co-dependently to achieve the intended goals whilst reducing interpersonal conflicts within the team (Khosravi et al., 2020). Possession of considerable emotional intelligence within the project team facilitates a higher degree of empathy and cooperation within the team which could eventually result in increased performance and successful project delivery (Khosravi et al., 2020). Further, Project Managers and Construction Managers, who possess high levels of Emotional Intelligence, have shown effective communication with minimal disputes with stakeholders and a tendency to investigate novel avenues to solve complex issues with the participation of all relevant stakeholders (Khosravi et al., 2020, Kukah et al., 2022).

It is found that construction projects teams with low emotional intelligence often have more conflicts due to emotion-driven decision making and due to misinterpreting feedback based on emotions instead of rationalizing factually (Khosravi et al., 2020, Kukah et al., 2022). According to Khosravi et al. (2020), prevalence of conflict within project teams leads to an increase in friction between team members thereby affecting the project performance as the team members often tend to get distracted by trying to save their position instead of performing their tasks.

However, due to the complex and complicated nature of construction projects, and the varying expectations and conflicting opinions of the stakeholders, conflicts are unavoidable which hence warrants effective conflict management to achieve the outcomes (Khosravi et al., 2020). Process conflict which relates to the employee's perspective about the way in which the task should be accomplished and the task conflict which relates to the employee's perspective about the scope of the task to be performed alongside interpersonal conflicts are the key aspects pertaining to conflict management that should be handled cautiously to

avoid hampering of performance and bottlenecks in construction projects (Khosravi et al., 2020).

According to AhiagaDagbui et al. (2020), adopting the use of "Humble Enquiry" to comprehend issues and to collectively seek solutions has shown success in improving emotional intelligence within the project team thereby leading to effective and efficient decision making within the team. Further, facilitated workshops held with the participation of members who are willing to contribute to the collective effort, has also shown greater success at minimizing conflicts and establishing unity within project teams (AhiagaDagbui et al., 2020).

According to Khosravi et al. (2020), emotional intelligence as a parameter for the appointment of the leadership team within the project and provision of continuous routinely training pertaining to emotional intelligence backed by personality assessment tools, starting from the inception of the project alongside has also shown greater success in projects due to improved interpersonal relationships among team members. According to Zhang and Hao (2022), the case study around construction projects in China manifests the influence of the approaches for increasing emotional intelligence in construction project managers on effectiveness of the team.

Adoption of the novel trend of integrated concurrent engineering has proven to facilitate the establishment of high performing teams with greater emotional intelligence through greater engagement and interaction with each other to resolve complex and complicated issues collectively thereby improving the success of projects (Engebø et al., 2020).

D. Effective Communication

According to Kania et al. (2020), transferring information in between two parties or more in a way that is understood by the receiving end is known to be communication. The degree of reliability of the information transmitted, relevancy of the individuals the information has been transmitted to, determines the effectiveness of communication which could lead to proper reactions/outcomes (Kania et al., 2020). Further, according to Taleb et al. (2017), effective communication results in better awareness of the project team pertaining to the activities and responsibilities they require to satisfy in the light of driving the project towards its intended success.

Due to its dynamic and complex nature which includes a diverse range of teams performing a myriad of tasks, construction industry involves with excess of communication at a given moment (Kania et al., 2020). Hence the effectiveness of the communication that is being transmitted during a construction project is vital for its success.

It is found that effective communication has a positive relationship with team and individual performance, continuous improvement, and problem resolution due to the higher degree of accuracy, openness, relevancy of the parties

involved and the precision of timing (Albuali, 2021, AhiagaDagbui et al., 2020).

The relationship of the project team with the project stakeholders is vital for the success of the project and it is an utmost need to ensure that there are minimum disputes among the stakeholders pertaining to the alignment of their expectations with the expectations of the project (Ingle & Mahesh, 2020). Hence, communicating the expectations effectively plays a crucial role in the outcome of the project. Further, according to Taleb et al. (2017), over half of the project managers have manifested that effective communication is the factor that contributes the most to the success of a project.

It is commonly observed that although project managers who drive the projects possess the relevant academic qualifications, they lack the competence pertaining to communication management (Albuali, 2021). It is also found that the cause behind nearly 3/4th of the issues in construction projects has been lapses in the effectiveness of communication which has led to disintegration of team members, procedures and the techniques thereby impacting the entirety of the project (Engebø et al., 2020, Taleb et al., 2017). It is often a misconception that the authority and dictatorship could overpower communication lapses as it is found to only worsen the prevailing issues as the parties may intentionally hold back information that is perceived to be detrimental to their routines (Albuali, 2021).

Development and maintenance of an effective communication management plan inclusive of processes and techniques surrounding planning, managing, and controlling of communication has shown a significant increase in the effectiveness of communication within construction teams (Ingle & Mahesh, 2020, Albuali, 2021). Proper definition of communication channels and the tools and techniques such as the technology to be used, models, methods, the nature of meetings, information management systems, reporting and judgement pertaining which corresponds to each communication channel helps reduce the confusion within construction project management teams (Albuali, 2021). The construction management plan that is developed based on the project's work breakdown structure should be then disseminated among the stakeholders that have been identified for their concurrence to ensure the collaborative nature of the approach (Taleb et al., 2017). Further, ongoing review and validation of the communication management plan throughout the lifecycle of the project shall ensure that initial relevancy of the plan is maintained throughout the project (Albuali, 2021). According to the case study of Yurley et al. (2019), formulation and maintenance of a communication management plan has enabled effective transmission of information to the relevant stakeholders there by reducing the potential of any confusions.

It is found that on-going facilitation meetings establishes the environment to discuss any potential showstoppers that could disrupt the progress of the project team proactively especially if it contains significant

interdependencies and involves multiple contractors (AhiagaDagbui et al., 2020).

According to Leicht et al. (2021), the approach of providing an insightful explanation pertaining to every decision made by project team members has proven to eliminate any misunderstandings in between the fellow team members and stakeholders.

Formulation of Integrated concurrent engineering teams which includes the participation of all divisions is found to be a growing trend that has been adopted to improve the effectiveness of communication, relationship and interactions between the division thereby establishing a coordinated effort to accomplish a common goal (Engebø et al., 2020).

E. Improving Decision Making Behaviour

According to Kukah et al. (2022), decision making is identified as an intricate task that is often influenced by a wide variety of viewpoints, constraints, dependencies, and variables. Although Decision Making is usually considered a vital component within the top management across any industry it is often a mandatory component for any level as a decision is made against a range of alternatives by every individual.

Hence, it is no doubt about the amount of decision making that is involved in construction projects and the efficacy of the decision made due to its complex and complicated nature and the involvement of a wide range of moving parts, dependencies, constraints, and a plethora of perspectives from the stakeholders. Construction projects are often known to experience mishaps such as delays, cost overruns, quality issues, deviation from specifications, etc. due to flaws in decision making.

According to Denicol et al. (2020), there are 3 aspects pertaining to the behavior of management teams in construction projects which leads to inferior decision making namely, being overly optimistic about the benefits of the project against the cost incurred by heavily underestimating the costs involved, misrepresenting the actuals with an intention to retain the personal benefits they receive thereby prioritizing their own interests over the project's success, and reluctance to change by sticking to the same approach although there could be better alternatives to leverage for a better outcome of the project.

It is found that biased opinions provided by experts in the field of construction about benefits of the project downplaying the risks and uncertainties involved in the project often lead to inferior project performance and eventual failures (Denicol et al., 2020). According to Denicol et al. (2020), external pressures pertaining to political, organizational, and individualistic aspects within the organization influence misrepresentation of the actuals to avoid any momentarily adverse effects that could affect the leadership team involved in the project. These misrepresentations are often done by deceptively portraying a higher progress of the project in terms of task completion,

underestimating the actual cost, and disregarding certain risk items that would eventually enhance to become showstoppers (Denicol et al., 2020). It is also found that strategic misrepresentation is also practiced obtaining the support of certain stakeholders to keep the project alive (Denicol et al., 2020).

According to Denicol et al. (2020), reluctance to change is often practiced due to a misconception surrounding the fact that construction projects when started are too costly to halt or diverted. This results in project leadership utilizing additional resources to complete the project although the analysis says otherwise such as an immediate halt or change of scope thereby resulting not only in non-realization of benefits but also hefty losses to the company (Denicol et al., 2020).

According to Denicol et al. (2020) these issues can be controlled and mitigated by adopting the undermentioned approaches,

- Developing an accurate baseline to track the project progress by closely perusing past projects that are like the scope of the existing project.
- Exerting a considerable amount of time for proper planning and determining the uncertainties that could be experienced during the project thereby taking measures to proactively mitigate or define mechanisms to react in a way that reduces the impact on the project.
- Stringent governance by imposing penalties against misrepresentation and to proactively determine the stakeholders who have prioritized their own best interest over project success.
- Establish an environment with some flexibility to adopt alternative approaches as deemed suitable to obtain a better outcome of the project.

According to the case study done by Rayan et al. (2020), evaluation of the project's performance against the integrated baseline covering schedule, cost, and quality have shown greater accuracy in the progress review.

Further, adoption of Multiple Criteria Decision Analysis (MCDA) is a growing trend within the engineering and construction sphere due to its ability to analyse the available alternatives based on a range of perspectives and multiple parameters which enables decision makers and stakeholders the ability to identify an issue, determine the possible preferences and to formulate a recommendation to make a decision around the preferences which could result in better effective decision making (Kukah et al., 2022).

F. Improving Project Leadership

A project is mostly completed by a project team that has been formulated to perform the tasks pertaining to the project. The individual or the group of individuals (in the event of large-scale projects such as construction projects) that provide strategic and operational leadership for the project is often referred to as project leadership.

According to Imam and Zaheer (2021) due to strict time constraints and tight schedules, the role of the project leader is found to be more crucial than ever especially when there is a multitude of dynamic elements and highly probable uncertainties. Considering the wide miscellany of scopes, varying magnitudes in terms of the cost and effort, and differing complexities, unique styles of leadership with flexibility and better coping mechanisms are highly sought after in the present context due to the higher correlation of project leadership with the success of a project (Imam & Zaheer, 2021). This can be further manifested by the fact that there is a less success rate in projects although there has been a surge in the number of studies pertaining to technical aspects surrounding cost, time, and quality performances (Imam & Zaheer, 2021).

However, definition of a one-style fit for all approach in project leadership may not address the plethora of issues that are currently prevalent in construction projects as projects are temporary, unique and possesses a greater amount of diversity and is also performed by a diverse group of individuals for a relatively shorter period of time compared to business as usual operations, which warrants the necessity of adaptation within project leadership (Imam & Zaheer, 2021).

According to Denicol et al. (2020), the primary cause behind inferior project leadership and governance is due to the shortfalls in defining the culture of the project and the sole purpose (value statement) of the project which has led to misalignments within the project team as well as the stakeholders of the project. It is also found that lack of dedicated team members with leadership qualities to drive tasks within the project too has led to poor performance in construction projects (Denicol et al., 2020).

Identifying employees with leadership qualities and assigning them to project leadership roles, upskilling project leaders and increasing their level of dedication to drive the tasks as deemed necessary for successful implementation of the project, proper definition of value statement of the project, implementing projects that align with the strategic objectives of the organization, and considering diverse perspectives from all the team members and stakeholders thereby combining those towards achieving common project goals are some measures that can be adopted to increase improve project leadership (Denicol et al., 2020).

Adoption of a shared leadership approach is found to be a growing trend especially in dynamic projects that are complex in nature which require greater amounts of creativity (Imam & Zaheer, 2021). Shared leadership has proven to increase the workflow, faster identification of issues and solutions, greater accuracy in terms of planning, and increase in motivation within team members due to its ability to establish a collaborative nature within the project team and stakeholders (Imam & Zaheer, 2021). Although this approach is currently practiced within top levels of project leadership (Eg- Project Manager managing the aspects such as project coordination and stakeholder engagement, whereas

Construction Manager managing the work breakdown structure of the project), adoption of this approach within lower levels of the project team is to be studied in greater depth.

G. Improving Competencies and Capabilities of Project Teams

Due to the inherent complexity of construction projects and their dynamic nature, competencies and capabilities of construction project teams play a major role in accomplishing the tasks as specified whilst ensuring there is no hold ups to the subsequent activities and activities that are performed in parallel. Construction projects, based on their magnitude, involves a myriad of contractors and subcontractors which themselves have varying capabilities, competencies and cultural dynamics which warrants the necessity of a competent and capable construction project management team to overlook their performance and drive towards a common goal.

According to Hussain et al. (2021), the skillset possessed by the project team has a positive association with managing the project effectively. Further, lack of knowledge and project management related competencies and capabilities have led projects to be far less effective (Hussain et al., 2021).

Based on a study done in Pakistan, it is found that nearly 33% of mega-projects have not been successful in achieving the forecasted results and realize its benefits due to shortfalls in the capabilities of project management team and their approach towards the project (Hussain et al., 2021). It has also seen in Indonesia, that lack of project management knowledge possessed by project teams has resulted in overbudgeting, cost and schedule overruns (Hussain et al., 2021).

According to Engebø et al. (2020) improvement of the competence of the team is highly potential in improving the performance of the project team there by improving the outcome of the project. The client of the project is the most crucial stakeholder due to the power and influence he/she has on the outcome of the project which in return warrants a project team the requirement of their support and trust for successful completion of the project. Possession of the required technical and project management skills by the project team increases the confidence of the client and establishes a “swift trust” which leads to strengthening collaboration (Engebø et al., 2020).

According to Denicol et al. (2020) competencies and capabilities of the project team carry a significant weight in establishing teams that are capable of navigating through the uncertainties of the project to deliver the intended result. Improper definition, ineffective recruitment and lack of upskilling and retention of talent have led to formulation of teams that do not possess the competence for successful delivery of projects (Denicol et al., 2020). Further, a major contributor behind capabilities of project teams surfacing as an issue in construction projects is improper identification of

the focus area of the organization and its capabilities which has led to acceptance of work that is beyond the scope and capabilities of the organization (Denicol et al., 2020).

According to Hussain et al. (2021), finding the best people for the job is key to being successful with the project. Further, establishing an integrated high-performance team with a collection of individuals who have been picked on competence and capabilities that are best for the job has shown to improve collaboration within the team and to achieve the required objectives (Engebø et al., 2020). According to Leicht et al. (2021), Rosendin that has been highly successful in delivering successful projects, has shown preference to hire team players and subsequently develop the technical skills that are required for the role through on-going training programmes. The case study done by Schumann et al. (2024) manifests the importance of effective recruitment for the establishment of competent and capable project teams that deliver higher levels of project success.

Further, the recruited employees shall receive a comprehensive onboarding into the culture, values and the job responsibilities who are then mentored directly by their supervisors with an intention of shaping the employee to be his/her replacement, which enables the new hire to develop the required competencies and skills swiftly (Leicht et al., 2021).

Also, Rosendin has shown a greater preference to conduct a skills test during the onboarding process to ascertain the strengths and the level of capabilities of the new recruits thereby formulating training and mentoring programs instead of using a one-program fit for all approach (Leicht et al., 2021).

According to Denicol et al. (2020), effective conflict and dispute management by the organization itself, can play a significant role in harnessing the capabilities of project teams as it could eliminate any friction that surfaces in between team members which could escalate into disputes that affect the retention of talent.

Establishment and maintenance of an easily accessible up-to-date in-house Learning Management System with continuous development programs inclusive of recorded videos pertaining to novel concepts is also considered to be a growing trend in the project management sphere (Leicht et al., 2021). Further, Rosendin has also adopted formulation of cross-functional teams as it increases the ability of team members to access a much broader realm of knowledge possess across the organization (Leicht et al., 2021).

H. Managing Cultural Change

All the strategies and recommendations that have been elaborated above shall bring about change to the existing practices. Change occurs alongside the shift in the mindset of employees and often results in establishment of a new culture within organizations which leads to subsequent change in behaviors of the employees (Errida & Lotfi, 2021). Hence,

managing cultural change through elimination of existing culture or inclusion of new approaches into the existing culture carries a considerable significance in successful change process (Errida & Lotfi, 2021).

According to Errida and Lotfi (2021), managing cultural change in the organization plays an equally important role as the change itself as resistance to change within employees are considered the most crucial roadblock for implementation of change.

Provision of training and coaching for employees has performed the required mind-set shift within employees by establishing a continuous dialogue between the change agents and the employees to provide awareness about the positive elements of the change and to address the concerns of the employees which has led to the resistance. According to Suzi Pomerantz (2016), more than 84% of the respondents pertaining to the study confirmed that there has been a mind-set and behavioral shift within employees pertaining to certain elements that have warranted change thereby manifesting the effectiveness of this strategy.

Further, according to Errida and Lotfi (2021), performance of minor visible improvements that showcases the promising future beyond the change has created short-term wins and contributed to the shift in the belief within the employees.

IV. CONCLUSION

In conclusion, this research aimed to analyze strategies and approaches for enhancement of construction project team performance. Through a comprehensive analysis of past research studies, it is found that there are several strategies that have stood out from the rest and are being widely practiced in the industry.

The implications of these findings are significant for higher management, project leadership, practitioners, and future researchers. Moreover, this study highlights the need for further research pertaining to the effectiveness of suggested strategies in terms of location, nature of the project, and the type of role in the construction industry.

Overall, this research contributes to the growing body of knowledge on performance enhancements for construction project teams and provides a foundation for future work aimed at improving the overall output of construction teams whilst navigating the complexities of construction projects.

ACKNOWLEDGMENT

The Author would like to acknowledge LIGS University for supporting with adequate direction to complete this research work.

REFERENCES

- [1]. AhiagaDagbui, D. D., Tokede, O., Morrison, J., & Chirnside, A. (2020). Building highperforming and integrated project teams. *Engineering, Construction and Architectural Management*, 27(10), 3341–3361. <https://doi.org/10.1108/ECAM0420190186>
- [2]. Albuali, M. (2021). Effective Strategies for Communicating and Managing Communication in a Project Team: My Perspective. *International Journal of Applied Industrial Engineering*, 8(1), 1–11. Researchgate. <https://doi.org/10.4018/IJAIE.20210101.oa1>
- [3]. Cinelli, M., Kadziński, M., Gonzalez, M., & Słowiński, R. (2020). How to support the application of multiple criteria decision analysis? Let us start with a comprehensive taxonomy. *Omega*, 96, 102261. <https://doi.org/10.1016/j.omega.2020.102261>
- [4]. Denicol, J., Davies, A., & Krystallis, I. (2020). What Are the Causes and Cures of Poor Megaproject Performance? A Systematic Literature Review and Research Agenda. *Project Management Journal*, 51(3), 328–345. <https://doi.org/10.1177/8756972819896113>
- [5]. Dixit, S. (2020). Study of factors affecting the performance of construction projects in AEC industry. *Organization, Technology and Management in Construction: An International Journal*, 12(1), 2275–2282. <https://doi.org/10.2478/otmcj-2020-0022>
- [6]. Engebø, A., Klakegg, O. J., Lohne, J., Bohne, R. A., Fyhn, H., & Lædre, O. (2020). High-performance building projects: how to build trust in the team. *Architectural Engineering and Design Management*, 18(6), 1–17. <https://doi.org/10.1080/17452007.2020.1811078>
- [7]. Errida, A., & Lotfi, B. (2021). The Determinants of Organizational Change Management Success: Literature Review and Case Study. *International Journal of Engineering Business Management*, 13(1), 1–15. Sagepub. <https://doi.org/10.1177/18479790211016273>
- [8]. Hussain, A., Jamil, M., Farooq, M. U., Asim, M., Rafique, M. Z., & Pruncu, C. I. (2021). Project Managers' Personality and Project Success: Moderating Role of External Environmental Factors. *Sustainability*, 13(16), 9477. <https://doi.org/10.3390/su13169477>
- [9]. Hut-Mossel, L., Ahaus, K., Welker, G., & Gans, R. (2021). Understanding How and Why Audits Work in Improving the Quality of Hospital care: a Systematic Realist Review. *PLOS ONE*, 16(3), 1–25. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8011742/>
- [10]. Imam, H., & Zaheer, M. K. (2021). Shared leadership and project success: The roles of knowledge sharing, cohesion and trust in the team. *International Journal of Project Management*, 39(5). <https://doi.org/10.1016/j.ijproman.2021.02.006>
- [11]. Ingle, P. V., & Mahesh, G. (2020). Construction project performance areas for Indian construction projects. *International Journal of Construction Management*, 22(8), 1–12. <https://doi.org/10.1080/15623599.2020.1721177>

- [12]. Kania, E., Radziszewska-Zielina, E., & Śladowski, G. (2020). Communication and Information Flow in Polish Construction Projects. *Sustainability*, 12(21), 9182. <https://doi.org/10.3390/su12219182>
- [13]. Khatib, M. E., Alnaqbi, K., Alnaqbi, W., Al Jaziri, A., Al Maazmi, K., & Alzoubi, H. (2022). BIM as a tool to optimize and manage project risk management. *International Journal of Mechanical Engineering*, 7(1). https://www.kalaharijournals.com/resources/IJME_Vol_7.1_658.pdf
- [14]. Khosravi, P., Rezvani, A., & Ashkanasy, N. M. (2020). Emotional intelligence: A preventive strategy to manage destructive influence of conflict in large scale projects. *International Journal of Project Management*, 38(1), 36–46.
- [15]. Kukah, A. S., AkomeaFrimpong, I., Jin, X., & OseiKyei, R. (2022). Emotional intelligence (EI) research in the construction industry: a review and future directions. *Engineering, Construction and Architectural Management*, 29(10), 4267–4286. <https://doi.org/10.1108/ECAM0520210414>
- [16]. Leicht, R. M., Messner, J. I., & Asadian, E. (2021). A Case Study in Lean Construction: Rosendin Electric. *Architectural Engineering*, The Pennsylvania State University. https://www.researchgate.net/profile/Elnaz-Asadian/publication/364318443_A_Case_Study_in_Lean_Construction_Rosendin_Electric/links/63474f349cb4fe44f32135ba/A-Case-Study-in-Lean-Construction-Rosendin-Electric.pdf
- [17]. Rayan, A., ElAdaway Islam H, & Abotaleb Ibrahim S. (2020). Predicting Project Performance in the Construction Industry. *Journal of Construction Engineering and Management*, 146(5), 04020030. [https://doi.org/10.1061/\(ASCE\)CO.19437862.0001797](https://doi.org/10.1061/(ASCE)CO.19437862.0001797)
- [18]. Schumann, A., Greving, H., Bruckermann, T., Kimmerle, J., Harms, U., & Brandt, M. (2024). We want you! Recruitment strategies for the success of a citizen science project on urban wildlife ecology. *Frontiers in Environmental Science*, 12. <https://www.frontiersin.org/articles/10.3389/fenvs.2024.1258813>
- [19]. Soni, V. D. (2020). Importance and Strategic Planning of Team Management. *International Journal of Innovative Research in Technology*, 7(2), 47–50.
- [20]. Suzi Pomerantz. (2016, August 26). Case Study shows unique coaching solution for distrust in organizations. <https://suzipomerantz.com/leadershipresources/case-study-shows-unique-coaching-solution-for-distrust-in-organizations/>
- [21]. Taleb, H., Ismail, S., Hussaini Wahab, M., Nurul Mardiah, W., Mohd Rani, W., & Che Amat, R. (2017). An Overview of Project Communication Management in Construction Industry Projects | JOMEINO. *Journal of Management, Economics, & Industrial Organization*, 1(1), 1–9. <https://doi.org/doi.org/10.31039/jomeino.2017.1.1.1>
- [22]. Tariq, J., & Gardezi, S. S. S. (2022). Study the delays and conflicts for construction projects and their mutual relationship: A review. *Ain Shams Engineering Journal*, 14(1), 101815. <https://doi.org/10.1016/j.asej.2022.101815>
- [23]. Thesing, T., Feldmann, C., & Burchardt, M. (2021). Agile versus Waterfall Project Management: Decision Model for Selecting the Appropriate Approach to a Project. *Procedia Computer Science*, 181(1), 746–756. <https://doi.org/10.1016/j.procs.2021.01.227>
- [24]. Whatley, J. (2009). Ground Rules in Team Projects: Findings from a Prototype System to Support Students. *JITE*, 8, 161–176. <https://doi.org/10.28945/165>
- [25]. Yang, Y. (2023). Impacts of Interpersonal Trust on Team Performance: A Case Study in Electrical Engineering Practical Training Course. <https://doi.org/10.36227/techrxiv.24293530.v1>
- [26]. Yurley, F., Ramírez, R., & Ramirez, L. (2019). Communications management in the success of projects. Case study: Provincial university. *Journal of Physics: Conference Series*, 1388(1), 012048. <https://doi.org/10.1088/17426596/1388/1/012048>
- [27]. Zhang, Q., & Hao, S. (2022). Construction Project Manager's Emotional Intelligence and Team Effectiveness: The Mediating Role of Team Cohesion and the Moderating Effect of Time. *Frontiers in Psychology*, 13. <https://www.frontiersin.org/journals/psychology/articles/10.3389/fpsyg.2022.845791>
- [28]. Zhao, L., Mbachu, J., & Domingo, N. (2017). A Better Modelling and Assessment of Key Factors Affecting Cost Performance of Building Projects: The Case of New Zealand. *International Journal of Construction Engineering and Management*, 6(5), 187–196. <https://doi.org/10.5923/j.ijcem.20170605.01>