

A Thesis on
**THE BENEFACTION OF CONSTRUCTION PROJECT
MANAGERS SOFT SKILLS TO THE CONSTRUCTION
PROJECT SUCCESS**

Submitted in the partial fulfillment of the award of
Master of Technology

In
CONSTRUCTION TECHNOLOGY & MANAGEMENT

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DECLARATION

I declare that the dissertation entitled "**THE BENEFACATION OF CONSTRUCTION PROJECT MANAGERS SOFT SKILLS TO THE CONSTRUCTION PROJECT SUCCESS** " is the bonafide research work carried out by me, under the guidance of Mr. Mohd Asim Assistant Professor, Department of Civil Engineering, Integral University, Lucknow. Further I declare that this has not previously formed the basis of award of any degree, diploma, associate-ship or other similar degrees or diplomas, and has not been submitted anywhere else.

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CERTIFICATE

Certified that the dissertation entitled "**THE BENEFACATION OF CONSTRUCTION PROJECT MANAGERS SOFT SKILLS TO THE CONSTRUCTION PROJECT SUCCESS** " is being submitted by **Ms. Rida Ahmed** (Roll no: **2701011025**) in partial fulfillment of the requirement for the award of degree of Master of Technology (Construction Technology And Management) of Integral University, Lucknow , is a record of candidate's own work carried out by her under my supervision and guidance.

The results presented in this thesis have not been submitted to any other university or institute for the award of any other degree or diploma.

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ABSTRACT

The reason for this study is to distinguish key delicate abilities needed by construction project administrators and its effect on their project achievement.

The authors have played out a Comprehensive Literature Review (meta-structure) as a proof to help the contention that project chiefs could build the odds of projects being effective by applying their delicate abilities to oversee project group and its presentation.

The discoveries of this study exhibits that the recognized delicate abilities are undivided attention, correspondence, theoretical abilities, peacemaking, human asset the executives, human abilities, administration abilities, inspiration abilities, arrangement abilities, relationship building abilities, political and social mindfulness, polished methodology and morals.

These abilities are basic towards project achievement, nonetheless, it is likewise recognized that delicate abilities and hard abilities, both works related to one another to accomplish achievement. This study gives a huge commitment by building up the need of growing delicate abilities in project administrators to oversee groups viably and productively, along these lines expanding their presentation and the odds of project being fruitful.

CHAPTER 01

1.1 INTRODUCTION

Soft skills are a person's relationship with other people through his personal qualities or interpersonal skills or additional skills/knowledge. Soft skills are used in all the industries. The term soft skills covers a wide range of skills as diverse as teamwork, time management, empathy and delegation . Sometimes lack of soft skills can limit your opportunities and potential ,sometimes resulting in downfall of your business .Soft skills are useful both in professional and personal life.

Many organizations are now slowly realizing the importance of soft skills development for their employees. They have begun to invest heavily in the training and development of their workforce to develop their critical skills, attitude/behavior and knowledge, and to change the existing organizational culture to a higher work performance culture. To survive in the competitive and dynamic business the world today, employee and needs to possess both soft skills and hard skills. Accordingly, most employers today expect workers to demonstrate and excel in many 'softer' skills such as teamwork and group development. Soft skills are a person's relationship with other people through his personal qualities or interpersonal skills or additional skills/knowledge. Soft skills are used in all the industries. The term soft skill covers a wide range of skills as diverse as teamwork, time management, empathy and delegation. Sometimes lack of soft skills can limit opportunities and potential, sometimes resulting in downfall of construction business. Soft skills are useful both in professional and personal life. Many organizations are now slowly realizing the importance of soft skills development for their employees. They have begun to invest heavily in the training an development of the work force to develop their critical skills, attitude/behavior and knowledge, and to change the existing organizational culture to a higher work performance culture. to survive in the competitive and dynamic business the world today, employee and needs to

possess both soft skills and hard skills. Accordingly, most employers today expect workers to demonstrate and excel in many ‘softer’ skills such as teamwork and group development.

1.2 SOFT SKILLS DEVELOPMENT

Presently like never before, people and associations should consistently acquire Information and foster another arrangement of abilities to stay serious. Thus, it is important to identify the learning/training methodologies available to achieve the objective. “With the ever-changing technological advances of our time and the continual development of learning theories, there are now more options than ever before in how we train people ” (Martin et al., 2014, p. 12). Companies, on the other hand, are characterized by different needs (Martin et al., 2014) and they experimented , over time, different mix of educational methodologies and development strategies (Conger and Xin , 2000, p. 96).

1.3 WHY SOFT SKILLS?

Studies directed by Hartman and Ashrafi (2002) recognized components that contribute towards an undertaking' achievement, nonetheless, none of these examinations referenced the job a venture supervisor towards project achievement. Venture chiefs make an endeavor to achieve an ideal assignment by overseeing 'through a huge and various arrangement of individuals notwithstanding having minimal direct command over the greater part of them' (El-Sabaa 2001, p. 1). They assume liability of the project as entire, from building the venture group (where material) to driving the group to accomplish the particular project objective. However, there are basic issues looked by a group which could act potential issues such like absence of trust, absence of correspondence, low confidence, incapable to look for agreement, absence of appreciation and so forth Concurring to Stevenson and Starkweather (2010), a powerful venture director have abilities like administration, group building, inspiration, correspondence, affecting, dynamic, political and social mindfulness, exchange, trust building, peace making and training. These abilities prepare project supervisors to address the previously mentioned fundamental issues and keeping the colleagues spurred and fulfilled which could be reflected in their presentation ultimately. Task director ought to have the option to construct trust and layers of dedication inside the venture group. It is important that a venture administrator ought to be fit for shaping the right group to convey the undertaking adequately and in a productive way (Anantatmula, 2010; Cowie 2003).

The undertaking a positive outcome standard is constantly creating with the advancements in project the executives discipline. These advancements are likewise apparent from the progressions consolidated in PMBOK® Guide (2017) which expresses that aventure chief ought to likewise deal with the business and vital part of tasks though prior it was restricted to culmination or conclusion of the undertaking. With these advancements the requirement for delicate abilities in project supervisors has become considerably more significant however it has not been expressed as an unequivocal factor adding to project achievement

despite the fact that different creators have viewed it as evident. As per Pinto and Prescott (1988), the basic achievement factors that contribute towards an undertaking's a positive outcome incorporate venture mission, the executives support, project plan, customer interview, faculty, specialized undertakings, customer acknowledgment, observing and input, correspondence, investigating, compromise, attributes of undertaking administrator and task pioneer, natural variables and authoritative climate. Nonetheless, Cserhati and Szabo (2014) found gathering project execution destinations, project explicit goals and partner's fulfillment as the three primary achievement standard for an undertaking to be fruitful, where project the executives processes, project assets, project group, hierarchical culture, correspondence and co-activity as the primary measure that influence project achievement.

1.3.1 General benefits of employees developing there soft skills

- i. Increased Productivity
- ii. Improved teamwork
- iii. Improved retention rates
- iv. Improved employee satisfaction
- v. Improved leadership
- vi. Attracts clients
- vii. Increased workplace communication

1.3.2 Few scenarios that may be improved with stronger soft skills

- i. Low client retention rate
- ii. Late for meetings
- iii. Struggling to meet deadlines
- iv. Rarely proceed to the next stage in meeting
- v. Low communication skills, resulting into avoiding networking opportunities

1.4 Ten Essential project management skills

I. Leadership

While dealing with a group or task, areas of strength for having skills is critical. By really instructing, directing, and propelling your colleagues, you can assist with pushing a venture ahead and convey a positive result.

II. Communication

Project managers ought to focus on figuring out how to actually convey. This incorporates knowing how to move toward individuals, make significant associations with collaborators, and expressive a plainly settled vision of what you wish to accomplish. Getting some margin to contemplate what you need to say — and how you need to say it — before imparting is a basic and useful initial move toward leveling up this ability set.

III. Scheduling

Normally, scheduling is a center feature of the undertaking the executives capability. Be that as it may, in the event that you're adroit at shuffling numerous timetables and can expect barriers before they happen, you'll expand your possibilities conveying effective activities. The most widely recognized reasons for project disappointment include lack of common sense.

IV. Risk Management

Risk management, which includes recognizing and anticipating possible dangers, is a basic skill for project supervisors. The most useful PMs can recognize takes a chance at the start of a task and foster legitimate relief plans if the gamble does, truth be told, happen.

V. Cost Management

Projects cost cash. Making a financial plan is essential for the arranging phase of undertaking the board. When you have a venture spending plan you need to utilize spending plan the board to ensure that you control your costs through the execution stage.

VI. Negotiating

Being great at negotiation is one of numerous relational abilities, however it merits its own space here. In project the board, exchange is a significant ability for compromise and partner the executives.

VII. Critical Thinking

While decisive reasoning is an expertise all experts could profit from learning, it is especially helpful in the task the executives discipline. As opposed to being responsive, the best undertaking directors are proactive and utilize their decisive reasoning abilities to explore through precarious or vague tasks.

VIII. Task Management

Task are little positions that make up the execution period of task the executives. They should be made, coordinated, allotted to colleagues and followed to ensure they meet the venture imperatives. This is finished with task the board.

IX. Listening Skills

When you as of now have the right stuff to discuss well with different colleagues, likewise pivotal to figure out how to pay attention to different partners and comprehend what they need to say.

X. Organizational Skills

The term organizational skills alludes to the capacity that an individual needs to oversee time and assignments in a proficient way. So as the name suggests, association abilities permit somebody to work in a coordinated and effective way.

1.5 Project Management

The objective of project management is to produce a complete project which complies with the client's objectives. In many cases the objective of project management is also to shape or reform the client's brief to feasibly address the client's objectives. Once the client's objectives are clearly established they should influence all decisions made by other people involved in the project – for example project managers, designers, contractors and sub-contractors. Ill-defined or too tightly prescribed project management objectives are detrimental to decision making. Project the executives is the utilization of explicit information, abilities, devices and strategies to convey something of significant worth to individuals. The improvement of programming for a better business process, the development of a structure, the aid venture after a catastrophic event, the extension of deals into another geographic market — these are Instances of undertakings.

1.5.1 Basic Project Management Principles

- i. Address significant inquiries toward the start of the project
- ii. Sketch out a degree and objectives for your task
- iii. Impart jobs, assumptions, and targets to the group
- iv. Screen progress and distinguish detours
- v. Ensure all expectations have been met and settle the task

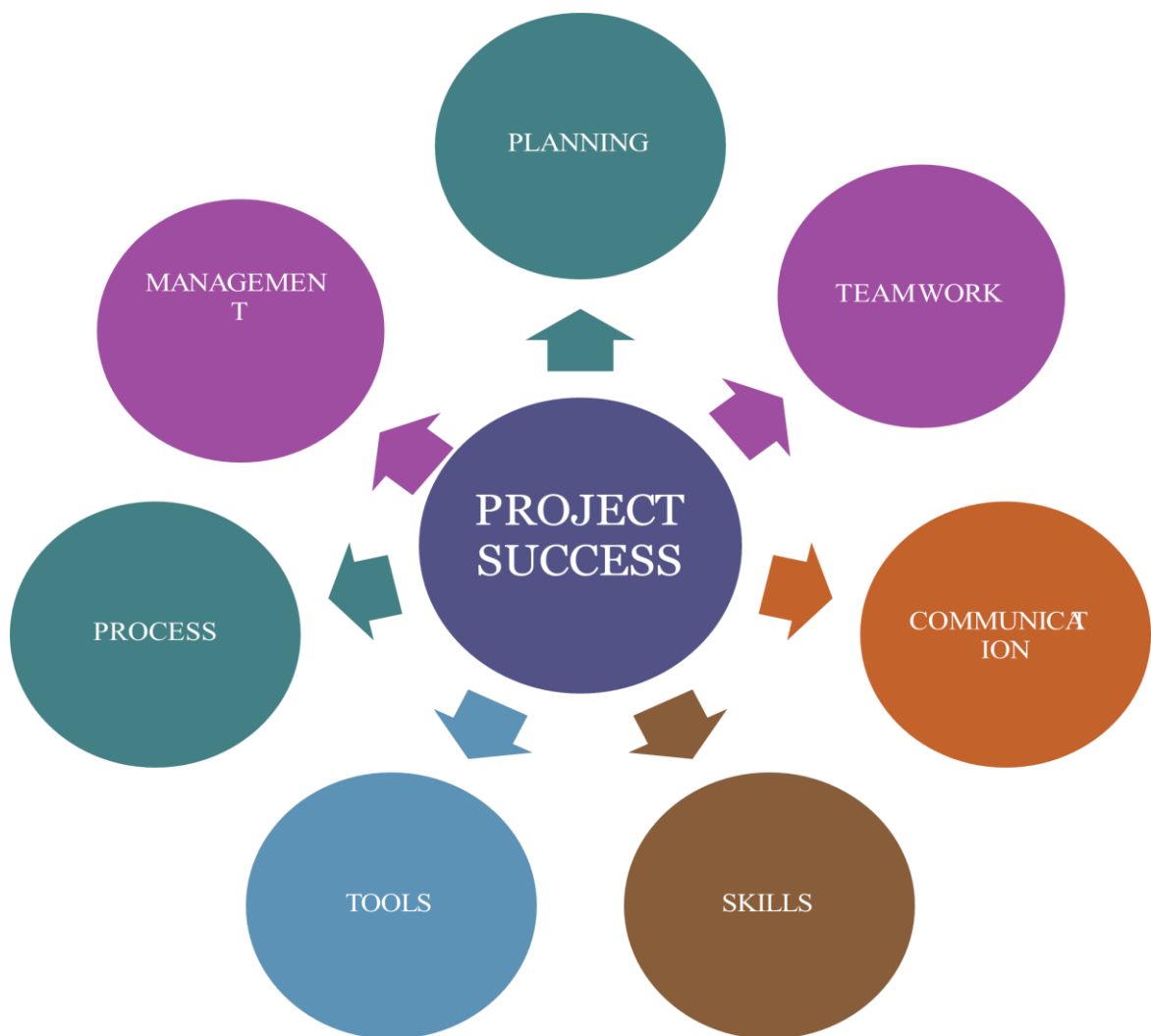


Figure 1.1 Critical Construction Project Success Factors

1.6 Scope of study

- i. The lack of knowledge and training regarding soft skills, many companies are facing downfall.
- ii. The previous study shows that project managers focus more on hard skills than soft skills.
- iii. Age also influences the most rather than the experience the employee had.
- iv. Companies itself lack behind the knowledge of importance of soft skills resulting in the workers or employees not being able to communicate or are avoiding the networking opportunities altogether .
- v. Some managers have misconceptions about soft skills . Many lament on the huge amounts of money spent on such training; they cannot really account for its return due to the inability of the trainees to transfer what they have learnt to their jobs.
- vi. Bigger projects have there own complexities and may require different sets of soft skills than described in previous reviews.
- vii. As per previous studies , the authors recommend , for training the employees in soft skills.

CHAPTER 02

2.1 LITERATURE REVIEW

This presents the review on importance of soft skills .It also introduces to the reader a comprehensive detail is stipulated work of various researches has been incorporated in this section.

TABLE 2.1(Comprehensive Literature Review)

S.NO.	Name of the authors	Study on	Year of The study	Outcome
1	Richa Gulati, Dr Carmen Haule Reaiche , Dr. Sam Braoudi, Prof. Indra Gunawan	The Contribution of Project Managers' Soft Skills to their Project Success	2020	This paper contributes significantly to project management by establishing the need of soft skills in project managers, identifying a set of soft skills and their contribution to project success.
2	S.Vasanthakumari	Soft skills and its applications in work place	2019	This study concludes that it is essential to integrate hard skills with soft skills to fast track the career. Hard skills help o acquire employment and soft skills helps to ensure the employability

3	Mr. Manazar Hussain Awan, Mr Kashif Ahmed , Wajid Zulqarnain	Impact of project managers soft leadership skills on project success	2015	This study concludes that results of this study will provide organizations and individuals related to project with key skills especially soft leadership skills
4	Hannah Adams	A different approach to project management : the use of soft skills	2016	In this study ,the soft skills are as important and useful as the technical skills in case to achieve a project success
5	Dr. Anupama Jena	Importance of soft skills in project management	2017	This study shows the very keen importance of the soft skills in project management as to make project a success, its important to know the various skills for both the project manager as well as the project team
6	Sabeen Hussain Bhatti, Saifullah Khalid Kiyani, Scott B. Dust, Ramsha Zakariya	The impact of ethical leadership on project success	2021	The study reveals that the project managers can ensure project success.The result were analyze using structural equation modeling

7	Maryam Elmezain, Wan Hamidon Wan Baduruzzaman , Mohammad Arzy Khoiry	The impact of project manager skills and age on project success	2021	This study in here shows that it is essential to distinguish the project managers age and experience and not to consider project managers age as a factor of a project success
8	Rosli Ibrahim, Ali Boerhannodien, Kazeem Kayode Bakare	The effects of soft skills and training methodology on employee performance	2017	The results indicate that the two predictors – soft skill acquisition and training methodology – significantly predict employee performance. The authors propose the need for employers to redesign the methodology for training employees in soft skills.
9	Sara Isabel, Juan Pablo	Soft skills . Do we know what we are talking about?	2021	They proposed that there are divisions of soft skills into two different dimensions

10	Muhammad Tahir Ph.D	The effects of project managers soft skills on success of project in the construction industry	2019	In view of the past examinations discoveries, and the finding of the current review, it very well may be inferred that delicate abilities are significant factor which improve project directors information and capacity to more readily deal with project related issues and successfully plan, execute, and carry out project the executives.
11	R.Poovitha D.Ambika B.Lavanya	A review on performance management and appraisal in construction industry towards project performance	2018	The principal purpose of this paper is to review the main performance measurement frameworks and the performance management and the appraisal executed in the current scenario.
12	Mohammad Bilal Shaukat, Khawaja Fawad Latif ,Aymen Sajjad	Revisiting the relationship between sustainable project management and project success: The moderating role of stakeholder engagement and team building	2021	Delicate abilities are a bunch of useful character qualities that portray one's connections in a social climate. These abilities can incorporate decent behaviors, correspondence capacities, language abilities, individual propensities, mental or close to home sympathy,

				using time productively, collaboration and administration qualities
13	Bouroutzopoulos	Critical success factors in project management in multinational projects	2022	The study examines the key factors that influence project performance, the challenges multicultural teams face, and the options available to project managers to achieve project effectiveness. In order to achieve the stated objectives, a structured quality research based on a qualitative questionnaire was conducted.
14	Muhammad Irfan, Sanam zaib khan, Nassruddin Hassan, Mazlan Hassan, Salma Khan	Role of project planning and project managers competencies on public sector project success	2021	Despite the fact that the world has advanced dramatically, the center explanations behind the disappointment of numerous public area projects continue as before, i.e., the lack of foresight and skill of an undertaking chief it is finished up in view of the consequences of the review that in future, due thought ought to be given to

				arranging and the capacities of a task director.
15	Jaime pareira	Evaluation of informations systems projects success-insights from practitioners	2021	Evaluating the success of projects should be a key process in project management. Results show that opportunities for lessons learned and project management improvement are being missed due to the lack of formal evaluation of success.
16	John Aliu , Clinton aighbavboa	Key generic skills for employability of built environment graduates	2021	These include leadership skills, critical thinking and analytical skills, problem-solving skills and entrepreneurship skills. A key implication of these findings makes a case for universities to constantly adopt several skills to tech for further knowledge .
17	Vittal S Anantatmula	Role of organizational project management maturity factors on project	2018	The importance of projects has resulted in increased international standards, academic research, and education and training on project management

		success		<p>concepts. However, studies show that the number of successful projects has not changed significantly. Results show that customer satisfaction is considered the most important project success factor and more so for organizations with portfolio management in place.</p>
18	Atout Mamoom Mousa	Importance of project management implications in construction industry projects	2020	<p>Successful project management in construction projects requires a wide range of qualified project team managed by professionals project managers because it is a part of the project success.</p>
19	Murat Gunduz , Ahmed mohammad ali yahya	Analysis of project success factors in construction industry	2018	<p>A great emphasis has taken place to identify and analyse the factors that have been affecting the success and the failure of construction projects in recent decades. The results of this research may provide a great assistance to professionals and researchers in identifying the critical factors in the construction industry.</p>

20	Jeferson Carvalho_Alvarenga_ Robson Rosa_Branco_ André Luis Azevedo_Guedes_ Carlos Alberto Pereira_Soares_ Wainer da Silveira e_Silva	The project manager core competencies to project success	2019	The purpose of this paper is to define the most important competencies to project success and investigate their correlations.
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2.2 WHAT IS COMPREHENSIVE LITERATURE REVIEW (CLR)?

A writing survey is an assortment of chosen articles, books and different sources about a particular subject. The object is to sum up the current exploration that has been finished regarding the matter to place your examination in setting and to feature what your exploration will add to the current group of information. Writing surveys are regularly coordinated here and there (sequential, topical, and systemic).

A literature review might comprise a fundamental part of a postulation or thesis, or might be an independent survey of works regarding a matter. Regardless, its motivation is to:

- i. Place each work with regards to its commitment to the comprehension of the subject under audit
- ii. Portray the relationship of each work to the others viable
- iii. Distinguish better approaches to decipher, and shed light on any holes in, past exploration
- iv. Resolve clashes among apparently problematic past examinations
- v. Distinguish areas of earlier grant to forestall duplication of exertion
- vi. Point the way forward for additional exploration
- vii. Place one's unique work (on account of propositions or expositions) with regards to existing writing

2.3 OBJECTIVE

- i. This study seeks to investigate the effects/importance of the project management soft skills on project success.
- ii. The reason for this study is to identify soft skills needed by construction project managers and its effect on their project achievement.

CHAPTER 03

3.1 METHODOLOGY

Comprehensive Literature review is needed to obtain knowledge regarding the necessary soft skills in construction industry (but not limited to). A questionnaire survey is framed to collect responses from the Engineers, Project Managers, and Contractors; to assess and identify the required soft skills. Mapping is to be done of the collected data with the available data through DMADV process. Soft skills clusters have been framed to smooth impart of soft skills training to the construction industry administrators, technical employees.

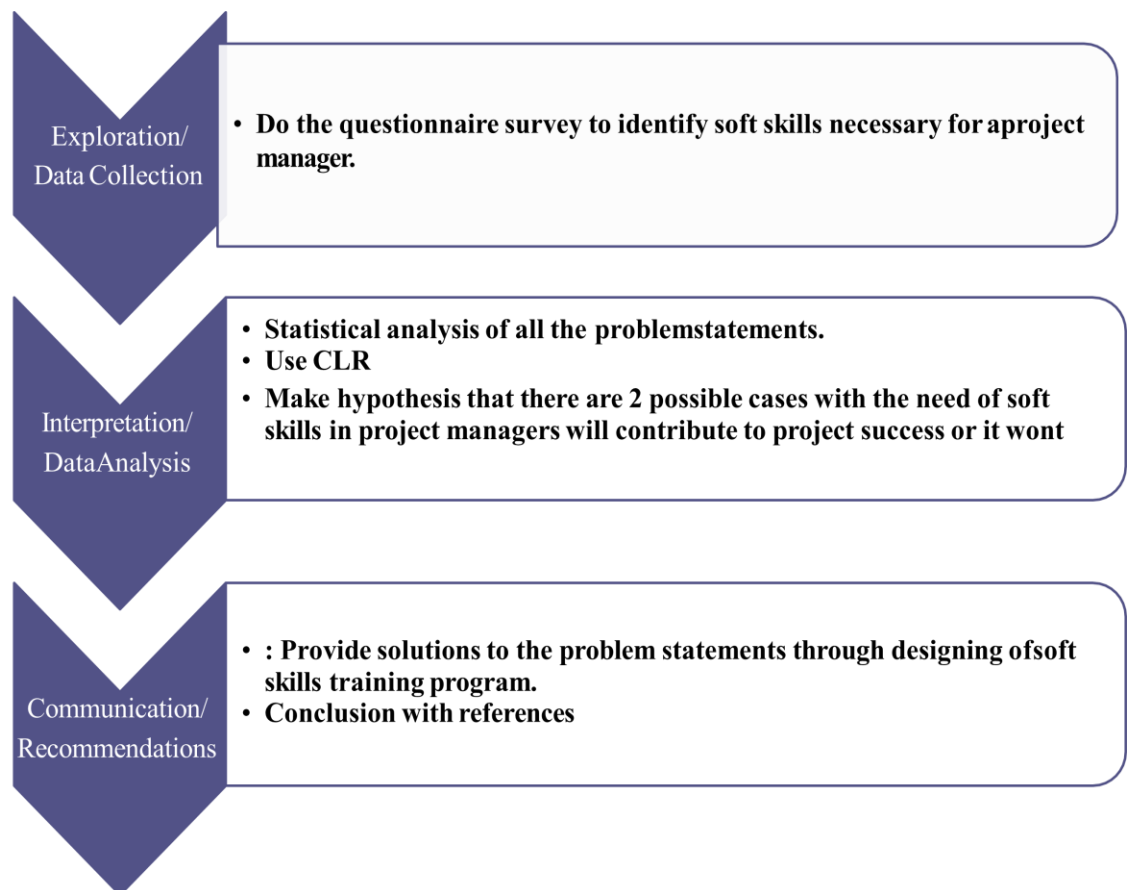


Figure 3.1 Methodology

3.2 CASE STUDY

Every religion teaches the principal of soft skill communication

ON SITE

As per site reviews , the labours and the contractors were having limited knowledge regarding the soft skills , whereas site engineers or project managers were taking the initiative of adding or including soft skills knowledge into their day to day professional life on construction site.

TABLE 3.2 (Comment required during survey)

S.NO.	DESIGNATION	REMARKS
1	Labour 1	Would somehow create a fault in some or the other thing while working
2	Labour 2	Would leave the work then and there
3	Contractor 1	There is nothing as soft skills in the field of construction
4	Contractor 2	“Laaton k bhooth ,baato se nahi mante”
5	Contractor 3	Had rough idea regarding soft skills
6	Site Engineer	Interested in knowing more
7	Project manager 1	Took a training class before joining the construction industry
8	Project manager 2	Knew about soft skills but not in technical terms

3.3 SURVEY FORMAT (Designed to collect information)

Please enter the suitable information requested in the form below. Your details will be kept confidential. Summaries and statistical analysis of responses will be presented to the University for Study Purpose only. (M.Tech. thesis work)

Objective of the study: **The benefaction of Construction Project Manager's Soft Skills to the construction project success.**

Please tick and fill in the blanks if you select others. Each scale represents the following rating:

- (5) Very high contributing (4) High contributing (3) Average contributing
(2) Little contributing (1) Very little contributing

Question1. Please specify what are soft skills?(in 5-8 words only)

.....

Question2. Do you think soft skills are necessary for a project manager?(Please tick)

- (5) Very high contributing (4) High contributing (3) Average contributing
(2) Little contributing (1) Very little contributing

Question3. Please specify types of skills (any five in hierarchical order) which you think necessary for a project manager.

Skill1.....

Skill2.....

Skill3.....

Skill4.....

Skill5.....

Question4. Do project managers in your organisation have adequate soft skills? (please tick)

- (5) Very high contributing (4) High contributing (3) Average contributing
(2) Little contributing (1) Very little contributing

Question5. Do project managers in your organisation have been provided soft skills training? How?

.....

3.4 SURVEY RESPONSE

TABLE 3.2 (Data collection)

S. NO.	DESIGN ATION	Q-1	Q-2	Q-3	Q-4	Q-5
S1	Engineer	Useful for professional skills	average	communication	average	no
S2	Engineer	Skills enhances persons profession	High contributing	Task management	High contributing	They are already trained
S3	Architect	To improve leadership and management on site	average	Time ,safety management	High contributing	They were already aware of it
S4	Contractor	Increases productivity of work	High contributing	Communication , leadership	High	Selected trained ones
S5	Engineer	Used in daily and professional life	High contributing	Learning management skills	high	Skill program training
S6	Director	Skills useful in each profession	Average	leadership	average	no
S7	Academic	Useful to learn the way to communicate	High contributing	Communication skills	average	no
S8	Project Manager	Some sort of skills useful for communication in every field	High contributing	Social communication ,leadership	average	Not yet will soon start training them
S9	Engineer	Useful in communication	Average	Team management	average	no

S10	Contractor	Ways to communicate with respect	Average	Workability	average	no
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3.5 WHAT EXACTLY IS DMADV?

DMADV (Define — Measure — Analyze — Design — Verify)

DMADV is applied to new cycles to ensure that they accomplish project quality. This technique limits the event of blemishes in analysis. This technique has been adopted as a working tool to ensure that quality has been achieved in project management. DMADV technique is explained by Motorola as part of their quality management philosophy.

DEFINE

The objectives of the principal stage are to distinguish the motivation behind the undertaking, interaction or administration, to recognize and afterward put forth practical and quantifiable objectives as seen according to the points of view of the association and the stakeholder(s), to make the timetable and rules for the survey and to distinguish and evaluate expected gambles. An unmistakable meaning of the task is laid out during this progression, and each procedure and objective should be lined up with the assumptions for the organization and the clients.

MEASURE

Next comes estimating the variables that are basic to quality, or CTQs. Steps taken ought to include: characterizing prerequisites and market fragments, recognizing the basic plan boundaries, planning scorecards that will assess the plan parts more essential to the quality, reevaluating risk and surveying the creation cycle ability and item capacity. When the qualities for these elements are known, then a successful methodology can be taken to begin the creation interaction. It is significant here to figure out which measurements are basic to the partner and to make an interpretation of the client necessities into clear task objectives.

ANALYZE

Moves initiated during this stage will include: creating plan choices, recognizing the ideal mix of necessities to accomplish esteem inside requirements, creating applied plans, assessing then choosing the best parts, then fostering the most ideal plan. It is during this stage that a gauge of the complete life cycle cost of the not entirely set in stone. After completely investigating the different plan choices, what is the most ideal plan choice that anyone could hope to find for meeting the objectives?

DESIGN

This phase of DMADV incorporates both an itemized and undeniable level plan for the chose elective. The components of the plan are focused on and from that point a general plan is created. When this progression is finished, a more definite model will be prototyped to recognize where blunders might happen and to make vital changes.

VERIFY

In the last stage, the group approves that the plan is adequate to all partners. Will the plan be viable in reality? A few pilot and creation runs will be important to guarantee that the quality is the most elevated conceivable. Here, assumptions will be affirmed, organization will be extended and all illustrations learned will be recorded. The Verify step likewise incorporates an arrangement to progress the item or administration to a standard activity and to guarantee that this change is reasonable.

The proposed theoretical framework is comprised of five phases:

Define Phase, Measure Phase, Analyze Phase, Design Phase and Verify Phase (DMADV).

Table 3.5.1 (Summarized the objectives of each phase)

Define:	Define the construction-related soft skills
Measure:	Measure the level of soft skills among the construction organization employees (Site engineer, project manager, contractor)
Analyze:	Benchmark the existing state of the 6 soft skills clusters among construction employees
Design:	The soft skills training plan.
Verify	Calculate the soft skills clusters gap score and share the results

3.6 THE PROPOSED SOFT SKILL CLUSTERS

Soft skills are cluster of useful human character qualities that portray one's connections in the community and profession. These abilities can incorporate decent behaviors, correspondence capacities, language abilities, individual propensities, mental or close to home sympathy, using time productively, and collaboration and administration qualities.

TABLE 3.6.1 (The proposed soft skills clusters)

<p>Cluster #1: Communication skills: Listening correspondence, show abilities, understanding correspondence, talking correspondence, and composing correspondence</p>
<p>Cluster #2: Workplace thinking skills: Insightful reasoning, calculated thinking, decisive reasoning, independent direction, definitiveness, critical thinking, thinking, seeing things as a primary concern's eye, and use frameworks thinking</p>
<p>Cluster #3: Conflict resolution and negotiation: Peacemaking, compromise, intercession, exchange, the comprehension of human way of behaving</p>
<p>Cluster #4: Teamwork and Collaboration skills: Training, joint effort, helpful capacity, establishing learning climate, appointment, creating others, meeting abilities, general vibe, bunch adequacy, show others, team building abilities, group acquiring abilities, collaboration, work with others, and working in organization client</p>
<p>Cluster #5: Stress management skills: Capacity to manage pressure, tolerating analysis, versatility, misfortune, change impetus, change the executives, adapting to intricacy, adaptability, dependability, strength, and stress the board</p>
<p>Cluster #6: Workplace professionalism skills: Obligation to the association, sound judgment, worry for request, having reasonable concentration, coordination, work investigation, liability, authoritative mindfulness, hierarchical administration, take an interest in ventures and undertakings, individual show, amazing skill, advance great administration, obligation.</p>

CHAPTER 04

CONCLUSION

1. The result obtained from this research will provide in depth information about the soft skills and their influence on construction project success.
2. These skills are crucial in managing the project team (Contractors, Engineers, and Project Managers). SWOT analysis provides a holistic benchmark for investigating soft skills.
3. This study comprises of data collected through interviews, questionnaire surveys and literature review study.
4. It has been observed in this study that communication skill and leadership skill play a critical role in construction project success.
5. DMADV technique is very helpful in evaluating and analyzing the collected data.
6. Soft skills training must be imparted in every construction organization of Lucknow.
7. During the study it has been observed that project team members had limited focus on the role of soft skills in construction project success.

REFERENCES

1. Azim , S., Gale, A., Lawlor-Wright, T., Kirkham, R., Khan, A., & Alam, M. (2010). The importance of soft skills in complex projects. *International Journal of Managing Projects in Business*.
2. Aliu , J., & Aigbavboa , C. (2021). Key generic skills for employability of built environment graduates. *International Journal of Construction Management*, 1-19.
3. Adams, H. (2016). A different approach to project management: the use of soft skills.
4. Anantatmula, V. S., & Rad, P. F. (2018). Role of organizational project management maturity factors on project success. *Engineering Management Journal*, 30(3), 165-178.
5. Atout, M. M. (2020). Importance of project management implications in construction industry projects. *BULMIM Journal of Management and Research*, 5(1), 17-27.
6. Alvarenga, J. C., Branco, R. R., Guedes, A. L. A., Soares, C. A. P., & e Silva, W. D. S. (2019). The project manager core competencies to project success. *International Journal of Managing Projects in Business*.
7. Bouroutzopoulos , A. (2022). Critical success factors in project management in multinational projects.
8. Ballesteros Sánchez, L. I., Ortiz Marcos, I., Rodríguez Rivero, R., & Juan Ruiz, J. (2017). Project management training: An integrative approach for strengthening the soft skills of engineering students. *International Journal of Engineering Education*, 33(6 (A)), 1912-1926.
9. Conger, J.A. and Xin, K. (2000), “Executive education in the 21st century”, *Journal of Management Education*, Vol. 24 No. 1, pp. 73-101, available at: <https://doi.org/10.1177/105256290002400106>
10. Carvalho, M. M. D., & Rabechini Junior, R. (2015). Impact of risk management on project performance: the importance of soft skills. *International Journal of Production Research*, 53(2), 321-340.
11. Gillard, S. (2009). Soft skills and technical expertise of effective project

- managers. *Issues in informing science & information technology*, 6.
12. Gunduz, M., & Yahya, A. M. A. (2018). Analysis of project success factors in construction industry. *Technological and Economic Development of Economy*, 24(1), 67-80.
 13. Hillmer, G., Fink, C., Foradori, M., Gall, M., Kilian, D., & Sparer, W. (2007). Social and soft skills training concept in engineering education. *Innovations 2007: World innovations in Engineering education and research*, International Network for Engineering Education and Research, 355-366.
 14. Hefley, W. E., & Bottion, M. (2021). Skills of junior project management professionals and project success achieved by them. *International Journal of Information Systems and Project Management*, 9(1), 56-75.
 15. Irfan, M., Khan, S. Z., Hassan, N., Hassan, M., Habib, M., Khan, S., & Khan, H. H. (2021). Role of project planning and project manager competencies on public sector project success. *Sustainability*, 13(3), 1421.
 16. Jena, A., & Satpathy, S. S. (2017). Importance of soft skills in project management. *International Journal of Scientific Research and Management*, 5(7), 6173-6180.
 17. Magano, J., Silva, C., Figueiredo, C., Vitória, A., Nogueira, T., & Pimenta Dinis, M. A. (2020). Generation Z: Fitting project management soft skills competencies—A mixed-method approach. *Education sciences*, 10(7), 187.
 18. Marando, A. (2012). *Balancing project management hard skills and soft skills*. Massachusetts, USA: Brandeis University.
 19. Motschnig-Pitrik, R., & Figl, K. (2007, October). Developing team competence as part of a person centered learning course on communication and soft skills in project management. In *2007 37th Annual Frontiers In Education Conference-Global Engineering: Knowledge Without Borders, Opportunities Without Passports* (pp. F2G-15). IEEE.
 20. Motschnig-Pitrik, R. (2006, October). Two technology-enhanced courses

- aimed at developing interpersonal attitudes and soft skills in project management. In *European Conference on Technology Enhanced Learning* (pp. 331-346). Springer, Berlin, Heidelberg.
21. Motschnig-Pitrik, R. (2006, October). Participatory action research in a blended learning course on project management soft skills. In *Proceedings. Frontiers in Education. 36th Annual Conference* (pp. 1-6). IEEE.
 22. Martin, B.O., Kolomitri, K. and Lam, T.C.M. (2014), "Training methods: a review and analysis", *Human Resource Development Review*, Vol. 13 No. 1, pp. 11-35.
 23. Magano, J., Silva, C. S., Figueiredo, C. Vitória, A., & Nogueira, T. (2021). Project management in engineering education: Providing generation Z with transferable skills. *Ieee Revista Iberoamericana De Tecnologias Del Aprendizaje*, 16(1), 45-57.
 24. Marin-Zapata, S. I., Román-Calderón, J. P., Robledo-Ardila, C., & Jaramillo-Serna, M.A. (2021). Soft skills, do we know what we are talking about?. *Review of Managerial Science*, 1-32.
 25. Pereira, J., Varajão, J., & Takagi, N. (2022). Evaluation of information systems project success—Insights from practitioners. *Information Systems Management*, 39(2), 138-155.
 26. Pant, I., & Baroudi, B. (2008). Project management education: The human skills imperative. *International journal of project management*, 26(2), 124-128.
 27. Pinkowska, M. (2011). Evaluation of scientific and practice approaches to soft skills requirements in the ICT project management. *IBIMA Business Review*.
 28. Pulko, S. H., & Parikh, S. (2003). Teaching 'soft' skills to engineers. *International Journal of Electrical Engineering Education*, 40(4), 243-254.
 29. Poovitha, R., Ambika, D., & Lavanya, B. (2018). A review on performance management and appraisal in construction industry towards project performance. *International Research Journal of Engineering and Technology (IRJET)*, 5(1), 1012-1015.

30. Ravindranath, S. (2016). Soft skills in project management: A review. *IUP Journal of Soft Skills*, 10(4).
31. Shaukat, M. B., Latif, K. F., Sajjad, A., & Eweje, G. (2022). Revisiting the relationship between sustainable project management and project success: The moderating role of stakeholder engagement and team building. *Sustainable Development*, 30(1), 58-75.
32. Sukhoo, A., Barnard, A., Eloff, M. M., Van der Poll, J. A., & Motah, M. (2005). Accommodating soft skills in software project management. *Issues in Informing Science & Information Technology*, 2.
33. Stevenson, D. H., & Starkweather, J. A. (2010). PM critical competency index: IT execs prefer soft skills. *International Journal of Project Management*, 28(7), 663-671.
34. Schulz, B. (2008). The importance of soft skills: Education beyond academic knowledge.
35. Schlichter, B. R. & Buchynska, T. (2021). Soft skills of delivery managers in a co-sourced software project. *Procedia Computer Science*, 181, 905-912.
36. Tian, J. (2020). What does a project manager need to know about soft skills. In *Modern Economics & Management Forum* (Vol. 1, No. 1).
37. Zuo, J., Zhao, X., Nguyen, Q. B. M., Ma, T., & Gao, S. (2018). Soft skills of construction project management professionals and project success factors: A structural equation model. *Engineering, Construction and Architectural Management*.

Appendices

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Conference Paper Certificate



Identify the construction project managers' soft skills and their benefaction to project accomplishment

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Abstract— *The reason for this study is to distinguish key delicate abilities needed by construction project administrators and its effect on their project achievement. The authors have played out a Comprehensive Literature Review (meta-structure) as a proof to help the contention that project chiefs could build the odds of projects being effective by applying their delicate abilities to oversee project group and its presentation. The discoveries of this study exhibits that the recognized delicate abilities are undivided attention, correspondence, theoretical abilities, peacemaking, human asset the executives, human abilities, administration abilities, inspiration abilities, arrangement abilities, relationship building abilities, political and social mindfulness, polished methodology and morals. These abilities are basic towards project achievement, nonetheless, it is likewise recognized that delicate abilities and hard abilities, both works related to one another to accomplish achievement. This study gives a huge commitment by building up the need of growing delicate abilities in project administrators to oversee groups viably and productively, along these lines expanding their presentation and the odds of project being fruitful.*

Index Terms—*Construction Project manager, Soft Skills, Comprehensive Literature*

I. INTRODUCTION

A new report led by the Project Management Institute (PMI) known as Pulse of the Profession®, uncovered that having hard abilities alone is presently not adequate in the present progressively cutthroat work market. Albeit hard abilities, which are specialized in nature and include the utilization of information and apparatuses, are basic for a venture supervisor's job, the soft skills of project management are equally as important for the collaborative nature of projects. Soft skills, some of the time known as "relationship building abilities," apply to all positions in all enterprises, especially administrative roles. They incorporate the capacity to convey well, form trust, and resolve clashes. Soft skills can assist with giving an edge to chiefs who have figured out how to utilize them well. In an information-driven world, these abilities have been to some degree de-underscored. That is an error with regard to project executives, where a blend of soft and hard abilities is essential. The issue is of such significance that PMI has fostered the Talent Triangle, a model for the ideal undertaking chief range of abilities that incorporates a combination of both hard and delicate abilities. It centers around the areas of administration, technical project management, and strategic and business management. Each piece of the triangle is of equivalent significance.

Successful construction project execution requires a mix of both hard and soft abilities. Be that as it may, here and there the economy directs its own standards molding the work market and acquainting new difficulties with the calling. In the background of ongoing changes brought about by the pandemic, project managers should return to their abilities and change their resumes appropriately. Moving right along, here are some new and center abilities you should prevail in this difficult situation in 2020 and beyond.

II. SOFT SKILLS AND CONSTRUCTION PROJECT MANAGEMENT

"Soft skills are building blocks to better teams in the construction industry". 2020 as no other year has demonstrated that project managers ought to be prepared to lead both co-found and disseminated groups. As remote work acquired energy after the Covid emergency, it pulled project managers to flex this ability and focus closer on enabling groups in testing times. Remote team management has turned into a crucial piece of project management, approaching specialists to move project correspondence from gathering rooms to one focal area and look for better ways of observing undertaking progress paying little mind to the group's area.

The National Center for Construction Education and Research (NCCER) says that the construction industry is one that has regularly been marked as a grimy, risky, focus-in, common calling. Numerous industry partners are running after reshaping its picture into one that is more imaginative, creative, and cooperative in order to draw in talented specialists. All things considered, it's basic to employ hard and soft abilities or conduct characteristics. While enticing, pioneers who center 100 percent around strategic abilities are passing up more qualified, balanced competitors and, simultaneously, making an undeniably spinning entryway. It's these social characteristics that sway the manner in which people think and work. Just said, associations that emphasize soft abilities win. Boss among these soft abilities is the capacity to convey both verbally and non-verbally. Conveying successfully guarantees that a task is finished accurately as well as can assist with forestalling avoidable mishaps on a place of work, at times meaning the contrast between life and demise. Notwithstanding correspondence, a few other social attributes that ought to be considered include being perceptive of environmental elements; Collaboration; Critical thinking; Compromise; Thinking and reacting quickly; Adaptability; Direction; A solid memory; Effectively tuning in; Constancy; Arrangement and strategy; The ability to understand individuals on a deeper level; and Hardworking attitude.

Clearly, with remote work came the need to develop new abilities, yet there's something else to expect in the

post-COVID project management. To get a significant comprehension of what anticipates project managers, we invited the assessments of experienced task managers. Andrew Soswa, a Transformational Leader, and Bobby Taruc, a Project and Program Management expert says “I think that there will be four important aspects affecting the skills needed for project management: specialization within a specific project management field, 1000's new project managers flocking high-paying industry, multi-skillset and experience required for mastery and the biggest challenge will be communication with top stakeholders.

III COMPREHENSIVE LITERATURE REVIEW

S.NO.	Name of the authors	Study on	Year of the study	Outcome
1	Richa Gulati, Dr Carmen Haule Reaiche , Dr. Sam Braoudi, Prof. Indra Gunawan	The Contribution of Project Managers' Soft Skills to their Project Success	2020	This paper contributes significantly to project management by establishing the need of soft skills in project managers, identifying a set of soft skills and their contribution to project success.
2	S.Vasanthakumari	Soft skills and its applications in work place	2019	This study concludes that it is essential to integrate hard skills with soft skills to fast track the career. Hard skills help o acquire employment and soft skills helps to ensure the employability
3	Mr. Manazar Hussain Awan, Mr Kashif Ahmed , Wajid Zulqarnain	Impact of project managers soft leadership skills on project success	2015	This study concludes that results of this study will provide organizations and individuals related to project with key skills especially soft leadership skills
4	Hannah Adams	A different approach to project management : the use of soft skills	2016	In this study ,the soft skills are as important and useful as the technical skills in case to achieve a project success

5	Dr. Anupama Jena	Importance of soft skills in project management	2017	This study shows the very keen importance of the soft skills in project management as to make project a success, its important to know the various skills for both the project manager as well as the project team
6	Sabeen Hussain Bhatti, Saifullah Khalid Kiyani, Scott B. Dust, Ramsha Zakariya	The impact of ethical leadership on project success	2021	The study reveals that the project managers can ensure project success. The result were analyze using structural equation modeling
7	Maryam Elmezain, Wan Hamidon Wan Baduruzzaman , Mohammad Arzy Khoiry	The impact of project manager skills and age on project success	2021	This study in here shows that it is essential to distinguish the project managers age and experience and not to consider project managers age as a factor of a project success

REFERENCES

8	Rosli Ibrahim, Ali Boerhannodien, Kazeem Kayode Bakare	The effects of soft skills and training methodology on employee performance	2017	The results indicate that the two predictors – soft skill acquisition and training methodology – significantly predict employee performance. The authors propose the need for employers to redesign the methodology for training employees in soft skills.
9	Sara Isabel, Juan Pablo	Soft skills . Do we know what we are talking about?	2021	They proposed that there are divisions of soft skills into two different dimensions
10	Muhammad Tahir Ph.D	THE EFFECT OF PROJECT MANAGER'S SOFT SKILLS ON SUCCESS OF PROJECT IN THE CONSTRUCTION INDUSTRY	2019	In view of the past examinations discoveries, and the finding of the current review, it very well may be inferred that delicate abilities are significant factor which improve project directors information and capacity to more readily deal with project related issues and successfully plan, execute, and carry out project the executives.

1. The_Contribution_of_Project_Managers'_Soft_Skills_to_their_Project_Success -2020
<https://www.researchgate.net/publication/338763112>
2. Soft skills and its application-2019 (World Journal of advanced research and reviews)
<https://wjarr.com/content/soft-skills-and-its-application-work-pl-ace>
3. Impact e of soft skills in project management for porject success -2015 (Journal of Poverty, Investment and Development)
<https://www.iiste.org/>
4. A different approach to project management:soft skills -2016(Diggital commas @ Harrisburgh University)
https://digitalcommons.harrisburgu.edu/pmgd_dandt/2/
5. Importance of soft skills in project management -2017 (International Journal of Scientific Research and Management (IJSRM))
<https://journals.indexcopernicus.com/api/file/viewByFileId/284621.pdf>
6. The impact of ethical leadership onproject management-2021(Discover Journals, Books & Case Studies)
<https://www.emerald.com/insight/content/doi/10.1108/IJMPB-05-2020-0159/full/html>
7. The impact of project manager skills and age on project success -2021 (Brazilian Journal of Operations & Production Management (BJO&PM - ISSN (Online): 2237-8960))
<https://bjopm.emnuvens.com.br/bjopm/article/view/950>
8. The effects of soft skills and training methodology on employee performance-2017(Emerald publishing limited)
<https://iranarze.ir/wp-content/uploads/2018/03/E6366-IranArze.pdf>
9. Soft skills . Do we know what we are talking about?-2021(SpringerLINK)
<https://link.springer.com/article/10.1007/s11846-021-00474-9>
10. The Effect Of Project Managers Soft Skills On Success Of Project In The CONSTRUCTION INDUSTRY-2019 (International Journal of Applied Research in Social Sciences) : www.fepbl.com/index.php/ijarss

Identify the construction project managers' soft skills and their role in project success

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1. Introduction

A new report led by the Project Management Institute (PMI) known as Pulse of the Profession®, uncovered that having hard abilities alone is presently not adequate in the present progressively cutthroat work market. Albeit hard abilities, which are specialized in nature and include the utilization of information and apparatuses, are basic for a venture supervisor's job, the soft skills of project management are equally as important for the collaborative nature of projects. Soft skills, some of the time known as "relationship building abilities," apply to all positions in all enterprises, especially administrative roles. They incorporate the capacity to convey well, form trust, and resolve clashes. Soft skills can assist with giving an edge to chiefs who have figured out how to utilize them well. In an information-driven world, these abilities have been to some degree de-underscored. That is an error with regard to project executives, where a blend of soft and hard abilities is essential. The issue is of such significance that PMI has fostered the Talent Triangle, a model for the ideal undertaking chief range of abilities that incorporates a combination of both hard and delicate abilities. It centers around the areas of administration, technical project management,

and strategic and business management. Each piece of the triangle is of equivalent significance. Successful construction project execution requires a mix of both hard and soft abilities. Be that as it may, here and there the economy directs its own standards molding the work market and acquainting new difficulties with the calling. In the background of ongoing changes brought about by the pandemic, project managers should return to their abilities and change their resumes appropriately. Moving right along, here are some new and center abilities you should prevail in this difficult situation in 2020 and beyond.

2. Soft skills and construction project management- Literature study

“Soft skills are building blocks to better teams in the construction industry”. 2020 as no other year has demonstrated that project managers ought to be prepared to lead both co-found and disseminated groups. As remote work acquired energy after the Covid emergency, it pulled project managers to flex this ability and focus closer on enabling groups in testing times. Remote team management has turned into a crucial piece of project management, approaching specialists to move project correspondence from gathering rooms to one focal area and look for better ways of observing undertaking progress paying little mind to the group's area.

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It's these social characteristics that sway the manner in which people think and work. Just said, associations that emphasize soft abilities win. Boss among these soft abilities is the capacity to convey both verbally and non-verbally. Conveying successfully guarantees that a task is finished accurately as well as can assist with forestalling avoidable mishaps on a place of work, at times meaning the contrast between life and demise. Notwithstanding correspondence, a few other social attributes that ought to be considered include being perceptive of environmental elements; Collaboration; Critical thinking; Compromise; Thinking and reacting quickly; Adaptability; Direction; A solid memory; Effectively tuning in; Constancy; Arrangement and strategy; The ability to understand individuals on a

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Table1. Comprehensive Literature Review

S.NO.	Name of the authors	Study on	Year of the study	Outcome
1	Richa Gulati, Dr Carmen Haule Reaiche , Dr. Sam Braoudi, Prof. Indra Gunawan	The Contribution of Project Managers' Soft Skills to their Project Success	2020	This paper contributes significantly to project management by establishing the need of soft skills in project managers, identifying a set of soft skills and their contribution to project success.
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3	Mr. Manazar Hussain Awan, Mr Kashif Ahmed, Wajid Zulqarnain	Impact of project managers soft leadership skills on project success	2015	This study concludes that results of this study will provide organizations and individuals related to project with key skills especially soft leadership skills
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9	Sara Isabel, Juan Pablo	Soft skills. Do we know what we are talking about?	2021	They proposed that there are divisions of soft skills into two different dimensions
10	Muhammad Tahir	The effect of project manager’s soft skills on success of project in the construction industry	2019	Delicate abilities are significant factor which improve project directors’ information and capacity to more readily deal with project related issues.

3. What Is Comprehensive Literature Review (CLR)?

A writing survey is an assortment of chosen articles, books and different sources about a particular subject. The object is to sum up the current exploration that has been finished regarding the matter to place your examination in setting and to feature what your exploration will add to the current group of information. Writing surveys are regularly coordinated here and there (sequential, topical, systemic).

A literature review might comprise a fundamental part of a postulation or thesis, or might be an independent survey of works regarding a matter. Regardless, its motivation is to place each work with regards to its commitment to the comprehension of the subject under audit, portray the relationship of each work to the others viable, distinguish better approaches to decipher, and shed light on any holes in, past exploration, resolve clashes among apparently problematic past examinations, distinguish areas of earlier grant to forestall duplication of exertion, point the way forward for additional exploration and place one's unique work (on account of propositions or expositions) with regards to existing writing.

3. Research Methodology

The proposed theoretical framework is comprised of five phases: Define Phase, Measure Phase, Analyze Phase, Design Phase and Verify Phase (DMADV). All the phases have been summarized in table 2. Responses were received from the construction organization employees and the mapping performed with respect to identified soft skills through Comprehensive Literature Review technique and the identified soft skills have been shown in Table 3.

Table 2. Summarized the objectives of each phase

Define	Define the construction-related soft skills
Measure	Measure the level of soft skills among the construction organization employees (Site engineer, project manager, contractor)
Analyze	Benchmark the existing state of the 12 soft skills clusters among construction employees
Design	Draw up the soft skills training models. The model includes the soft skills content, priority and the best alternative for each domain
Develop	A narrative description that reflects the authors understanding
Verify	Calculate the soft skills clusters gap score and share the results

4. What exactly is DMADV?

DMADV (Define — Measure — Analyze — Design — Verify)

Measure and distinguish basic to-quality attributes of the item, administration or interaction. This incorporates chance and creation capacities.

i. DEFINE

The objectives of the principal stage are to distinguish the motivation behind the undertaking, interaction or administration, to recognize and afterward put forth practical and quantifiable objectives as seen according to the points of view of the association and the stakeholder(s), to make the timetable and rules for the survey and to distinguish and evaluate expected gambles. An unmistakable meaning of the task is laid out during this progression, and each procedure and objective should be lined up with the assumptions for the organization and the clients.

ii. MEASURE

Next comes estimating the variables that are basic to quality, or CTQs. Steps taken ought to

include: characterizing prerequisites and market fragments, recognizing the basic plan boundaries, planning scorecards that will assess the plan parts more essential to the quality, reevaluating risk and surveying the creation cycle ability and item capacity. When the qualities for these elements are known, then a successful methodology can be taken to begin the creation interaction. It is significant here to figure out which measurements are basic to the partner and to make an interpretation of the client necessities into clear task objectives.

iii. ANALYZE

Moves initiated during this stage will include: creating plan choices, recognizing the ideal mix of necessities to accomplish esteem inside requirements, creating applied plans, assessing then choosing the best parts, then fostering the most ideal plan. It is during this stage that a gauge of the complete life cycle cost of the not entirely set in stone. After completely investigating the different plan choices, what is the most ideal plan choice that anyone could hope to find for meeting the objectives?

iv. DESIGN

This phase of DMADV incorporates both an itemized and undeniable level plan for the chose elective. The components of the plan are focused on and from that point a general plan is created. When this progression is finished, a more definite model will be prototyped to recognize where blunders might happen and to make vital changes.

v. VERIFY

In the last stage, the group approves that the plan is adequate to all partners. Will the plan be viable in reality? A few pilots and creation run will be important to guarantee that the quality is the most elevated conceivable. Here, assumptions will be affirmed, organization will be extended and all illustrations learned will be recorded. The Verify step likewise incorporates an arrangement to progress the item or administration to a standard activity and to guarantee that this change is reasonable.

4. Identified Soft Skills (Findings)

Integrity, Collaboration, Listening, Self-management, Communication, Analytical thinking, Diplomacy, Adaptability, Creativity and lifelong learning are the critical soft skills that are reported by the professionals from the Lucknow construction industry. In order to extend the

importance of highlighted soft skills to the construction organization employees a short training event has been organized and the following soft skills have been explained to them. Figure 1 shows the training program in construction organization, thus, accomplishing DEVELOP phase of DMADV.

5. Recommendations

Table 3. The proposed soft skills clusters
Cluster #1: Communication skills: Listening correspondence, show abilities, understanding correspondence, talking correspondence, and composing correspondence
Cluster #2: Workplace thinking skills: Insightful reasoning, calculated thinking, decisive reasoning, independent direction, definitiveness, critical thinking
Cluster #3: Conflict resolution and negotiation: Peacemaking, compromise, intercession, exchange
Cluster #4: Teamwork and Collaboration skills: Training, joint effort, helpful capacity, establishing learning climate, appointment, creating others, meeting abilities, general vibe, bunch adequacy, show others, team building abilities, group acquiring abilities, collaboration, work with others
Cluster #5: Stress management skills: Capacity to manage pressure, tolerating analysis, versatility, misfortune, change impetus, change the executives, adapting to intricacy, adaptability, dependability
Cluster #6: Workplace professionalism skills: Obligation to the association, sound judgment, worry for request, having reasonable concentration, coordination, work investigation, hierarchical administration, individual show, amazing skill, advance great administration, obligation.



Figure 1. On site soft skills training (short term); Develop phase of DMADV

6. References

1. Azim, S., Gale, A., Lawlor-Wright, T., Kirkham, R., Khan, A., & Alam, M. (2010). The importance of soft skills in complex projects. *International Journal of Managing Projects in Business*.
2. Adams, H. (2016). A different approach to project management: the use of soft skills.
3. Ballesteros Sánchez, L. I., Ortiz Marcos, I., Rodríguez Rivero, R., & Juan Ruiz, J. (2017). Project management training: An integrative approach for strengthening the

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4. Carvalho, M. M. D., & Rabechini Junior, R. (2015). Impact of risk management on project performance: the importance of soft skills. *International Journal of Production Research*, 53(2), 321-340.
 5. Gillard, S. (2009). Soft skills and technical expertise of effective project managers. *Issues in informing science & information technology*, 6.
 6. Hillmer, G., Fink, C., Foradori, M., Gall, M., Kilian, D., & Sparer, W. (2007). Social and soft skills training concept in engineering education. *Innovations 2007: World innovations in Engineering education and research, International Network for Engineering Education and Research*, 355-366.
 7. Hefley, W. E, & Botton, M. (2021). Skills of junior project management professionals and project success achieved by them. *International Journal of Information Systems and Project Management*,9(1),56-75.
 8. Jena, A., & Satpathy, S. S. (2017). Importance of soft skills in project management. *International Journal of Scientific Research and Management*, 5(7), 6173-6180.
 9. Magano, J., Silva, C., Figueiredo, C., Vitória, A., Nogueira, T., & Pimenta Dinis, M. A. (2020). Generation Z: Fitting project management soft skills competencies—A mixed-method approach. *Education sciences*, 10(7), 187.
 10. Marando, A. (2012). Balancing project management hard skills and soft skills. *Massachusetts, USA: Braindeis University*.
 11. Motschnig-Pitrik, R., & Figl, K. (2007, October). Developing team competence as part of a person-centered learning course on communication and soft skills in project management. In *2007 37th Annual Frontiers in Education Conference-Global Engineering: Knowledge Without Borders, Opportunities Without Passports* (pp. F2G-15). IEEE.
 12. Motschnig-Pitrik, R. (2006, October). Two technology-enhanced courses aimed at developing interpersonal attitudes and soft skills in project management. In *European Conference on Technology Enhanced Learning* (pp. 331-346). Springer, Berlin, Heidelberg.
 13. Motschnig-Pitrik, R. (2006, October). Participatory action research in a blended

- learning course on project management soft skills. In *Proceedings. Frontiers in Education. 36th Annual Conference* (pp. 1-6). IEEE.
14. Magano, J., Silva, C. S., Figueiredo, C. Vitória, A., & Nogueira, T. (2021). Project management in engineering education: Providing generation Z with transferable skills. *Ieee Revista Iberoamericana De Tecnologias Del Aprendizaje*, 16(1), 45-57.
 15. Marin-Zapata, S. I., Román-Calderón, J. P., Robledo-Ardila, C., & Jaramillo-Serna, M.A. (2021). Soft skills, do we know what we are talking about? Review of *Managerial Science*, 1-32.
 16. Pant, I., & Baroudi, B. (2008). Project management education: The human skills imperative. *International journal of project management*, 26(2), 124-128.
 17. Pinkowska, M. (2011). Evaluation of scientific and practice approaches to soft skills requirements in the ICT project management. *IBIMA Business Review*.
 18. Pulko, S. H., & Parikh, S. (2003). Teaching 'soft' skills to engineers. *International Journal of Electrical Engineering Education*, 40(4), 243-254.
 19. Ravindranath, S. (2016). Soft skills in project management: A review. *IUP Journal of Soft Skills*, 10(4).
 20. Sukhoo, A., Barnard, A., Eloff, M. M., Van der Poll, J. A., & Motah, M. (2005). Accommodating soft skills in software project management. *Issues in Informing Science & Information Technology*, 2.
 21. Stevenson, D. H., & Starkweather, J. A. (2010). PM critical competency index: IT execs prefer soft skills. *International Journal of Project Management*, 28(7), 663-671.
 22. Schulz, B. (2008). The importance of soft skills: Education beyond academic knowledge.
 23. Schlichter, B. R. & Buchynska, T. (2021). Soft skills of delivery managers in a co-sourced software project. *Procedia Computer Science*, 181, 905-912.
 24. Tian, J. (2020). What does a project manager need to know about soft skills? In *Modern Economics & Management Forum* (Vol. 1, No. 1).
 25. Zuo, J., Zhao, X., Nguyen, Q. B. M., Ma, T., & Gao, S. (2018). Soft skills of construction project management professionals and project success factors: A structural equation model. *Engineering, Construction and Architectural Management*.

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