



Project Management Skills, People Management Skills, and Operational Excellence of Construction Project Managers in Private Construction Management Services

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ABSTRACT

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This study was conducted to determine the level of project management skills, people management skills and operational excellence of construction project managers in private construction services. The respondents were the project management team composed of 215 engineers, architects, technical staff and document controllers fairly distributed to the three business units. The study utilized the descriptive correlational research method. Analysis of data revealed the following findings: The construction project managers had a high level of project management skills in terms of scope management skills, schedule management skills, resources management skills, risks management skills, and quality management skills ($\bar{x}=3.62$). The construction project manager had a very high level of people management skills in terms of integrity, influence and persuasion, leadership, and planning ($\bar{x}= 3.64$). In terms of operational excellence, the construction project managers obtained a very high level on customer focus, flexibility, and systematic problem solving ($\bar{x}= 3.62$). A significant relationship was noted between construction project manager's project management skills and people management skills; a significant relationship was perceived between project manager's project management skills and operational excellence; and a significant relationship was noted on people management skills and operational excellence. Based on the summary of findings, the following conclusions were drawn, (1) The construction project managers had a very high level of project management skills in terms of scope management skills, schedule management skills, cost management skills, resources management skills, risks management skills, and quality management skills. (2) The construction project managers had a very high level of people management skills in terms of integrity, influence and persuasion, leadership, and planning. (3) The construction project managers had a very high level of operational excellence in terms of customer focus, flexibility, and systematic problem-solving. (4) The higher the level of construction project manager's project management skills, the higher the level of their people management skills. (5) The higher the level of construction project manager's project management skills, the higher the level of their operational excellence. (6) The higher the level of construction project manager's people management skills, the higher the level of their operational excellence. (7) All the constructs of project management skills, only risks management skills and management skills are the significant predictors of the respondents' level of operational excellence, implying that the higher the level of project management skills in terms of risks management and scope management skills, the higher the level of operational excellence of the respondents. To deliver the project successfully, the construction project managers should consistently demonstrate and balance the application of project management and people management since the area of focus of CPM in the project revolves in day to day managing of resources (material, manpower and equipment), solving problems, overcoming project challenges, dealing with changes in project requirements, communicating with stakeholders and satisfying the customer's expectations. With these, the decision and approach of CPM would be solid and cohesive through collaboration with the project management team.

Keywords:

Descriptive Correlational Study, Construction Management, Project Management Skills, People Management Skills, Operational Excellence

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I. INTRODUCTION

Construction is a big business reaching \$10.6 trillion in spending worldwide in 2017 and is projected to reach \$12.7 trillion by 2022, and \$15.5 trillion by 2030 (Jackson, 2020) [1]. It is with these figures that construction management is necessary for a firm to enjoy the economic projection in the industry.

Harris et al., (2020) [2] elaborated that construction management addresses the effective planning, organization, application, coordination, monitoring, control, and reporting of the core business of marketing, procurement, production, administration, accounts, and finance necessary to achieve economic success and/or profitability for an enterprise or organization engaged in the provision of construction facilities.

Project success depends on the achievement of strategic organizational objectives and so is typically related to the products or services of an organization (Mavi & Standing, 2020) [3]. Moreover, Keshk, et al., (2018) [4] asserted that the success of these projects basically depends on effective management for planning, monitoring, and scheduling project activities, and taking necessary actions to accelerate the completion of certain activities. It is considered therefore that a project manager who plans and initiates processes is skillful enough in the highs and lows of managing a construction project. As explained by Fewings & Henjeweile (2019) [5], project management is the application of knowledge, skills, and techniques to execute a project effectively and efficiently. Unfortunately, all project managers have skills, but not all project managers have the right skills for the given job Kerzner (2022) [6].

The construction industry explained by Ginigaddara (2019) [7] is labor intensive and hence significantly impacted by the skills and capabilities of the workforce. Alagbhari et al., (2019) [8] posited that the poor productivity of construction labor is one of the causes of cost and time overruns in construction projects. It is unfortunate however that construction companies according to Silva et al., (2018) [9] suffer due to lack of skilled and professional people for construction activities. This leads mainly to cost and time overruns and finally project failures.

Gavin (2020) [10] stated that people management is one of the top ten skills needed to thrive in today's workforce. Relatively, people management, as described by Gupta (2022) [11], is a collection of techniques that cover the full spectrum of hiring, training, and retaining talent while

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offering ongoing support to the company's operations and direction to its staff. Therefore, in an increasingly dynamic environment where change seems to be the only constant feature, Carvalho et al. (2019) [12] posited that operational excellence programs are often used to achieve improved performance results. However, operational excellence should not be seen as an approach to promote change, but rather to provide tools and framing for people in the organization to deal with it. Dev et al., (2020) [13] identify that flexibility, collaboration, dynamism, relational capabilities, transparency, and innovation as the performance dimensions responsible for operational excellence.

Considering thereof, it is important to note that even the most successful operational excellence program needs improvement because new regulations are enacted, new risks are emerging, employees are demanding a healthier and safer working environment, and new tools and technologies are discovered (Muazu et al., 2020) [14]. Hence, it is essential for managers to effectively manage critical success factors that may affect sustainability initiatives. Critical success factors are those factors that require monitoring and action from top management to maintain organizational competitiveness (Sehnm, 2019) [15].

With the aforementioned discussions, it shows that the study conducted needs a deeper understanding of the management skills of construction project managers and their operational excellence in the construction project. Much more analysis is also needed since a dearth of studies was conducted that tackle the same theme in private construction management services. As such, this prompted the researcher to study the project management skills, people management skills, and operational excellence of construction managers in private construction management services. This also determined if the project management skills and people management skills of construction project managers are predictors of operational excellence in the construction project.

1.1 Objective of the Study

The overall objective of this study was to determine the project management skills, people management skills, and operational excellence of construction project managers in private construction management services. The study had the following objectives which were (1) to determine the level of project management skills of construction project managers in terms of scope, schedule, cost, resources, risks, and quality management skills, (2) to determine the level of people management skills of construction project managers as seen through integrity, influence and persuasion, leadership and planning, (3) to determine the level of operational excellence among construction project managers along customer focus, flexibility, and systematic problem-solving, (4) to identify the significant relationship between: level of project management skills and the level of people management skills of

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construction project managers, the level of project management skills and the level of operational excellence of construction project managers, and the level of people management skills and the level of operational excellence of construction project managers, and (5) analyze how predictive are the variables' level of project management skills, and the level of people management, taken singly, or in combination, in the level of operational excellence of construction project managers in private construction services.

II. METHODS

This study utilized the descriptive-correlational research design as it was suited as the best method in providing a relatively complete picture of what is occurring at a given time, determining, and allowing testing of relationships between and among the dependent and independent variables and the making of predictions (Stangor & Walinga, 2019) [16]. Additionally, it employed the descriptive method involving the description, recording, analysis, and interpretation of the present nature, composition, or processes of phenomena. According to Manila (2018) [17], this is used to gather large-scale data such as current conditions to generalize. It attempted to determine the level of project management skills, level of people management skills, and level of operational excellence of construction project managers in private construction management services and the relationship of the variables.

Random sampling was incorporated as the sampling approach in this research, wherein each member of the population has a known chance of being included in the study sample (Bhardwaj, 2019) [18]. Furthermore, stratified random sampling was utilized, which is a probability sampling technique that fairly distributes the number of respondents from the perceived population. Using Raosoft Calculator with a confidence level of 90% and a margin of

error of 5%, the researcher achieved the sample size of the respondents from a private construction management company in the Philippines distributed fairly into three business units.

The population of this study was the project management teams of a private construction company consisting of 486 engineers, architects, technical staff, and document controllers. From the population, the actual sample size was 215 which was computed using Raosoft calculator. Thus, the respondents of this study were 85 out of 192 project management team from Business Unit I, 72 out of 162 project management team were from Business Unit II, and 58 out of 132 project management team were from Business Unit III.

The researcher gathered the data by distributing researcher-made survey questionnaire to the selected project management teams to gather the primary sources of data from private construction management services in the Philippines during the year 2023. The research instrument was subjected to validation by the panel of experts in research, language teaching, and in statistics. It also underwent pilot testing for reliability and used Cronbach's alpha measure of internal consistency which had given excellent indicators in terms of project management skills, people management skills, and operational excellence. The data gathering procedure started with securing first the permission from the Head of Construction Project Management Services to conduct the study utilizing the selected project management team, then the researcher coordinated with the respective construction project managers for their assistance to conduct the study, link for Google Forms was sent to the respondents stating the objective of the study and clear instructions for each part of the online research instrument. After the collection and gathering of data, it was carefully compiled, sorted, organized, and tabulated. Statistical treatment was applied to interpret the data and answer the questions proposed in the study using Weighted Mean and ranking, Pearson r Moment Correlation Coefficient, and Stepwise Regression Analysis.

III. RESULTS AND DISCUSSION

Table 1. The Construction Project Managers' Level of Project Management Skills as assessed by the Respondents: Scope Management Skills

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. creates a scope management plan that documents the project and product scope is defined, validated and controlled.	3.74	Very High	2
2. determines, documents and manages stakeholder needs and requirements to meet project objectives.	3.76	Very High	1
3. develops a detailed description of the project	3.68	Very High	5.5
4. creates work breakdown structure by dividing project deliverables and project work into smaller, more manageable components	3.72	Very High	3.5
5. validates scope by formalizing acceptance of	3.68	Very High	5.5

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completed project deliverables.

6. monitors the status of the project and product scope and manages changes according to the scope baseline	3.72	Very High	3.5
Overall Weighted Mean	3.72	Very High	

Scale: 1:00-1.74: Very Low, 1:75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

As seen in Table 1, the Construction project managers' level of project management skills as assessed by the respondents in terms of scope management skills revealed that construction project managers had a very high level of scope management skills in terms of determining documenting, and managing stakeholders needs and requirements to meet project objectives (weighted mean = 3.76), in creating a scope management a plan that documents the project and product scope is defined, validated and controlled (weighted mean = 3.74), in creating work breakdown structure by dividing project deliverables and project work into smaller, more manageable components (weighted mean = 3.72), and in monitoring the status of the project product scope and managing changes according to the scope baseline (weighted mean = 3.72). Furthermore, construction project managers had a very high level of scope management skills in terms of developing a detailed description of the project (weighted mean = 3.68), and in validating scope by formalizing acceptance of completed project deliverables (weighted mean = 3.72).

In general, the construction project managers had a very high level of project management skills as assessed by

the respondents in terms of Scope Management skills (overall weighted mean = 3.72). This means that construction project managers are performing scope management according to the project requirements with sufficient technical knowledge in determining the scope of works to be accomplished using Work Breakdown Structure (WBS), right sequencing of works through construction methodologies, allotted work duration to deliver within the contract project duration, and required resources such as Manpower, Material and Equipment to perform and accomplish the activities.

The findings of the study strengthen the study of Derenskaya (2018) [19]. The results of her study showed that components of project scope management are managing the scope of the project product and managing the content of project work. Participants of these subprocesses are customers, investors, and other project participants – external organizations (contractors of the project); project review committee; project manager and project team. It is revealed that the key element of planning the project scope is the formation of the structure of design work, the justification of the number of works, and the sequence of their implementation.

Table 2. The Construction Project Managers' Level of Project Management Skills as assessed by the Respondents: Schedule Management Skills

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. plans schedule management by establishing the policies, procedures, and documentation for planning, developing, managing, executing, and controlling the project schedule.	3.67	Very High	1.5
2. identifies and documents the specific actions to be performed to produce the project deliverables.	3.67	Very High	1.5
3. sequences activities by identifying and documenting relationships among the project activities.	3.59	Very High	5
4. estimates the number of work periods needed to complete individual activities with the estimated resources.	3.57	Very High	6
5. develops schedule by analyzing activity sequences, durations, resource requirements, and schedule constraints to create the project schedule.	3.65	Very High	3
6. monitors the status of the project to update the project schedule and manages changes according to the schedule baseline.	3.64	Very High	4
Overall Weighted Mean	3.63	Very High	

Scale: 1:00-1.74: Very Low, 1:75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

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Table 2 which shows the Construction Project Managers' Level of Project Management Skills on Schedule Management as assessed by the respondents, revealed that Project Managers had a very high level of schedule management skills in terms of planning schedule management by establishing the policies, procedures, and documentation for planning, developing, managing, executing, and controlling the project schedule (weighted mean = 3.67), in identifying and documenting the specific actions to be performed to produce the project deliverables (weighted mean = 3.67), in developing schedule by analyzing activity sequences, durations, resource requirements, and schedule constraints to create the project schedule (weighted mean = 3.65). Additionally, Construction Project Managers had a very level of schedule management skills in terms of monitoring the status of the project to update the project schedule and in managing changes according to the schedule baseline (weighted mean = 3.64), in sequencing activities by identifying and documenting relationships among project activities (weighted mean = 3.59), and in estimating the number of work periods needed to complete individual activities with the estimated resources (weighted mean =

3.57). To sum up, the construction project managers had a very high level of Project Management Skills as assessed by the respondents in terms of Schedule Management skills (overall weighted mean = 3.63). This means that the respondents find their project managers as organized in terms of time management including defining project activities, activity sequencing, activity resource estimation, activity duration estimation and project schedule control.

Moreover, Venilla (2018) [20] suggested various ways of managing time effectively by highlighting many techniques that can be borrowed by top management. (1) Project team members should arrange their schedule to project priorities as per the Work Breakdown Structure (WBS), which means that they should look at the important dates of project activities, and then write them down on a calendar as a reminder note. This will make project team see the whole project a lot easier and simpler. (2) Project team including stakeholders should get over any bad feelings that the project might face during project life cycle and move beyond them by having proper risk mitigation plan. (3) Communication should be integrated in the organizational culture. This will reduce the project team conflict.

Table 3. The Construction Project Managers' Level of Project Management Skills as assessed by the Respondents: Cost Management

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. plans and determines how the project costs will be estimated, budgeted, managed, monitored, and controlled.	3.63	Very High	2
2. develops an approximation of the monetary resources needed to complete the project work.	3.50	Very High	5
3. determines budget for the estimated costs of individual activities based on cost baseline.	3.57	Very High	3.5
4. monitors the status of the project to update project costs.	3.57	Very High	3.5
5. controls the cost by managing the changes according to the cost baseline.	3.64	Very High	1
Overall Weighted Mean	3.58	Very High	

Scale: 1:00-1.74: Very Low, 1.75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

As presented in Table 3, the Construction Project Managers' Project Management skills as assessed by the respondents on Cost Management, revealed that Construction project managers had a very high level of cost management skills in terms of controlling the cost by managing the changes according to the cost baseline (weighted mean = 3.64), in planning and determining how the project costs will be estimated, budgeted, managed, monitored, and controlled (weighted mean = 3.63), in determining budget for the estimated costs of individual activities based on cost baseline (weighted mean = 3.57), in monitoring the status of the project to update project costs (weighted mean = 3.57). Furthermore, the Construction Project Managers had a very

high level of project management skills on Cost Management in terms of developing an approximation of the monetary resources needed to complete the project work.

To sum up an average weighted mean of 3.58 revealed that the Construction project managers had a very high level of Project Management skills in terms of Cost Management skills. This means that construction project managers are efficient in determining cost through cost estimation, and allocation budget per scope of works or activities as cost management is critical and important in managing and controlling project budget. The key mission of project management team lead by Project Manager is complete the project within the approved budget where in the

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cost management plan includes guidelines and procedures needed to stay the project on budget.

The findings of the study can be explained by Dusan (2019) [21] when he emphasized the importance of project cost estimate and control, as well as evaluation method and project selection with the aim of efficiency increase for the

entire process through the Cost Management Concept. Further, in creating a total project budget, the Project Managers should have considered the known and unknown risk or constraints of the project resources, environment, project requirements and escalations of material, labor, fuel and forex.

Table 4. The Construction Project Managers' Level of Project Management Skills as assessed by the Respondents: Resources Management

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. plans resources by estimating, acquiring, managing and utilizing physical and team resources.	3.52	Very High	6
2. estimates team resources necessary to perform project work.	3.57	Very High	4.5
3. acquires resources like team members, facilities, equipment, supplies and other resources necessary to complete project work.	3.63	Very High	1.5
4. develops team environment and competencies to enhance project performance.	3.57	Very High	4.5
5. manages team's performance by providing feedback, resolving issues and changes to optimize project performance.	3.63	Very High	1.5
6. controls resources by ensuring the physical resources assigned and allocated to the project are available as planned.	3.61	Very High	3
Overall Weighted Mean	3.59	Very High	

Scale: 1:00-1.74: Very Low, 1.75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

As shown in table 4, the Construction Project Managers' project management skills in terms of Resources management revealed a very high level of resources management skills in terms of acquiring resources like team members, facilities, equipment, supplies and other resources necessary to complete project work (weighted mean = 3.63), in managing team's performance by providing feedback, resolving issues and changes to optimize project performance (weighted mean = 3.63) and in controlling resources by ensuring physical resources assigned and allocated to the project are available as planned. In addition, the construction project manager also had a very high level of resources management skills in terms of estimating team resources necessary to perform project work (weighted mean = 3.57), in developing team environment and competencies to enhance project performance (weighted mean = 3.57), and in planning resources by estimating, acquiring, managing and utilizing physical and team resources (weighted mean = 3.52).

To sum up, an average weighted mean of 3.59 revealed that the Construction project managers had a very high level of Project Management skills in terms of Resources Management skills. This means that construction project managers are highly capable in managing resources through estimating, acquiring, managing, utilizing, developing and controlling the physical and team resources that includes the

equipment and supplies necessary to complete the project. The resources management is important asset in implementing, executing and completing the daily task or activities of the project to meet each milestone from Design, Awarding, Groundbreaking, Structural Top-off, Watertightness, Testing and Commissioning, and Final close-out.

The findings of the study shows that the project managers are effective in acquiring and managing the resources such as project team or manpower, materials, equipment and etc. achieving predetermined performance objectives using management techniques. Karthick (2020) [22] highlighted that one of the problems faced day to day in construction project is the manpower or labor. To address the problem, Project Management should use the Project management techniques involving scheduling of various activities and resource allocation through Project Resources Scheduling tool like Microsoft Project 2016 and Primavera P6. Likewise, use resource constrained analysis and its corresponding time - cost variations. In terms of managing the scope of resource management is concerned with the personnel aspects such as manpower planning, selection, promotion, training, incentives, productivity, welfare of the manpower through providing good working conditions, enough supplies, and convenient temporary facilities.

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Moreover, Resource Budgeting is an effective tool for Project Management that would ensure success of the project (Okon, 2020) [23]. The Project Managers should lead creating effective project resources budgeting from Manpower,

Equipment, Material and Facilities to ensure all resources will be provided on time so delays in project turnover will be prevented and most likely deliver project success.

Table 5. The Construction Project Managers' Level of Project Management Skills as assessed by the Respondents: Risks Management Skills

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. plans risk management activities for a project.	3.62	Very High	1
2. identifies and documents individual project risks and overall project risk.	3.58	Very High	3
3. performs qualitative risk analysis to further determine the probability of occurrence and impact to the project.	3.56	Very High	4.5
4. performs quantitative risk analysis to discover the combined effect of identified individual project risks and other sources of uncertainty.	3.55	Very High	6
5. develops plan risk responses to address individual and overall project risk exposure.	3.54	Very High	7
6. implements agreed-upon risk response plans.	3.56	Very High	4.5
7. monitors the implementation of agreed-upon risk response plans and evaluates effectiveness of risk process throughout the project.	3.61	Very High	2
Overall Weighted Mean	3.58	Very High	

Scale: 1:00-1.74: Very Low, 1.75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

As illustrated in table 5, the Construction Project Managers' project management skills in terms of Risk Management revealed that Construction Project Managers had a very high level of risk management skills in terms of planning risk management activities for a project (weighted mean = 3.62), in monitoring the implementation of agreed-upon risk response plans and evaluates effectiveness of risk process throughout the project (weighted mean = 3.61), in identifying and document individual project risks and overall project risk (weighted mean = 3.58). Additionally, Construction Project managers had a very high level of risks management skills in terms performing qualitative risk analysis to further determine the probability of occurrence and impact to the project (weighted mean = 3.56), in implementing agreed-upon risk response plans (weighted mean = 3.56), in performing quantitative risk analysis to discover the combined effect of identified individual project risks and other sources of uncertainty (weighted mean = 3.55), and in developing plan risk responses to address individual and overall project risk exposure (weighted mean = 3.54).

To sum up, an average weighted mean of 3.58 revealed that the Construction project managers had a very high level of Project Management skills in terms of Risks Management Skills. This means that construction project managers are alert in dealing risks through planning, identifying the known and unknown risk, performing the

probability and impact, developing mitigation plan, and evaluating effectiveness of risk responses. The Risk management Plan is a serious matter that Project Management Team with all stakeholders must be accomplished. George (2020) [24] cited that once the risk is identified in proper planning process it can be instituted to address it. The identification and management of risks requires the support of all project stakeholders, and the project manager does not have a monopoly of knowledge and as such requires significant inputs from other stakeholders especially in identifying project risks.

The findings of the study showed that the project managers are effective in risk planning and responses, monitoring and evaluating risks. Similar to the study of Azhar (2018) [25], risk management is a structured approach or methodology for managing uncertainty related to threats that includes Risk assessment, developing strategies to manage it and risk mitigation using resource management. Strategies that can be taken include moving risk to other parties, avoiding risks, reducing the negative effects of risk, and accommodating some or all of the consequences of certain risks. The goal of implementing risk management is to reduce the different risks associated acceptable to the project from the various types of threats caused by the environment, technology, people, organizations, and politics.

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Table 6. The Construction Project Manager’ Level of Project Management Skills as assessed by the Respondents: Quality Management Skills

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. plans quality management for project compliance to requirements and standards.	3.67	Very High	1
2. manages the project as per quality management plan and quality policies.	3.64	Very High	2
3. controls quality by monitoring, recording correct results and meeting customer expectations.	3.61	Very High	3
Overall Weighted Mean	3.64	Very High	

Scale: 1:00-1.74: Very Low, 1:75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

As seen in Table 6, the Construction Project Managers’ Level of Project Management skills as assessed by the respondents in terms of quality management revealed that Construction Project managers had a very high level of quality management in terms of planning quality management for project compliance to requirements and standards (weighted mean = 3.67), in managing the project as per quality management plan and quality policies (weighted mean = 3.64), and in controlling quality by monitoring, recording correct results and meeting customer expectations (weighted mean = 3.61). To sum up an average weighted mean of 3.64 revealed that the Construction project managers had a very high level of Project Management skills in terms of Quality Management Skills. This means that construction project managers are successful in planning, complying requirements and standards, managing quality management plan and policies, and controlling the quality in meeting customer expectations.

The findings of the study showed that project managers are effective in planning quality management plans in accordance with project requirements and standards. The creation of Quality Management Plan would guide the project management team with the contractors and supplier in implementing the quality assurance prior to procurement or fabrication and quality control prior to delivery and

installation. As illustrated in the study of Sahil (2020) [26], effective construction and project management depends on effectiveness of implementing the Quality Assurance and Quality Control. The benefits are the project cost could potentially be reduced by preventing the defects on resources particularly material, manpower and equipment by embracing the quality assurance that been great success in construction industry and many sectors. It is also very important to educate the building owners or sponsor of the project that compelling to quality is vital since QA and QC in construction projects well deliver uniformity in process and material utilization due to significant changes, advancements in technology and high expectation of the users.

Moreover, the study of Santos (2021) [27] discussed the new needed quality management skills for quality manager which is the adaptation to digitalization or industry 4.0 includes creative thinking, leaders know how to communicate and work as team with knowledge in Information and Communication Technology since project meetings and bidding process are usually do nowadays through online and project files or documents uploaded to drive like google drive or Microsoft one drive. Further, Project managers motivate their work teams, be open to change, and work on big data as reference in decision making and manage conflicts to deliver quality projects.

Table 7. Summary Table of Construction Project Managers’ Level of Project Management Skills as assessed by the Respondents

Sub-Variabes	Weighted Mean	Verbal Interpretation	Rank
1. Scope Management Skills	3.72	Very High	1
2. Schedule Management Skills	3.63	Very High	3
3. Cost Management	3.58	Very High	5.5
4. Resources Management	3.59	Very High	4
5.Risks Management Skills	3.58	Very High	5.5
6.Quality Management Skills	3.64	Very High	2
Overall Weighted Mean	3.62	Very High	

Scale: 1:00-1.74: Very Low, 1:75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

Table 7 summarized the assessment of the respondents on the Construction Project managers’ level of Project Management

Skills. It showed that Construction Project Managers had a very high level of project management skills as assessed by

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the respondents in terms of Scope Management skills, Schedule Management skills, Cost Management skills, Resources Management skills, Risks Management skills, and Quality Management skills (overall weighted mean = 3.62.). This means that construction project managers are technically competent in managing projects by demonstrating sufficient and effective hard skills or project management skills in terms of scope, schedule, cost, resources, risks, and quality managements skills.

The findings support the results of the study conducted by Khamaksorn (2018) [28] stating that the essential knowledge and skills required for an effective project management in construction industry are responsibilities of project manager; that, to manage the construction project professionally and successfully, a project

manager requires knowledge and expertise since construction project managers are liable for all the success of project's delivering within the limitations of scope, time, cost and quality requirements. In addition, in order to develop and implement project management knowledge and skills for the success of construction, a project manager needs to develop their project management competencies which are required for the construction project. This may be due to the fact that construction project managers usually undertake discipline and improve their technical skill and management skills by focusing on learning activities and practicing their experiences in order to enlarge and fulfill their professional skills for the development and implementation during the construction project.

Table 8. The Construction Project Managers' Level of People Management Skills as assessed by the Respondents: Integrity

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. demonstrates honesty, always tells the truth and does not hide information from the project team.	3.61	Very High	3
2. delivers results as agreed and promised with the stakeholders.	3.63	Very High	2
3. confronts the project problems and issues directly to the concerned stakeholders.	3.58	Very High	4
4. gives acknowledgment and proper credit to the project team who deserved it.	3.64	Very High	1
5. fosters an ethical work environment by not manipulating people and taking full responsibility.	3.57	Very High	5
Overall Weighted Mean	3.61	Very High	

Scale: 1:00-1.74: Very Low, 1:75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

As illustrated in Table 8, the Construction Project Managers level of People Management Skills as assessed by the respondents in terms of Integrity revealed that Construction Project managers had a very high level of people management skills in Integrity in terms of giving acknowledgment and proper credit to the project team who deserved it (weighted mean = 3.64), in delivering results as agreed and promised with the stakeholders, and in demonstrating honesty, always telling the truth and does not hide information from the project team (weighted mean = 3.61). Furthermore, construction project managers had a very high level of integrity in terms of confronting the project problems and issues directly to the concerned stakeholders (weighted mean = 3.58), and in fostering an ethical work environment by not manipulating people and taking full responsibility (weighted mean = 3.57).

To sum up, an average weighted mean of 3.61 revealed that the Construction project managers had a very high level of People Management skills in terms of Integrity. This means construction project managers foster a very high level of integrity skills to the project team and stakeholders by nurturing an ethical work environment through honesty, truthfulness, reliability, take responsibility for the results, do

not manipulate people, and delivers the commitment as agreed with the stakeholders. Most importantly, project managers should give acknowledgement to those who deserve recognition and provide support to those who need coaching and performance improvement for the efficiency of team performance.

The findings of this study are supported by the study of Choi, et al., (2020) [29] that leader behavioral integrity facilitates cooperative behaviors within a team, which, in turn, allows employees to possess adequate resources to better perform their jobs. It could also benefit employees more by allowing them to have more latitudes at work, thus, to benefit more from leader behavioral integrity, organizations may consider redesigning jobs to allow more autonomy to employees.

Furthermore, Joseph & Dadiyala (2018) [30] emphasized in the results of their study that individual integrity is important in building integrity culture at organization, and that, if an individual possesses integrity, he or she can develop trust in relationship with their coworkers or others.

Table 9. The Construction Project Managers’ Level of People Management Skills as assessed by the Respondents: Influence and Persuasion

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. helps quickly in building rapport with the project team.	3.58	Very High	2.5
2. improves the likelihood of a successful negotiation with the stakeholders.	3.58	Very High	2.5
3. ably convinces the project team by presenting new ideas	3.60	Very High	1
4. responds to objections successfully.	3.57	Very High	4
Overall Weighted Mean	3.58	Very High	

Scale: 1:00-1.74: Very Low, 1.75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

As seen in Table 9, the Construction Project Managers’ level of people management skills as assessed by the Respondents on Influence and Persuasion revealed that Construction Project Managers had a very high level of influence and persuasion in terms of being able to convince the project team by presenting new ideas (weighted mean = 3.60), in helping quickly build rapport with the project team (weighted mean = 3.58), in improving the likelihood of a successful negotiation with the stakeholders (weighted mean = 3.58), and in responding to objection successfully (weighted mean = 3.57).

To sum up an average weighted mean of 3.58 revealed that the Construction project managers had a very high level of People Management skills in terms of Influence and Persuasions. This means the construction project managers have efficient and effective influence and persuasion skills to the whole project team and stakeholders by being able to persuade them with innovative ideas that help the project become successful, influence the project team

management team decision without showing authority to make project decisions, and in leading the team to change customary thoughts to new ways of thinking and working.

This can be explained by the results of the study conducted by Rauzana et al., (2022) [31] stating that project managers’ competency influences the success of construction projects. This showed that the high level of project manager knowledge is affected by the manager’s education level, work experience, understanding and mastery of project needs, and the fulfillment of the scope of work in the project of that the project goes according to plan. In addition, project managers need to continuously improve their knowledge and skills of construction project management so that they can be more trusted by company leaders to handle a project, since the success of a project cannot be separated from the selection of the right project manager with high abilities and a level of knowledge.

Table 10. The Construction Project Managers’ Level of People Management Skills as assessed by the Respondents: Leadership

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. leads the team towards successful completion of a project.	3.75	Very High	1
2. assembles the team to devise the plan and manages resources to maintain the schedule and keep within budget.	3.74	Very High	2
3. assumes a role of authority and sets as an example for coworkers.	3.68	Very High	3.5
4. shares and delegates the responsibility and makes decisions with inputs from the team.	3.68	Very High	3.5
Overall Weighted Mean	3.71	Very High	

Scale: 1:00-1.74: Very Low, 1.75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

Table 10 revealed the Construction Project Managers’ level of People Managements Skills as assessed by the respondents on Leadership skills. The results revealed that Construction Project managers had a very high level of leadership skills in terms of leading the team toward successful completion of a project (weighted mean = 3.75), in assembling the team to

devise the plan and managing resources to maintain the schedule and keeping within the budget (weighted mean = 3.75), in assuming a role of authority and sets as an example for coworkers (weighted mean = 3.68), and in sharing and delegating the responsibility and making decisions with inputs from the team (weighted mean = 3.68).

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To sum up an average weighted mean of 3.71 revealed that the Construction project managers had a very high level of People Management skills in terms of Leadership. This means that project managers were able to perform the necessary leadership to all the stakeholders and project team in different phases of the project from planning, executing, monitoring, controlling and executing including project close-out demonstrating a type of leader that is excellent in terms of communication, planning, delegation of task, sharing of responsibility, conflict-management, motivation, and problem-solving. Being effective leader would bring successful workplace that all stakeholders with harmonious environment, increase productivity that create positive impact and early completion of the project, better trained team member, and maximum potential of the team performance.

This can be explained by Robbertse (2020) [32] stating that the project managers’ skill set, leadership style and experience are important to manage the productivity of a project by referring to past similar project where the acceleration of the program or eliminating elements was implemented and developing the project manager’s leadership, communication, and management skills could lead to improve the productivity of a project. The result of this study indicate that 69.35% of the respondents believe that a supportive leadership style , in which leaders delegate and assign tasks to the employees and provide the employees with skills needed to complete the tasks; they work through problems with employees and give a high degree of attention and coaching as needed, and leaders who tend to have compassion and are respectful towards their employees, would be the preferred leadership style to maintain and improve construction productivity levels.

Table 11. The Construction Project Managers’ Level of People Management Skills as assessed by the Respondents: Planning

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. is able to initiate and explain the need of project team.	3.64	Very High	3
2. identifies project sponsors, key stakeholders and manages their expectations.	3.65	Very High	2
3. creates detailed action plans that organize and schedule people and tasks.	3.68	Very High	1
4. prepares readily for arising customer needs.	3.60	Very High	4
Overall Weighted Mean	3.64	Very High	

Scale: 1:00-1.74: Very Low, 1:75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

As shown in Table 11, the Construction Project Managers’ level of People Management Skills as assessed by the respondents on Planning showed that Construction Project Managers had a very high level of Panning skills in terms of creating detailed action plan that organize and schedule people and tasks (weighted mean = 3.68), in identifying project sponsors, key stakeholders and manages their expectations (weighted mean = 3.65), in being able to initiate and explain the need of project team (weighted mean = 3.64), and in preparing readily for arising customer needs (weighted mean = 3.60).

To sum up an average weighted mean of 3.564 revealed that the Construction project managers had a very high level of People Management skills in terms of Planning. This means that project managers are efficient in making the staffing and manpower loading distribution and tasks. that would convince the project owner or sponsor the needs for manpower. The project managers are effective in managing the customer’s and stakeholders’ expectations through creating stakeholder management plan and stakeholder registry with agreed communication plan and tools of communication with the project team. In times the customers change the project requirements and needs, the project

managers are readily available to make detailed action plans in handling customer expectations and communicating the new requirement to all stakeholders involved.

This is supported by the results of the study conducted by Muse, et al., (2019) [33] affirming that there is a significant relationship between the level of planning skills and level of project success which indicated that managers usually use enough skills that are required while planning.

Moreover, the findings of the study support the result of Giri (2019) [34] stating that in order to increase project performance, which is increasingly complex in nature, it is essential for project managers to be able to use a variety of managerial skills. The most important knowledge and skills that a project should have, are planning, organizing, monitoring, control, leadership, problem solving, communication, developing people, time management, etc. Further, project managers need to deeply understand what the project requirements are and then accordingly plan, clearly define the project objectives, reach agreement with the customer and communicate this objective to the project. He added that a project manager should develop policies in order to help the team understand clearly what is expected from them and how it will be achieved since planning is an

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essential duty of a project manager to determine what needs to be done, who is going to do it, and when it needs to be done.

Table 12. Summary Table of the Construction Project Managers’ Level of People Management Skills as assessed by the Respondents

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Integrity	3.61	Very High	3
2. Influence and Persuasion	3.58	Very High	4
3. Leadership	3.71	Very High	1
4. Planning	3.64	Very High	2
Overall Weighted Mean	3.64	Very High	

Scale: 1:00-1.74: Very Low, 1.75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

Table 12 summarizes the assessment of the respondents on the Construction Project Managers’ level of People Management Skills. It showed that Construction Project Managers had a very high level of people management skills as assessed by the respondents in terms of Integrity, Influence and Persuasion, Leadership and Planning overall weighted mean = 3.64). This means that construction project managers possess soft skills as essential skills in effective managing and maximizing the productivity of project management team, and stakeholders by incorporating integrity, influence and

persuasion, leadership, and planning throughout the project life cycle.

This can be explained by Alshammari, et al., (2020) [35] asserting that the main factors of several delays and overruns that some large and complex projects in Kuwait are facing were communication, teamwork & teambuilding, planning & coordination, problem solving, and interpersonal skills. Project managers involved in complex projects need to have strong skills to handle their team and every project participant since they have the highest importance to the success of the project.

Table 13. The Construction Project Managers’ Level of Operational Excellence as assessed by the Respondents: Customer Focus

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. creates strategies to build strong customer interaction and relationships.	3.60	Very High	1.5
2. deals with service failures and prioritizes customer needs.	3.57	Very High	4
3. demonstrates excellence in customer service and delivery	3.60	Very High	1.5
4. ensures customer satisfaction through feedback for continuous improvement.	3.59	Very High	3
Overall Weighted Mean	3.59	Very High	

Scale: 1:00-1.74: Very Low, 1.75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

As presented in Table 13, the Construction Project Managers’ level of Operational Excellence as assessed by the Respondents on Customer Focus revealed that Construction Project Managers had a very high level of Operational Excellence on Customer Focus in terms of creating strategies to build strong customer interaction and relationships (weighted mean = 3.60), in demonstrating excellence in customer service and delivery (weighted mean = 3.60), in ensuring customer satisfaction through feedback for continuous improvement (weighted mean = 3.59), and in dealing with service failures and prioritizing customer needs (weighted mean = 3.57).

high level of Operational Excellence in terms of Customer Focus. This means that the construction project managers are able to create strategies for strong customer relationships, in the events of complaints or service failure the project managers do the necessary solutions to address the issue. In ensuring customer satisfaction and project success, continuous improvement plan is important for excellence customer service and delivery.

The findings of this study realized the importance of customer focus in project management. Nedale (2018) [36] concluded that project managers should familiarize key performance indicators for customers satisfaction, if a customer is satisfied of your product or service, the outcome

To sum up an average weighted mean of 3.59 revealed that the Construction project managers had a very

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would be repeat customer or endorsement to other owners or customer.

Moreover, Bayad, et al., (2021) [37] supported that customer satisfaction is very important issue to company’s product which it measures the level of probability between company’s product and customer belief in which the happier

customer with quality and types of products more products and more profit will occur. Therefore, having proper service quality and customer satisfaction in mind will provide a great effect on customer satisfaction, loyalty, trust and increase business or project profitability.

Table 14. The Construction Project Managers’ Level of Operational Excellence as assessed by the Respondents: Flexibility

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. maintains open-mindedness and changes opinions based on project team assessment or agreement.	3.66	Very High	2
2. deals with changes in project requirements quickly and effectively.	3.67	Very High	1
3. performs difficult tasks and manages tasks transitions competently	3.62	Very High	4
4. adapts quickly to varying customer needs.	3.64	Very High	3
Overall Weighted Mean	3.65	Very High	

Scale: 1:00-1.74: Very Low, 1:75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

As presented in Table 14, the Construction Project Manager’s level of Operational Excellence on Flexibility revealed that Construction Project Managers had a very high level of Flexibility skills in terms of dealing with changes in project requirements quickly and effectively (weighted mean = 3.67), in maintaining open-mindedness and changes opinions based on project team assessment or agreement (weighted mean = 3.66), in adapting quickly to varying customer needs (weighted mean = 3.64), and in performing difficult tasks and managing tasks transitions competently (weighted mean = 3.62).

To sum up, a weighted mean of 3.65 revealed that the Construction project managers had a very high level of Operational Excellence in terms of Flexibility. This means that the respondents of this study assessed the construction project managers as flexible in dealing with changes in project requirements, communicating to many stakeholders,

handling expectation of owners or customers, sequencing activities or project team task and etc. to suit project needs. Flexibility allows project managers to be more organized in workloads and resources, spread out the peaks in demand and stagger the start dates of different projects. As a result, this makes their cash flow and schedules more consistent and their lives less stressful.

The finding of study proved the needs of flexibility of construction project managers in handling project changes, requirements and resources to suit to project or customer needs and success of the project team in delivering the completion of each project or services. Jalali (2020) [38] revealed that project management flexibility has positive significant effects on project performance. Proactive attitude contributes to the flexibility of project management process by having an open attitude.

Table 15. Respondents’ Level of Operational Excellence: Systematic Problem Solving

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. demonstrates a combine creative thinking and strong analytical skills in resolving project issues.	3.65	Very High	1.5
2. ensures the deadlines are met and resolves issues arising in different phases of the project.	3.60	Very High	4
3. leads the project team in creating corrective actions, and implements effective solutions.	3.65	Very High	1.5
4. conducts project meetings to define problems, establish solutions and evaluates alternative solutions for continuous improvement plans.	3.64	Very High	3
Overall Weighted Mean	3.63	Very High	

Scale: 1:00-1.74: Very Low, 1:75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

As presented in Table 15, the Construction Project Managers’ level of Operational Excellence on Systematic Problem Solving revealed that Construction Project Managers had a

very high level of systematic problem-solving skills in terms of demonstrating a combine creative thinking and strong analytical skills in resolving project issues (weighted mean =

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3.65), in leading the project team in creating corrective actions, and in implementing effective solutions (weighted mean = 3.65)

Furthermore, the results showed that construction project managers had a very high level of systematic problem-solving skills in conducting project meetings to define problems, establish solutions and evaluates alternative solutions for continuous improvement plans (weighted mean = 3.64), and in ensuring the deadlines are met and resolving issues arising in different phases of the project (weighted mean = 3.60).

To sum up an average weighted mean of 3.63 revealed that the Construction project managers had a very high level of Operational Excellence in terms of Systematic Problem Solving. This means that construction project managers are performing the Systematic Problem Solving to

ensure project success by resolving project issues through conducting project meeting in defining problems, brainstorming with the project management team, establish solutions, corrective actions, implementing effective solutions and evaluates alternative solutions for continuous improvement plans.

The finding of study proved that construction project managers utilized Systematic Problem Solving as tools and techniques for good decision-making as integral part of the project manager’s day to day operations and project activities. The study of Galli (2020) [39] problem solving, and decision making are inseparable concepts. The project managers daily routine in the projects is to make decisions but to get this, using the tool for systematic problem solving will deliver the project managers to maximum better result in resolving project issues.

Table 16. Summary Table of the Construction Project Managers’ Level of Operational Excellence

Indicators	Weighted Mean	Verbal Interpretation	Rank
1. Customer focus	3.59	Very High	3
2. Flexibility	3.65	Very High	1
3.Systematic-Problem Solving	3.63	Very High	2
Overall Weighted Mean	3.62	Very High	

Scale: 1:00-1.74: Very Low, 1.75-2.49: Low, 2.50-3.24: High, 3.25-4:00: Very High

Table 16 summarizes the assessment of the respondents on the Construction Project Managers’ level of Operational Excellence. It displayed that Construction Project managers had a very high level of Operational Excellence as assessed by the respondents in terms of Customer Focus, Flexibility, and Systematic Problem Solving (overall weighted mean = 3.62). This means that construction project managers have demonstrated project success or operational excellence in terms of customer focus, flexibility, and systematic problem solving through the efficient performance in project management skills and effective people management skills.

The findings support the results of the study conducted by Khatib, et al., (2022) [40] stating that 100% of the participants saw a clear value of collaborative environment and systems that drive for operational

excellence in which some the opinions why many organizations fail to produce a collaborative environment within their internal and external processes are bad communication, no synergy between departments, competency within teams, lack of initiatives with other firms, lack of environmental systems, and lack of flexibility. Moreover, 100% of the participants saw that their organization’s leadership is committed to operational excellence. It is then recommended that organizations invest in these environments and develop a robust and reliable system that can uphold its processes. Such investment will benefit the organization’s productivity and help run operations more smoothly, increasing productivity and reaching the organization’s objectives.

Table 17. Relationship Between the Construction Project Managers’ Level of Project Management Skills and People Management Skills

Satisfaction	Statistical Treatment (Pearson r)	p-value	Decision	Interpretation
Project management and people management	.717 (high correlation)	.000*	Null Hypothesis Rejected	Significant

*Significant @ 0.01

Decision Rule: If *p-value* ≤ 0.010; Reject the H₀, otherwise accept.

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For the relationship between the Construction Project Managers’ level of project management skills and people management skills, a Pearson r value of .717 was obtained, indicating a high correlation with its p-value of .000 which was lower than the test of significance at .01, implying that there is enough statistical evidence to reject the null hypothesis, showing a significant relationship between the variables. This means that the higher the level of construction project managers’ project management skills, the higher the level of their people management skills.

This can be explained by Oliveros, et al., (2018) [41] in their systematic literature review on construction project manager skills that the strong representation of managerial competencies and skills within the research, reflects the impact that such skills have on the overall project success and

the positive correlation between project manager’s capacity and the overall project performance.

The findings contradict the study made by Maduko, et al., (2020) [42] stating that the correlation matrix shows that hard skills which are operationalized using factors such as knowledge of technical language, task experience and ability to use tools and applications, and soft skills which are operationalized into four factors: communication skills, problem-solving skills, strategic influencing skills and interpersonal skills do not have a strong relationship. This is expected as there is no guarantee that a person with a certain amount of hard skills will also have a similar amount of soft skills. This implies that an individual’s hard and soft skills are not related, and a person with a high level of hard skills can have low level of soft skills and vice versa.

Table 18. Relationship Between the Construction Project Managers’ Level of Project Management Skills and Operational Excellence

Satisfaction	Statistical Treatment (Pearson r)	p-value	Decision	Interpretation
Project management skills and operational excellence	.672 (moderate correlation)	.000*	Null Hypothesis Rejected	Significant
*Significant @ 0.01				

For the relationship between the Construction Project Managers’ level of project management skills and operational excellence, a Pearson r value of .672 was obtained, indicating a moderate correlation with its p-value of .000 which was lower than the test of significance at .01, implying that there is enough statistical evidence to reject the null hypothesis, showing a significant relationship between the variables. This means that the higher the level of construction project managers’ project management skills, the higher the level of their operational excellence.

This can be explained by the study made Pretorius, et al., (2023) [43] stating that organizations with greater project management maturity execute projects more successfully than those with lower maturity levels. It supports the theory that the higher the average level of project management maturity in an organization, the more likely it is to execute successful projects. They added that the

importance of project management maturity to project success is unmistakable, and practitioners should not take project maturity for granted.

The findings support the results of the study conducted by Elmesain, et al., (2021) [44] stating that project managers maintain a competitive level of technical, conceptual, political and human skills. In addition, project managers pay increasing attention to specific measures of cost, schedule, quality dimensions of project success. It also revealed in the regression analysis that all technical, conceptual, political and human skills are significantly related to project success, while project manager’s age had no association with project success. Since project managers’ skills are essential for project success in the construction industry, these skills involve all skills related to managing time, financial and human resources, control issues and cover all dimensions and activities pertaining to project success.

Table 19. Relationship Between the Respondents’ Level of People Management Skills and Operational Excellence

Satisfaction	Statistical Treatment (Pearson r)	p-value	Decision	Interpretation
People management and operational excellence	.882 (high correlation)	.000*	Null Hypothesis Rejected	Significant
*Significant @ 0.01				

Decision Rule: If $p\text{-value} \leq 0.010$; Reject the H_0 , otherwise accept.

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For the relationship between the respondents' level of people management skills and operational excellence, a Pearson r value of .882 was obtained, indicating a high correlation with its p -value of .000 which was lower than the test of significance at .01, implying that there is enough statistical evidence to reject the null hypothesis, showing a significant relationship between the variables. This means that the higher the level of respondents' people management skills, the higher the level of their operational excellence.

This can be explained by Mohamed, et al., (2022) [45] that personal leadership skills, including learning goals, orientation, performance orientation, adaptability, self-confidence, social skills, emotional stability, and self-esteem, are regarded as significant leadership skills that contribute to the success of projects. In addition, data indicate that the construction industry of Iraq played a significant influence in their project's success through acquiring goals orientation,

flexibility, self-confidence, social skills, emotional stability, and self-esteem, but paid little attention to performance orientation. Also, understanding the project manager's leadership qualities and the impact of these talents on the project success could also increase working efficiency, personnel recruitment, and the project manager's career growth.

The findings support the results of the study conducted by Tahir (2019) [46] stating that soft skills such as communication skill, interpersonal skills, coordination skill, coordination skill, team building skill, and problem-solving skills have significant influence on project success or operational excellence in the construction industry in Pakistan. Results indicated that among the soft skills, communication skills, team building skills, and problem-solving skills are the most important soft skills which have significant influence on the project success.

Table 20. Regression Analysis of the Level of Project Management Skills to the Level of Operational Excellence of the Respondents

Predictor	Dependent Variable	B	R ²	ANOVA	T	p-value	Decision	Interpretation
Risks Management Skills		.625	.390	F=136.391	8.002	.000*	Null Hypothesis Rejected	Significant
Scope Management Skills	Operational Excellence	.354	.471	F=94.362	5.683	.000*	Null Hypothesis Rejected	Significant

*Significant @ 0.01

Decision Rule: If p -value \leq 0.010; Reject the H_0 , otherwise accept.

Table 20 presented the predictive value of the respondents' level of project management skills. As indicated, risks management skills accounted for 39.00% ($F=136.391$) and scope management skills accounted for 47.10% ($F=94.362$) of the variability of the dependent variable. Results also showed that for every one-unit increase in risks management skills and scope management skills, there are .625 and .354 increase in the level of operational excellence. Probability test showed both p -values of .000 which was lower than the significant value of .01, suggested that there is enough statistical evidence to reject the null hypothesis. This means that of all the constructs of project management skills, only risks management skills and scope management skills are the significant predictors of the respondents' level of operational excellence, implying that the higher the level of project management skills in terms of risks management and scope management skills, the higher the level of operational excellence of the respondents.

This can be expounded by Alsaadi, et al., (2020) [47] stating that risk management is a concept that is becoming very popular in many companies. Many construction

companies often implement risk management in their projects to increase productivity and increase profits as well improve the overall performance. The study they conducted on risk management and project performance in construction industry in Oman revealed that practicing risk management improve the performance of construction project significantly. Thus, it is essential to hire qualified project managers who have sufficient knowledge in risk management and its main activities. Further, Murad (2018) [48] affirmed that there is a strong correlation between risk management and project success. This finding emphasized the importance of risk management on achieving the scope without any difference from the original objectives, technical specifications, quality, and most importantly, avoiding time and cost overrun thus, successful project. Additionally, he recommended that construction industries should give high priorities to risk management and more importantly, spread the awareness of the risk management models such as ISO 3001 or to create their own risk management model as per the needs and requirements.

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The findings support the study conducted by Ogunbero, et al., (2018) [49] stating that the level of success achieved in the implementation of telecommunication projects, high success rate is achieved on projects implemented with project scope management practices while low success level is achieved on projects implemented without project scope management practices. Furthermore, the key significant impact of project scope management practices on project success were customer expectation, customer satisfaction, resource allocation and project duration. The application of project scope management practices has significantly impacted project success leading to fulfilled customer expectation and satisfaction, better resource allocation and timely project delivery.

IV. CONCLUSION AND RECOMMENDATION

In terms of project management skills, it was concluded that the construction project managers from private construction management services had a very level of project management skills along scope management skills, schedule management skills, cost management skills, resources management skills, risks management skills, and quality management skills.

When it comes to people management skills, the construction project managers had a very high level of people management skills in terms of integrity, influence and persuasion, leadership, and planning.

In terms of operational excellence, the construction project managers had a very high level of operational excellence in terms of customer focus, flexibility, and systematic problem-solving.

With regards to the significant relationship between project management skills and people management skills, it was concluded that the higher the level of construction project manager's project management skills, the higher the level of their people management skills.

With regards to the significant relationship between project management skills and operational excellence, it was concluded that the higher the level of construction project manager's project management skills, the higher the level of their operational excellence.

With regards to the significant relationship between people management skills operational excellence, it was concluded that the higher the level of construction project manager's people management skills, the higher the level of their operational excellence.

In terms on how predictive are the variables' level of project management skills, and the level of people management skills, taken singly or in combination, in the level of operational excellence of construction project managers, it was concluded that in all the constructs of project management skills, only risks management skills and management skills are the significant predictors of the respondents' level of operational excellence, implying that

the higher the level of project management skills in terms of risks management and scope management skills, the higher the level of operational excellence of the respondents.

Private construction management services should continue to hire qualified construction project managers who have sufficient knowledge, experience and skills in project management and people management to achieve operational excellence.

Private construction management services should conduct trainings and courses for construction project managers related to scope management, schedule management, cost management, resources management, risks management and quality management to enhance their technical skills and capabilities in managing projects.

Private construction management services should also conduct seminars and programs for construction project managers to develop their soft skills in handling project management team and stakeholders particularly in terms of integrity, influence and persuasion, leadership, and planning.

The construction project managers should consistently demonstrate and balance the application of project management and people management since the area of focus of CPM in the project revolves in day to day managing of resources (material, manpower and equipment), solving problems, overcoming project challenges, dealing with changes in project requirements, communicating with stakeholders and satisfying the customer's expectations. With these, the decision and approach of CPM would be solid and cohesive through collaboration with the project management team.

Construction project managers should undergo quarterly audit conducted by subject matter experts to evaluate and assist their needs for continuous improvement in order to sustain the skills on scope and risks managements as predictors of project management skills for operational excellence.

Construction project managers to give more attention on identifying project risks, creating and implementing risk response, evaluating the result, and ensure that the risk management plan is collaborated among the project management team and is approved by the project owner.

Private Construction Management Services should conduct mid-year and annual Organizational Health Survey to gather information and feedback from employees particularly the level of integrity, influence and persuasion, leadership and planning of construction project managers to identify the skills that needs to improve and address the problem that may impact to the success of operational excellence in project and project management services.

The project management team led by the construction project manager should create develop and secure an approved construction management plan that dictates the process and work instruction in implementing the different knowledge areas of project management particularly on

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scope, schedule, cost, resources, risks, and quality hereby ensuring project success.

The project owner should provide a final owner's project requirement (OPR) to the project management team in order to control the change orders that result to an increase in budget and to ensure that the approved budget will not exceed.

The project designers should produce complete and code compliance technical specifications and drawings to the project management team based on final owner's project requirements (OPR) to prevent scope creep.

The Construction Project Managers should develop a stakeholder management plan and communication management plan that will serve as basis for managing all stakeholders and project communications.

Future researchers should conduct similar study to see the consistency of the result and determine the effectiveness of the findings to sustain and continuously enhance the project management skills, people management skills, and operational excellence of construction project managers in private construction services.

REFERENCES

1. Jackson, B. J. (2020). *Construction management JumpStart: the best first step toward a career in construction management*. John Wiley & Sons.
2. Harris Ghansah, F. A., Owusu-Manu, D. G., & Ayarkwa, J. (2020). Project management processes in the adoption of smart building technologies: a systematic review of constraints. *Smart and Sustainable Built Environment*.
3. Mavi & Standing Seidu, R. D., Ayinla, K., Young, B., Ofori, G., & Ebohon, O. (2022, June). Success Factors in Mega Infrastructure Projects (MIPs): Developing Nation's Perspectives. In CIB World Building Congress
4. Keshk, A. M., Maarouf, I., & Annany, Y. (2018). Special studies in management of construction project risks, risk concept, plan building, risk quantitative and qualitative analysis, risk response strategies. *Alexandria engineering journal*, 57(4), 3179-3187.
5. Fewings, P., & Henjewe, C. (2019). *Construction project management: an integrated approach*. Routledge.
6. Kerzner, H. (2019). *Using the project management maturity model: strategic planning for project management*. John Wiley & Sons.
7. Ginigaddara, B., Perera, S., Feng, Y., & Rahnamayiezekavat, P. (2019, June). Skills required for offsite construction. In *Constructing Smart Cities: Proceedings of the 22nd CIB World Building Congress*.
8. Alagbhari, Al-Sakkaf, & Sultan Azmi, A. B. (2019) The Relationship Between Employee Engagement, Job Satisfaction, Self-Efficacy, Workplace Environment And Performance Among Academicians.
9. Silva, G. A. S. K., Warnakulasuriya, B. N. F., & Arachchige, B. J. H. (2018). A review of the skill shortage challenge in construction industry in Sri Lanka. *Int J Econ Bus Manage Res*, 2(1), 75-89.
10. Gavin M. & Stone, R. J.(2020). *Human resource management*. John Wiley & Sons. (2020)
11. Gupta A., Amenc, N., Blanc-Brude, F., & Whittaker, T. (2022). An Infrastructure Investment Primer: From Valuation to Allocation and Manager Selection. *The Journal of Portfolio Management*, 48(9), 117-202.
12. Carvalho F., Talapatra, S., Santos, G., Sharf Uddin, K., (2019). Main benefits of integrated management systems through literature review. *On Quality Innovation and Sustainability*, 13(4), 85-97. (2019)
13. Dev, N. K., Shankar, R., & Qaiser, F. H. (2020). Industry 4.0 and circular economy: Operational excellence for sustainable reverse supply chain performance. *Resources, Conservation and Recycling*, 153, 104583.
14. Muazu M.H., Tasmin, R., Nor Aziati, A. H., & Zohadi, N. L. (2020). The mediating effect of enterprise risk management implementation on operational excellence in the Malaysian oil and gas sector: a conceptual framework. *Future Business Journal*, 6(1), 1-6.
15. Sehnem S., Lazaretti, K., Giotto, O. T., & Bencke, F. F. (2019). Building sustainability and innovation in organizations. *Benchmarking: An International Journal*.
16. Stangor, C., & Walinga, J. (2019). Psychologists Use Descriptive, Correlational, and Experimental Research Designs to Understand Behaviour. *USask OpenPress*, 55-72.
17. Bhardwaj, P. (2019). Types of sampling in research. *Journal of the Practice of Cardiovascular Sciences*, 5(3), 157. https://doi.org/10.4103/jpcs.jpcs_62_19
18. Manila, P. A. (2018). "Teachers' Pedagogical Skills, Senior High School Students' Attitude Towards Academic Writing, and Academic Writing Skills in Pulo Senior High School S.Y. 2017-2018" Unpublished Thesis: University of Perpetual Help System-Jonelta. City of Biñan, Laguna, Philippines, 4024
19. Derenskaya, Y. (2018). Project Scope Management Process. *Baltic Journal of Economic Studies*, 4(1), 118-125. doi:<https://doi.org/10.30525/2256-0742/2018-4-1-118-125>

Rogie M. Mendoza, Project Management Skills, People Management Skills, and Operational Excellence of Construction Project Managers in Private Construction Management Services

20. Vennila, A. (2018). Time Management is Life Management A Review Article. *International Journal of Trend in Scientific Research and Development*, 4.
21. Dusan Anicie, J. A. (2019). Cost Management Concept and Project Evaluation Methods. *Journal of Process Management - New Technologies, International*, 7(2), 54-59. doi:doi:10.5937/joupproman7-21143
22. K.A.Karthick Raja, D. (2020). Resource Management in Construction Project. *International Journal of Scientific and Research Publications*, 10(5), 252-259. doi:DOI: 10.29322/IJSRP.10.05.2020.p10130
23. Karthick Raja K.A, D. (2020). Resource Management in Construction Project. *International Journal of Scientific and Research Publications*, 10(5), 252-259. doi:DOI: 10.29322/IJSRP.10.05.2020.p10130
24. Okon Ndem Eyibo, C. O. (2020). Effective Resource Budgeting as a Tool for Project Management. *Asian Journal of Business and Management*, 8(2), 15-20.
25. George, C. (2020). The Essence of Risk Identification in Project Risk Management: An Overview. *International Journal of Science and Research*, 973-978.
26. Azhar Susanto, M. (2018, November). The Importance of Risk Management in an Organizations. *International Journal of Scientific and Technology Research*, 7(11), 103-107.
27. Sahil Sanjeev, S. S. (2020, February). Quality and Quality Control for Project effectiveness in construction and management. *International Journal of Engineering Research and Technology*, 9(2), 26-29.
28. Santos Gilberto, e. a. (2021). New Needed Quality Management Skills for Quality Managers 4.0. *Sustainability* 2021, 1-22.
29. Khamaksorn, A. (2018). Project Management Knowledge and Skills for the Construction Industry. *ResearchGate*, 1-8.
30. Choi, Y., Yoon, D. J., & Kim, D. (2020). Leader Behavioral Integrity and Employee In-Role Performance: The Roles of Coworker Support and Job Autonomy. *International Journal of Environmental Research and Public Health*, 17(12), 24-30. doi:https://doi.org/10.3390%2Fijerph17124303
31. Joseph, J. S., & Dadiyala, T. (2018). Integrity in the Workplace. *International Journal of Commerce and Management Studies*, 3(1), 7-17.
32. Rauzana, A., Akbar, M. H., & Dharma, W. (2022). Influence of project manager competencies on the success of construction projects: A case of Indonesia. *ResearchGate*, 20(3), 67-75. doi:http://dx.doi.org/10.21511/ppm.20(4).2022.06
33. Robbertse, C. (2020). The Effects of the Project Managers' Skills on Construction Productivity. *ResearchGate*, 1-105. doi:http://dx.doi.org/10.13140/RG.2.2.33257.42082
34. Muse, M. A., & Mohamed, I. I. (2019). Managers' Planning Skills and Success of Construction Projects in Mogadishu, Somalia. *SIU Journal for Multidisciplinary Research*, 1-10.
35. Giri, E. O. (2019). Study on the Role of Project Manager in Improving the Project Performance. *Technical Journal*, 1(1), 133-139.
36. Alshammari, F., Yahya, K., & Haron, Z. B. (2020). Project Manager's Skills for improving the performance of complex project in Kuwait Construction Industry: A Review. *IOP Publishing*, 1-8. doi:doi:10.1088/1757-899X/713/1/012041
37. Nedale, T. (2018). The Importance of Customer Focus in Project Management. *PM World Journal*, 7(10), 1-12.
38. Bayad Jamal, e. a. (2021, April). Impact of Service Quality on the Customer Satisfaction: Case Study at Online Meeting Platforms. *International Journal of Engineering, Business and Management*, 5(2), 65-77. doi:https://dx.doi.org/10.22161/ijebm.5.2
39. Jalali Sohi, e. a. (2020). Does Flexibility in project management in early project phases contribute positively to end-project to end-project performance. *International Journal of Managing Projects in Business*, 13(4). doi: https://doi.org/10.1108/IJMPB-07-2019-0173
40. Gallie, Marc S. (2020). Managerial Problem Solving and Decision Making. *Research Gate*, 1-7.
41. Khatib, M., Kherbash, A., Qassami, A., & Mheiri, K. (2022). How Can Collaborative Work and Collaborative Systems Drive Operational Excellence in Project Management?
42. Oliveros, J. R., & Vaz-Serra, P. (2018). Construction Project Manager Skills: a systematic literature review. *ResearchGate*, 185-192.
43. Maduko, C., & Vidal Puche, P. (2020). The Impact of Hard and Soft Skills on Managers' Innovativeness. *Department of Industrial Economices*, 1-67.
44. Pretorius, S., Steyn, H., & Bond-Barnard, J. (2023). The Relationship Between Project Management Maturity and Project Success. *ResearchGate*, 10(1), 219-231.
45. Elmezain, M., Baduruzzaman, W. H., & Khoiry, M. A. (2021). The impact of project manager's skills and age on project success. *Brazilian Journal of Operations & Production Management*, 18(4),

Rogie M. Mendoza, Project Management Skills, People Management Skills, and Operational Excellence of Construction Project Managers in Private Construction Management Services

1-16.

doi:<https://doi.org/10.14488/BJOPM.2021.017>

46. Mohamed, M. J., Ahmed, M. D., Ali, M. H., Wafqan, H. M., Algaragolle, W., Al-Muttar, Y., & Flayyih, M. (2022). Skills and Project Manager's Perceptions Between the Association of Personal Characteristics and Project Success Indicators of the Construction Industry in Iraq. *JournalModernPM*, 10(30), 145-157. doi:1019255/JMPP03012
47. Tahir, M. (2019). The Effect of Project Manager's Soft Skills On Success of Project in the Construction Industry. *International Journal of Applied Research in Social Sciences*, 15, 197-203.
48. Alsaadi, N., & Norhayatizakuan. (2020). The Impact of Risk Management Practices on the Performance of Construction Projects. *Estudios de Economia Aplicada*, 39(4), 4-64. doi:<http://dx.doi.org/10.25115/eea.v39i4.4164>
49. Murad, M. H. (2018). Risk Management in relation to project success on the construction projects in UAE. *The British University in Dubai*, 1-66.
50. Ogunbero, A. O., Akintelu, S. O., & Olaposi, T. O. (2018). Application of Project Scope Management Practices on Project Success Among Telecommunication Organizations in Nigeria. *International Journal of Development and Sustainability*, 7(2), 518-532.