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Project Management Dynamics: Shaping Success in UK Construction Projects

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Abstract

This study investigates the effectiveness of sixty PMBOK (Project Management Body of Knowledge) project management strategies in mitigating construction conflicts and enhancing project outcomes within the UK's construction industry, which is a significant contributor to the nation's GDP. The methodology employs a quantitative analysis of survey responses from project managers with a minimum of two years of experience. A cohort of 27 project managers was surveyed, with 81% of the respondents. The prevalent industry practices and their correlation with project success were analyzed using descriptive and inferential statistics and SPSS to analyze the scope and understand the breadth and effects of different management strategies. The findings reveal a widespread adoption of project management strategies among UK construction project managers, with progress reports emerging as the most implemented practice, whereas bidders' conferences were the least utilized. Critical areas such as scope, schedule, cost, and integrated management were identified as having a substantial influence on the success of construction projects. Additionally, the data suggests that project managers who reported successful project outcomes over the past two years demonstrated a higher familiarity and usage rate of project management tools, techniques, and methodologies. The study's limitations and recommendations for future research were discussed. This study underlines the importance of effective project management practices in the UK construction industry and suggests pathways for future research to enhance industry practices, potentially influencing policy-making and professional guidelines. The study provides professional and academic implications, particularly for professionals interested in project management-critical outcomes in the UK construction sector. Overall, this study contributes to the understanding of exploring the adoption and impact of these project management practices within the UK construction sector and offers insights into whether specific strategies are more effective or prevalent in the sector.

Keywords

Project Management Practices, UK Construction Sector, Project Success, Project Management Knowledge Areas, Tools, and Approaches

1. Introduction

Every project manager wants to succeed, yet many external factors affect project outcomes (Musa et al., 2015). Despite frequent discussions, stakeholders rarely agree on project success. Sudhakar (2016) explains that project management is one of the key factors in project success if human concerns are ignored. Many writers claim that specialized project management methodologies should align with projects that match their characteristics to succeed since no two projects are identical (Ciric et al., 2021).

Research shows that project and project management success vary. In contrast to how the project performs in relation to the three project management constraints, time, cost, and quality, Cooke-Davis defines project success as evaluating the overall project aim. Despite their differences, both notions are related, and this research will focus on project success. Thus, a project is considered a failure if it exceeds its completion timeline, budget, objective, or stakeholder expectations. KPMG's 2015 worldwide construction study indicated that 69% of projects overran their budget by more than 10% owing to unanticipated events.

The UK's average construction dispute cost grew to £27.7 million in 2020, according to Arcadis (2021). A breakdown in construction can lead to construction conflicts and project failure. The 2020 increase was 117% from 2019, possibly due to the COVID-19 pandemic, although the main disagreement was party noncompliance with contractual responsibilities (Arcadis, 2021). They placed the UK as the fastest at resolving construction disputes, but the average dispute values year after year demonstrate that more should be done to improve project performance in this area.

Due to extensive research on project success and management success (Badewi, 2016; Haron et al., 2017; Njau & Omwenga, 2019; Tereso et al., 2018; Unegbu, 2020), consistently achieving project success would seem to be the norm, and high project failure rates would have decreased. The Institution of Civil Engineers recently funded a project that estimated the annual cost of avoidable building errors at £21 billion (New Civil Engineers News, 2017). What causes these projects to fail, and how can they be improved? According to Ling et al. (2009), poorly understood project management methods are one of several project failure factors. Lindner and Wald (2010) also noted that learning project management concepts may not be enough; what matters is the project manager's ability to use the correct tools and approaches throughout the project to achieve the best results.

Research suggests using the finest project management methods throughout a project ensures its success (Badewi, 2016). Kerzner (2015) also stated that the best project management strategies must be used to increase business value and advantages. Besner and Hobbs (2006) identified the most common project management practices among 70 tools and techniques, whereas Fernandes et al. (2013) identified the most important practices that affect project performance. Several more studies have shown how different sectors use project management.

Project management methods and their influence on project results have been more acknowledged by project managers and organizations in recent years (Kwak & Anbari, 2009; Badewi, 2016; Tereso et al., 2018). The PMBOK® guide outlines ten knowledge areas in project management, namely integration, scope, time, cost, quality, risk, human resources, communication, procurement, and stakeholder management. Each area encompasses multiple practices (Project Management Institute [PMI], 2017). This study examines the 60 project management practices outlined in the PMBOK and their impact on project results. However, to comprehend the influence of these project management strategies, it is necessary to ascertain which ones are often used and which ones are generally disregarded.

2. Literature Review

Several individuals have outlined initiatives in similar ways. In their study, Vitner et al. (2005) defined projects as well-organized endeavors involving the collaboration of human and non-human resources to accomplish specific goals. According to Thomas and Fernández (2008), projects require not only explicit goals but also a clearly defined start and end date, as well as a budget. Additionally, Collyer et al. (2010) further substantiated this perspective by defining a project as the organization of existing resources to achieve particular objectives through a sequence of activities with well-defined outputs and results.

Understanding project management is similarly vital within the framework of this course. Efficient project management is essential in industries that prioritize extensive initiatives, such as construction (Isik et al., 2008). The construction industry significantly impacts economic growth and the standard of living. Project management, a crucial subject in construction engineering, directly influences both aspects (Chou & Yang, 2012). Samset and Volden (2016) define project management as the strategic organization and allocation of resources to efficiently achieve project goals within budget and with high quality. According to the Project Management Institute (2017), project management is the use of techniques, methods, and tools to achieve project goals and meet stakeholder expectations. This definition will serve as the conceptual underpinning for this investigation.

Over the years, project management has evolved to prioritize the interconnections and impacts of different operational activities within a project. This evolution began in the military sector to address national security requirements

(Chou & Yang, 2012). Undoubtedly, the objective of project management is to enhance a project's value by achieving effective project delivery (Zulu, 2007).

The Project Management Body of Knowledge (PMBOK) is a framework used in project management to delineate encompassing knowledge and practices. It encompasses established conventional methods and new creative approaches (PMI, 2017).

Morris et al. (2006) emphasizes the significance of possessing a specialized body of knowledge exclusive to a professional group. To enhance the credibility of any profession, it is necessary to establish standardized practices. Consequently, the project management profession has undergone standardization, and its internationally recognized standards are extensively used in training and professional certification programs. Additionally, the Project Management Institute (PMI), the largest non-profit professional association in project management, was established in 1969 in the USA. They released the first edition of the PMBOK® Guide in 1996 (Jovanovic et al., 2015). This guide contributes to the standardization process by being officially recognized as a standard and by conveying intent (Crawford and Pollack, 2007). **Figure 1** displays the categorization of the 49 processes into five process groups and 10 project management knowledge domains.

Extensive studies have been conducted in various sectors and from diverse viewpoints regarding Project Management Key Areas (PMKAs). Zwikael (2009) conducted a study to examine the importance of nine PMKAs in project planning and their influence on project success. The findings indicated that resource, scope, risk, and time management had the most significant effects. Rocha et al. (2015) identified factors leading to project failure in the Portuguese construction industry. They examined PMKAs and determined their significance concerning project success. The study showed that time, cost, and quality were the most influential factors in determining project success. Pinto and Dominguez (2012) examined project management in 30 metalworking businesses in Portugal. Their findings indicated that procurement management was highly regarded, whereas integration and risk management were less important. Reviewing prior analogous research enhances comprehension of the topic and reveals encountered constraints. Applying these knowledge areas to construction projects with careful consideration may assist in achieving project goals (Zwikael, 2009).

Several empirical studies have examined the effects of frequently used project management tools, methods, and practices on project success. Research by White and Fortune (2002), Fernandes et al. (2013), and Besner and Hobbs (2006) are among the notable works. In their study, White and Fortune (2002) investigated the prevalence of 44 tools, techniques, methods, and methodologies. They discovered that "off-the-shelf" software, Gantt charts, and cost-benefit analysis were the three most frequently used tools. Besner and Hobbs (2006) conducted a study to ascertain the impact of project management approaches on

project success. They investigated the utilization of 70 tools and methods, revealing variations in their utilization on a 5-point scale ranging from 1.4 to 4.1. The progress report was the most often employed tool, while the Monte Carlo analysis was the least utilized tool. Table 1 displays the tools and procedures used in Besner and Hobbs' investigation, arranged in descending order of frequency.

	Project Management Process Groups				
Knowledge Areas	Initiating Process Group	Planning Process Group	Executing Process Group	Monitoring and Controlling Process Group	Closing Process Group
Project Integration Management	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Work 4.4 Manage Project Knowledge	4.5 Monitor and Control Project Work 4.6 Perform Integrated Change Control	4.7 Close Project or Phase
Project Scope Management		5.1 Plan Scope Management 5.2 Collect Requirements 5.3 Define Scope 5.4 Create WBS		5.5 Validate Scope 5.6 Control Scope	
Project Schedule Management		6.1 Plan Schedule Management 6.2 Define Activities 6.3 Sequence Activities 6.4 Estimate Activity Durations 6.5 Develop Schedule		6.6 Control Schedule	
Project Cost Management		7.1 Plan Cost Management 7.2 Estimate Costs 7.3 Determine Budget		7.4 Control Costs	
Project Quality Management		8.1 Plan Quality Management	8.2 Manage Quality	8.3 Control Quality	
Project Resource Management		9.1 Plan Resource Management 9.2 Estimate Activity Resources	9.3 Acquire Resources 9.4 Develop Team 9.5 Manage Team	9.6 Control Resources	
Project Communication Management		10.1 Plan Communications Management	10.2 Manage Communications	10.3 Monitor Communications	
Project Risk Management		11.1 Plan Risk Management 11.2 Identify Riska 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risk Analysis 11.5 Plan Risk Responses	11.6 Implement Risk Responses	11.7 Monitor Risks	
Project Procurement Management		12.1 Plan Procurement Management	12.2 Conduct Procurements	12.3 Control Procurements	
Project Stakeholder Management	13.1 Identify Stakeholders	13.2 Plan Stakeholder Engagement	13.3 Manage Stakeholder Engagement	13.4 Monitor Stakeholder Engagement	

Figure 1. Project management processes, process group, and knowledge areas. *Note*. A table of 46 processes grouped by knowledge areas and process groups. From *A guide to the project management body of knowledge* (*PMBOK guide*) (6th ed., p. 25) by Project Management Institute, 2017, Project Management Institute Inc. Copyright 2017 by Project Management Institute Inc.

Table 1. 70 project management tools used in decreasing the level of usage.

1	Progress report	25	Re-baselining	49	PM software for cost estimating
2	Kick-off meeting	**26**	**Cost/benefit analysis**	50	Database for cost estimating
3	**PM software for task scheduling**	27	Critical path method/analysis	51	Database of lessons learned
4	**Gantt chart**	28	Bottom-up estimating	52	Product breakdown structure
5	Scope statement	29	Team performance appraisal	53	Bidders' conferences
6	Milestone planning	30	Team-building event	54	Learning curve
7	Change request	31	Work Authorization	55	Parametric estimating
8	Requirements analysis	32	Self-directed work teams	56	Graphic presentation of risk
9	Work breakdown structure	33	Ranking of risks	57	Life cycle cost (LCC)
10	Statement of work	34	Financial measurement tools	58	Database of contractual commitment
11	Activity list	35	Quality plan	59	Probabilistic duration estimate
12	**PM software for schedule monitoring**	36	Bid documents	60	Quality function deployment
13	Lesson learned/post-mortem	37	Feasibility study	61	Value analysis
14	Baseline plan	38	Configuration review	62	Database of risks
15	Client acceptance form	39	Stakeholders' analysis	63	Trend chart or S-curve
16	Quality inspection	40	PM software for resource levelling	64	Control charts
17	**PM software for resource scheduling**	41	PM software for cost monitoring	65	Decision tree
18	Project charter	42	Network diagram	66	Cause and effect diagram
19	Responsibility assignment matrix	43	Project communication room	67	Critical chain method/analysis
20	Customer satisfaction surveys	44	Project Web site	68	Pareto diagram
21	Communication plan	45	Bid/seller evaluation	69	PM software for simulation
22	Top-down estimating	46	Database of historical data	70	Monte-Carlo analysis
23	Risk management documents	47	PM software multi-project scheduling/leveling		
24	Contingency plans	48	Earned value		

Note. From "The perceived value and potential contribution of project management practices to project success" by Besner, & Hobbs. 2006. Project Management Journal, 37(3), pp. 37–48. (https://doi.org/10.1177%2F875697280603700305). Copyright 2006 by C. Besner, & B. Hobbs.

The most prominent tools, as indicated in White and Fortune's analysis, are emphasized in bold. In a study by Fernandes et al. (2013), the objective was to demonstrate the advantages of using certain practices to improve project performance. The researchers examined 68 tools and approaches to identify the most effective ones. According to the data, the term "progress report" had the highest frequency of use, with an average score of 4.33. On the other hand, the term "Monte-Carlo analysis" had the lowest frequency of use, with an average usage of 3.01. The results of Fernandes et al. (2013) were consistent with the findings of Besner and Hobbs (2006). **Table 2** displays the top 20 tools according to Fernandes et al. (2013) and their ranking in Besner and Hobbs' (2006) analysis.

Table 2. Top 20 project management tools.

PM Practices	Position in Fernandes et al.'s study	Position in Besner & Hobbs' study
Progress report	1st	2nd
Requirements analysis	2nd	4th
Progress meetings	3rd	Not included
Risk identification	4th	14th
Project scope statement	5th	3rd
Kick-off meeting	6th	5th
Milestone planning	7th	11th
Work breakdown structure	8th	10th
Change request	9th	8th
Project issue log	10th	Not included
Gantt chart	11st	6th
Activity list	12nd	15th
Client acceptance form	13rd	20th
Risk response plan/Contingent plans	14th	18th
Project statement of work	15th	12nd
Communication plan	16th	-
Responsibility assignment matrix	17th	-
Baseline plan	18th	17th
Qualitative risk analysis	19th	19th
Project charter	20th	-

Note. From "Identifying useful project management practices: A mixed methodology approach" by G. Fernandes, S. Ward, & M. Araujo. 2013. *International Journal of Information Systems and Project Management, 1*(4), pp. 5-21. (http://doi.org/10.12821/ijispm010401). Copyright 2013 by G. Fernandes, S. Ward, & M. Araujo.

Besner and Hobb (2006) suggested that the use of reliable measurement tools and efficient project management techniques might enhance project success and generate value. Previous research has demonstrated a connection between project management practices and enhanced project performance. Project management methods have gained significant importance in many industrialized nations due to their successful adoption in various sectors and their efficacy and flexibility in achieving project success (Haron et al., 2017). They further recommended that for project management methods to affect the project's outcome, they must be utilized across all phases of the project and integrated with many other components.

3. Methodology

The dataset for this study was collected through a structured questionnaire with an internal validity of 0.78. It was distributed to project managers with at least two years of experience managing construction projects via email and an online Microsoft form. The collected dataset was analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics were used to summarize the data and provide a general understanding of the variables. Cronbach's Alpha was used to test the reliability of the questions. Inferential statistics, such as correlation analysis (Pearson and Spearman rank), were used to examine the relationships between project management practices and project success. The results will be presented in tables and graphs for easy interpretation.

4. Results

A cohort of 27 project managers was surveyed. Among them, fifteen fell within the age range of 30 to 39, constituting 55%. Additionally, seven project managers were aged between 40 and 49, accounting for 26% of the total. Together, these two age groups make up 81% of the respondents. Only 19% fell within the age bracket of 20 to 29 (refer to **Figure 2**).

Based on the findings in **Table 3**, it can be inferred that the questionnaire assessment produced consistent results for each participant in the research, indicating that the data-collecting instrument is reliable and may be replicated.

Table 3: Reliability estimate of the 60 Project management practices.

Table 4: Displays a correlation coefficient of 0.868, indicating a substantial positive link between the age of project managers and their years of experience.

Figure 3 reveals that 37% of the surveyed project managers had participated in the construction of projects over the last 2 years. Additionally, 52% of the respondents had overseen infrastructure projects, while 11% had handled other types of construction projects.

Figure 4 demonstrates that over half (56%) of the project completed in the last two years were commissioned by public sector customers, while private sector client commissioned 44%.

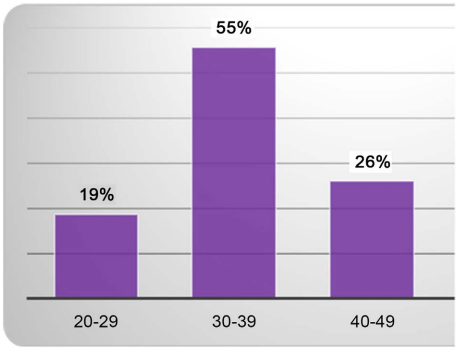

Figure 2. Age distribution of study participants.

Table 3. Reliability estimate of the 60 Project management practices.

Reliability Statistics		
Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
0.862	0.861	60

Table 4. Correlation between age and years of experience of the project managers.

Correlation between Age and Years of Experience			
		age	Years of experience
age	Pearson Correlation	1	0.868**
	Sig. (2-tailed)		<0.001
	N	27	27

**. Correlation is significant at the 0.01 level (2-tailed).

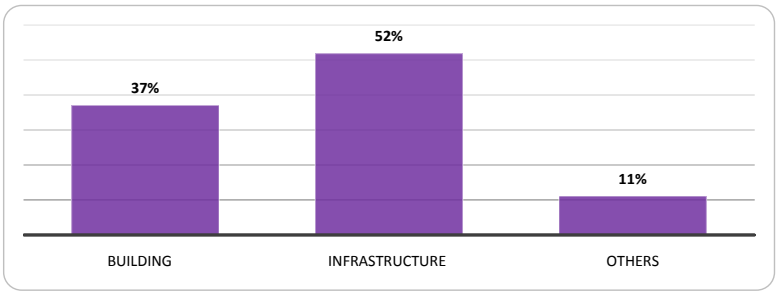

Figure 3. Types of projects managed within the last 2 years.

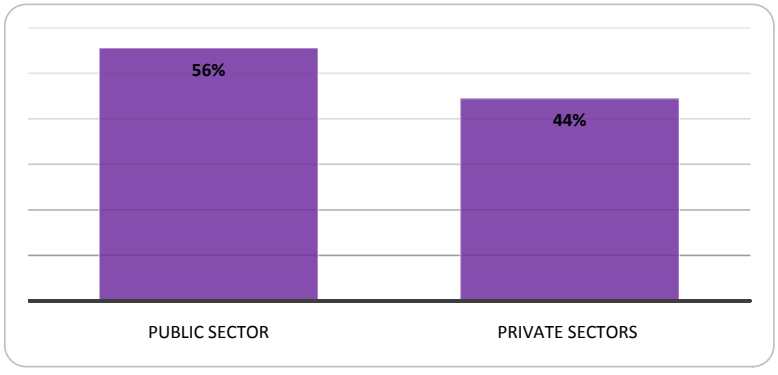

Figure 41. Types of clients on projects managed within the last 2 years.

Table 5 and Table 6 display the 20 most- and least-used methods employed by project managers in the United Kingdom's construction industry.

Table 7 demonstrates a robust and favorable association between project success and practices within the project integration management group, as indicated by a correlation value of 0.641. Consequently, utilizing project management approaches within this group has a positive effect on the project's outcome.

The data presented in Table 8 demonstrates a robust and positive link between project performance and the practices within the Project Scope Management category, as shown by a correlation value of 0.764. Furthermore, consistent use of techniques in this field of expertise benefits the project's result.

Table 5. Top 20 project management practices used by project managers.

Progress Report	Work Breakdown Structure
Activity List	Bottom-Up Estimating
Lessons Learned Register	Financial Measurement Tools
Gantt Chart	Quality Report
Scope Statement	Responsibility Assignment Matrix
Top-Down Estimating	Assumption Log
Customer Satisfaction Surveys	Project Management Plan
Kick-off meeting	Project Charter
Milestone Planning	Resource Breakdown Structure
Stakeholders' Analysis	Risk Analysis

Table 6. Bottom 20 project management practices used by project managers.

Bidders' Conferences	Change Control Process
Cost Estimate	Risk Audit
Parametric Estimating	PM Software for Cost Estimating
Team Charter	PM Software for Resources Levelling
Probabilistic Duration Estimate	Team-Building Activities
Project Management Information Systems	PM Software for Resources Scheduling
Cost/Benefit Analysis	Communication Methods
Cause & Effect Diagrams	Earned Value Analysis
Requirements Analysis	Database of Contractual Commitment
Team Member Rewards	Statement of Work

Table 7. Correlation between project success and project integration management.

Correlations between PS and PIM				
			PS	PIM
Spearman's rho	PS	Correlation Coefficient	1.000	0.641**
		Sig. (2-tailed)	.	<0.001
		N	27	27

**. Correlation is significant at the 0.01 level (2-tailed).

Table 8. Correlation between project success and project scope management.

Correlations between PS and PSM				
			PS	PSM
Spearman's rho	PS	Correlation Coefficient	1.000	0.764**
		Sig. (2-tailed)	.	<0.001
		N	27	27

**. Correlation is significant at the 0.01 level (2-tailed).

The correlation coefficient between project success and practices in the project schedule management knowledge area is 0.692, indicating a robust positive association between the two variables. Table 10 displays the findings from Table 9.

The results in Table 10 indicate a strong positive correlation between project success and the practices in the project cost management knowledge area with a correlation coefficient of 0.672.

The correlation coefficient between project success and practices in the project quality management knowledge area is 0.469, as shown in Table 11, and this indicates a moderately positive correlation between both variables. This indicates that practices in this knowledge area group do not have as much impact on project success as the practices in the knowledge area group with a strong positive correlation.

The results in Table 12 indicate a moderate positive correlation between project success and practices in the project resource management knowledge area with a correlation coefficient of 0.429.

The correlation coefficient between project success and PM practices in the project communication management group is 0.302, as shown in Table 13, and this indicates a weak positive correlation between both variables.

The results in Table 14 show that the correlation coefficient of project success and project risk management is 0.541 and this indicates a moderate correlation between the two variables.

Table 15 reveals a correlation coefficient of 0.291 between project success and project management practices within the project procurement management knowledge area, indicating a slight positive relationship between the two variables.

The results in Table 16 indicate a moderately positive correlation between project success and practices in the project stakeholder management knowledge area, with a correlation coefficient of 0.420.

Research question two is addressed by establishing a positive association between project management practices and project success. This implies that significant utilization of these practices will result in a favorable influence on the project's outcome. The observation arises from the fact that all project management practices, when evaluated against the criteria for project success, showed a

positive correlation coefficient. Among the knowledge areas, project integration, scope, schedule, and cost management exhibited the strongest positive correlation, while project quality, resource, risk, and stakeholder management showed a moderate positive correlation. On the other hand, project procurement and communication management knowledge areas displayed a weak positive correlation. Figure 5 displays the project management knowledge areas arranged in descending order of use.

Table 9. Correlation between project success and project schedule management.

Correlations between PS and PScM				
			PS	PScM
Spearman's rho	PS	Correlation Coefficient	1.000	0.692**
		Sig. (2-tailed)	.	<0.001
		N	27	27

**. Correlation is significant at the 0.01 level (2-tailed).

Table 101. Correlation between project success and project cost management.

Correlations between PS and PCM				
			PS	PCM
Spearman's rho	PS	Correlation Coefficient	1.000	0.672**
		Sig. (2-tailed)	.	<0.001
		N	27	27

**. Correlation is significant at the 0.01 level (2-tailed).

Table 11. Correlation between project success and project quality management.

Correlations between PS and PQM				
			PS	PQM
Spearman's rho	PS	Correlation Coefficient	1.000	0.469*
		Sig. (2-tailed)	.	0.014
		N	27	27

*. Correlation is significant at the 0.05 level (2-tailed).

Table 12. Correlation between project success and project resource management.

Correlations between PS and PRM				
			PS	PRM
Spearman's rho	PS	Correlation Coefficient	1.000	0.429*
		Sig. (2-tailed)	.	0.026
		N	27	27

*. Correlation is significant at the 0.05 level (2-tailed).

Table 13. Correlation between project success and project communication management.

Correlations between PS and PCmM				
			PS	PCmM
Spearman's rho	PS	Correlation Coefficient	1.000	0.302
		Sig. (2-tailed)	.	0.126
		N	27	27

Table 14. Correlation between Project Success and Project Risk Management.

Correlations between PS and PRkM				
			PS	PRkM
Spearman's rho	PS	Correlation Coefficient	1.000	0.541**
		Sig. (2-tailed)	.	0.004
		N	27	27

**. Correlation is significant at the 0.01 level (2-tailed).

Table 15. Correlation between project success and project procurement management.

Correlations between PS and PPM				
			PS	PPM
Spearman's rho	PS	Correlation Coefficient	1.000	0.291
		Sig. (2-tailed)	.	0.141
		N	27	27

Table 16. Correlation between project success and project stakeholder management.

Correlations between PS and PStM				
			PS	PStM
Spearman's rho	PS	Correlation Coefficient	1.000	0.420*
		Sig. (2-tailed)	.	0.029
		N	27	27

*. Correlation is significant at the 0.05 level (2-tailed).

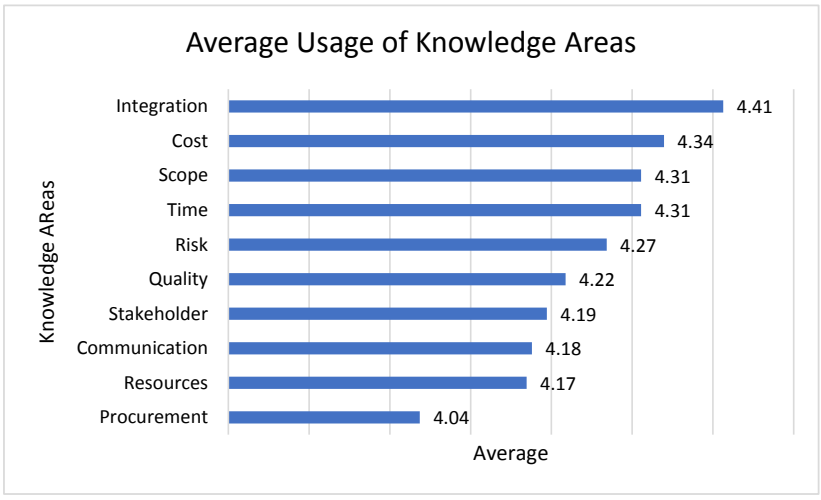

Figure 5. Project Management Knowledge Areas in decreasing order of usage.

The findings demonstrate that implementing optimal project management methodologies can lead to project success, consistent with previous studies (Besner & Hobb, 2006; Papke-Shields et al., 2010; Patanakul et al., 2010) that assert employing optimal project management practices influences project outcomes.

5. Discussion

The primary objective of this chapter was to address the research questions and provide a thorough understanding of the findings. The analysis revealed that most project managers fall within the middle-age range and hold at least a university degree in engineering or management, along with a project management certification. Additionally, the findings demonstrated a significant correlation between the age of project managers and their years of experience. Descriptive data was analyzed to assess the utilization of project management methods by project managers in the United Kingdom's construction sector.

The study examined 60 project management techniques and their frequency of use. The findings indicated that the most used project management technique is the "progress report," followed by the activity list, lessons learned register, Gantt chart, and scope statement. This outcome was anticipated and aligns with the findings of previous studies conducted by Besner and Hobbs (2006), Fernandes et al. (2013), and Tereso et al. (2019), which also identified progress reports, Gantt charts, and scope statements among the top five most utilized methods.

This study presents a concise overview of the 20 most frequently used techniques and the 20 least often employed practices in project management, revealing that bidders' conferences are the least utilized technique, followed by cost estimating, parametric estimating, team charter, and kick-off meetings. These findings are consistent with prior research highlighted in the literature, which also identifies many techniques in the highest and lowest categories as being cost-effective and ineffective, respectively, though not necessarily ranked in the same order.

The association between project success and project management techniques, categorized into knowledge domains, was critically analyzed, with the results arranged in descending order of usage. The study found that scope, schedule, cost, and integration have the highest association with project success, indicating their significant influence. Project managers who achieve success are more likely to employ methods within these knowledge areas than their less successful counterparts. This finding aligns with the conventional method of evaluating project success, which considers the ability to meet the triple constraint criteria: time, money, and scope (Papke-Shields, 2010; Turner, 1993).

Zwikael (2009) identified integration and scope as the most crucial knowledge areas within construction and engineering organizations. Additionally, the study revealed a moderate connection between project success and the management of

quality, resources, and stakeholders, which is considered substantial enough to impact project performance. A limited association was found between procurement, communication management, and project success, underscoring the often-underestimated role of communication in project success.

Contrary to this expectation, research conducted by Ikediashi et al. (2014) and Eja and Ramegowda (2020) demonstrates that ineffective communication contributes significantly to project failures.

6. Conclusion

The study focuses on the importance of adaptability in project management, which is critical in dynamic construction projects. It emphasizes the importance of taking organizational and institutional contexts into account when managing projects to increase industry productivity. This study emphasizes how critical adaptation is to project management, especially in the dynamic and unpredictably changing environment of construction projects. According to the findings of the research, project managers that employ adaptable strategies and procedures are more successful in achieving success in their projects leading to improved results and heightened industrial efficiency.

The study found that the most significant associations were found for scope, schedule, cost, and integration, showing their significant impact on project success. This strategy is very beneficial since it encourages quick communication and flexible resource distribution. The analysis revealed that more adaptable project management correlated to higher improvements in on-time completion rates and lower cost overruns than less adaptable management techniques.

7. Recommendation

Particular emphasis should be placed on practices within procurement knowledge areas, which exhibited the lowest average usage. To improve project performance through the implementation of project management best practices, the first recommendation is to ensure that all project management (PM) practices are consistently applied to achieve success.

Furthermore, conducting comparable research on a larger scale, focusing on leading construction firms in the United Kingdom, and comparing the results is recommended, as the current study examined construction projects completed in the United Kingdom without singling out any specific company. Future research should target project managers at large construction firms in the United Kingdom, with a large sample size, to provide more clarity regarding the magnitude of utilization.

8. Limitation

The study relies on an exploratory literature review and correlation analysis, which may limit the generalizability of its findings. Furthermore, the research primarily focuses on the UK construction industry, which means its conclusions

may not be applicable to other industries or regions. Additionally, the exploratory nature of the study might not yield statistically significant results or definitive conclusions.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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