

Managing Distance and Delivery: A Thematic Synthesis of IT Project Managers' Experiences Managing Agile Projects in Remote Work Settings

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ABSTRACT This paper examined the challenges and benefits of IT project management in remote work environments. This systematic review synthesizes findings from 12 reviewed papers focusing on Agile methodologies, specifically Kanban, Extreme Programming (XP), and Scrum, in the context of IT project management within remote work environments. Utilizing the PRISMA framework for systematic reviews and the CASP checklist for quality assessment, this study aims to identify the benefits and challenges associated with these methodologies when applied remotely. The review process involved a comprehensive search of databases for relevant literature published from 2015 up to 2024. Each paper was evaluated based on its adherence to Agile principles and its insights into remote work dynamics. The selected studies were analyzed for common themes regarding effectiveness, team collaboration, communication barriers, and project delivery outcomes. The analysis revealed that Agile methodologies offer significant benefits in remote settings, including enhanced flexibility, improved team autonomy, and faster feedback loops. However, challenges such as communication difficulties, time zone differences, and maintaining team cohesion were also prevalent. Kanban was noted for its visual workflow management advantages; XP emphasized continuous integration; while Scrum highlighted structured sprints that can be adapted to remote contexts. Overall, while Agile practices can enhance project management efficiency in remote environments, organizations must proactively address inherent challenges to fully leverage their potential. Future research should focus on developing strategies to mitigate these challenges effectively.

KEYWORDS: IT Project Management, Agile, Kanban, Scrum, Extreme Programming, Remote Work Environment.

I. INTRODUCTION

The trend toward remote work has been increasing in recent years, and the COVID-19 pandemic has accelerated this shift [3;30]. Consequently, managing IT projects remotely has become a critical area of focus. This study examines the key elements, challenges, and best practices of remote IT project management [17; 29]. Pandemic-related business and industry closures created significant disruptions for both employers and employees [26;1]. Organizations have since adopted diverse workplace practices, including fully remote, in-office, and hybrid models [25]. Remote work offers benefits such as increased productivity, flexible schedules, shorter commutes, and more comfortable work environments, while in-office work provides social interaction and structured routines [25]. However, remote work also presents challenges, including reduced social contact, potential distractions, blurred work-life boundaries, and unsuitable home workspaces. These factors influence employee experiences and the advantages and disadvantages of different work arrangements. Project managers play a central role in ensuring IT projects are completed on time and within budget, overseeing teams, defining objectives, monitoring progress, managing

risks, delegating tasks, and coordinating with stakeholders [18; 23]. Their effectiveness is especially crucial in IT initiatives, as it impacts both project outcomes and organizational performance [22]. This study explores how IT project managers have responded to the rise in remote work and the strategies they have adopted to overcome associated challenges. By identifying emerging themes and patterns, the research offers insights into evolving remote work demands and informs creative solutions and practices for managing IT projects in virtual environments. The findings will be valuable for organizations transitioning to remote work and for IT project managers seeking to enhance their remote project management skills. The shift toward remote work has transformed IT project management, offering both significant benefits and notable challenges [21]. While existing research has largely focused on traditional onsite work environments, there is limited understanding of how remote work impacts IT project processes and outcomes [11; 19]. Remote work can enhance productivity, efficiency, flexibility, cost savings, and work-life balance [27], yet it also introduces challenges such as communication barriers, oversight difficulties, technology dependence, cultural differences, and potential team isolation. Recent studies highlight gaps in understanding the effects of remote work on IT project administration and team collaboration [5; 15; 13; 31]. Although the advantages and difficulties of remote work have been examined, there is a clear need to investigate specifically how it influences IT project success, team dynamics, and managerial effectiveness. Addressing these gaps will inform strategies and best practices for effective remote IT project management. The purpose of this study is to investigate the effects of remote work on IT projects, including the effects on team dynamics and communication as well as the identification of useful tactics that project managers might employ. Based on project managers' experiences, the study will offer best practices for IT project management. By fulfilling the research goal, this study hopes to add to the corpus of information already in existence and offer insights into efficient project management techniques in a remote work setting.

II. RELATED WORKS

This section reviews prior research that are related to the themes considered in this study to provide academic context.

A. Distributed Leadership Adaptation

As reported in a systematic review of 1,013 European studies [36], defined IT project management as the discipline of planning, organizing, overseeing, and controlling IT projects to ensure successful completion. It involves managing resources, timelines, budgets, and teams to deliver initiatives within a defined scope. IT project managers must understand operating systems, networks, software, and service desk operations to communicate effectively with technical experts and stakeholders. Their skill set is tailored to solving complex technical problems while ensuring projects achieve business objectives and bring value to the organization. [12] emphasized that IT projects require careful management to meet objectives, given their scale and technological complexity. IT projects typically involve phases such as planning, design, execution, and post-implementation maintenance. Examples include database administration, mobile app development, network configuration, software creation, and website deployment. [39] noted that virtual teams are often critical for IT projects, allowing organizations to leverage distributed skills and expertise. However, virtual teams face challenges such as trust-building, cultural differences, and effective engagement during online meetings.

B. Digital Trust Formation (DTF)

DTF, also referred to as teleworking or remote work, has become widespread during the COVID-19 pandemic. Studies [2; 41; 34] show mixed effects on productivity, with some developers reporting gains while others report declines. DTF offers flexibility, improved work-life balance, cost savings, and the ability to collaborate across time zones, but it can also lead to work-life conflict, stress, and reduced social interaction. Successful DTF requires adequate planning, ergonomic setups, and frequent communication between managers and remote employees. Remote work has become essential for global business operations, accelerated by the COVID-19 pandemic [40;31]. Virtual IT teams face unique challenges, including time zone differences, cultural disparities, communication issues, and reduced social engagement [16]. Regular virtual meetings and social activities are critical to maintain team cohesion. [6] highlighted that supervisor support and employee self-efficacy can mitigate stress and improve job satisfaction and performance in remote IT projects.

C. Visibility and Accountability Mechanisms

Despite its benefits, remote work presents several challenges: Social isolation and lack of support, particularly for women in software engineering [24]. Ineffective communication, poor performance monitoring, and insufficient staff skill development. Cultural differences, trust issues, and technological dependence. Technical problems, such as unreliable internet access or inadequate software tools, can impede project progress. Overall, while remote IT project management offers increased flexibility, productivity, and access to global talent, it also requires careful planning, technological support, and strong communication strategies to mitigate the unique challenges of virtual teams [44].

D. Gap in Literature

From the review of literature, several gaps were identified in the studies reviewed in this paper. Most studies undermined heterogeneity in terms of IT project management and variations in remote work environment. The study review shows discrepancies in the characteristics of participants as they only focused on IT project management. No study was reviewed from the Middle East due to the paucity of research evidence on this subject area. The majority of studies were mostly made up of systematic reviews using qualitative designs as such, study reviewed are contingent on other studies literature reviews and not primary data sources. Though the literature reviewed were current, this does not guarantee that some important studies will not be ignored by virtue of date of publication which may lead to over-presentation of particular patterns. Several sections primarily summarize existing literature rather than critically synthesizing it. For instance, the benefits of remote working largely restated, and communication challenges are reiterated without deeper analytical comparison. While these summaries provide useful context, they do not sufficiently integrate findings across studies. Stronger synthesis would involve identifying contradictions or inconsistencies in the evidence, evaluating the relative strength and quality of the studies cited, and highlighting methodological limitations that may influence findings. Comparing study designs, sample characteristics, and analytical approaches would allow for a more nuanced interpretation of results and a clearer understanding of where the evidence is robust or inconclusive.

E. Search Strategy

This study will employ a systematic approach to gather a comprehensive and diverse body of literature relevant to IT project management in remote work environments. The search will utilize the PICO framework (Population, Intervention, Comparison, Outcome) as developed by [33] to guide the identification of relevant studies. Databases to be searched include ResearchGate, PsycINFO, Cochrane Library, and Google Scholar, using keywords such as “IT”, “Information Technology in Project Management”, “project management”, “remote work”, “work from home”, “work environment”, “benefits of IT in project management”, “virtual teams”, and “employees in remote working”. The search will focus on peer-reviewed publications between 2015 and 2024. Selection criteria will include relevance of the study’s title, abstract, publication date, and methodology. Only studies conducted in Asia, Africa, and Europe will be considered to ensure contextual diversity and applicability.

F. Theoretical Framework: Agile Project Management

Agile project management emerged from the publication of The Agile Manifesto in 2001 [8]. Its origins can be traced to lean and flexible manufacturing systems from the early 1990s [35], and its application in software development was popularized by Jim Highsmith in 2004 [20]. Agile emphasizes iterative development, collaboration, adaptability, and customer value, contrasting with traditional linear project management approaches [9; 14]. The Agile Manifesto prioritizes, individuals and interactions over processes and tools that is, working software over comprehensive documentation and customer collaboration over contract negotiation and responding to change over following a rigid plan [7].

(a). Application of Agile Principles in Remote Work Environments

Agile principles can be adapted to remote work to overcome challenges posed by physical distance. Key strategies include: Platforms like Zoom, Microsoft Teams, and Slack facilitate real-time communication, daily stand-ups, and collaborative decision-making, by making teams work in short sprints (2–4 weeks) to produce incremental outputs, allowing rapid adjustments in response to stakeholder feedback and user-centric focus that offers continuous feedback through virtual surveys, online testing, and remote user engagement ensures deliverables align with user needs. Despite its benefits, Agile in remote settings presents specific challenges; communication barriers often leading to misunderstandings are more likely without in-person interactions, requiring clear digital communication protocols. Scheduling across international teams can be difficult; asynchronous communication should complement synchronous meetings and building trust and relationships remotely requires intentional virtual team-building activities leading to limited visibility can make oversight challenging. Agile project management offers a flexible, iterative, and user-focused framework that is well-suited for IT projects in remote work environments. Its successful implementation, however, requires careful attention to communication, team dynamics, and cultural inclusivity to overcome the challenges posed by physical distance and distributed workforces.

(b). Comparative Analysis

Agile and Waterfall methodologies demonstrate contrasting effectiveness in remote work environments. Agile approaches, with their iterative cycles, frequent communication, and adaptability, tend to align well with distributed teams that rely on continuous feedback and collaborative tools. However, they can face challenges when informal interactions are limited. In contrast, Waterfall’s structured, sequential phases and detailed documentation may provide clarity and stability in remote settings, but its rigidity can reduce responsiveness to change, which is often

critical in dynamic projects. Hybrid methodologies combine elements of both Agile and Waterfall to leverage their respective strengths. In remote contexts, hybrid models often retain Waterfall's upfront planning and documentation while incorporating Agile's iterative development and regular check-ins.

This blended approach can help teams maintain structure while remaining flexible, particularly when project requirements evolve or when coordination across distributed stakeholders is required. Across methodologies, several common patterns emerge. Effective communication, clear role definition, and strong documentation consistently influence project success in remote environments. Additionally, the use of collaborative digital tools and structured feedback mechanisms appears to mitigate distance-related challenges. Overall, adaptability, transparency, and alignment between process and team context are key determinants of effectiveness, regardless of the specific methodology employed.

Using Agile as an analytical framework provides a deeper theoretical contribution beyond project management practice. From a remote leadership perspective, Agile reframes leadership as facilitative and trust-enabling rather than supervisory, aligning with distributed leadership models that emphasize empowerment, transparency, and shared accountability. Through the lens of socio-technical systems theory, Agile highlights the interdependence between digital collaboration tools (technical subsystem) and team norms, communication rituals, and adaptive behaviors (social subsystem), suggesting that performance in remote contexts emerges from their alignment rather than from process design alone. Furthermore, Agile's emphasis on iterative feedback and visibility mechanisms (e.g., sprint reviews, backlogs) contributes to the literature on trust in distributed teams by institutionalizing predictability and competence-based trust through structured interactions. Finally, Agile informs digital governance by demonstrating how lightweight controls, clear role definitions, and transparent workflows can replace hierarchical oversight with process-based accountability, offering a model of governance suited to digitally mediated, geographically dispersed organizations.

III. METHODOLOGY

A. Research Approach

This study adopts a qualitative approach, focusing on understanding human experiences, behaviors, and social phenomena within IT project management rather than quantifying them numerically. Qualitative research is exploratory and emphasizes data richness, context, and meaning, contrasting with quantitative methods that measure variables and establish statistical relationships. Frameworks such as PICO (Population, Intervention, Comparison, Outcome) [33] and PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis; [32] guide the formulation of objectives and inclusion/exclusion criteria. While meta-analyses can statistically integrate findings across studies, this review emphasizes qualitative synthesis to capture context-specific insights.

B. Research Question

The response of IT project managers to the significant rise in remote work will be the focus of this study. The following research issues would be addressed by the study:

RQ1: How has the increase in remote work benefited or impacted IT projects?

RQ2: How have project managers responded to the challenging increase in remote work?

C. Research Strategy

Two primary approaches in research are inductive and deductive. Inductive research develops theories from patterns in data, while deductive research tests pre-existing theories through

observation. This study adopts a deductive perspective, evaluating how IT influences project management, particularly through Agile, Scrum, Kanban, and Extreme Programming methodologies. This approach allows testing existing theories about IT project management while expanding understanding of their application in remote work environments.

D. Study Design

This research employs a systematic review with qualitative thematic synthesis that offers evidence-based insights that inform organizational policies and management practices, identify research gaps, and highlight areas for future investigation [45]. Challenges include variability in study design, populations, and methodologies, as well as the potential overrepresentation of studies with positive findings. Nonetheless, rigorous procedures minimize bias and enhance the reliability of conclusions.

E. Method of Data Collection

Data collection in systematic reviews is critical for accurate, transparent, and unbiased synthesis [42]. This study uses secondary data from literature published between 2015 and 2024 to examine the advantages and challenges of IT project management in remote work settings. Structured steps were followed, including:

1. Identification of data sources
2. Planning of data extraction
3. Execution of data extraction
4. Documentation of study characteristics
5. Ensuring data quality
6. Addressing discrepancies in findings

This approach ensures that the synthesis is comprehensive, reliable, and minimizes human error or bias.

F. Ethical Considerations

This study draws on publicly accessible documents for the systematic review, eliminating the need for formal institutional ethics approval. Nonetheless, ethical considerations in the reviewed literature were carefully addressed. The review consolidates evidence while maintaining inclusivity, transparency, and respect for diverse perspectives [10]. Potential conflicts of interest were identified and disclosed, and the study was independently funded by the researcher, ensuring neutrality. Ethical principles upheld in this systematic review include independence, fairness, impartiality, respect for rights, and reflexivity. The review process employed stringent search strategies, clear objectives, and inclusion/exclusion criteria to minimize bias, while presenting a balanced discussion of findings, including less commonly cited studies. Search Strategy

A structured search strategy was implemented to collect a significant volume of literature supporting the research problem, guided by the PICO framework [33]. Primary databases searched included: Cochrane Controlled Trials Database, Public Library of Science (PLOS), BioMed Central, Scopus, and PubMed. The search considered study titles, abstracts, publication dates, and methodologies to identify relevant literature. This structured process ensures a systematic, transparent, and reproducible collection of studies for analysis.

Table 1: The PICO Framework

Population	Functional Organization, Matrix Organization, Projectized Organization, Composite Organization.
Intervention	Agile Project Management (Kanban, Scrum, Extreme Programming)
Comparison	Waterfall or Linear project management. One of the most common project management methodologies is Linear, often referred to as Waterfall, Agile (or Iterative) project management. Lean project management. Scrum project management and Kanban project management.
Outcome	Project management methodologies like Agile help project managers lead team members and manage work while facilitating team collaboration.
Setting	Majority of the studies were conducted in Europe and Asia

The PICO framework is used to assist in creating the search strategy by identifying the essential topics the research question aims to address.

G. Database Search Procedure

Each article retrieved for this study was critically assessed using the Critical Appraisal Skills Programme (CASP) checklist [39], developed by Dr. Burls in 1993. The CASP checklist allows researchers to systematically evaluate literature, providing evidence on a subject area by assessing study design, methodology, interventions, data collection methods, and outcomes. All selected articles were electronically stored on the researcher’s backup hard drive as a record of the critical review process. Key data extracted from each publication; including the number of participants, research interventions, procedures, measurement methods, and outcomes are summarized in Table 2 enabling a structured overview of each study included in the review. Following the application of the PICO framework and CASP appraisal, 27 articles were initially identified. After careful evaluation against the inclusion criteria, **21 articles** were selected for inclusion in the study. The detailed data extraction table is provided in Appendix 1. This rigorous procedure ensured that the studies included in the review were methodologically sound, relevant to the research topic, and capable of providing reliable evidence on IT project management in remote work environments.

Table 2: Showing the Database Search Procedure

Database	Search Dates	Inclusion Year	Search Result	Excluded	Included
PLOS	11//11/24	2015-2024	8	6	2
Bio-Med Central	12/11/24	2015-2024	12	9	3
Scopus	12/11/24	2015-2024	6	3	3
ResearchGate	14/11/24	2015-2024	8	4	4
TOTAL					12

H. Inclusion and Exclusion Criteria

To ensure the relevance and currency of the study, publications prior to 2015 were excluded. Earlier studies were referenced only in the introduction to provide historical context, define key concepts, and explain theoretical foundations. This review incorporates a diverse range of study types to provide a comprehensive understanding of IT project management in remote work settings. Included studies consist of: Empirical investigations; Longitudinal studies; Meta-

analyses; Conference papers; Journal articles; Systematic reviews; Correlational studies; Theoretical frameworks; Quantitative and qualitative research and Cohort studies. Detailed information on the inclusion and exclusion criteria for each study is presented in Table 3.

Table 3: Inclusion and Exclusion Criteria in the Systematic Review

PICO	INCLUSION CRITERIA	EXCLUSION CRITERIA
Population	Studies that focus on IT project management specifically within remote work environments.	Studies that do not specifically address IT project management or are focused on non-remote work environments.
Intervention	Research articles published in peer-reviewed journals from 2015 to 2024.	Studies that do not specifically address IT project management or are focused on non-remote work environments.
Comparison	Research focusing on IT sectors or unrelated fields such HR management with a clear link to IT project management.	Research focusing on non-IT sectors or unrelated fields such as education or healthcare without a clear link to IT project management..
Outcome	Significant positive impact influence of IT project management in remote working environment.	Articles that are opinion pieces, editorials, or non-research-based publications (e.g., blogs, white papers)..
Setting	Studies conducted whose participants from Europe, United Kingdom, United States of America, and Asia were eligible for this.	Studies conducted in the Caribbean’s, South-America, Africa and Middle-East were excluded.

I. Study Selection: Implementing Inclusion and Exclusion Criteria

All articles were thoroughly screened in accordance with the inclusion and exclusion criteria outlined in Table 3. Only studies published between 2015 and 2024 were considered, as publications prior to 2015 were deemed insufficiently current for this review. The review encompasses a wide variety of study types to ensure a comprehensive perspective on IT project management in remote work contexts. Included studies comprise: Theoretical frameworks, Quantitative and qualitative research, Systematic reviews; Correlational studies; Conference papers; Journal articles; Empirical studies; Longitudinal studies; Meta-analyses; and Cohort studies

(a). Quality Assessment (QA)

Quality assessment was conducted to ensure the reliability, validity, and relevance of the included studies. This was achieved through a structured data extraction process, a fundamental step in systematic reviews that involves identifying, collecting, and organizing relevant information from each study [43; 42]. The primary purpose of the data extraction process in this study is to ensure that the gathered information is accurate, credible, and directly relevant to the research objectives and questions.

(b). Template for Quality Assessment

To accommodate various study designs, CASP checklists are used while doing quality assurance (QA) utilizing the data that was taken from the article under review. A template that describes how this study evaluates each study according to particular criteria may be found in Table 4.

Table 4: CASP Checklists

Study Type	Study Reference	Criteria 1: Clear Aim	Criteria 2: Appropriate Methodology	Criteria 3: Sample Size Adequacy	Criteria 4: Validity of Results	Overall Score (out of 10)
Systematic review	[39]	Yes	Yes	No	Yes	7
Systematic review	[24]	Yes	Yes	No	Yes	6
Systematic review	[46].	Yes	Yes	Yes	Yes	8
Systematic review and meta-analysis	[31]	Yes	Yes	No	Yes	9
Systematic review	[36]	Yes	Yes	No	No	8
Systematic review	[34]	Yes	Yes	No	Yes	8
Systematic review	[2].	Yes	Yes	No	Yes	7
Scoping Review	[16]	Yes	Yes	Yes	No	8
Systematic review	[40]	Yes	Yes	No	Yes	8
Qualitative analysis	[41]	Yes	Yes	Yes	Yes	9
Systematic Review	[12]	Yes	Yes	Yes	Yes	9
Systematic Review	[6]	Yes	Yes	Yes	Yes	9

J. Data Synthesis

The data synthesis for this systematic review was conducted using thematic analysis, following the five-step approach proposed by [4]:

- (a). Familiarization with the Data: Relevant articles that met the research question were selected, and the content was carefully read to gain a comprehensive understanding of the material.
- (b). Generating Initial Codes: Salient features of the data were systematically coded. Specific textual passages were identified and labelled with codes that captured their meaning. This step allowed the data to be broken down into manageable units for further analysis.
- (c). Searching for Themes: The generated codes were examined for patterns and grouped into broader, overarching themes. Themes represent key ideas that emerge from the data and provide a higher level of abstraction than individual codes.

- (d). Reviewing Themes: Each theme was reviewed to ensure it accurately reflected the data and represented the underlying content across studies. Inconsistencies or overlaps were refined during this process.
- (e). Defining and Naming Themes: Each theme was clearly defined, described, and named to articulate its significance and contribution to understanding the impact of IT project management in remote work environments. This structured approach ensured that insights from the literature were systematically extracted, synthesized, and presented in a coherent manner.

K. Critical Synthesis

Several sections primarily summarize existing literature rather than critically synthesizing it. For instance, the benefits of working from home (WFH) are largely restated, and communication challenges are reiterated without deeper analytical comparison. While these summaries provide useful context, they do not sufficiently integrate findings across studies. Stronger synthesis would involve identifying contradictions or inconsistencies in the evidence, evaluating the relative strength and quality of the studies cited, and highlighting methodological limitations that may influence findings. Comparing study designs, sample characteristics, and analytical approaches would allow for a more nuanced interpretation of results and a clearer understanding of where the evidence is robust or inconclusive.

L. Limitations of the Research / Risk of Bias

While qualitative systematic reviews provide rich insights, they are subject to several limitations and potential biases. One of such is the interpretations of qualitative data from interviews, focus groups, or open-ended surveys can be subjective, which may lead to unintentional bias in coding and theme generation [38]. The included studies often employed similar qualitative methodologies, which can make cross-study comparisons challenging and introduce variability that complicates synthesis. Many studies focus on specific populations or settings. For example, findings derived from experienced IT project managers may not apply to younger or less experienced managers or to different cultural and organizational contexts [28]. Positive or significant findings were published than negative or inconclusive results. This bias can overstate the perceived effectiveness of IT project management in remote work environments. Also the lack of standardized metrics for assessing outcomes, making it difficult to quantify the impact of IT project management practices and to compare results across studies. Despite these limitations, qualitative systematic reviews remain invaluable for understanding complex phenomena, providing nuanced insights into IT project management practices in remote environments. Careful consideration of these biases and limitations is essential when interpreting the findings.

IV. RESULTS AND DISCUSSION

All studies were qualitative research ($n = 12$) and published between 2015 and 2024. All twenty-one studies were obtained from ResearchGate, PsycINFO, the Cochrane Library, and Google Scholar. After inclusion/exclusion criteria met only twelve studies met the criteria for inclusion in this study. All studies reviewed were qualitative research ($n = 12$) and published between 2015 and 2024. All 12 studies were conducted in UK, Europe; [46; 31; 36; 34; 2; 16; 40] and Asia, [39]; 24; 12 and 6]. All participants were recruited from studies that conducted systematic reviews ($n = 12$). A variety of methodologies were used including thematic analysis ($n = 4$), deductive qualitative

analysis (n=3) and a range of analyses, including framework analysis (n=3) and NVIVO qualitative data analysis (n = 2).

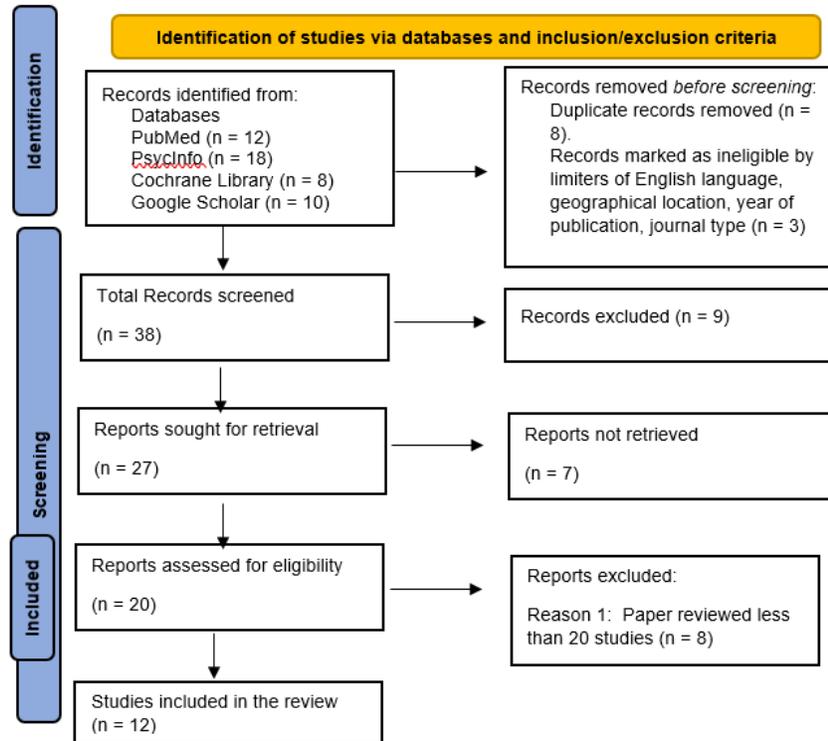


Figure 1: PRISMA Flow Diagram Illustrating the Identification, Screening, Eligibility, and Inclusion of Studies

A. Findings and Thematic Analysis

The data obtained from the review indicate a high degree of consistency across study outcomes, as the studies primarily focused on IT project managers and professionals managing remote work. Several studies reported the use of combined IT project management methodologies, reflecting a hybrid approach tailored to organizational needs. For instance, methodology combinations observed:

- i. Kanban, Scrum, and Six Sigma (n = 6)
- ii. Health models alongside Scrumban, Scrum, Critical Path, Waterfall
- iii. XP, Scrum, Lean, Critical Chain, and PMBOK

Overall, the review suggests that IT project management techniques are effective in overseeing remote work environments, enhancing both productivity and project outcomes. The thematic analysis yielded six main themes:

- i. Theme 1: Distributed Leadership Adaptation refers to the systematic planning, organization, and execution of information technology initiatives.
- ii. Theme 2: Visibility and Accountability Mechanisms involves delivering IT services to individuals, businesses, and employees or improving organizational processes and services.

- iii. Theme 3: Digital Trust Formation (DTF): DTF enables employees to interact and collaborate remotely using laptops or PCs connected to the internet and business software.
- iv. Theme 4: IT Project Management in Remote Work: Remote IT project managers oversee projects from home or other locations with internet connectivity, rather than in an office environment.
- v. Theme 5: Benefits of Remote Work: Greater flexibility to exercise and maintain healthy eating habits, contributing to overall wellness.
- vi. Theme 6: Challenges of Remote Work: Remote work also presents challenges that may impact employee well-being and productivity such as, difficulty establishing boundaries between personal and professional life due to the lack of physical separation, risk of working longer hours or feeling perpetually “on”.

B. Findings and Discussion

The systematic review indicates that IT project management in remote work enhances team participation and communication. Digital tools like Zoom, Slack, and Microsoft Teams enable real-time updates and collaboration, fostering connection among geographically dispersed teams. Agile methodologies support adaptability, allowing teams to respond quickly to feedback and changing requirements. Research shows that traditional in-office communication occurs naturally, while remote work relies heavily on digital tools. Inefficient use of these tools can delay decision-making, while remote IT project management also introduces challenges in security, data protection, and regulatory compliance.

Remote IT project management requires effective communication, collaboration, and robust digital tools. Regular updates, task management platforms, and team-building activities support alignment, productivity, and morale [39; 31; 46; 36]. IT projects deliver services, implement technologies, or improve processes. Remote work affects team dynamics, highlighting the importance of understanding individual experiences to maintain motivation and performance [40; 41]. WFH provides flexibility and autonomy, enhancing work-life balance. Challenges include isolation, reduced collaboration, and blurred personal-professional boundaries, which can affect productivity and wellbeing [34; 6]. Remote management relies on tools like Agile, XP, Kanban, Jira, and Trello to maintain visibility, track progress, and ensure accountability. Time zone differences and scheduling complexities require flexibility and intentional team engagement [40; 41; 12]. Remote work supports flexibility, work-life balance, and access to global talent. Cost savings, fewer office distractions, and innovative collaboration methods enhance productivity and team outcomes [2;16]. Challenges include communication barriers, reliance on technology, isolation, monitoring difficulties, and cultural differences. These factors may reduce team cohesion, accountability, and overall performance [24, 31; 40;46].

C. Implications and Future Research

Remote work necessitates a re-evaluation of IT project management practices. Key considerations can be linked to efficient use of digital tools to prevent communication overload and errors by adopting Agile and Kanban frameworks for transparency and adaptability [37]. Team engagement initiatives to maintain cohesion and morale and robust cybersecurity measures to protect remote operations. Also, future research should explore the long-term impacts of remote IT project management on productivity, engagement, and team performance, and identify strategies to mitigate technology dependence, isolation, and cultural challenges.

V. CONCLUSION

The landscape of IT project management has been significantly transformed by remote work. Effective communication, robust digital tools, and Agile methodologies are critical for project success. Remote IT project management requires balancing technological solutions with strong leadership, fostering trust, accountability, and team cohesion. While remote work offers flexibility, access to global talent, and cost savings, it also presents challenges including communication barriers, isolation, time zone differences, and cultural issues. Organizations that proactively address these challenges through strategic use of technology, clear processes, and team engagement initiatives can successfully manage IT projects in remote environments and achieve improved outcomes.

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