A PROJECT REPORT

An overview of the impact of Covid-19 on Project managers

Submitted by

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Declaration

Abstract

Global organisations and industries have faced unprecedented problems due to the COVID-19 epidemic, and project management is no exception. With a focus on secondary data sources, this dissertation thoroughly reviews the COVID-19 pandemic's impacts on project managers and what strategies project managers adopt to handle that impacts. Risk management, communication, leadership, remote work, and agile approaches are just a few of the crucial facets of project management that are examined. Information is gathered from the systematic literature review to determine how Covid-19 impacts project managers' and the solutions to overcome these impacts. The research advances our understanding of how the pandemic affected project management and offers organisations and project managers helpful information for navigating the changing nature of project management in the post-pandemic era. Recommendations for project managers and future research areas are also offered to encourage the ongoing development of project management techniques in response to crises and shifting business environments.

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1 Introduction to the project

1.1 Background

The novel coronavirus SARS-CoV-2 that triggered the COVID-19 pandemic, which started in late 2019, moved quickly worldwide, killing millions of people and seriously impacting economies, businesses, and industries (Ryan, 2020). COVID-19, a respiratory ailment with a spectrum of effects from mild to critical, is caused by the notorious coronavirus. This disease mainly spreads through contact with infectious materials or objects tainted by the virus. Typical symptoms include a dry cough, fever, and breathing difficulties, which can escalate to pneumonia and respiratory failure, in worst-case scenarios, leading to fatalities. The pandemic has created widespread disruptions in various sectors across the globe, instigating significant changes within organizations and societies. Even during normal times, navigating changes within an organization can be stressful for employees. However, the pandemic has added another layer of strain, impacting the mental wellbeing of individuals within the organization. Employees find themselves grappling with a draining of their emotional and physical capacities (Kaushik and Guleria, 2020). By the beginning of 2020, governments worldwide were implementing different containment measures, such as lockdowns, travel restrictions, and social distance rules, to stop the virus from spreading (Ryan, 2020). Despite being crucial for public health, these actions have significantly affected businesses and employees.

The advent of COVID-19 has significantly affected a broad spectrum of projects across the United Kingdom. This disruption directly impacted both the flow of materials and human resources. Mapping the connections between COVID-19 and project managers is essential, as it allows for an analysis of the challenges encountered and potential market opportunities. Many businesses have been affected by shutdowns and border restrictions, leading to increased costs and extended delivery times for goods and components. Consequently, project managers need to adopt a more proactive approach to manage supply chain disruptions for a promising future. This might involve stockpiling essential supplies or exploring local alternatives in the event of a crisis (Sonjit, Dacre, and Baxter, 2021).

The pandemic has presented major hurdles for project management, a crucial role across businesses (Sharma, Luthra, Joshi and Joshi, 2022, p.468). To respond to uncertainties and changes, project managers have had to adapt to remote work, which has demanded the introduction of agile techniques, new leadership styles, and communication and collaboration strategies (Sharma, Luthra, Joshi and Joshi, 2022, p.468). In addition, project managers have had to reevaluate how they handle risk management, stakeholder engagement, and team dynamics due to these modifications.

The pandemic has significantly impacted the United Kingdom, with repeated infection waves and subsequent lockdowns impacting businesses and the workforce (Office for National Statistics, 2021) Therefore, the effect of COVID-19 on project managers in the UK is an essential subject for research because knowing the difficulties they encountered, the solutions they

came up with, and the lessons they gained can help project managers create efficient procedures for handling crises in the future.

This dissertation uses secondary data sources to thoroughly analyse the COVID-19 pandemic's impacts on project managers in the United Kingdom. The study focuses on essential facets of project management, including risk management, communication, leadership, remote work, and agile approaches to determine how the pandemic has affected project management practices and tactics.

1.2 Problem statement

Globally, including in the UK, the COVID-19 epidemic has severely interrupted project management procedures. Due to the quick transition to remote work, growing reliance on digital technology, and demand for agile approaches to adapt to the uncertain and dynamic environment, project managers now confront new problems. The pandemic has also highlighted the significance of solid risk management and robust communication techniques for project success.

Despite the pandemic's extensive effects on project management, little is known about the particular difficulties faced by project managers in the UK, the methods they used to deal with these difficulties, and the lessons they were able to draw from their experiences. Developing robust project management techniques to endure upcoming crises and the changing business environment requires a thorough analysis of these factors.

This research seeks to fill this gap by examining how COVID-19 has affected project managers in the UK using secondary data. To thoroughly understand the pandemic's impacts on project management practices and tactics in the UK, the study will evaluate different dimensions of project management, including risk management, communication, leadership, remote work, and agile approaches.

1.3 Research Questions

The primary research questions of this dissertation are:

1. What are the impacts of the COVID-19 pandemic on project managers in the United Kingdom?

2. What strategies do project managers adopt to deal with these impacts?

3. What lessons have project managers learned from COVID-19?

1.4 Research Aim

This study aims to look into the impact of COVID-19 on project managers in the United Kingdom, the solutions they used to deal with these impacts, and the lessons they took from the experience.

1.5 Objectives

The following are the objectives of this dissertation:

1. To analyze the COVID-19 impacts on project managers in the UK regarding risk management and leadership.

2. To identify any changes in collaboration and team dynamics among project teams in the United Kingdom during the COVID-19 pandemic.

3. To Investigate which strategies project managers use to deal with these impacts.

4. To analyze and identify the key lessons project managers have learned from the experiences and challenges posed by the COVID-19 pandemic.

1.6 Chapter Overview

This dissertation is organized into different chapters, providing a structured approach to exploring the impact of the COVID-19 pandemic on project managers in the United Kingdom.

1.6.1 Chapter 1: Introduction

The study's context, problem statement, research questions, research aim, and research objectives are all presented in this chapter. It provides background information for the survey and emphasises how crucial it is to comprehend how the pandemic has affected project management procedures in the UK.

1.6.2 Chapter II: Literature Review

The chapter on the literature review provides a comprehensive analysis of previous studies and secondary data sources related to the impact of the COVID-19 pandemic on project management. This chapter delves into various project management themes, such as risk management, leadership, communication, remote work, and agile methodologies. The review will highlight areas that current research hasn't sufficiently covered, thereby establishing a foundation for the objectives of this study.

1.6.3 Chapter III: Research Methodology

This chapter explains how the study was done, focusing on the use of information from already published sources. It talks about how suitable books and articles were chosen and examined as part of gathering the data. The chapter also details how the collected data was looked at and interpreted to answer the study's questions and reach its goals.

1.6.4 Chapter IV: Results and Analysis

The results and analysis chapter displays the research findings obtained from secondary data sources. The results are arranged following the research questions and objectives. They include details on the difficulties project managers had during the pandemic, the solutions they used to overcome them, and the lessons they were able to draw from the experience. The use of agile approaches for project management during the pandemic is also covered in this chapter.

1.7 Discussion

The dissertation's concluding chapter highlights the research's contributions, summarizes the main findings, and discusses the consequences for project managers and organizations. Based on the research findings, this chapter also offers suggestions for project management techniques in reaction to crises and shifting commercial environments. Finally, this chapter also includes the study's limitations and recommendations for further investigation.

1.7.1 Chapter V: Conclusion and Future Work

This chapter summarises the discussion and gives a rundown of the entire report. It checks if the main goals were achieved and offers suggestions for future study.

2 Literature Review

This chapter provides an exhaustive review of the impact of the COVID-19 pandemic on project management, utilizing secondary data sources. The literature review covers a variety of aspects related to project management, including an understanding of what project management entails, the role of project managers, the effects of COVID-19 on the health of project managers, and the agile approaches adopted by them to mitigate the pandemic's impacts. Furthermore, the review seeks to identify shortcomings in the current body of knowledge and establish a basis for the study's objectives. The chapter is composed of the following sections:

2.1 What is Project Management

Project management is a multifaceted discipline that involves the planning, coordination, and control of resources to achieve specific objectives within defined constraints (PMI, 2021). It is widely recognized as a crucial function in various industries, such as construction, engineering, information technology, and healthcare. The literature emphasizes the significance of project management in facilitating the successful completion of projects, ensuring their alignment with organizational goals, and delivering value to stakeholders (Kerzner, 2017).

Project management involves utilizing processes, techniques, expertise, knowledge, and experience to reach designated project goals within the agreed-upon boundaries and according to the project acceptance criteria. It is distinct from general management due to its focus on specific, time-bound deliverables and budget constraints. This distinguishes it from regular management, a continuous, ongoing process. This specificity and time sensitivity of project management necessitates project professionals to possess a diverse set of skills, potentially including technical proficiency, adept people management, and a solid understanding of business operations (Murray-Webster and Dalcher, 2019).

2.2 The Role of Project Managers in Project Management

Project management is a complex discipline that requires skilled professionals to successfully initiate, plan, execute, monitor, and close projects. At the heart of effective project management lies the pivotal role of project managers. This literature review explores project managers' multifaceted responsibilities, skills, and competencies and highlights their significant impact on project success.

Project managers play a crucial role in project initiation by identifying project objectives, defining scope, and conducting feasibility studies. They collaborate with stakeholders to develop a project charter, establish clear goals, and ensure alignment with organizational strategies. Project managers set the stage for successful project implementation by engaging key stakeholders and conducting thorough assessments.(Yemini, Oplatka, and Sagie, 2018).

One of the primary responsibilities of project managers is to develop comprehensive project plans. They analyze project requirements, create work breakdown structures, estimate resources, and develop schedules and budgets (Kerzner, 2017). Through effective planning and organizing, project managers ensure that projects are executed efficiently, risks are mitigated, and resources are optimally allocated.

Project managers serve as leaders, guiding project teams toward project objectives. They assemble cross-functional teams, motivate individuals, and foster a collaborative environment (Müller and Turner, 2010). Effective project managers possess strong interpersonal skills, including communication, conflict resolution, and negotiation, to facilitate open communication, manage conflicts, and maintain team morale (Müller and Turner, 2010). Their leadership abilities are instrumental in aligning team efforts and maximizing productivity.

Project managers are responsible for pinpointing, evaluating, and managing project risks. Their responsibilities include conducting risk assessments, crafting risk response plans, and tracking risks throughout the project lifecycle (Hillson and Murray-Webster, 2007). By taking a proactive approach to potential risks, project managers protect the objectives of the project and ensure its successful delivery.

Project managers are key communicators between project teams, stakeholders, and sponsors. They establish communication channels, provide project updates, and manage stakeholder expectations (Burke and Barron 2007). Effective communication ensures that all parties are informed, engaged, and aligned, fostering positive relationships and facilitating project success.

Project managers oversee project progress, monitor key performance indicators, and implement control mechanisms to ensure adherence to project plans (Cleland, 2007). They track project milestones, manage project changes, and promptly address deviations. By maintaining control over project execution, project managers minimize risks and maximize the likelihood of achieving project goals.

Table 1: Roles and Responsibilities of Project Managers

Role/Responsibility	Key Points	References
Project Initiation	1. Identify project objectives and scope. 2. Conduct feasibility studies. 3. Develop project charter.	Yemini, Oplatka, and Sagie, 2018
Project Planning	1. Develop comprehensive project plans. 2. Estimate resources and develop schedules.	Kerzner, 2017
Leadership	1. Guide and motivate project teams. 2. Manage conflicts and maintain team morale.	Müller and Turner, 2010
Risk Management	1. Conduct risk assessments. 2. Develop and monitor risk response plans.	Hillson and Murray-Webster, 2007
Communication	1. Act as a key communicator between project teams and stakeholders. 2. Manage stakeholder expectations.	Burke and Barron, 2007
Project Control	1. Monitor project progress and performance. 2. Implement control mechanisms and manage project changes.	Cleland, 2007

2.3 How project Managers were working before COVID-19

In-Person Collaboration: Before COVID-19, much of the work conducted by project managers was done in person. This included regular meetings, team collaboration, and on-site supervision. While remote work was certainly an aspect of some project management roles, particularly for global teams or in tech-centric sectors, it wasn't as widespread as it became during the pandemic (Roles and responsibilities of the Project Manager | Department of Finance, 2020b) .

Workplace Environment: Project managers often worked in office environments, allowing for easier facilitation of team discussions and collaboration. The physical office environment often allowed project managers to monitor team dynamics and maintain better control over the project's progression. Travel: Depending on the organization and the scope of the project, project managers often travelled for work - to meet with clients, visit project sites, or participate in stakeholder meetings (Roles and responsibilities of the Project Manager | Department of Finance, 2020b) .

Communication: Face-to-face communication was a key element in project management, enabling project managers to read non-verbal cues better and build strong interpersonal relationships with their team members and stakeholders (Roles and responsibilities of the Project Manager | Department of Finance, 2020b) .

Project Management Tools: Even before COVID-19, there were a variety of project management tools available, such as MS Project, Asana, and Jira. These helped project managers organize tasks, track progress, and manage resources (Roles and responsibilities of the Project Manager | Department of Finance, 2020b) .

Project Methodologies: Project managers would use a variety of project management methodologies depending on the nature of their project. Traditional methodologies, like Waterfall, were commonly used for straightforward projects with clear requirements, while more flexible methodologies, like Agile or Scrum, were used for complex projects with evolving requirements (Roles and responsibilities of the Project Manager | Department of Finance, 2020b) .

Risk Management: Before COVID-19, the emphasis in risk management was often on factors like project delays, budget overruns, changes in scope, and technical challenges. While health and safety were certainly considered in certain industries, they were not as universally prioritized as they became during the pandemic (Roles and responsibilities of the Project Manager | Department of Finance, 2020b) .

Stakeholder Management: Stakeholder management involved regular face-to-face meetings, presentations, and in-person negotiation sessions (Roles and responsibilities of the Project Manager | Department of Finance, 2020b) .

Team Management and Leadership: Project managers would lead their teams in person, making it easier to foster team cohesion, monitor productivity, and mentor individuals (Roles and responsibilities of the Project Manager | Department of Finance, 2020b) .

Training and Professional Development: Opportunities for professional development, such as pieces of training, conferences, and networking events, were often conducted in person, providing project managers with the opportunity to upgrade their skills and expand their professional network continuously (Roles and responsibilities of the Project Manager | Department of Finance, 2020b) .

2.4 Impact of the COVID-19 Pandemic on Project Managers

The COVID-19 pandemic has impacted all sectors, impacting our lives, relationships, and workplaces. In a post-pandemic context, the best project managers are required. COVID-19 has harmed project managers' production (Bushuyev, Bushuiev and Bushuieva, 2020). The shift towards remote work has brought about challenges in ensuring effective team collaboration. Due to border closures and lockdowns, supply chains have faced significant disruptions, amplifying the risk involved in running a business or overseeing a project. The pandemic has highlighted that remote work will play a crucial role in the future of project management. Implementing project management remotely can pose unique challenges. From handling collaboration and accountability issues to combating a weak corporate culture, forming and managing a virtual team presents its own set of difficulties. While initial stages of managing

a remote workforce can be daunting, there are advantages such as the ability to recruit top talent for open positions from across the nation (Koch and Schermuly, 2021).

The epidemic has caused severe commercial and labour disruptions in the United Kingdom and many other nations. (Office for National Statistics, 2021). As a result, project managers have been forced to navigate the difficulties presented by the pandemic while guaranteeing project success, which has had far-reaching ramifications for them (Salami, Ajayi and Oyegoke, 2021).

Due to lockdowns, travel bans, and labour shortages caused by the epidemic, there have been significant supply chain disruptions (Ivanov & Dolgui, 2020). For project managers who depend on the prompt delivery of goods and resources to ensure project progress, this has caused essential issues. To reduce the impact of these disruptions on project timelines and budgets, project managers had to create backup plans, diversify their supply chain, and work closely with suppliers (Ivanov & Dolgui, 2020).

The COVID-19 epidemic has significantly impacted the workforce, with many workers now dealing with disease, more responsibility for providing care, and issues with their mental health (Betty and North Carol, 2020). To meet these obstacles, project managers have had to modify their workforce management tactics, giving team members support and flexibility while ensuring project activities are finished on time (Ivanov & Dolgui, 2020).

For many organisations, the pandemic has resulted in economic downturns and financial difficulties. (Godell, 2020). Project managers have consequently had to handle tighter budgets and more intense financial monitoring. Due to this, cost-effective project management techniques have been developed, including prioritising high-impact tasks, limiting the scope, and optimising resource allocation (Godell, 2020).

Changing regulatory environment: Due to the pandemic, governments implemented various restrictions and guidelines, resulting in a quickly changing regulatory environment and added complications for project managers (Shamim, 2022). Project managers have had to be flexible and constantly update their project plans to navigate these regulation changes and ensure compliance (Shamim, 2022).

Stakeholder management and communication: Due to the pandemic, the stakeholder landscape has become more complex, with shifting objectives and expectations for project outcomes. To successfully communicate with stakeholders and manage their expectations throughout the project lifecycle, project managers have had to negotiate these shifting expectations (Köpsel, de Moura Kiipper and Peck, 2021).

Overall, the COVID-19 pandemic has significantly impacted project management, forcing managers to examine and modify their procedures in response to the difficulties and uncertainties posed by the crisis.

2.4.1 Impact of COVID-19 on Project Managers Health

The COVID-19 epidemic has profoundly affected how we live and work and has had a wide-ranging influence. Project managers are particularly impacted by this shift, who are in charge of organising, carrying out, and monitoring the completion of projects. Due to altered working conditions and the stress brought on by pandemic-related concerns, these professionals' physical and mental health are in danger.

Regarding physical health, the quick shift to remote work resulted in a lifestyle with significantly less physical exercise. Project managers often engaged in some form of physical activity before the pandemic, whether travelling to and from work or simply moving about an office. A more sedentary lifestyle is brought on by eliminating many regular physical activities when working from home. Physical inactivity has repeatedly been linked to several health hazards, including obesity, cardiovascular disease, and diabetes. According to research, working from home frequently blurs the line between work and personal time, forcing project managers to work past traditional office hours without taking regular breaks. These prolonged work hours reduce exercise possibilities, raising health risks (Pamidimukkala and Kermanshachi, 2021).

The pandemic's effect on mental health has been equally, if not more, disturbing. Following COVID-19, project managers have been forced to manage teams remotely in previously unheard-of situations while also juggling increasing workloads brought on by budget cuts and staff reductions. These additional pressures provide a high-stress atmosphere in an unpredictable corporate environment, and long-term exposure to such stress has been related to anxiety, depression, and other mental health issues (WHO, 2020).

Additionally, the shift to remote work has resulted in a decline in face-to-face social interactions, frequently crucial for maintaining mental well-being. Lack of these relationships can lead to feelings of loneliness and isolation, which could exacerbate mental health problems(Becker et al., 2022). Individuals may experience the effects mentioned above differently depending on their age, pre-existing health issues, and the level of organisational support. However, the overall pattern indicates a heightened danger to project managers' physical and emotional well-being throughout the pandemic.

These difficulties highlight how crucial it is for businesses to establish thorough health and well-being programmes. Implementing regular mental health check-ins, encouraging work-life balance, and fostering possibilities for online social engagement are a few examples of such tactics. A healthier, more resilient workforce can be created by taking a more proactive approach to employee well-being (Kniffin et al., 2021).

2.5 What is meant by Agile Methodologies?

Agile methodologies refer to a set of project management approaches that prioritize flexibility, collaboration, and iterative development. These methodologies emerged as a response to the

limitations of traditional, linear project management methods that struggled to address the challenges of complex and rapidly changing environments (Cohen, Lindvall and Costa, 2004).

The core principles of Agile methodologies include:

Iterative and Incremental Development: Agile methodologies advocate for splitting projects into smaller iterations or sprints, each delivering a functional and valuable increment of the product. This approach facilitates ongoing feedback and adjustments throughout the project (Cohen, Lindvall, and Costa, 2004).

Customer Collaboration: Agile methodologies stress the importance of close cooperation with customers, end-users, and stakeholders throughout the project's life cycle. Consistent feedback and stakeholder participation help ensure that the final product aligns with their requirements and expectations (Cohen, Lindvall, and Costa, 2004).

Self-organizing teams: Agile methodologies encourage self-organizing teams that have the autonomy and responsibility to make decisions and take ownership of their work. This fosters collaboration, creativity, and accountability within the team (Cohen, Lindvall and Costa, 2004).

Embracing change: Agile methodologies recognize that change is inevitable and welcome it as a means to improve the project. They prioritize adaptability and encourage teams to respond to changes in requirements, priorities, and market conditions (Williams,2012).

Continuous improvement: Agile methodologies emphasize a culture of continuous learning and improvement. Lessons learned from each iteration or project are used to refine processes, increase efficiency, and enhance the quality of future deliverables (Williams,2012).

Agile methodologies are widely used in software development projects, but their principles and practices have also been applied in various other industries and domains. The aim of Agile methodologies is to promote flexibility, collaboration, and responsiveness in project management, allowing teams to deliver high-quality products or services that meet the needs of the customers in an efficient and effective manner (Williams,2012).

Table 2: Roles and Responsibilities of Project Managers

Core Principles	**Description**	**Reference**
Iterative and incremental development	Agile methodologies promote breaking down projects into smaller iterations or sprints, with each iteration delivering a usable and valuable product increment. This allows for continuous feedback and adaptation throughout the project.	Cohen, Lindvall and Costa, 2004
Customer collaboration	Agile methodologies emphasize close collaboration with customers, end-users, and stakeholders throughout the project lifecycle. Regular feedback and involvement of stakeholders help ensure that the final product meets their needs and expectations.	Cohen, Lindvall and Costa, 2004
Self-organizing teams	Agile methodologies encourage self-organizing teams that have the autonomy and responsibility to make decisions and take ownership of their work. This fosters collaboration, creativity, and accountability within the team.	Cohen, Lindvall and Costa, 2004
Embracing change	Agile methodologies recognize that change is inevitable and welcome it as a means to improve the project. They prioritize adaptability and encourage teams to respond to changes in requirements, priorities, and market conditions.	Williams, 2012
Continuous improvement	Agile methodologies emphasize a culture of continuous learning and improvement. Lessons learned from each iteration or project are used to refine processes, increase efficiency, and enhance the quality of future deliverables.	Williams, 2012

3 Methodology

This chapter outlines the research methodology that was devised and implemented to fulfill the study's objectives. The adoption of a well-established research approach is crucial for verifying the data and conclusions derived from the study (Gupta and Gupta, 2022). This chapter will exhibit the approach utilized, the research strategy, the underlying research philosophy, the research method, the design of the research, the methods used for data collection, and the process of data analysis.

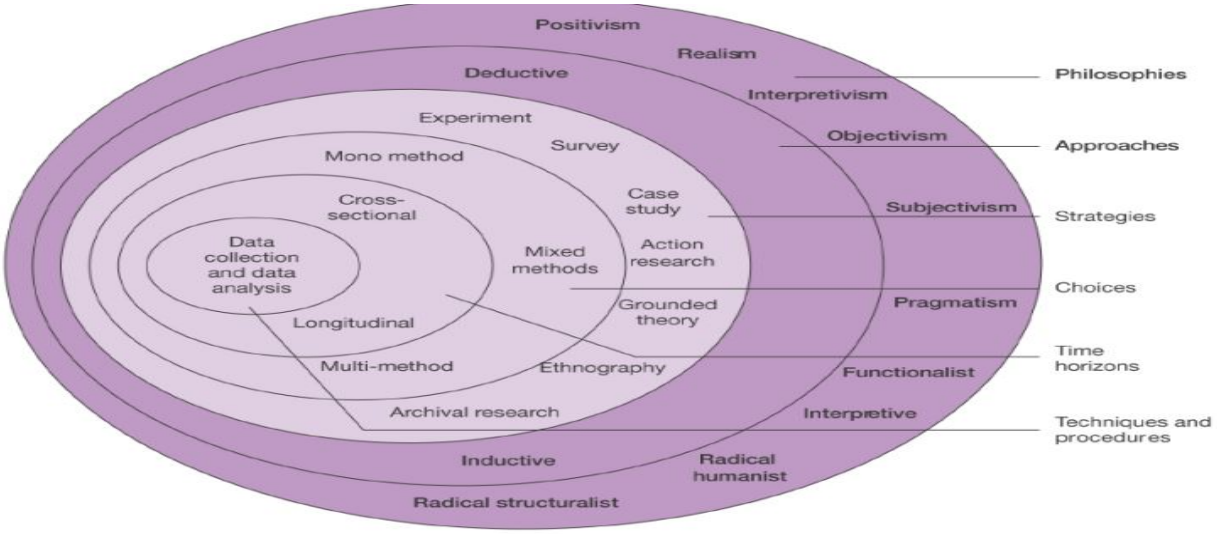

Figure 1: **The research onion**

3.1 Research Philosophy

In this part, the research philosophy used for this dissertation will be discussed, along with how it may have affected the study's design, data gathering, and analysis. Finally, to determine how the COVID-19 pandemic has affected project managers in the UK, this dissertation will examine project management procedures, risk management, communication and cooperation in remote work, and leadership in the face of the pandemic.

An Interpretivism study philosophy will be used for this dissertation. This philosophy is consistent with the study's objectives, which are to investigate the impacts of the COVID-19 pandemic on project managers in the UK and the strategies they adopt to overcome the difficulties they encounter.

An Interpretivism research philosophy permits the integration of various research methodologies and data sources to provide a thorough grasp of the research issue. To answer the research questions in this dissertation, a secondary data analysis strategy will be used, relying on previously published articles and studies.

3.2 Research Approach

There are three distinct approaches to researching a particular subject: There are three types of research: abductive research, deductive research, and inductive research (Woo, O'Boyle and Spector, 2017).

The research approach for this dissertation is primarily inductive; The impacts of the COVID-19 pandemic on project managers in the UK will be examined for this dissertation using a secondary data analysis methodology to answer the research questions; secondary data analysis includes looking at already-published data sources, such as journal articles, and case studies.

3.3 Research Strategy

The primary research approach for this dissertation will be a citation, which will look at how the COVID-19 pandemic has affected project managers in the UK.

The citation research strategy involves a systematic method of locating and studying scholarly sources by examining their citation references. This strategy is used to understand the relationship between various works and to trace the development of theories, ideas, or research trends over time (Rotondi, Di Iorio and Limpens, 2018).

Creating the search strategy entails selecting pertinent databases, search terms, and inclusion/exclusion standards for the literary search. In addition, the search strategy should include a thorough and representative selection of the relevant literature. Literature screening

and selection: The search results are filtered following the predetermined inclusion/exclusion criteria, ensuring that the chosen literature is pertinent, thorough, and of the highest calibre.

Extraction and synthesis of pertinent information: Citation analysis or other qualitative synthesis methods are frequently used to extract and synthesise relevant information from the chosen literature. This stage entails locating and analysing the major literary themes, patterns, and trends to relate the findings to the research questions and objectives.

3.4 Time Horizon

The time horizon is when the study is carried out and the data is analysed.

In this dissertation, the effect of the COVID-19 pandemic on project managers in the UK will be examined using a cross-sectional time frame. To provide a snapshot of the study issues, a cross-sectional time horizon entails collecting and analysing data at a single point in time.

The choice of a cross-sectional time horizon has the following effects on this dissertation's research strategy, data-gathering methods, and data analysis:

Research Plan: Because this is a cross-sectional study, the systematic literature analysis will concentrate on the most recent and pertinent articles, studies, and case studies to give a current picture of how the COVID-19 pandemic has affected project managers in the UK.

To ensure that the results are pertinent and applicable to the current situation, the data collection procedure for the secondary data analysis will prioritise sources that reflect the current state of the research problem.

The cross-sectional time frame will serve as the basis for the data analysis, which will be used to identify patterns, trends, and difficulties in project management during the COVID-19 pandemic.

Finally, this research uses a cross-sectional time frame to examine how the COVID-19 pandemic has affected project managers in the UK. This time frame enables an adequate and pertinent investigation of the research issue, giving an overview of the impact of Covid-19 on project managers.

3.5 Data Collection

The data collection process for this study involved an extensive review of secondary data sources. These sources included academic journal articles, books, and conference papers published between 2020 and 2023. The review focused on literature addressing the impact of the COVID-19 pandemic on project management strategies project managers used to mitigate the impacts.

3.5.1 Search Process

Given their significant influence, review articles are predominantly found in academic journals and conference proceedings. I conducted our literature synthesis by performing searches on Scopus and Google Scholar, using a combination of specific keywords connected through the logical operators "AND" and "OR":

"**COVID-19 pandemic**" **AND** "**project managers**" **AND**" **project management** " **AND** "**impacts**" **AND** "**United Kingdom**" **AND** "**strategies**"

Eligibility was determined using two main categories:
(1) criteria for inclusion and exclusion;
(2) standards of quality.
By implementing these standards, a total of 64 papers were identified.

3.5.2 Inclusion and Exclusion Criteria

Inclusion criteria:

1. Articles published between 2020 and 2023.

2. Articles focused on the impact of the COVID-19 pandemic on project managers and project management.

3. Articles that specifically addressed the UK context.

Exclusion criteria:

1. Articles not published in English.

2. Articles that did not focus on the COVID-19 pandemic or its impact on project management.

3. Articles that did not include information about the COVID-19 pandemic.

3.5.3 Quality and Eligibility Assessment

The following criteria were used to judge the quality of the articles:

1. Has the paper been subjected to peer review?

2. Does the article fulfil the inclusion and exclusion criteria pertinent to the review?

After a thorough evaluation, this number was further distilled to 30 relevant documents for comprehensive analysis.

3.6 Data Analysis

Data analysis involves gathering the data and summarizing the findings of the selected central studies. Given the varied nature of the primary studies, I opted for a qualitative approach. To dissect the unique ideas, I used qualitative content analysis (Fink, 2013). Content analysis allows for a deeper understanding of the knowledge embedded in existing literature (Elo and Kyngas, 2008). Braun and Clark (2006) state that content analysis helps identify distinct patterns or themes within secondary data. I employ an inductive approach, structuring our study based on the reviewed material.

A full-text reading was carried out as the next step. For further analysis, the articles were organised and tabulated in accordance with the research questions. In each article, the following data were extracted.

1. References and the source

2. Areas of focus

3. Identification of impacts on project managers during COVID-19.

4. Identify strategies project managers adopt to mitigate the impacts of COVID-19.

The following factors were analysed:

(1) the impacts of Covid-19 on project managers;

(2) discuss the strategies adopted by project managers to deal with the impact of COVID-19.

The gathered data was then subjected to a theme analysis method of examination. To do this, it was necessary to find common themes and patterns in the data about the difficulties faced by project managers, the solutions used to overcome these difficulties, and the effects of the pandemic on project management procedures.

3.7 Ethical Considerations

No ethical issues exist because this study is based on secondary data analysis. However, to prevent plagiarism and uphold academic integrity, the researcher ensured all sources were correctly cited and referenced following the Harvard citation format. The researcher also confirmed that the information was gathered from reliable sources and that any names or organisations referenced in the information were kept anonymous and discreet.

4 Results and Analysis

This chapter discusses the findings from the systematic literature review.

Findings From Secondary Data Sources

The results of the comprehensive study of the literature that was done to find out how the COVID-19 pandemic affected project managers in the UK are presented in this chapter. The findings are arranged according to the major themes found in the literature, including the difficulties project managers encounter, risk management, collaboration and communication in remote work, and leadership amid the pandemic and also discuss the strategies adopted by project managers to deal with these impacts.

4.1 The COVID-19 Pandemic impacts on Project Managers

4.1.1 Risk Management during Covid-19

The COVID-19 epidemic has made clear how crucial effective risk management is to project management. As a result of the pandemic, project managers have had to identify, evaluate, and mitigate risks such as supply chain interruptions, labour shortages, and regulatory changes (Blair, Woodcock and Pagano, 2022). This has emphasised the requirement for a flexible and adaptive risk management framework to react to situations and hazards that are fast emerging. Consequently, agile risk management techniques have become crucial for navigating the pandemic's uncertainties and complexities since they are characterised by constant risk detection, evaluation, and action (McMaster et al., 2020).

The COVID-19 epidemic has made it more crucial than ever for project managers to practise competent crisis management and business continuity planning (Schmid, Raju and Jensen, 2021). Project managers had to create and implement backup plans to deal with the pandemic's short- and long-term effects on their initiatives. This has meant defining crucial project functions, creating backup plans for tasks, and ensuring the resources needed for project continuity are available (McMaster et al., 2020).

During the pandemic, scenario planning has become a valuable risk management strategy that enables project managers to foresee and prepare for various potential outcomes. Project managers can identify the possible risks and possibilities associated with each scenario and establish strategies to reduce or take advantage of them by creating and analysing various techniques. To ensure project success amidst the uncertainties of the pandemic, scenario planning also enables project managers to create flexible and adaptable project plans that can be altered as conditions change (Hajipour et al., 2021).

The COVID-19 epidemic has emphasised the significance of stakeholder engagement in risk management since the success of a project rests on the project manager's capacity to manage

stakeholders' expectations and interact successfully with them. Project managers have had to work closely with stakeholders in the pandemic to identify and assess potential risks, create risk response plans, and communicate information about the changing risk landscape. Project managers have had to develop strong negotiation and communication skills as well as a grasp of stakeholder goals and concerns (Sahoo et al., 2023).

Project managers have had to modify their risk monitoring and controlling techniques as the pandemic develops to maintain their effectiveness in a fast-changing environment. To do this, real-time monitoring technologies and analytics have been used to follow project progress, spot developing hazards, and evaluate the efficacy of risk mitigation techniques. In addition, to ensure that risk information is communicated and used promptly, project managers have also had to set up feedback loops and reporting procedures (Hohenstein, 2022).

As a result of the COVID-19 pandemic, project management risk management practises have been considerably impacted, prompting the implementation of agile, adaptable, and adaptive risk management methodologies.

Table 3: Rsik Management Table

Topic/Aspect	**Key Points**	**References**
Importance of Effective Risk Management	1. Identification, evaluation, and mitigation of risks such as supply chain interruptions, labor shortages, regulatory changes. 2. Necessity of flexible and adaptive risk management framework.	Blair, Woodcock and Pagano, 2022; McMaster et al., 2020
Crisis Management and Business Continuity Planning	1. Creation and implementation of backup plans to handle the pandemic's impacts. 2. Definition of key project functions, creating contingency plans for tasks, ensuring availability of resources for project continuity.	Schmid, Raju and Jensen, 2021; McMaster et al., 2020
Scenario Planning	1. Identify potential risks and opportunities with each scenario. 2. Create flexible and adaptable project plans that can be altered as conditions change.	Hajipour et al., 2021
Stakeholder Engagement	1. The necessity of managing stakeholders' expectations and interacting successfully with them. 2. Close collaboration with stakeholders to identify and assess risks, formulate risk response plans, and share information about the changing risk landscape.	Sahoo et al., 2023
Risk Monitoring and Control Techniques	1. Adaptation of risk monitoring and controlling techniques as per the changing environment. 2. Use of real-time monitoring technologies and analytics to track project progress, identify emerging risks and evaluate the effectiveness of risk mitigation measures. 3. Establishment of feedback loops and reporting procedures to ensure timely communication and usage of risk information.	Hohenstein, 2022

4.1.2 Communication and Collaboration in Remote Work

The outbreak necessitated changes to various aspects of project management, with Communication and Collaboration being one of the most significantly affected components. This element becomes crucial, especially during the execution phase of a project, as it requires direct interactions among team members or personnel working on the primary tasks necessary for project completion (Wu, 2022). Project communication encompasses both internal and external dialogues. Prior to the pandemic, many companies globally had minimal exposure to remote work. However, the onset of government-imposed lockdowns and social distancing policies made work-from-home a novel experience for a majority of employees. Notably, companies that already had established virtual teams were less impacted by this transition.

Project managers must update their communication plans in light of the pandemic's forced to move to remote work in many organisations to promote productive teamwork and stakeholder participation. Various digital communication tools and platforms, such as video conferencing, instant messaging, and project management software, have become crucial to maintaining communication and collaboration in a remote work environment. Project managers now need to be well-versed in these technologies and create new tactics for encouraging trust, engagement, and a sense of team cohesion in remote teams as a result of this transformation (Tóth and Csiszárik-Kocsir, 2021).

Building trust among team members becomes crucial for efficient communication and collaboration in remote work. Project managers must create a culture of trust by encouraging open communication, exhibiting dependability, and displaying a genuine concern for team members' well-being (Chen and Sriphon, 2021). Additionally, project managers can promote trust by establishing clear goals, giving frequent feedback, and appreciating team members' accomplishments. Project managers can arrange virtual team-building events to preserve team cohesiveness and engagement in remote work contexts (Chen and Sriphon, 2021).

Due to time zone variations, technical difficulties, and a lack of nonverbal indicators, remote work can create several communication hurdles. Project managers must overcome these barriers using various communication techniques, such as holding frequent meetings at times that are convenient for everyone in the team, ensuring that they have access to dependable communication technologies, and promoting video calls to facilitate in-person interactions. To guarantee good communication in remote teams, project managers should also encourage active listening, clear up misunderstandings, and offer frequent feedback opportunities (Newman and Ford, 2021).

Synchronous (real-time) and asynchronous (non-real-time) communication technologies are frequently combined for remote work. Project managers must balance these communication channels to promote effective teamwork and respect individual work preferences and timetables. Asynchronous communication techniques, like email and project management software, can be used to share updates, documentation, and feedback. Synchronous communication techniques, like video calls and instant messaging, can be used for real-time collaboration, brainstorming, and problem-solving (Serra and Tanarro, 2022).

In conclusion, successful project cooperation and communication are essential in distant work settings. However, project managers must modify their communication techniques and practise to foster trust, encourage team cohesion, and overcome communication obstacles in virtual teams. The COVID-19 pandemic's effects on project management will be further examined in the following sections of the literature study, emphasising agile approaches and leadership.

Table 4: Communication and Collaboration in Remote Project Management

Topic/Aspect	**Key Points**	**References**
Adapting Communication for Remote Work	1. Usage of digital communication tools and platforms. 2. Creation of strategies for encouraging trust, engagement, and a sense of team cohesion in remote teams.	Tóth and Csiszárik-Kocsir, 2021
Building Trust in Remote Teams	1. Promotion of a culture of trust by encouraging open communication, demonstrating reliability, and displaying genuine concern for team members' well-being. 2. Establishment of clear goals, provision of regular feedback, and recognition of team members' achievements.	Chen and Sriphon, 2021
Overcoming Communication Barriers in Remote Work	1. Use of various communication techniques to overcome issues due to time zone differences, technical issues, and lack of nonverbal cues. 2. Promotion of active listening, clarification of misunderstandings, and provision of frequent feedback.	Newman and Ford, 2021
Balancing Synchronous and Asynchronous Communication	1. Combining real-time and non-real-time communication technologies respecting individual work preferences and schedules. 2. Use of asynchronous communication for updates, documentation, and feedback, and synchronous communication for real-time collaboration, brainstorming, and problem-solving.	Serra and Tanarro, 2022

4.1.3 Leadership in the Context of the Pandemic

The COVID-19 pandemic has also impacted project managers' leadership philosophies and methods. Project managers have had to modify their leadership philosophies to support team members and stakeholders in a virtual setting as remote work has become the new standard. Since project managers have had to deal with the difficulties faced by team members and stakeholders, the pandemic has underlined the value of empathy, emotional intelligence, and flexibility in leadership(Müller and Klein, 2020).

Empathy and emotional intelligence have become crucial leadership traits for project managers in the context of the pandemic. Project managers must show compassion for and assist their teams as they deal with various personal and professional obstacles, such as health issues, caregiving duties, and job uncertainty. In addition, project managers may create a welcoming and inclusive workplace that boosts team morale and productivity by engaging in active listening, acknowledging emotions, and exercising flexibility (Fitzpatrick, 2022).

Due to the COVID-19 pandemic's uncertain and changing environment, project managers must be resilient and adaptable in their leadership style. This entails accepting change, learning from failures, and consistently modifying project plans and processes to account for changing conditions. Project managers may encourage their teams to be adaptable and resilient in the face of difficulties by embracing a growth mindset and exhibiting a dedication to continual improvement (Hajiagha et al., 2022).

The epidemic has made decision-making in project management more complex and unclear. The capacity to make judgements based on incomplete or quickly changing information is a skill that project managers need to master to balance the requirement for prompt action with the risks and implications of their decisions. Therefore, project managers must become highly analytical, participate in scenario planning, and work with stakeholders to elicit a range of viewpoints and insights (Whyte et al., 2022).

The epidemic's difficulties and limitations have underlined the value of creativity and innovation in project management. To tackle the challenges brought on by the epidemic, project managers must push their teams to think creatively and experiment with new working methods. Fostering a culture of learning and information sharing, giving people a chance to brainstorm, and experimenting with new tools and procedures are examples of how to do this (Bertello et al., 2022).

Project managers must exhibit empathy, resilience, adaptability, and excellent decision-making and communication abilities to lead effectively during the COVID-19 pandemic. Project managers may guide their teams through the difficulties of the epidemic and promote project success by developing these leadership traits. The literature review will continue to examine how the pandemic has affected project management in the following sections, emphasising the contribution of agile approaches to the response to the crisis (Müller and Klein, 2020).

Table 5: Leadership Aspects in Project Management During the COVID-19 Pandemic

Topic/Aspect	**Key Points**	**References**
Empathy and Emotional Intelligence in Leadership	1. Requirement of empathy to assist teams dealing with personal and professional obstacles. 2. Active listening, acknowledging emotions, and exercising flexibility to boost team morale and productivity.	Fitzpatrick, 2022
Resilience and Adaptability in Leadership	1. Need for leaders to accept change, learn from failures, and adapt project plans consistently. 2. Embracing a growth mindset and dedication to continual improvement.	Hajiagha et al., 2022
Complex Decision-Making	1. Need to make judgements based on incomplete or rapidly changing information. 2. Emphasis on being highly analytical, engaging in scenario planning, and eliciting a range of viewpoints.	Whyte et al., 2022
Promotion of Creativity and Innovation	1. Encouragement of creative thinking and experimentation with new working methods. 2. Fostering a culture of learning and information sharing and trying new tools and procedures.	Bertello et al., 2022

4.1.4 Management must be Changed, and new Projects must be Launched

The pandemic led to an intensification of attitudes regarding adherence to project specifications in task execution. This raised curiosity among managers about roles and responsibilities, particularly during the project execution, control, and monitoring phases, to uphold the desired quality of deliverables. Amid the crisis, businesses initiated new programs and cross-company initiatives. These fresh measures, undertaken under high pressure and under tight oversight from both the board and project managers, were centered on crisis management. Moreover, these initiatives aimed to bolster the existing business models, which necessitated the replacement of traditional meetings with virtual workspaces and online platforms (Deora et al., 2020).

4.1.5 Extra Pressure on the Project Teams

The project's executors or workers experienced great confusion and distress due to the pressure placed on organisations to produce reliable, high-calibre products despite the epidemic's challenging alterations. Many workers were obliged to work remotely due to government regulations. To share the project's workload and assist with household duties, most project team members were placed under double pressure (Shamim, 2022). These obligations frequently resulted in extended workdays and isolation, adversely affecting the employees' mental health. As a result, the project's end product or completion phase often fell short of what clients or end users had anticipated.

4.1.6 Delays in Project Delivery

The pandemic necessitated the postponement or temporary suspension of specific initiatives. For example, the construction industry experienced a slowdown or complete halt, given that most construction projects necessitate substantial in-person communication and teamwork, especially during the execution phase of the project lifecycle. The challenge was particularly acute during the pandemic, as discontinuing these hands-on projects required significant physical involvement. Further, this situation resulted in expatriates returning to their home countries for quarantine measures (Muoz-Villalba, 2021).

4.1.7 Vender Management Risk

The widespread pandemic primarily disrupted the construction industry and its various projects, with the supply chain hit the hardest. This disruption increased costs and extended timeframes for acquiring specific products and parts. Some suppliers grappled with potential bankruptcy, while some companies contemplated mergers. These fluctuations posed significant risks to pre-existing contracts and threatened the predefined budgets set for project completion. As a result, these operational changes necessitated a reevaluation of project

planning, with an increased focus on adjusting the sourcing process to incorporate these new variables, ensuring successful delivery within set timelines. This experience underscores the importance of future-focused management, underscoring the need for proactive mitigation strategies to counter potential supply chain disturbances (Shamim, 2022).

4.2 Strategies Adopted by Project Managers to Deal with Impacts.

Despite the economic turmoil and challenges brought on by the pandemic, particularly in handling business projects, project managers devised novel strategies. These included adopting Agile methodologies, ensuring efficient communication, centralizing data, and utilizing monitoring techniques. Such approaches were vital for maintaining project continuity and achieving the organizations' objectives.

4.2.1 Agile Methodologies in Project Management during the Pandemic

The COVID-19 pandemic has highlighted how crucial adaptability and freedom are to project management. The greater use of agile methodologies during the pandemic has been one of the significant changes in project management practices. Agile methods place a strong emphasis on iterative development, collaboration, and flexibility, which makes them ideal for managing projects in environments that are uncertain and change quickly (Schmidtner et al., 2021).

According to the systematic literature review, project managers have maintained progress and continuity during the pandemic despite the disruptions and uncertainties brought on by the pandemic, thanks to adopting agile methods. Project teams have found it easier to prioritise tasks, successfully manage resources, and react quickly to changes in project requirements thanks to agile practices like Scrum and Kanban. In addition, agile methodologies have made it easier for distributed teams to work together remotely and maintain practical communication thanks to tools like virtual task boards and video conferencing (Shamim, 2022).

Additionally, project managers have been able to concentrate on providing value to customers and stakeholders while dealing with the pandemic's shifting needs and expectations thanks to agile methodologies. Agile methodologies prioritise continuous development, empowering project teams to draw on their past knowledge and modify their procedures in response to new challenges and opportunities. The COVID-19 pandemic has highlighted the value of agile project management methods and the necessity of agile leadership and decision-making. Agile leadership is characterised by flexibility, resiliency, and the capacity to move swiftly in the face of shifting conditions. As a result, project managers who adopted agile leadership principles were better prepared to handle the difficulties and risks brought on by the pandemic (Schmidtner et al., 2021).

During the pandemic, agile estimation methods like planning poker and affinity estimation have been used to increase the accuracy of project forecasts and prioritise tasks. Furthermore,

these strategies promote cooperation and group decision-making, enabling project teams to adjust better to the changing project environment (Perkin, 2022).

In conclusion, research indicates that agile methods have been crucial in assisting project managers in navigating the difficulties brought on by the COVID-19 pandemic. Project teams have maintained progress, adjusted to shifting circumstances, and provided value to customers and stakeholders in an uncertain and quickly changing environment thanks to adopting agile practices.

Table 6: The Role of Agile Methodologies in Project Management During the COVID-19 Pandemic

Aspect	**Key Points**	**References**
Adoption of Agile Methodologies During Pandemic	1. Emphasis on iterative development, collaboration, and flexibility in uncertain environments. 2. Enabling project progress and continuity despite disruptions and uncertainties.	Schmidtner et al., 2021
Benefits of Agile Practices like Scrum and Kanban	1. Easier prioritisation of tasks and efficient resource management. 2. Quick response to changes in project requirements. 3. Effective remote collaboration and communication.	Shamim, 2022
Customer and Stakeholder Value with Agile Methodologies	1. Emphasis on continuous development and modification of procedures in response to new challenges and opportunities. 2. Agile leadership characterized by flexibility, resilience, and swift decision-making.	Schmidtner et al., 2021
Use of Agile Estimation Methods	1. Improved accuracy of project forecasts and task prioritisation. 2. Promotion of collaboration and group decision-making.	Perkin, 2022

4.2.2 Project team Collaboration and a Transparent Communication Approach

The pandemic-led governmental restrictions transformed remote work from a luxury to a necessity. Traditional face-to-face meetings, a common sight at workplaces, were abruptly discontinued, leading to difficulties addressing specific queries related to organizational projects. This paradigm shift necessitated the exploration of alternative communication modes. It became vital for organizations and project teams to establish virtual teams that facilitated regular communication and fostered a sense of togetherness. Many companies minimized internal email correspondence (Shamim, 2022). Given their faster response times, some even adopted chat functionalities for issues that didn't warrant comprehensive analysis. Utilizing chat systems allowed project participants to manage their work schedules, reduce continuous phone calls, and respond to queries conveniently (Tripiawan and Frestikawati, 2021).

Project teams commonly turned to platforms like Google Hangouts and Zoom for video conferencing to conduct routine meetings. These technological solutions effectively replicated physical meeting environments, encouraged team interaction, and sustained team relationships, thereby alleviating feelings of isolation-induced by working from home. Shamim, M.M.I.(2022) suggests that continuous communication enables project managers to identify emerging issues and propose viable solutions. Consequently, this adaptive approach enables the project team to accomplish tasks within the stipulated timeline and budget.

4.2.3 Data Centralization

Due to the lockdowns prompted by the pandemic, organizations had to centralize vital information such as communication channels, reports, and other documents crucial for accomplishing project goals. Many teams often utilize various types of data to achieve a project's final goal. In this context, it becomes imperative to aggregate and synchronize these multiple data sources. The lack of a centralized information system can make project management difficult and increase the risk that the organization may not fulfil its objectives (Sulaiman, Untari, and Subagyo, 2021).

Müller and Klein (2020) highlight that project management technologies enable managers to log in and scrutinize the real-time status of specific projects. Leadership can monitor the progress of each project and ensure everything is proceeding as planned. Google Drive is one of the collaborative platforms frequently used by businesses. Without utilizing such platforms, considerable time could be wasted attempting to access documents scattered across multiple project folders. The centralization of data and resources ensures that all project participants are aware of their responsibilities, assigned tasks, and deadlines (Shamim M. I, 2020).

4.3 The lesson learned by Project Managers from COVID-19

The COVID-19 pandemic presented unique challenges and experiences for project managers around the globe. They had to adapt quickly to changing circumstances and learn new ways to manage their projects, so there are multiple lessons that the project has learned from COVID-19.

4.3.1 The importance of flexibility

One of the most significant lessons learned by project managers during the COVID-19 pandemic was the importance of flexibility. The pandemic ushered in a constant flux, where previously stable variables such as physical work locations, team availability, project scopes, and deadlines were constantly changing. Amid this uncertainty, flexibility became not only a valuable asset but a necessity. Many projects faced disruptions due to the pandemic. Whether due to changes in client needs, supply chain disruptions, team availability, or government regulations, project schedules had to be frequently revised. A flexible project manager could adapt their plans, reset priorities, redistribute tasks, and adjust timelines (Ogunnusi et al., 2020).

COVID-19 brought about various constraints, such as reduced team availability due to illness or caregiving responsibilities, budget cuts due to economic impacts, or lack of access to necessary tools or facilities. A flexible approach allowed project managers to creatively work around these constraints, reallocating resources, finding alternative solutions, or renegotiating project scope (Ogunnusi et al., 2020).

During the pandemic, circumstances often changed with little warning. New information about the virus, regulation changes, and business environment fluctuations created a high degree of uncertainty. Flexible project managers could navigate this uncertainty more effectively, making decisions based on the best available information and adjusting as new information became available (Ogunnusi et al., 2020).

The pandemic had a significant personal impact on many people. Project managers had to be flexible in their expectations, accommodating team members dealing with illness, caregiving, homeschooling, mental health struggles, or other challenges. This might have involved being flexible with deadlines, work hours, or task assignments (Ogunnusi et al., 2020).

In all these ways, flexibility became a crucial skill for project managers during the COVID-19 pandemic. It was no longer enough to create a detailed project plan and expect it to be followed precisely. Instead, project managers had to adapt continually to the changing circumstances. This flexibility helped projects stay on track during difficult times and supported team morale and productivity by demonstrating understanding and resilience in the face of adversity. In the future, this increased emphasis on flexibility is likely to remain a key component of effective project management.

4.3.2 Technology as an Enabler

The COVID-19 pandemic propelled the world into a digital-first era, where technology became a crucial enabler for business continuity and efficient project management. It facilitated remote work, enhanced communication, and provided necessary project planning and tracking tools. Let's break this down:

Technology provided various tools to help manage projects in the virtual workspace. Applications like Trello, Asana, and Monday.com provided online platforms where tasks could be assigned, tracked, and updated in real-time, providing visibility to the entire team. More sophisticated tools like Jira, Microsoft Project, and Basecamp allowed for complex project management with features for resource allocation, timeline tracking, and risk management (Shamim, 2022).

Cloud-based tools like Google Drive, Dropbox, and Microsoft OneDrive allowed teams to share files and collaborate on documents in real time. These tools eliminated the need for physical file exchanges and facilitated collaborative work (Shamim, 2022).

While the shift to rely heavily on technology was born out of necessity during the pandemic, the benefits gained from this digital transformation will likely continue post-pandemic. When used effectively, project managers have learned that technology can increase productivity, improve communication, facilitate collaboration, and maintain team morale, irrespective of where the team members are located (Shamim, 2022).

4.3.3 Contingency Planning

The COVID-19 pandemic highlighted the importance of contingency planning in project management. With unprecedented disruptions to business operations, project timelines, and resource availability, having a robust contingency plan was often the difference between a project's success and failure (Shamim, 2022).

Contingency planning involves identifying potential risks that could disrupt a project and developing strategies to mitigate those risks. In the context of the pandemic, this took on an even greater significance. Creating plans required project managers to think strategically and imaginatively, considering various potential scenarios. It also required frequent updating as new information about the pandemic became available, and the situation evolved(Shamim, 2022).

5 Discussion

By connecting the study objectives, literature review, and theoretical frameworks to the data from the Results and Analysis chapter, the discussion chapter seeks to understand and contextualise them. The effect of COVID-19 on project managers in the UK will be covered in this chapter, emphasising the difficulties encountered and the solutions used. In addition, the lessons project managers learned from COVID-19.

Project managers faced difficulties during the COVID-19 pandemic

The results from the Results and Analysis chapter point to the fact that project managers in the UK faced several sizable challenges due to the COVID-19 pandemic. These difficulties include: Transition to remote work: To keep project continuity, project managers had to modify their communication and collaboration techniques in response to the sudden shift to remote work. Disruptions to global supply chains and labour scarcity due to the pandemic forced project managers to find substitute suppliers and deal with labour shortages. Rapidly changing government regulations and guidelines created uncertainty for project managers, necessitating them to adjust project plans and procedures. These issues are consistent with the literature review, which emphasised the different challenges project managers faced due to the pandemic.

Project managers' methods for overcoming obstacles

This study results shed light on the techniques used by project managers to meet the challenges presented by the pandemic: Project managers adopted agile methodologies and digital communication tools to improve communication, cooperation, and project flexibility. Comprehensive risk management: Project managers adopted successful risk management strategies to address uncertainties and possible disruptions related to the pandemic.

Project managers displayed adaptability, resilience, and strong leadership qualities to navigate the quickly changing environment and complete the projects successfully.

Project managers learned multiple lessons from COVID pandemic

Project managers learned the importance of flexibility, technology, and contingency planning. The COVID-19 pandemic highlighted the critical importance of flexibility in project management, as teams had to swiftly adapt to remote work, alterations in project scopes, and shifts in resource allocations. Technology proved to be a vital enabler, facilitating communication, collaboration, and various aspects of project management in a remote setting. Robust contingency planning became essential to navigate the frequent disruptions and uncertainties brought about by the pandemic, highlighting the need for dynamic and responsive strategies.

These tactics align with the literature study, emphasising the need for effective leadership, risk management, and agility during the pandemic.

5.1 Practice Implications

1. Several real-world consequences for project managers in the UK can be determined based on the discussion of the findings:

2. Utilise digital tools and agile methodologies to increase project flexibility and make remote contact and collaboration easier.

3. Implement thorough risk management plans that consider potential interruptions and quickly changing conditions.

4. Develop strong leadership abilities, such as flexibility, resiliency, and sensitivity, to overcome obstacles and put employee welfare first.

Challenges	**Strategies Employed**
Transition to remote work	Agile methodologies and digital communication tools
Supply chain disruptions and labour shortages	Comprehensive risk management
Changing government regulations and guidelines	Adaptability, resilience, and strong leadership

Table 7: Summary of challenges and strategies for project managers during the COVID-19 pandemic

6 Conclusion

In conclusion, this dissertation aimed to explore the impact of the COVID-19 pandemic on project management practices in the UK. Through a comprehensive literature review and systematic literature review, valuable insights were gained into the challenges faced by project managers during the pandemic (covid-19) and the strategies they employed to mitigate those challenges. The results of this study show that project managers in the UK faced numerous difficulties due to the COVID-19 pandemic, including the move to remote work, problems with the supply chain, labour scarcity, and shifting rules and regulations from the government. This study also shows that project managers used various tactics to mitigate these difficulties, including using agile methodologies and digital communication tools, comprehensive risk management, and exhibiting adaptability, resilience, and strong leadership.**So, I have met all the objectives I defined in this dissertation**. I have answered both research questions that I defined in this dissertation. So, in this research, I have identified the impacts that project managers faced due to the Covid-19 pandemic, I have identified which technologies they adopt to deal with those impacts, and I discuss what lessons project managers learned from COVID-19.

This dissertation adds to the body of knowledge by thoroughly analysing COVID-19's impacts on project managers in the UK. The study's conclusions shed important light on project managers' difficulties and tactics during the pandemic, emphasising the value of flexibility, risk management, and strong leadership. Based on the findings and discussion, this study provides several practical conclusions for project managers in the UK and elsewhere: Utilise digital tools and agile methodologies to increase project flexibility and make remote contact and collaboration easier.

Limitations

1. The dissertation's specific emphasis is on the UK context.

2, The research questions have been answered using only secondary data.

7 Future Recommendation

1. To give more in-depth and individualised insights on the impact of COVID-19 on project management practices, future research should address the current study's limitations by including primary data gathering, such as interviews or surveys with project managers and discuss the impacts of Covid-19 on project managers in others countries as well.

2. Future research might include what project managers learned from these impacts and how the pandemic changed their working attitude in project management.

3. Future research should investigate the role of emerging technologies in enhancing project management practices during and after the pandemic. Explore how technologies like artificial

intelligence, data analytics, and virtual collaboration tools can be integrated into project management processes to improve efficiency, communication, and decision-making.

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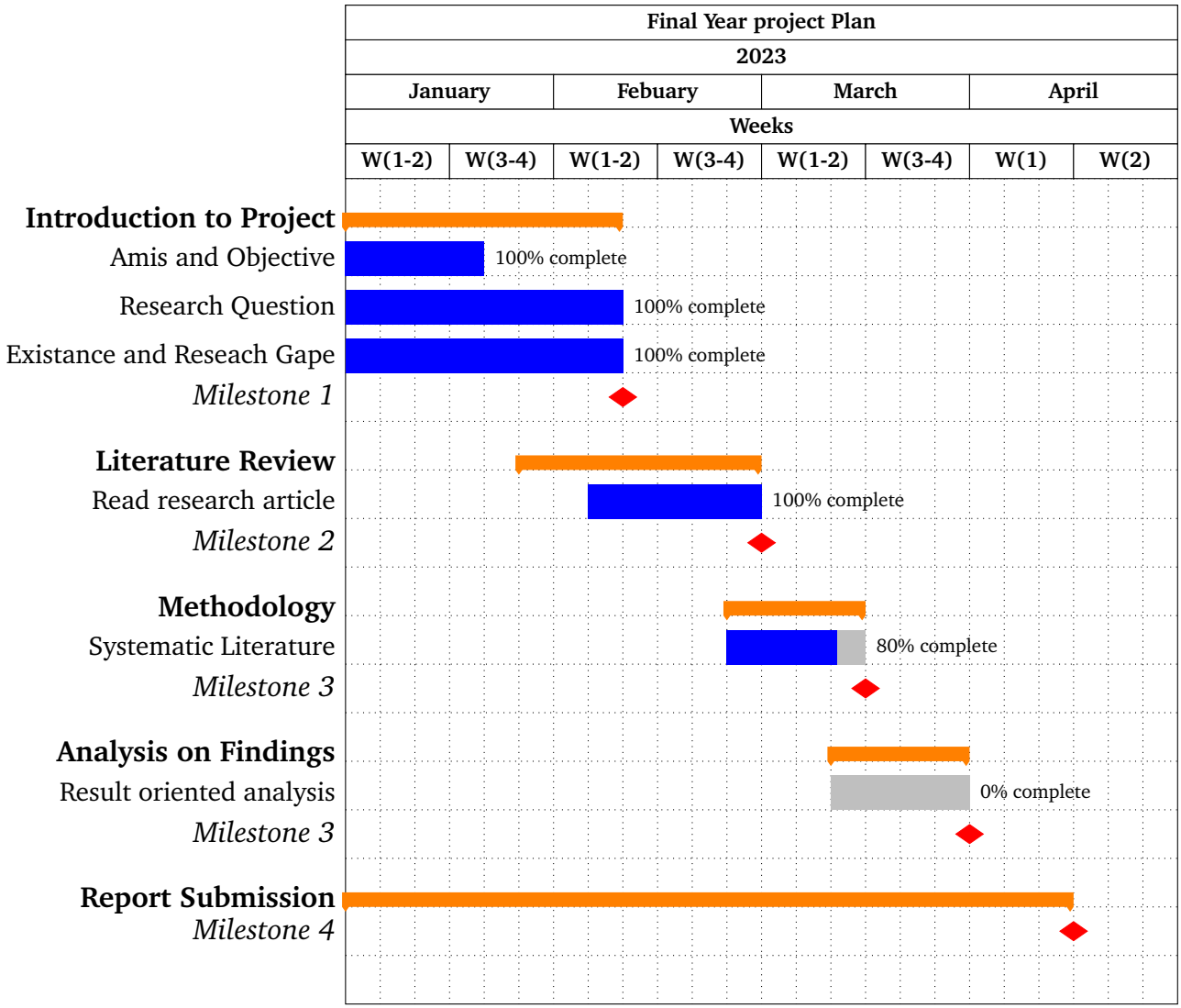
A Appendix: Sample source code

B Appendix: Sample figure



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