Arab American University
Faculty of Graduate Studies
Department of Administrative and Financial Sciences
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"Unveiling Success: Critical Success Factors in Public–Private Partnership Projects Performance in Palestine: The Moderating Role of Risk Management Practice"

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Declaration

I declare that, except where explicit reference is made to the contribution of others, this dissertation is substantially my own work and has not been submitted for any other degree at the Arab American University or any other institution.

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Dedication

To the one and only, my companion, my partner, and my backbone, Mustafa.

To that six-month old baby, who I left at home to attend lectures, Hashem.

To my beloved parents, to Mariam and my brothers for their true love, continuous support, encouragement, and pride.

I dedicate this dissertation.

Dua'a Riyad Mohammad Aweidah

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Unveiling Success: Critical Success Factors in Public–Private Partnership Projects Performance in Palestine Organization: The Moderating Role of Risk Management Practice"

Dua'a Riyad Mohammad Aweidah

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Abstract

Introduction: Public–Private Partnerships (PPPs) are vital for infrastructure development in resource-constrained regions like Palestine, yet face challenges from political instability, weak regulations, and poor risk management. This study identifies Critical Success Factors (CSFs) using the PESTEL framework and examines Risk Management Practices (RMPs) as a moderator influencing PPP project performance. It addresses gaps in context-specific research for fragile environments, aiming to enhance project outcomes in sectors like transport, water, and energy.

Methodology: A quantitative and cross-sectional design was employed, surveying the Public–Private partnerships projects stakeholders (government officials, private partners, project managers) in Palestine using a structured questionnaire. Data were analyzed via Partial Least Squares Structural Equation Modeling (PLS-SEM) to test hypotheses on critical success factors' impact on Public–Private partnerships projects and performance, and the moderating role of risk management practices.

Result: The CSFs had a strong positive effect on the PPP project and performance, indicating that factors like political stability, clear legal frameworks, and stakeholder engagement are pivotal for achieving cost-effectiveness, timeliness, quality, and sustainability. CSFs significantly influenced RMPs, suggesting that a supportive political and legal environment enhances risk identification, assessment, mitigation, and monitoring. RMPs directly improved PPP performance, underscoring their importance in navigating Palestine's volatile context, where political instability and economic uncertainties are prevalent. The moderating effect of RMPs on the CSFs and PPPs projects and performance relationship revealed that robust risk management strengthens the impact of CSFs on project outcomes.

Practical Implications: Policymakers should integrate RMPs into PPP frameworks, prioritize political stability and legal reforms, and foster stakeholder training. This could reduce failures, attract investments, and promote sustainable infrastructure, benefiting donors and communities in conflict zones.
Keywords: Public–Private Partnerships, Critical Success Factors, Risk Management Practices, PESTEL Framework, Project Performance

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List of Definitions of Abbreviations

No.	Abbreviations	Title
1.	PPPs	Public–Private Partnerships
2.	PPP&PP	Public–Private Partnership and Projects Performance
3.	PFIs	Private Finance Initiative
4.	UK	United Kingdom
5.	MENA	Middle East and North Africa
6.	PIPA	Palestine Investment Promotion Agency
7.	CSFs	Critical Success Factors
8.	PESTEL	Political, Economic, Social, Technological, Environmental, Legal
9.	RMPs	Risk Management Practices
10.	RO	Research Objectives
11.	RQ	Research Questions
12.	JAIP	Jericho Agro-Industrial Park
13.	JIFZ	Jenin Industrial Free Zone
14.	RBV	Resource-Based View
15.	UNDP	United Nations Development Program
16.	OECD	Organization for Economic Co-operation and Development
17.	UNESCWA	United Nations Economic and Social Commission for Western Asia
18.	UAE	United Arab Emirates
19.	PWA	Palestinian Water Authority
20.	BOD	Board of Directors
21.	PIF	Palestine Investment Fund
22.	SEM	Structural Equation Modeling
23.	PLS-SEM	Partial Least Squares Structural Equation Modeling
24.	CR	Composite Reliability
25.	AVE	Average Variance Extracted
26.	HTMT	Heterotrait-Monotrait Ratio
27.	VIF	Variance Inflation Factor
28.	R^2	Coefficient of Determination
29.	Q^2	Predictive Relevance

30.	f^2	Effect Size
31.	P	Political
32.	E	Economics
33.	S	Social
34.	T	Technology
35.	EN	Environmental
36.	L	Legal
37.	RIP	Risk Identification Practice
38.	RAP	Risk Assessment Practice
39.	RMIP	Risk Mitigation Practice
40.	RMIMP	Risk Management Implementation and Monitoring Practice
41.	SDGs	Sustainable Development Goals
42.	TS	Technical Skills
43.	FC	Financial Contribution
44.	RM	Risk Mitigation
45.	AC	Accountability
46.	α	Cronbach's alpha
47.	H	Hypothesis
48.	β	Path Coefficient

Chapter One: Introduction

1.0 Background and Introduction

The Public–Private Partnerships (PPPs) have become increasingly regarded as a way of delivering public infrastructure and services around the world. The model that joins the public sectors with the private sectors, theoretically, places public oversight and the efficiency, innovation, and financing of the private sector on the same scale (Ndevu, 2021). PPPs can combine resources, with risks and rewards being balanced between the private and public sectors towards delivering an outcome that neither could achieve on their own (Pongsiri, 2002; Tallaki & Bracci, 2021).

The 1990s witnessed a changing attitude towards the development of PPPs, especially in developed countries like the UK, Canada, and Australia. Governments started introducing PPPs mainly to address budgetary constraints and infrastructure deficits, whilst ensuring that services are still delivered to the intended standards (M. Jiang et al., 2025). In countries like the UK, the Private Finance Initiative (PFIs) were first floated as a means of financing their schools, hospitals, and transportation projects (Van et al., 2021).

Though few PPPs have been entered in the region, the Middle East and North Africa (MENA) region has been witnessing increasing PPP activities across countries at different paces. United Arab Emirates, Saudi Arabia, and Egypt, in particular, have forged ahead with ambitious PPP programs within the broader context of economic diversification and infrastructure development (Alloisio & Carraro, 2015; Soumalevris, 2023). These key political drivers include the urgent need to modernize infrastructure, improve public service delivery, and create employment opportunities while lessening the fiscal burden on the government.

For instance, the Saudi Arabian Vision 2030 envisages PPPs as an integral component of infrastructure development and expects privatization in various sectors, including education, health, and transportation (Hidalgo, 2024). In the same manner, Egypt has engaged in a variety of PPPs in wastewater treatment, road infrastructure, and public buildings, through its PPP Central Unit established under the Ministry of Finance (Abdelsalam Mustafa & Hussein Mohammed, 2023). Yet, despite continued regional efforts, many MENA countries continue grappling with implementation bottlenecks like regulatory insufficiency, political instability, and weak institutional capacities.

Given the economic and political hurdles in Palestine, innovative and sustainable infrastructure development models are therefore paramount. Contrary to the traditional methods of infrastructure development, limited public budgets, heavy reliance on international donor support, and dismal conditions in the private sector put the issue of sustainability on the table. Hence, at the forefront, the very establishment of PPPs tends to be considered as a workable avenue of service and infrastructure provision in the core sectors of transport, water, energy, education, and health (Mousa, Zhang, Ahmed, et al., 2024).

The Palestinian Government still appears more obsessed with using the concept of PPPs as a part of its national development plans. According to the World Bank (2012), the Ministry of National Economy, preceding the Palestine Investment Promotion Agency (PIPA), had drafted a legal backdrop and an institutional setting in the hope of encouraging private-sector participation in public projects. On the other hand, the Palestinian Cabinet passed the PPP Law in 2022 to safeguard and promote private investment in public services (Palestinian Cabinet, 2022). However, the erosion of PPP implementation continues to prevail in Palestine, with several projects being suspended, citing political instability, unclear regulatory mechanisms, or poor risk management procedures (Mousa, Zhang, & Sumarliah, 2024).

In limited and unstable environments, it becomes vital to look into the factors that guarantee a successful performance of PPPs, e.g. Palestinian context. It then becomes essential to understand very well the critical success factors (CSFs), the enablers of success that must always be provided for PPP projects to succeed, for a better future result. Such factors include political stability, sound legal frameworks, stakeholder engagement, economic incentives, technological capability, environmental sustainability, and social sustainability (Kang et al., 2019).

The Critical Success Factors (CSFs) carry the elements necessary to ensure that implementation and operation projects are successful (El Touny et al., 2021). For PPPs, a strong body of literature on CSFs enumerates communication among stakeholders, risk allocation, clear legal-regulation issues, leadership, and project management (Kim & Chae, 2020; Mwesigwa et al., 2024; Wang et al., 2018). These factors are the driving forces behind the best performance improvement, with the least delays, the least cost overruns, and the best service delivery outcomes for the projects.

CSFs have been evaluated by the PESTEL framework: political, economic, social, legal, technological, and environmental domains as developed and validated by

Yüksel (2012). Political commitment ensures continuity of policies, while legal frameworks afford contractual stability and enforceability. Technological capability virtually gives efficiency to a project, and social engagement lays the foundation for community acceptance. However, in Palestine, these factors carry much more weight because of the unusual political and socio-economic environment.

Identification of CSFs is worth considering, yet the effective management of risks is as crucial as that of PPP project performance. Risk presence in a PPP can occur by way of political instability, financial uncertainty, construction delays, regulatory uncertainty, or variation in demand (Li & Wang, 2023; Najeeb, 2024). Even well-planned projects could negotiate rough terrain without attention to the identification, assessment, mitigation, and monitoring of risks through a system or structured approach.

Risk Management Practice (RMP) sustains a moderating position that determines whether the relationship existing between CSFs and project performance will be strengthened or weakened (Ali et al., 2023). Through the application of systematic risk management frameworks, project stakeholders achieve higher preparedness against uncertainties and improved decision-making. Hence, research proves that alongside its sustenance, the incorporation of holistic risk management practices within the lifecycle of PPP projects brings the outcomes to higher standards for quality, cost, and timely delivery (Akomea-Frimpong et al., 2021; Keers & van Fenema, 2018; Zou et al., 2008).

Being politically and economically unstable in the Palestinian setting, risk management is a must rather than a want. Almost all of the existing literature indicates that many PPP-led projects in the area either underestimate the risk or only pay lip service to risk management, thereby producing poor performance or outright failure. Centering on the Palestinian context, this research aims to enhance the body of knowledge on the implementation of PPPs in fragile environments. By going into empirical studies, this research aims to identify the most influential set of success factors and assess ways in which strong risk management could improve project outcomes. This basic knowledge will provide helpful insight to practitioners, policymakers, and scholars looking to make PPPs in Palestine and similar settings more effective.

1.1 Problem Statement

Infrastructure development and public service delivery through Public–Private Partnerships (PPPs) are all the more important in countries with economic and institutional constraints, yet many developed countries have developed clear-cut guidelines, frameworks, and empirical knowledge on the successful implementation of PPPs. On the other hand, developing and conflict-affected regions like Palestine still face issues in furthering the scope of such cooperative arrangements. Despite growing interest and policy support for PPPs in Palestine, many projects have either failed to meet their performance targets or have not been successfully implemented at all (World Bank, 2017).

Existing literature on PPPs has extensively explored the success factors in developed economies and some emerging markets, identifying various critical success factors (CSFs) such as political stability, stakeholder trust, appropriate risk allocation, and institutional capacity (Aljaber et al., 2024; Amoatey & Hayibor, 2017; Fathi, 2024). However, these studies often generalize findings across contexts without sufficient attention to the unique socio-political and economic realities of fragile states like Palestine. Consequently, a significant gap exists in understanding which specific CSFs are most influential in determining PPP success in the Palestinian context, where persistent political instability, financial insecurity, and institutional fragmentation present unique challenges (Edward, 2021).

Adding to the issue is the limited body of research on the moderating role of risk management practices in the PPP success framework. Risk management has been realized as one of the keys for PPP projects around the world; however, its role as a moderator that could govern the strength or direction of the relationship between CSFs and PPP project performance is still underexplored in the Palestinian context or even the MENA region at large (Mousa, Zhang, Ahmed, et al., 2024). This lack of research results in a void of knowledge for policymakers, project managers, and investors who are interested in developing successful PPPs in Palestine.

Without a clear understanding of which CSFs are most critical and how risk management practices interact with these factors to influence performance, there is a risk of misallocating resources, poorly structuring contracts, and mismanaging partnerships. As a result, projects may suffer from delays, cost overruns, low accountability, and public dissatisfaction (Fathi, 2024). These failures further erode trust

in PPPs and limit future private sector engagement, exacerbating Palestine's already limited capacity to meet growing infrastructure and service demands.

There are practical implications for a wide variety of stakeholders. Government agencies would be investing in PPP frameworks, perhaps without knowing the conditions germane to successful implementation thereof. Donor organizations might give funds for projects without much clarity on context-specific risk factors. Local communities might not benefit from infrastructure development programs due to mismanagement and unmet expectations (Buhlungu, 2020). This vacuum will exist because of the dearth of context-specific micro-level research, hampering informed decision-making and strategic planning.

Being the primary factors that impact the performance of PPP projects in Palestine, the research will try in these research to close these gaps and study risk management practices as a moderator between those factors and project outcomes. Thus, the study will help in the local understanding of how a PPP can be implemented in a fragile context and provide useful recommendations to assist in improving project design, implementation, and monitoring. This study needs to become the base to inform policy reform, serve as a guide for future PPP initiatives, and enhance the strategic application of risk management within project frameworks. Therefore, this opens the door for addressing the research problem and hoping to fill theoretical gaps while giving actionable insights to both local and international actors.

1.2 Study Significance and Justification

Public–Private Partnerships (PPPs) generally ensure the delivery of infrastructure and services in many parts of the world, especially in the developing and resource-constrained regions (Yakubova et al., 2021). Yet, in politically fragile and economically strained contexts like Palestine, PPPs have failed to be implemented successfully. While international models and frameworks attempt to define the outline for setting up and managing PPPs, their efficacy severely lacks when operating within local realities where institutional capabilities and stakeholder engagement, along with the risk environment, are starkly different (Harris Sr, 2023). Significantly, this research will directly address these contextual factors by studying the critical success factors (CSFs) and the moderating impact of risk management practices (RMPs) on PPP project outcomes in Palestine.

From an academic standpoint, this research fills a crucial gap in literature by focusing on a geographic and socio-political setting that is underrepresented in PPP research. While a rich body of scholarship exists around PPPs in stable environments such as the UK, Australia, and Singapore, comparatively little is known about how PPPs function in fragile and conflict-affected regions like Palestine. Most existing studies generalize PPP success criteria across diverse contexts, without accounting for local dynamics such as weak governance structures, unstable political conditions, and unique socio-cultural factors.

This research distinguishes itself by developing a context-specific model of PPP project performance that integrates both CSFs and RMPs, and by empirically testing the moderating role of risk management, an area that remains underexplored in current literature. The study's theoretical framework will contribute to refining existing models by highlighting how certain CSFs gain or lose importance depending on the robustness of risk management systems. This nuanced understanding will support the development of new theories around PPP performance in complex environments and enhance the explanatory power of existing models.

Furthermore, this research offers methodological value by applying a quantitative empirical approach in a region where PPP studies have traditionally relied on qualitative or anecdotal evidence. The use of structured surveys and statistical analysis will provide credible, generalizable data that can serve as a foundation for future academic inquiry.

From a practical perspective, the findings of this research are expected to yield actionable insights for government agencies, international donors, private sector partners, and civil society organizations involved in PPPs in Palestine and similar contexts. Identifying which critical success factors most strongly influence project outcomes can help policymakers prioritize resource allocation, legislative reforms, and institutional strengthening efforts. For instance, if legal and regulatory frameworks are shown to have a greater impact than financial incentives, targeted reforms can be implemented to streamline contracts, enforce dispute resolution mechanisms, and ensure transparent procurement processes.

Moreover, by examining how risk management practices moderate the CSF-performance relationship, the study will demonstrate the strategic importance of institutionalizing risk management within public and private entities. This is particularly crucial in Palestine, where risk levels are inherently high due to political instability,

funding volatility, and infrastructural fragility. Providing evidence-based recommendations for strengthening risk identification, assessment, mitigation, and monitoring will help PPP stakeholders build resilience into project design and implementation.

For the policy and strategic relevance, given the current momentum toward more PPPs in Palestine to bridge infrastructure gaps without intensifying the burden on an already weak public fiscal position, this research is indeed timely and necessary. The Palestinian 2022 PPP law and the related national strategic documents have laid down a conducive terrain for expanding PPP engagement; however, these engagements may flounder if implementation is not backed by local research. This study thus provides an empirical foundation to see policy ambitions through sustainable results.

From a larger regional context, the lessons from this research could be adjusted for other conflict-affected and resource-poor scenarios, rendering this study a good reference for countries in MENA and beyond facing structural and political challenges of a similar nature.

1.3 Research Aim, Objective, and Questions

The ambition of the study is to investigate how the Critical Success Factors (CSFs) affect the performance of Public–Private Partnership (PPP) projects in Palestine and to investigate the moderating role of Risk Management Practice (RMP) in this relationship. The study will contribute to theory and practice by providing insights specific to the context that increase the success and sustainability of PPP initiatives in fragile and resource-constrained environments.

1.3.1 Research Objectives (RO)

RO1: To identify and analyze the critical success factors (CSFs) that influence the performance of Public–Private Partnership (PPP) and projects in Palestine.

RO2: To identify and analyze the critical success factors (CSFs) that influence the Risk Management Practices (RMPs) in Palestine.

RO3: To evaluate the impact of Risk Management Practices (RMPs) on Public–Private Partnership (PPP) and project performance in the Palestinian context.

RO4: To examine the moderating role of Risk Management Practices (RMPs) in the relationship between critical success factors (CSFs) and Public–Private Partnership (PPP) project performance.

1.3.2 Research Questions (RQ)

RQ1: What are the critical success factors (CSFs) that significantly influence the performance of PPP projects in Palestine?

RQ2: How do the identified critical success factors (CSFs) influence the implementation and effectiveness of risk management practices (RMPs) in PPP projects?

RQ3: What is the effect of risk management practices (RMPs) on the performance of PPP projects in the Palestinian context?

RQ4: To what extent do risk management practices (RMPs) moderate the relationship between critical success factors (CSFs) and PPP project performance?

1.4 Conceptual Framework

Given the context, it can be said that a blend of Critical Success Factors (CSFs) and Risk Management Practices (RMPs) influences the success or failure of projects under Public Private Partnership (PPP) in Palestine. This framework will support the empirical investigation and hypothesis testing, bringing more nuance into comprehending what engenders PPP success in a fragile setting like Palestine. Table 1.1 is a summarization of the conceptual and operational definitions of the research variables, along with sources and measurement criteria used for each construct.

Table (1.1) Conceptual and Operational Definitions

Construct	Type of Construct	Conceptualization	Operationalization	Source/ Author
Critical Success Factors	Independent	Factors essential for the successful performance of PPP projects across multiple domains.	22 indicators are categorized into six dimensions: 1. Political situation, 2. Economic situation, 3. Social situation, 4. Technology situation, 5. Environmental situation, 6. Legal situation.	Yüksel, I. (2012). Bou et al, (2023).
Risk Management Practice	Moderator	The processes are used to systematically identify, assess, mitigate, and monitor risks in PPP projects.	23 indicators are categorized into four dimensions: 1. Risk Identification Practice, 2. Risk Assessment Practice, 3. Risk Mitigation Practice, 4. Risk Management Implementation and Monitoring Practice.	Omasete, (2014).
PPPs and Project Performance	Dependent	The degree to which PPP projects meet their objectives in terms of efficiency, quality, and impact.	20 indicators are categorized into three dimensions: 1. Technical Skills, 2. Financial Contribution, 3. Accountability.	Mungai (2021).

1.4.1 Conceptual Definitions

1.4.1.1 Public–Private Partnership (PPP): It is a cooperative arrangement between one or more public sector institutions and private entities for financing, design, construction, and operation of projects like public transport systems, schools, hospitals, or utilities. PPPs intend to weld the strengths of the two sectors: public control and governance, and private sector efficiency in the delivery of public services (Adu, 2023).

1.4.1.2 Public–Private Partnership Project Performance: The degree to which a PPP project meets its objectives in terms of cost-effectiveness, quality, timeliness, satisfaction of stakeholders, and sustainability in the long run (Anago, 2022).

1.4.1.3 Critical Success Factors (CSFs): They refer to those necessary variables or requirements that must be present for a project to realize its goals; such elements in the PPP context include political will, stakeholder involvement, viable financing, legal clarity, technical competency, and communication effectiveness (Bilir, 2022).

1.4.1.4 Risk Management Practices (RMPs) are the deliberate steps taken to identify risks, analyze them, take steps to minimize them, and then monitor them through the process of a project from inception to its very end (Pomaza-Ponomarenko et al., 2023). In the case of PPPs, this refers to the risks of a political, financial, operational, and legal kind that stand to prejudice project results.

1.4.2 Operational Definitions

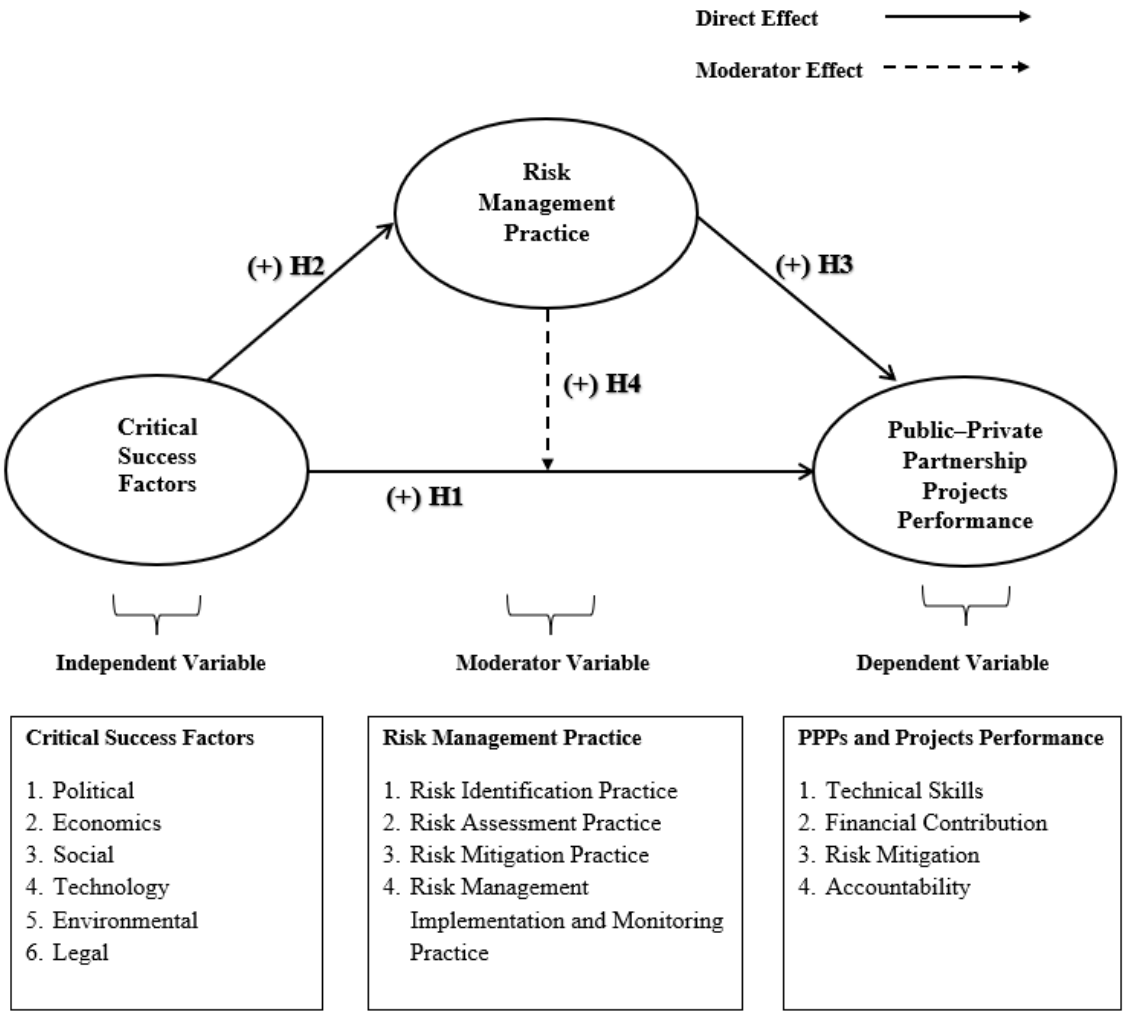
1.4.2.1 Dependent Variable - Public-Private Partnership (PPP) and Project Performance: PPP and project performance portray the fulfillment of pre-established objectives by a PPP project, including costs, quality, delivery time, stakeholder satisfaction, and sustainability in the long term. This variable is operationalized through 23 indicators, which are categorized under three dimensions: Technical Skills, Financial Contribution, and Accountability. These indicators have been validated by Mungai (2021).

1.4.2.2 Moderator - Risk Management Practices: is essentially a systematic process of identification, assessment, undertaking, making of risk mitigation measures, and monitoring the varying needs affecting the performance of PPP projects. The construct is operationalized by 23 indicators grouped into four major

dimensions: Risk Identification Practice, Risk Assessment Practice, Risk Mitigation Practice, and Risk Management Implementation and Monitoring Practice. The indicator was also used and validated by Omasete (2014).

1.4.2.3 Independent Variable - Critical Success Factors (CSFs): are the prerequisites that influence the success of PPP projects. They represent strategic, environmental, and institutional drivers of performance. The construct is operationally defined by 22 indicators used and validated by Bou Hatoum et al. (2023); Yüksel (2012), grouped under six dimensions by the PESTEL framework: Politics, Economy, Society, Technology, Environment, and Law.

1.4.3 Conceptual Model



1.5 Study Hypotheses

Based on the conceptual model, the following are the study hypotheses:

H1: The Critical Success Factors (CSFs) evaluated by the PESTEL framework positively influence the performance of Public-Private Partnerships (PPPs) and projects in Palestine.

H2: The Critical Success Factors (CSFs) evaluated by the PESTEL framework positively influence the Risk Management Practice in Palestine.

H3: The Risk Management Practice positively influences the performance of Public-Private Partnerships (PPPs) and projects in Palestine.

H4: The Risk Management Practice significantly moderates the relationship between the Critical Success Factors (CSFs) evaluated by the PESTEL framework and performance of Public-Private Partnerships (PPPs) and projects in Palestine.

1.6 Study Limitations

This study aims to provide insights into the critical success factors that affect the performance of Public–Private Partnership (PPP) projects in Palestine and the moderating influence of Risk Management Practices (RMPs). However, there are certain limitations regarding this study that might impact those interpretations as well as generalizations.

1.6.1 Contextual Limitation: The study in question is limited to the Palestinian context, where political, economic, and institutional conditions are rather unique. Hence, the results will be more relevant to similar fragile and conflict-affected environments. At the same time, they may not be entirely generalized to either stable or high-income countries, where the environment of PPPs is vastly different.

1.6.2 Sectoral Focus: The study mainly deals with infrastructure PPP projects in transport, health, water, energy, solid waste treatment plants, and industrial zones (JAIP- Jericho Agro-Industrial Park, and JIFZ- Jenin Industrial Free Zone). Thus, the findings may not fully represent PPPs being implemented in other sectors like ICT or tourism that generally involve quite different risk profiles and success factors, e.g., failures in the Zahrat Al Finjan project- solid waste treatment plant. As well as the Al Minya solid waste treatment plant.

1.6.3 Respondent Subjectivity: As for the data, they rely on self-reporting based on perceptions on the part of the key actors in the implementation of PPPs, such as project managers, government officials, or private sector partners. Though such insights are important, there is the risk of bias or subjectivity, or the respondents' giving responses that they think are socially desirable.

1.6.4 Time Constraints: Due to time limitations, the research focuses on PPP projects initiated between 2015 and 2025. Longitudinal impacts, such as long-term operational outcomes and post-project evaluations, are outside the scope of this study. As a result, the study provides a snapshot rather than a full lifecycle analysis.

1.6.5 Quantitative Methodology: This study adopts a quantitative research approach using structured surveys and statistical analysis. While this allows for measurable and generalizable findings, it limits the depth of understanding regarding the nuanced experiences of stakeholders, which might have been captured through qualitative methods such as interviews or case studies.

1.6.6 Limited Access to Data: Given the sensitive nature of some PPP contracts and risk-related data, full access to financial or contractual records was not possible. The study instead relies on participants' perceptions and experiences, which may not always reflect the actual project documentation.

1.7 Structural Outline

This thesis is organized into five comprehensive chapters, each of which plays a critical role in addressing the research problem, guiding the reader through the investigative process, and delivering meaningful conclusions and recommendations.

1.7.1 Chapter One – Introduction: This chapter introduces the study by providing the contextual background of Public–Private Partnerships (PPPs) globally, regionally, and within the Palestinian environment. It outlines the research problem, highlighting the challenges faced in implementing successful PPP projects in Palestine and the gaps in existing literature. The chapter clearly states the research aim, objectives, and questions, followed by the conceptual and operational definitions of the major constructs: Critical Success Factors (CSFs), Risk Management Practices (RMPs), and PPP project performance. It presents

the conceptual framework, research hypotheses, the study's significance, limitations, and concludes with this structural outline.

1.7.2 Chapter Two – Literature Review and Hypothesis Development: This chapter establishes the theoretical and empirical foundation of research. It begins by examining the global and local development of PPPs, the importance of CSFs, and the relevance of RMPs in enhancing project performance. The chapter integrates theoretical perspectives such as systems theory, stakeholder theory, and risk management theory to frame the discussion. It critically reviews prior studies on PPP implementation, success factors, and risk practices, identifying key gaps in the literature. The chapter concludes by refining the conceptual framework and formally developing the hypotheses that will be empirically tested in the study.

1.7.3 Chapter Three – Methodology: The third chapter sheds light on the research design and method of approach utilized in the study. Here, one is provided with the conceptual framework, quantitative research design, sampling techniques, population from which the sample is drawn, and data collection procedure. The construction and structure of the questionnaire are discussed; the sources of measurement scales are also provided, along with their justification for use. Other matters treated in this chapter are the procedures for assuring reliability and validity; ethical issues relating to the study are considered; finally, the presentation of the data analysis techniques applies, as well as statistical methods that include descriptive statistics, regression analysis, and moderation analysis that tests the propositions set forth.

1.7.4 Chapter Four – Results: This chapter presents the empirical findings of the study. It begins with a summary of the data collection procedure and response rate, and demographics of the respondents, before the presentation of descriptive statistics for each construct. Reliability and validity testing were carried out using Cronbach's alpha and factor analysis. The main part of the chapter deals with hypothesis testing through regression and moderation analysis. The results are then interpreted in terms of the significance of the relationships among CSFs, RMPs, and PPP project performance, and the strength of the relationships, culminating in a summary of key findings thereof.

1.7.5 Chapter Five – Discussion, Conclusion, and Recommendations: The last chapter interprets study findings against the research objectives and existing literature.

It will discuss the theoretical and practical implications of the findings, especially on the role of CSFs and RMPs in enhancing PPP performance in fragile contexts like Palestine. The chapter paves the way for the study's limitations and gives specific recommendations designed for policymakers, project managers, and private investors engaged in PPPs. It eventually introduces directions for further work and reflects on the contribution of this study to academic knowledge, as well as to the actual practice of project management.

Chapter Two: Literature Review and Hypotheses Development

2.0 Introduction

This chapter sets the stage for the theoretical and empirical information that underpins the study, which explores the literature on Public–Private Partnership (PPP) development worldwide and in the region, critical success factors (CSFs), and how risk management practices (RMPs) contribute to enhancing the performance of PPP projects. With this foundation, benchmarks for systems theory, stakeholder theory, and risk management theory are placed alongside. The chapter then reviews earlier work on PPP implementation with a particular focus on identifying gaps in the literature in fragile and conflict-affected environments, such as Palestine, laying the groundwork for formulating hypotheses that inform the study. Structured in such a way as to consider the rise of PPPs, identify and imply CSFs, establish the need for RMPs, and show the relationship between these and PPP project outcomes, it ends with an enriched conceptual framework and the formalization of study hypotheses.

2.1 Conceptual Foundations

2.1.1 Critical Success Factors (CSFs)

Critical Success Factors (CSFs) originated in the 1960s under the thinking of Ronald Daniel and were propagated a decade later by John F. Rockart. Rockart considered CSFs "the limited number of areas in which results, if they are satisfactory, will ensure successful competitive performance for the organization." (Rockart, 1979). They are those key areas in performance subject to good management to realize the goals of the project. Bou Hatoum et al. (2023) stated that the CSFs act as a mechanism to focus on factors affecting the success of a project, especially infrastructure and development projects.

Concerning Public-Private Partnerships (PPPs), CSFs are strategic, environmental, and institutional, ensuring that projects remain focused on cost, quality, time, stakeholder satisfaction, and consideration for the long term (Wang et al., 2018). CSFs matter because they resolve complexities facing PPPs, among them being working relationships between public and private bodies that have differing objectives, risk appetites, and modes of operation (Wang et al., 2018). By identifying and managing the

CSFs, problems such as costs overrunning, delays, and conflicts among stakeholders are reduced, and these are worst in resource-strained and politically unstable environments such as Palestine (Mousa, Zhang, Ahmed, et al., 2024).

The names and importance given to CSFs are due to their ability to provide a strategic framework around which to conceptualize project design and execution, by concentrating on all the influencing factors of success, so that resources can be prioritized and strategies aligned toward behaviors and decision-making (Kang et al., 2019). For example, a procedural legal framework may provide contractual certainty, while well-coordinated stakeholder engagement builds trust and acceptance from local communities (Amoatey & Hayibor, 2017). In fragile contexts where political uncertainty or economic volatility may be felt externally, CSFs become of paramount importance in providing direction toward the actualization of project objectives (Almeile, 2021).

The matter of CSFs for PPPs has several varieties and generally depends on the project type, sector, and regional context, among others. According to Kim and Chae (2020) and Mwesigwa et al. (2024), political stability, laws and regulatory framework, stakeholder coordination, financial viability, technical know-how, and communication have been cited among the common CSFs, among others. According to Yüksel (2012), these factors have mostly been analyzed in view of the PESTEL frameworks, which divide CSFs into Political, Economic, Social, Technological, Environmental, and Legal factors. The PESTEL framework becomes particularly helpful when analyzing PPPs in complex environments due to its ability to balance the multifaceted nature of project success.

The political environment greatly affects the success of PPP projects. Political commitment, stability, and governance remain essential to rendering PPP initiatives sustainable in the long run (Ahmadabadi & Heravi, 2019; Almeile et al., 2024; Galilea & Medda, 2010). In PPPs, the public sector puts the political and regulatory framework in place to steer the project, while the private sector provides money, expertise, and innovations. The project's success depends heavily on the ability of the government to justify strong political support and policies and ensure there is no political interference throughout the project implementation (Yüksel, 2012). Political stability assures investors and stakeholders of the continuity of policies and contracts, thereby reducing the risks from uncertainty about changes in political leadership. Political instability, however, directly hampers project approval processes, thereby threatening project abandonment or possible renegotiation, all of which affect the seriousness of their success (Bilir, 2022).

Economic stability and growth prospects remain equally important for PPPs. Windfall gains or losses create serendipities on either side (Sanni, 2025). Construction often requires large investments; economic conditions such as inflation rates, interest rates, currency stability, and economic growth may either facilitate or hinder the success of the investment. The private sector would have to be confident in the economic environment to get a return on the investment (Adhikari & Safaee Chalkasra, 2023), and the public sector, in return, must consider acceptability concerning broader economic improvement, such as jobs and infrastructure (Tawil et al., 2021). Often, PPP projects receive financing on long-term loans, where longer-term financing is more conducive to reflecting the financial strength of the economy to undertake such projects. All the governmental incentives, tax waivers, or subsidies are aimed at boosting the attractiveness of PPPs for investors; hence, they must be weighed against government fiscal policy (Andriansyah & Nam, 2021; Yang et al., 2018).

Social factors give emphasis to the general impact of the project on communities, stakeholder acceptance, and the project's potential in satisfying societal needs (Xiahou et al., 2022). In this regard, social considerations involve the actual engagement and participation processes relating to the local community, labor unions, and different social groups. Fell and Mattsson (2021) observe that whenever a PPP project satisfies social expectations regarding job creation, environmental conservation, and well-being, these PPPs stand a better chance of being considered successful. An appropriate level of stakeholder engagement from the private and public sectors must be maintained so that the project satisfies all concerns and creates social value. Often, the public views acceptance through the prism of how transparent or fair the procurement process is perceived and then through the implications that the project has on society itself (Marumo, 2022).

Technological factors relate to the very availability of technologies and expertise considered mandatory for carrying out the project (Sailer et al., 2021). Nowadays, based on technology, infrastructure development differs in standard and has greater sustainability. This may range from implementing novel construction techniques to ensuring that the infrastructure accommodates the technological needs of tomorrow (Buhlungu, 2020). The private sector's technological ability in project delivery and adequate utilization of technologies to reduce costs and improve efficiencies is critical (Hendrawan et al., 2024). Also, technology-related risks and factors such as obsolescence need to be considered in careful substitution.

Environmental sustainability emerges as a more vital consideration in the execution of PPP projects; attempts at climate change have put PPPs into the framework of legislation and environmental regulations along with sustainability objectives (Liu et al., 2024). Projects should work toward minimizing environmental damage; for example, by energy-efficient designs, renewable energy source applications, and waste reduction measures (Nwaogbe et al., 2025). Should they somehow manage to bypass the environmental statutes or ignore long-term environmental impacts, they could potentially face regulatory scrutiny, delays, or public opposition. Environmental risks are thus addressed in order to ensure project success and consistency with the environmental laws, both locally and internationally (Latilo et al., 2024).

Strong legal arrangements have already been made to ensure that agreements are enforceable and the rights and obligations of either public or private partners are made clear (Vecchi et al., 2021). Such legal clarity is needed to govern risks and ensure that the project complies with regulatory requirements that include procurement processes, contract laws, and dispute resolution mechanisms (Osifo et al., 2025b). Strong institutions and legal frameworks will generate investment trust and protect the parties from confronting disputes throughout the lifespan of the project (Tang, 2024). In contrast, the importance of legal aspects will increase in an unstable environment, where mere ambiguities act as stumbling blocks and hamper the timely completion of the project, at huge financial claims.

There exists a considerably unique set of challenges that inhibit the successful implementation of PPP projects in Palestine, mainly because of the political, economic, and social setting (Mousa, Zhang, & Sumarliah, 2024). The problems tied to PPP projects are intensified by the political instability and conflict prevailing in the region. A situation of such instability persists in making long-term political commitments nearly impossible to ensure and often results in changes in project priorities and regulatory framework (Aladağ & Işik, 2022).

The repercussions of economic hardships, such as high unemployment rates or dependence on outside financial support, also bear their effect on PPP outcomes (Das Aundhe & Narasimhan, 2016; Tariq & Zhang, 2021). Financial risks, the lack of capital markets, and effects from outside economic forces, such as international sanctions or economic blockades being imposed on the country, restrict the private sector from fully competing in the infrastructure projects. This is also adverse to financial incentives that may be given to investors.

Socio-cultural factors in Palestine are instrumental in enhancing the acceptance and successful implementation of PPPs (Sharqia, 2024). Then comes social equity: fears that privatization of public services might jeopardize the equity of service delivery. In addition, the engagement of the community is paramount in assuring that the projects are pertinent to the needs of the locality and are accepted by the user population (Batidzirai et al., 2021). From a technological perspective, Palestine has a set of constraints in the development of infrastructure and application-oriented technical know-how. The lack of modern technology, especially in sectors such as energy, transportation, and water management, may limit the successful realization of PPP projects (Kaletnik & Lutkovska, 2021). Palestinian institutions would be incapable of managing highly complicated technological systems and integrating such systems into the overall infrastructure framework.

Palestine faces unusual challenges in managing its natural resources and reducing pressures on the environment, mostly in water and energy. With resource scarcity, access to natural resources is restricted for the country, and the implementation of international environmental guidelines may be perceived as effective. The developments in the legal and regulatory landscape of Palestine are in flux, and even with the passing of the PPP Law in 2022, its implementation remains a challenge due to contradictions in enforcement, political instability, and inefficiencies within bureaucratic processes (Palestinian Cabinet, 2022). A clear, stable, and transparent legal framework is required by the government to make sure that PPP projects are both legally viable and attractive to the necessary investment.

2.1.2 Risk Management Practice

Risk Management Practice (RMP) refers to the process of identifying, assessing, mitigating, and monitoring risks throughout the lifecycle of the project (Bahamid et al., 2022; Mazher et al., 2022). In the context of PPPs, effective risk management is needed to ensure that risks do not pose problems while there are project goals and objectives to be achieved. RMP enables stakeholders to identify risks early on and deal with them properly to reduce their effect on the success of the project (Eyieyien et al., 2024). The importance of risk management is seen in all large infrastructure projects, whereby an array of risks is found, political, financial, technological, and legal, at times even simultaneously, pertaining to the public sector and, some other times, pertaining to the

private sector (Aladağ & Işik, 2022). Effective Risk Management Practice minimizes this risk so that the project objectives can be accomplished, i.e., to produce quality on time and on budget.

Risk management encompasses a variety of activities, including the identification and control of risk factors for a given situation, while simultaneously fostering risk awareness (Meyer & Reniers, 2022). It provides a framework for responding to the realities and uncertainties that emerge during the project. In a PPP project, protracted with the collaboration of many parties, contract considerations, and investment capital, there are greater challenges for risk management. Since risk intervention is dependent upon ensuring that the interests of the public and private sectors are fairly aligned, a PPP style would therefore be vulnerable to risks that may undermine its ability to continue in the future unless mechanisms managing these risks are put in place (Martin & Halachmi, 2012; Tallaki & Bracci, 2021).

Raising awareness about potential risks is the first and foremost risk management task. In PPP projects, risk identification is a continuous exercise and involves thinking about a wide range of possible risks, including financial, technology, political, legal, and environmental (Rasheed et al., 2022). Usually, risk identification is done jointly with all project stakeholders, for each actor has different views concerning potential risks, depending on their respective roles and expertise (Urbinati et al., 2021).

Risk identification initiates in the early planning stages of a project and continues through execution as new risks arise over time. Common methods include risk workshops, brainstorming sessions, expert interviews, and analyses of historical data from similar projects (Ellermann et al., 2022). In complex environments such as Palestine, risk identification also considers checking on the political atmosphere, economic situation, and socio-cultural factors that could affect the stability of the project (Mousa, Zhang, & Sumarliah, 2024). In Palestinian settings, political instability and regional conflicts are highly relevant factors affecting risk identification, which must encompass political risks such as the change of government, civil unrest, or shifts in national policy affecting infrastructure projects (El-Mougher & Mahfuth, 2021). Once these risks are identified, stakeholders can propose risk responses.

In PPPs, risk assessment means determining the level of exposure to such identified risks and their ability to be managed by one of the parties or absorbed by one of the parties. For instance, having risks like currency fluctuations or interest rate changes might have an extreme effect on financing arrangements than other risks operational in

nature (Wang et al., 2021). These become factors especially relevant in a fragile economic setting such as Palestine, where external economic forces, including trade restrictions or sudden shifts in global commodity prices, can immediately affect a project budget (Yoganandham, 2023).

Assessment of risks in the Palestinian context is imperative due to the region's distinct political and financial peculiarities. For instance, unfavorable conditions arise when uncertainty looms over external financial support or when conditions in the Gaza Strip and the West Bank remain volatile; such unfavorable conditions could lead to serious questions about the viability of PPPs (Mousa, Zhang, Ahmed, et al., 2024). Consequently, risk assessments within the Palestinian territories must therefore include these additional layers of uncertainty, which may be absent in a more secure environment.

Upon assessing risks, the next step of Risk Management Practice comprises drawing up risk mitigation strategies. In PPP arrangements, risk mitigation is mainly accomplished via the creation of clear contract stipulations specifying which party will bear which risks (Rybnicek et al., 2020). Mitigation efforts might also include the use of financial instruments in the form of insurance, guarantees, or hedging, while operational strategies could include supplier diversification, cutting-edge technology, or flexible design and construction based on the changing conditions of the project (Cai, 2024). Governments could provide financial or legal guarantees via subsidies or through guarantees that make sure the project remains viable.

Mitigation of risks usually addresses political risks outside the realm of control of the private sector, such as a change of government or an instance of instability in the region (Najeeb, 2024). Palestinian projects, for example, may give rise to insurance against damages awarded because of military conflicts or disturbances in the region, or perhaps a political risk can be sponsored as a method of hedging the risk emanating from changes in government policies or disputes over territorial claims (Bukhari et al., 2024). Such measures provide a buffer to help both public and private parties stand against the financial shock waves of the unforeseen.

According to PMI (2017), risk management is a continuous process that, in the case of a PPP project, risk monitoring and controlling would, therefore, ultimately ensure the greater success of the PPP project. It involves continuous tracking of the risks identified to date, evaluating their status, and enforcing risk mitigation or treatment strategies if changes to this status warrant it. Monitoring will also concern itself with the identification of new risks arising as the project evolves and the adjustment of the

response to risk management accordingly (Nabeel, 2024). The regular review of the project, audits, and reporting procedures is used for monitoring purposes. Monitoring risk is crucial for long-term projects as the external environment may change dramatically during a project's lifespan (Lamprou & Vagiona, 2022). New risks may arise, and as a precautionary measure, they should be managed in a swift manner so that it does not obstruct the project.

Risk monitoring becomes important in the Palestinian territories due to the shifting and volatile environment in which PPPs work. The political-economic environment in the Palestinian territories may change at a fast pace; hence, such risk factors as security situations, availability of international aid, or changes in political leadership must be constantly monitored (El-Mougher & Mahfuth, 2021). This constant monitoring will allow a proper mechanism to keep those projects from further hurdles.

Risk management is one very crucial factor that affects the performance and success of the projects are achieved in a PPP project. In the evaluation of this project, the risks are identified, evaluated, and considered. They are also tracked so that the stakeholders act in response to any interruption in the project timeline arising out of the project itself, risk management interruptions can be attempted along with any adverse effects, that is, cost overruns or delayed performances or in results, or poor-quality outputs (Giri, 2025). Risk management also builds trust among the stakeholders, as they know the set procedures to deal with any issues and agree on which party will do what when confronted.

With political, financial, and socio-cultural risks far greater than those faced by regions elsewhere, there arises an even greater need for a risk management framework in PPP projects in Palestine. According to MAS (2018), the foreign aid becomes the basis of financial risks, and international markets fluctuate, the consequences could further entrench the barriers to project accomplishment. The problems of risk management in PPP projects are further amplified by the ever-continuing political instability, economic dependence on international aid, and fragmented governance of the territory (Morrar et al., 2024).

Hence, it is argued that certain high-risk environments characterized by uncertainties regarding return on investments can deter Palestinian private sector investors from financing large infrastructure projects. So, there is a crucial need to implement risk mitigation measures such as sharing of risk or providing guarantees to further attract private investments (Palestinian Cabinet, 2022).

2.1.3 Public–Private Partnership (PPP) Projects Performance

The scope of performance evaluation of Public-Private Partnership (PPP) projects in determining the success and sustainability of an infrastructure development remains a very broad one (Akomea-Frimpong et al., 2022). A PPP is described as an arrangement, be it contractual, mixed, or collaborative, between public and private sectors, in order to share resources and risks and to provide public services and infrastructure (Klijn et al., 2021). Generally, project performance is assessed against the extent to which the projects fulfill the purpose for which they are undertaken; that is, price, quality, time, stakeholder satisfaction, and long-term sustainability. The performance of PPP projects is the result of many factors because of their complexity and size, expected to include those relating to efficiency in project management, stakeholder involvement, allocation of risks, and the political and economic terrain in which they operate (Eyiah-Botwe et al., 2020).

Cost-effectiveness is one of the main attributes for the assessment of PPP project performance, and asks if the project is done within the budget and whether value for money has been delivered (Sarfo Banahene et al., 2022). The actual cost may be affected by a variety of factors, including the exactness of cost estimation, the efficiency with which resources are used, the financial management of the project itself, and the management of unexpected costs, such as inflation or price changes of certain materials (Hatamleh et al., 2018). In such projects, usually, a very high portion of financial risk is borne by the private sector; consequently, in cost planning and financial monitoring, a very high priority needs to be given to keeping the project budget intact.

PPP projects' cost performance can be improved by strong financial management processes, including securing transparent bidding processes, efficient contract management, and performance-based incentives that encourage cost control and effective implementation of efficiency measures (Verweij & van Meerkerk, 2021). Especially in regions with volatile economic conditions where there are cost escalations due to inflation and other external economic factors, such as Palestine, these risks must be accounted for in the contract structure and financial planning.

Time performance is the capacity of a PPP venture to stick to its deadlines and provide delivery (Osei-Asibey et al., 2025). Being on time in infrastructure is of utmost importance since the stage of delay spells widespread hindrances. Any delay comes with its costs, interruption in service, and an unhappy crowd. Such projects have built-in standards with the public and private partners, as all parties agree on penalties and

incentives tied to the target delivery schedule. Delays may occur for myriad reasons, such as poor planning, unanticipated risks (political instability, change in laws, or supply chain interruptions), or defective coordination between stakeholders (Mberema, 2022). To manage time performance, PPP projects usually incorporate detailed schedules and timelines, milestone monitoring, and contingency plans to face any threat of delays (Kakw'u, 2024).

Quality of service is a crucial element for judging the performance of PPP Projects and encompasses outcomes that are up to the specification quality, standards, and expectations previously agreed upon by stakeholders (Owolabi et al., 2024). Quality performance in PPP projects implies meeting technical specifications and simultaneously guaranteeing the sustainability and longevity of the infrastructure/service endowed (Soumalevris, 2023). Where quality measures the infrastructure to be delivered in a sector such as transport, health, and energy, it directly influences public welfare.

Usually, a PPP project has strict monitoring and quality assurance procedures, such as inspections, testing, and regulatory monitoring. The private sector is often incentivized through performance-based contracts to deliver high-quality outcomes on time (Uvet et al., 2021). Good collaboration between the public and private sectors and clear communication pathways also help to ensure quality throughout the lifespan of the project (Mwesigwa et al., 2024). On the other hand, stakeholder satisfaction has become a very important criterion for determining PPP project performance. Public-private partnerships often involve many stakeholders having different interests and expectations.

In terms of holding the stakeholder satisfied, concern must be given to transparency, communication, and engagement. Stakeholder management strategies in PPPs usually entail periodic consultations with affected communities, dialogue with government agencies, and consideration of their concerns for local businesses and residents (TARIKU, 2023). In the Palestinian context, where social and political factors significantly contribute toward shaping public opinion, it becomes all the more critical to gain community support and satisfaction for PPP projects to succeed (El-Sawalhi & Mansour, 2014).

Social and environmental situations are an important factor in the long-term sustainability of PPP projects. This factor covers the project's ability to deliver the services and infrastructure successfully over time. Sustainability is evaluated against environmental, social, and financial factors (Bartolacci et al., 2018). From the environmental point of view, sustainability means that the project should not cause any

unreasonable harm to the environment and should incorporate greener practices wherever possible, such as energy efficiency, waste management, or the use of renewable resources (Ekins & Zenghelis, 2021). Social sustainability considers whether the project can build a positive presence in the community for the long run by means of job creation, capacity development, and raising the standard of living (Barron et al., 2023).

Financial sustainability mainly deals with safeguarding the project's economic standing in the long term. This could, for instance, guarantee that the revenues garnered from the project are sufficient to meet operational and maintenance costs or share reasonable returns to private partners, in the form of user fees or taxes (Gatti, 2023). Further sustainment of PPP projects will require long-term considerations, with some environmental requirements and economic resilience to be incorporated in the project design.

The socio-political and economic environment is are huge determinant of the performance of PPPs in Palestine. Political unrest negates avenues of implementation for successful PPPs, an ongoing example being the Israeli-Palestinian conflict. Due to political developments or considerations related to security, Projects might be delayed or even canceled. Besides, the nonexistence of a steady regulatory framework and nonconsistency in governmental backing could lead to underperformance of PPPs (Akomea-Frimpong et al., 2023).

An economic environment has constraints, theories of financing, high unemployment, and dependence on foreign aid in Palestine. If the economic environment becomes unstable, it will interfere with the PPPs since competing financial objectives may result in further government support or foreign direct investment in the PPP project (Li & Wang, 2023). Despite the above challenges, PPPs in Palestine certainly offer a potential solution for reducing the infrastructure deficit and for sustainable development, especially in key sectors such as water, energy, and transport. The success of PPP projects in Palestine depends on how the public and private sectors manage risks, ensure transparency, and actively involve stakeholders in the process from the inception of the idea to the completion of the project. Given the peculiar realities of life in Palestine, special considerations must be made to ensure that the PPP projects do indeed attain the objectives for sustainable development.

2.2 Theoretical Building and Hypotheses Development

2.2.1 Critical Success Factors and Public–Private Partnership (PPP) Projects Performance

Public-Private Partnerships (PPPs) are agreements or associations in infrastructure construction and service delivery in a supposedly more efficient manner since risks and rewards are shared among the parties (Verweij & van Meerkerk, 2021). The success of PPP projects under challenging circumstances, such as in Palestine, depends mostly on many Critical Success Factors (CSFs). These CSFs act as horizontal building blocks that must be addressed along the project lifecycle to ensure its successful delivery and desired results.

In essence, due to the differing weight of the socio-political, economic, and environmental challenges in Palestine, a wide range of factors condition the successful performance of PPP projects at their nexus (Morrar et al., 2024). The PESTEL framework provides a perfect analysis of the elements behind the performance of PPPs: Political, Economic, Social, Technological, Environmental, and Legal (Yüksel, 2012). It thus becomes a determinant framework for Palestine, where a complex socio-political reality coexists with economic instability, alongside an evolving legal and regulatory framework. It focuses on crucial issues to be solved to reduce risks and increase the potential for success.

Identifying CSFs via the PESTEL framework will provide the stakeholders with guidance on prioritizing actions and allocating resources so that the conditions required for a successful undertaking of PPP projects may be met (Kim, 2022). Given the peculiarities faced in Palestine, very crucial indeed becomes the awareness of how these variables may interact amongst themselves and with the different classes of activities, being subject to which, project performance gains significance for allowing PPPs to reap the utmost benefits.

The linkage between CSFs and PPP performance has been explained through Project Management Literature and Complementary Theories. (Pinto & Slevin, 1987), Define CSFs as those key areas that demand the attention of management so that the project objectives may be attained. For PPPs, these factors are highly context-dependent, varying with project types-e.g., transportation, healthcare regional conditions. From a systems theory perspective, PPPs are considered complex systems where other forces-

political stability, economic conditions, or legal frameworks-interact to shape outcomes (Fortune & White, 2006).

The Diamond Model, as proposed by Porter (1990), serves as a conceptual framework for understanding how certain environmental aspects influence the competitiveness of a country or region. According to the model, four major elements determine competitiveness: factor conditions, demand conditions or market size, related and supporting industries, and firm strategy, structure, and rivalry. When the Diamond Model is applied to PPPs in Palestine, it can help go through local conditions, infrastructure, regulatory environment, and market demand, and how this all affects PPP competitiveness and the success and viability of a given PPP project. The model holds that for PPPs to thrive, an enabling environment must be configured in such a way that it encourages innovation, investment, and the efficient utilization of resources. This framework thus becomes an essential tool when it comes to identifying which factors in Palestine need to be enhanced to give PPP projects a competitive advantage.

On a broader observation, according to the Resource-Based View (RBV) Theory by Barney (1991), it is mainly the internal resources and the organizational capacities that constitute the competitive advantage. For the PPPs, RBV insists that the two sets of partners (the public and the private sectors) need to have internal capacities for entirely assuring project success. These would relate to technical expertise, finance, project management, and the capacity to handle and lay down the methods of risk. According to the RBV, such projects cannot prosper without external factors being put into consideration, and an equal weightage must be attached to the efficiency of internal resources used between the two parties. In Palestine, where political instability and economic troubles prove to be external impediments, the inability to tap into internal resources such as technological capabilities, management expertise, and financial investment from both sectors, and using these well, would be a huge obstacle to the success of the projects.

Previous studies stand as strong evidence to support the claim that the intended management of CSFs within the PESTEL framework affects the Public–Private Partnership project performance. Osei-Kyei and Chan (2015) reviewed 27 global studies on Public–Private Partnerships from 1990 to 2013, pinpointing important CSFs such as appropriate allocation of risks, strong private consortium, political support, transparent procurement, and stable macroeconomic conditions. Li et al. (2005) studied CSFs for PPP and PFI projects in the construction industry of the United Kingdom, so 18 factors,

including political support, economic viability, reliable technology, and clear legal frameworks, were brought to light. Their findings proved that the efficient management of these CSFs, especially in the Political and Legal dimensions, improves cost efficiency and project quality, thereby supporting the hypothesis.

Debela (2022) studied the CSFs in global infrastructure PPPs, identifying financial attractiveness, risk sharing, and technical innovation as critical to the success of a project. The CSF, pursuant to Economic, Legal, and Technological dimensions, was said to increase cost efficiency and stakeholder satisfaction. Gouda Mohamed (2024) took up sustainable PPPs, which emphasized community support and environmental compliance as the key CSFs in the Social and Environmental factors. Proper treatment of these factors led to the acceptance of the project and its sustainability in the long term.

From the perspective of Palestine, Abu-Rmeileh and Iriqat (2024), in their investigation of PPP projects in post-conflict regions, found that political and economic stability in the area greatly affects the outcome of the projects. Hence, in an environment like Palestine, political instability and sometimes the lack of a financial resource base are directly translated into hold-ups and increased risks in the projects. Thereby, Mungai (2021) also stressed the point that stakeholder engagement and government commitment are paramount to guaranteeing the successful implementation of PPPs in Kenya, a country with its political and economic maladies.

***H1**: The Critical Success Factors (CSFs) evaluated by the PESTEL framework positively influence the performance of Public-Private Partnerships (PPPs) and projects in Palestine.*

2.2.2 Political Situation and PPP and Projects Performance

The political environment remains a defining factor affecting Public-Private Partnership (PPP) projects' success and performance, especially in areas suffering from political instability and governance challenges (Opawole et al., 2019). In the Palestinian arena, the ongoing Israeli occupation, internal political fragmentation between the West Bank and Gaza Strip, and fluctuating foreign donor dynamics create a very uncertain political sphere. This uncertainty poses more risks to the projects, inhibits private investment, and decreases the performance levels of PPP initiatives (Dewulf & Garvin, 2020).

Political instability generates delays in approvals, changes in legal frameworks, and difficulties enforcing contracts during the PPP lifecycle. Çakmak and Gediz Oral (2023) argued that political commitment and transparency are important for the successful implementation of PPPs. In places marked by instability, political commitment is either absent or inconsistent, passing the burden of political risk way beyond manageable proportions to private partners. This leads to non-competitive bidding processes, excessive costs, and even complete abandonment of projects (Hodge & Greve, 2007).

Additionally, external political forces uniquely affect the Palestinian context. The activities of Israeli restrictions of movement and access, along with limitations to exercise control over borders, natural resources, and customs revenues, impair the Palestinian Authority's ability to adequately plan, finance, and implement infrastructure projects (World Bank, 2017). These problems communicate interferences hostile towards the operation of PPPs by increasing transaction costs and regulatory uncertainties, alongside discouraging private sector participation (Ramadhan, 2018).

The Institutional Theory by DiMaggio and Powell (1983) attempts to explain the role of political stability in PPP success: under this conception, the institutions, public and private alike, must respect the current political scenario; therefore, the presence of political stability is obligatory to see consistency in governance, in policy, as well as in institutional behavior. On the contrary, a lack of political stability means inconsistent governance and policy, in turn creating uncertainty in regulatory frameworks that PPP projects require for their very existence.

On the contrary, political governance, consistency in policy, and institutional support are among the critical success factors recognized in the PPP literature. Yescombe (2011) states that the existence of political will alongside stable institutions and clear legal frameworks can help to improve trust between the public and private sectors. In Palestine, the absence of one governance structure and opposing jurisdictional authority complicate this dynamic, thereby making PPP implementation more susceptible to political shocks.

Bekr (2017) further elucidates that countries experiencing political instability witness poor performances in PPP projects with respect to the parameters of time, cost, and quality. This is especially true for Palestine, given that the public sector faces challenges in ensuring long-term commitments amidst changing political circumstances, coupled with a heavy dependence on external aid.

***H1a**: The Political situation positively influences the performance of PPPs and projects in Palestine.*

2.2.3 Economic Situation and PPP, and Project Performance

Economic conditions direct impact on the performance of Public-Private Partnerships (PPP), particularly in Palestine, where high unemployment, dependence on foreign aid, and tight capital availability pose financial risks. According to Transaction Cost Economics (Williamson, 1981), an economically stable environment reduces uncertainties with respect to financing, operational costs, and overall feasibility of projects. This means a stable economic environment with acceptable inflation rates, fluctuating currency exchange rates, and credit financing through the banks is a precondition for private investments and to ensure the feasibility of the project. Whereas, in Palestine, the dependence of the economy on foreign aid, coupled with the continuous trade restrictions, worsens the financing crisis, making it doggedly uphill to raise funds for large-scale infrastructure projects (Sabra, 2022).

When economic factors such as inflation, currency fluctuations, and interest rates change, they directly affect project costs and revenue projections (Musarat et al., 2021). For example, project funding may be interrupted due to sudden changes in global economic conditions, as well as reductions in foreign aid, resulting in delays or cost escalations. Such external economic shocks increase uncertainty in Palestine, which seriously jeopardizes the long-term viability of PPPs. Furthermore, the lack of steady capital availability stifles project growth. To protect against such financial risks, PPPs in Palestine would have to integrate financial mechanisms in the project bid, such as hedging, flexible finance mechanisms, or government guarantees acting as a buffer against economic volatility (Najeeb, 2024). Such strategies could offer the financial buffers needed to ensure that projects are not stopped by sudden economic changes.

Investor confidence increases with a stable economic environment, reducing financial risks and supporting the realization of PPP projects over time (Park et al., 2020). Stability in economic conditions makes sense to a private investor that engaging in PPPs will yield his expected profits; otherwise, the investor will not take any risk. Likewise, the stability of economy helps in ensuring circumstances for accurate projection of costs of the project so that both the partners negotiate and adopt the conditions in respect of their financial viability till the life of the project (Delmon, 2017); therefore, if these economic concerns could be resolved adequately, PPPs in Palestine could ensure cost efficiency, controlled within budget limits, and able to deliver infrastructure as per the requirements of the public.

A stable macroeconomic environment is the critical success factor in PPPs, as it grants investor confidence and ensures predictability in cash flows (Li et al., 2005; Osei-Asibey et al., 2025). Conversely, any economic volatility, such as that faced in Palestine, creates uncertainty with regard to inflation-adjusted costs, currency risks, and availability of financing. This uncertainty usually leads to increased risk premiums, higher cost of capital, and difficulty in the financial closure of PPP initiatives (Yescombe, 2011).

The underdevelopment of the local capital market and limited access to long-term finance continue to constrain the participation of Palestinian firms in PPP arrangements. Furthermore, international investors may shy away from the perceived financial risks and issues in return on investment in an unstable economic environment (empty-empty) (Umamaheswaran et al., 2024). Thus, both directly and indirectly, economic fragility acts against the performance of PPP.

***H1b**: The economic situation positively influences the performance of PPPs and projects in Palestine.*

2.2.4 Social Situation and PPP, and Project Performance

Societal changes are critical to the success of PPP projects, whereby unemployment, social disparities, and public skepticism over privatization stand in opposition, particularly in a place like Palestine. According to the Stakeholder Theory (Freeman, 2010), all relevant stakeholders should be involved in the project and their concerns addressed to attain legitimacy for the project and social acceptance. In a country like Palestine, PPPs need to consider community needs in building public trust and acceptance. Community needs include jobs, access to basic services, and socio-economic development at large (Hussain et al., 2022).

Unemployment rates in the Palestinian context are high, and economic opportunities are limited; any infrastructure project providing employment or enhancing village-level public service is more likely to be received favorably by the local populace (Abu-Rmeileh & Iriqat, 2024). These local projects, ranging from road works, health centers, or solar power, help in alleviating local resistance and generate social acceptance. Ensuring that these projects, in some way or another, contribute to the community's well-being is important in obtaining support from the public and in standing against the opposition.

The engagement of stakeholders is among the major strategies used to solve social issues. Transparency in communication, social impact assessments, and an inclusive planning process ensure an equitable distribution of project benefits (Ahmad & Islam, 2024). In Palestine, where the political and social dynamics often bring protests or resistance toward privatization, there arises the need to address social risks through community involvement. The alignment of the concerns of the local communities with the objectives of the PPP through the participatory approach could minimize delays or conflicts, or any public opposition (Amadi et al., 2020).

More than anything, PPP performance is interdependent on stakeholder satisfaction and service quality. Outlining the societal trickle-down effects of affordability, accessibility, and quality of services, at least, constitutes a legitimate concern for, if not outright viability of, PPPs (Samans, 2023). This becomes especially important in the case of Palestine, where restrictions on freedom of movement unequally curtail access to resources and facilitate to a disparaging degree, depending on the region.

Cultural attitudes and civic engagement levels also affect PPP outcomes. Societies that are conflict-affected or conservative tend not to widely involve women, youths, and other marginalized groups in decision-making processes. This may give rise to project designs that are not fully oriented towards societal needs or deprived of opportunities for empowering local communities (UNDP, 2020).

Social forces enter public perception, and it is a critical factor for the long-term success of PPPs. Projects that are perceived to work for the benefit of a wider public, improve the quality of life, and promote social equity are certain to receive support from the populace (Kirkbride et al., 2024). Since social justice is of key concern in Palestine, the greater the degree to which PPP projects work toward local priorities and social equity, the less the resistance they may encounter, and thus the more positive will be the relationship between the public and the PPPs. Where PPPs can help tackle social issues such as inequality and access to services, this may very well contribute to sustainable development outcomes, in turn boosting the performance of such projects.

***H1c**: The Social situation positively influences the performance of PPPs and projects in Palestine.*

2.2.5 Technological Situation and PPP, and Project Performance

Technology plays an increasingly crucial role in the success of Public-Private Partnership projects, especially in the energy, transport, and health sectors, where efficiency, sustainability, and innovation drive the agenda (Rumiantsev et al., 2024). Yet in Palestine, the relative lack of access to advanced technological means and infrastructure poses a great hindrance to the implementation of PPP projects. According to Technological Innovation Theory (Schumpeter, 2013), the adoption of new technologies is the means to gain efficiency, lower operational risks, and ultimately enhance service delivery. When partnered in the public and private sectors, the deployment of advanced technology brings down CAPEX/OPEX costs and brings about sustainability and implementation results, including renewable-energy systems or smart infrastructure.

Access to the latest technologies in Palestine is generally hindered by economic and infrastructural issues. Therefore, PPPs must adequately utilize whatever technology is made available to attempt to alleviate some of these constraints. Digital tools that may include real-time monitoring, data analytics, and predictive modeling may go a long way in assisting project management processes and risk mitigation strategies (Diameh et al., 2025). This will allow for better decision-making, recognizing potential risks, and managing resources necessary for the successful implementation of PPP projects.

Moreover, in PPPs, risks, transparency, and accountability are keys to project implementation. Technology, such as advanced project management tools, real-time monitoring systems, and e-governance platforms, if well implemented, would tackle such areas as cost overruns and help coordinate stakeholders for better service delivery (Afieroho, 2024). But the low digital literacy and capacity that exist among stakeholders in Palestine diminish the possibility of truly leveraging this environment.

Similarly, the limited exposure of the local private sector to advanced methods of project delivery (e.g., building information modeling, modular construction, or public service digitization) has dented its ability to compete in PPPs. Unless equipped with skills, investment, and technology transfer, perhaps the working of PPP projects would remain handicapped from the perspective of Palestine (Berrone et al., 2019).

Since technological advancement is double-edged- one end for ensuring operational efficiency and future-proofing an undertaking, so being adaptable to any change in situ or challenge that may arise. Installations of renewable-energy technologies

in infrastructure projects, for instance, will curtail operational expenses in the long term and will promote sustainability, settling for a global trend in the going-green direction (Esily et al., 2025). Through strategic investments and partnerships with technological solutions, PPPs in Palestine will raise their project quality standards, avoid delays, and cater fully to or beyond stakeholder expectations. Project performance translates to a rise, so much so in a resource-limited environment such as Palestine, where efficiency is tantamount to sustainability.

***H1d**: The Technology situation positively influences the performance of PPPs and projects in Palestine.*

2.2.6 Environmental Situation and PPP, and Project Performance

Environmental sustainability has become paramount ever since eco-infrastructures gained global recognition. In common with other environmental challenges faced in Palestine, such as water scarcity, energy inefficiency, and land degradation, the sustainability and viability of any project could be threatened. Sustainability Theory (Elkington, 1997) demands that sufficient attention be given to environmental considerations during the planning-execution phases of the project. This further means that such PPPs should be economically viable, socially responsible, and environmentally sustainable to reduce long-term operational costs and sustain sustainability standards accepted around the globe.

The first few examples mentioned include drawing up solar photovoltaic plants for renewable energy, providing water-on-demand through innovative water supply management systems, or sterile building construction to avert environmental threats (Falk et al., 2022). These interventions reduce the pressure on local resources and work towards building infrastructure resilient to environmental stress over time. PPPs put sustainability into action by mitigating environmental impacts so that local communities may benefit maximally in terms of quality of life (Marx, 2019).

In Palestine, where there are serious environmental constraints, PPPs are challenged to resolve them through environmental impact assessment and requirements with locally and internationally established laws, as well as incorporate green technologies. Hence, the PPPs should tentatively think of sustainability while designing and implementing projects for securing the endorsement of regulations, a social license, and resourcing towards national environmental goals (Vassileva, 2022). Thereby, the

public will tend to support any project that truly embraces these policies on a sustainable basis. From the point of view of environmental disturbance and operational costs, the community will gravitate towards further projects lacking these policies (Ndonye, 2022). A glamorous sustainability pledge shall thus provide considerable social goodwill, which would build goodwill and create trust for future co-operation between both sectors.

Globally, ecologically sustainable PPPs mark the best practice, whereby the infrastructure design includes green technologies, resource efficiency, and climate-resilient features (Owojori & Erasmus, 2025). In the context of Palestine, however, the approach is still restricted by high initial costs, a lack of technical capacity, and few green finance channels. This, in a way, narrows down PPPs from realizing the federal government's goals in environmental sustainability and may serve as a score against the long-term performance of any projects implemented.

Environmental management in PPP would involve compatibility with the national environmental policies, access to environmental data, and stakeholder participation. Merely ignoring environmental risks for a project can invite community opposition, legal disputes, and operational hiccups (Aleinikoff & Martin, 2022). Given that communities in Palestine are already disturbed by environmental stressors, it is necessary to ensure that PPP projects are set up in collaboration with strong environmental safeguards and community input to enhance legitimacy and performance.

Environmental risk factors play a critical role in issues concerning climate change and resource depletion. In the context of Palestine, the use of green technology and sustainability-oriented systems will shore up the infrastructure projects conceived under a PPP arrangement for greater resilience against the environmental challenges they are likely to face in the future (Badi & Alhosani, 2024). In addressing these environmental issues since the very beginning, projects can become financially viable and are also placed in agreement with the global agenda of sustainable development.

***H1e**: The Environmental situation positively influences the performance of PPPs and projects in Palestine.*

2.2.7 Legal Situation and PPP, and Project Performance

A robust legal framework is essential for the success of Public-Private Partnership (PPP) projects as it clearly defines the rights, obligations, and protections for every stakeholder involved. In answer to the establishment of the PPP Law in 2022 (Palestinian

Cabinet, 2022), in Palestine, some prohibitions and restrictions continue to unfold owing to the constantly changing legal system, including contract enforcement, regulatory clarity, and dispute resolution. Institutional Theory (DiMaggio & Powell, 1983) states that the stability of a legal environment increases trust by reducing uncertainties to successfully carry out projects. When regulations are fleshed out, enforceable contracts are drawn up adequately, and resolution of disputes is practical, PPPs become more attractive to private investors for the continuity of projects.

The regulatory risks of a company in Palestine include contract disputes or changes in regulation that might suspend or delay the project, increase its costs, or even threaten the execution of a project (Mahamid, 2024). The lack of consistency and a clearly defined legal framework creates an environment of uncertainty that discourages the private sector from joining the realm and breeds resentment between the public and private sector partners. This determines the lower confidence of investors, delays the timelines, and increases the costs, thereby affecting the overall performance of PPP projects (Mberema, 2022).

Henceforth, it has become necessary to amend in the foregoing manner the law in Palestine so as to face legal challenges by way of promulgating transparent laws and regulations that will protect the investors and resolve disputes unequivocally (Imran et al., 2023). This gives greater confidence to the stakeholders and smooths the terrain for their cooperation toward the successful implementation of projects. The more conducive the legal environment and laws and regulations are clear and consistent, the less the legal risk attached to the dispute, thereby attracting collaboration and investment required for better performance and sustainability of PPP projects in Palestine (Abdalsalam, 2024).

International evidence shows that the critical success factor in delivering PPP projects is a sound legal framework (Chileshe et al., 2022). Laws clearly governing procurement, transparency, bidding procedures, and contract enforcement can reduce transaction costs, improve competitiveness, and build investor confidence. On the contrary, legal insecurity or the risk of arbitrary policy changes will undermine the performance of a PPP and cause project failure (Hodge & Greve, 2007).

Mungai (2021) analyzed the role of legal framework conditions for PPPs in Kenya, a country that has legal and regulatory challenges of its own. The study established that adequate legal frameworks were put in place to reduce uncertainty and enhance private sector participation in infrastructure projects. That is why projects under the stable

and clear legal environment of Kenya were more likely to stay on track and attain their financial and operational objectives.

H1f: *The Legal situation positively influences the performance of PPPs and projects in Palestine.*

2.2.8 Critical Success Factors and Risk Management Practice

Public–Private Partnerships (PPPs) have traditionally been classified as complicated and extended project arrangements, requiring careful plan formulation and coordination to succeed (Klijn & Teisman, 2000). Critical Success Factors (CSFs) range across governance, stakeholder management, financing, legal framework, political support, and technology readiness (Nfuka & Rusu, 2011; Shah et al., 2023). In very high-risk environments such as Palestine, however, risk management presence and implementation act as a crucial moderator on the strength of these success factors.

The PESTEL framework launches a litany of issues for risk management in Palestine. The country has always been politically unstable; therefore, policies change unpredictably, as is usually the case, so that project security can be affected. Economic restrictions limit the sources of finance, which in turn raises the risks concerning the funding of the projects; social tensions present protests and even delay further with opposing local communities (Coniglio et al., 2023).

Technologically, project managers may not have the ability to adopt new tools, leaving them with another means of inefficiency at work; environmentally, water is scarce, and energy is wasted set of challenges prohibiting sustainability; with new legal frameworks (Törnqvist, 2021). However, troubles arise quickly on trying to decide which floor to stand on: contract enforcement or regulatory compliance. These factors are the ones that would demand the risk management approach while under consideration in conjunction with context-specific risks present in Palestine.

Theories like Stakeholder Theory and Institutional Theory present valuable insights when looking into the occurrence of these CSFs and RMPs. Stakeholder Theory argues that risk management must be aligned among different parties, such as the public and private sectors, local communities, and investors (Freeman, 2010). That kind of alignment, indeed, is more critical in Palestine as public trust and support are equally important for PPP projects. When stakeholders' concerns are mitigated to reflect their

interests in the risk management alternatives, opposition is lowered, and the project is kept moving.

Conversely, Institutional Theory holds that political, economic, and legal environments form the grounds for risk management decisions (DiMaggio & Powell, 1983). So, with political, economic, and legal environments evolving in Palestine and an unstable institutional framework, risk management strategies have to be adaptable and responsive to the changes brought on by the evolution in the external environment.

Several researchers suggest that the enhancement of institutional policy frameworks to incorporate risk management will surely contribute to improved resilience and investor confidence (Adeniran et al., 2024; Dupont, 2019; Oko-Odion & Angela, 2025). Tools like risk registers, insurance policies, performance-based contracts, and flexible legal frameworks are used to mitigate risks. In addition, a good working risk management culture within public and private participants leads to better coordination, fewer disagreements, and improved performance metrics (Ugyel, 2021).

The interaction between CSFs and risk management is crucial. Risk management does not supplant CSFs but rather seeks to moderate them-that is, accentuating the strength of supportive elements and diminishing the effects of external threats (Power, 2016). For example, strong political supports enable the genesis of a project, but management of risks allows projects to withstand political transitions or economic shocks. Likewise, clear legal frameworks provide for the actual setting up of the project, but the eventual project performance is maintained under unforeseen conditions by contingencies and dispute resolution mechanisms (Ng & Loosemore, 2007).

This moderating role gets more pronounced in fragile settings like Palestine. In theory, a project may satisfy many CSFs, yet fail due to a lack of strong risk mitigation methods. Thus, the existence of risk management turns CSFs from static enablers into dynamic, resolute forces that sustain PPP performance through time.

***H2**: The Critical Success Factors (CSFs) evaluated by the PESTEL framework positively influence the Risk Management Practice in Palestine.*

2.2.9 Political Situation and Risk Management Practice

The actual existence of a proper RMP depends primarily on the political stability factor in PPP cases, particularly in Palestine, where internally related problems of governance, geopolitical conflicts, and frequent policy changes act as sources of

uncertainty. The Institutional Theory by DiMaggio and Powell (1983) stresses that an environment of stable politics is thus important in contract enforcement and assuring policy continuity and investor confidence, desirable for any successful execution of PPP projects. In any event, the standard phenomenon of political instability, regulatory change, and security threats occurring within Palestine would be perceived as very large risks threatening the level of PPP project performance (Najeeb, 2024).

In addition to sudden regulations or instability of government, security issues may also jeopardize project timelines, bring about increased costs, and cast a shadow over private sector investments (Peschka et al., 2011). Consider some unexpected shifts in government policy: these may affect the scope of projects, change funding provisions, or impose new regulatory requirements, with all these changes potentially leading to a delay or outright cancellation of projects (Mousa, Zhang, & Sumarliah, 2024). Considering the volatile political environment in Palestine, it is imperative for PPPs to be associated with and to implement good Risk Management Practices (RMPs) that will navigate them through the mitigation of such political risks.

To contain such risks, proper political risk assessment must be embedded within the risk management system (John & Lawton, 2018). While assessing itself recognizes possible political threats and ways to respond, flexible contract terms fortify it by conditioning on sudden political changes. Having access to political risk insurance is very useful for the investor to be insured against any loss brought about by political turmoil or a government action that affects the viability of the project (Mayer, 2018). For example, insurance products could cover losses incurred by investors due to government expropriation or civil disturbances.

Political support is also instrumental in avoiding political risks because the clearer a government's commitment to supporting PPPs is, the more predictable the environment becomes regarding such factors (Wang et al., 2019). Such a commitment may take the form of fast-tracking the regulatory review and approval processes that would otherwise constitute political roadblocks, inhibiting investors with technocratic delays.

Stakeholder Theory (Freeman, 2010) also considers the alignment of interests among various stakeholders important in the reduction of political risk. In Palestine, where political tension is high, stakeholder engagement must be transparent and based upon inclusive policy formation. In such a process, trust and cooperation develop among all parties, thus diminishing the potential for political interference and ensuring the continuity of projects.

Ultimately, heavy politicization, as in Palestine, emanates political risk while being harnessed into an anticipation scheme and handled one. Key elements in making PPP projects more resilient and better performing are the incorporation of political-risk assessment into feasibility studies, the creation of adaptive contractual frameworks, and third-party guarantees.

***H2a**: The Political situation positively influences the Risk Management Practice in Palestine.*

2.2.10 Economic Situation and Risk Management Practice

Economic stability is paramount to the establishment and development of Public-Private Partnerships (PPPs), as it determines access to capital, cost control, and the realization of revenue streams (Almeile, 2021). In Palestine, where economic challenges are rampant-high unemployment, reliance on foreign aid, trade embargoes, and currency instability, these conditions increase financial risks that diminish the performance of PPP projects. According to Transaction Cost Economics (Williamson, 1981), a constant environment greatly lessens the uncertainty related to finance or operation, making it easier for resources to be allocated and risks to be better mitigated. Inflation or exchange rate variations occurring during economic uncertainty can generate cost escalation, or conversely, fund shortages, both of which jeopardize the very survival of PPP project viability.

Given the economy being so reliant on foreign aid and supplies from abroad, mercurial economic fortunes pose an extra layer of uncertainty. Issues of currency depreciation, trade barriers, or outright inflation set in unanticipated hikes to costs, thereby fading the hope of financing big infrastructure projects (Underhill, 2010). However, these risks need to be handled with care through RMPs. Some of the most important financial strategy tools to combat economic risk include hedging, flexible financing arrangements, cost-sharing agreements, and contingency reserves (de Mello & Ter-Minassian, 2024). Hedging can be applied against currency fluctuations; meanwhile, contingency reserves will absorb shocks from unexpected inflationary costs.

Financial risk assessment is another essential element of an effective RMP. As part of risk assessment, certain possibilities of financial risks, such as changes in foreign exchange rates or unexpected inflation, are identified to work on a mitigation plan so that these risks never become disruptive in the project (Mishkin, 2010). Predictable fiscal

policies with a clear tax regime, inflation under control, and a government that consistently offers support can help improve the reliability of the financial estimates and thus make the task of gaining funding and creating steady flows of cash more manageable throughout the entire project life (Nunes & Nunes, 2024).

The risk of currency and inflation, in the case of Palestine, is increased with the absence of any national currency and the use of foreign currencies such as the Israeli shekel. Unless foregrounded with proper hedging or indexation, currency mismatches between revenue receipts and debt servicing could indeed provide avenues for payment defaults on PPP projects (Dwivedi, 2024).

According to Williamson (1981), economic stability lessens the uncertainty of transactions and therefore allows for better allocation of resources and easier completion of PPP projects. Finance closely follows that because under stable conditions, projected finances become more predictable, which is necessary to secure private investment and ensure a longer life for the project.

***H2b**: The economic situation positively influences the Risk Management Practice in Palestine.*

2.2.11 Social Situation and Risk Management Practice

Social dynamics affect RMPs in PPPs in the way of public perception, community engagement, and social equity. In an area such as Palestine, which is challenged by serious social issues like high unemployment, extreme poverty, and a public that is not inclined to privatization, these social factors would lead to opposition, protests, and delays in projects, thus elevating project risks. Stakeholder theory (Freeman, 2010) maintains that for an organization to mitigate social risks and gain legitimacy for the project, consideration must be given to the needs and concerns of the local communities. When PPPs interact with these communities through dialogue, social impact assessments, and cooperative planning, they will nurture public acceptance and reduce resistance, hence the creation of a favorable climate for the actualization of the project (Xiahou et al., 2022).

In Palestine, where social tensions are closely tied to politics, addressing these tensions is key to the implementation of PPP projects. One good way of managing social risks is to ensure that benefits from the project are shared, especially in job creation, infrastructure development, and the provision of basic services (Abu-Rmeileh & Iriqat, 2024). PPPs could take steps to uplift the community by providing employment

opportunities or offering services to minimize negative public perception and resistance. Opposition or protests are far less likely to occur if the local community perceives that it will receive direct benefits from the project.

In addition, social risk assessments serve as a tool to determine any potential trigger of unrest or dissatisfaction within a community (Mongale, 2022). These assessments bring to light several social factors that may warrant concern much before these social factors mature to become serious challenges, thus inculcating some avenues for project teams to address community complaints. Such a proactive approach to social risk management prevents delays and fosters goodwill within the local community, which is requisite in places like Palestine, where social and political concerns are often intertwined (Morrar et al., 2024).

In the socially intricate environment of Palestine, where relationship-fraught existences between the public and government may influence culture, the importance of RMP increases in the context of ensuring project alignment with community priorities. Proper engagement with the community on alignment with local needs renders stakeholders satisfied, facilitates project flow, and thus points for the development of sustainable outcomes (Ishola et al., 2024). Social risks are averted by RMP, and this helps PPPs to operate without interruption and ensures their long-term viability, which shall be in the interest of wider socio-economic development.

This was the opinion of Freeman as stated in his Stakeholder Theory, who adds that stakeholder management is crucial to the reduction of potential risks associated with public opposition, especially in those situations considered suspicious by the local community for privatization or external investments (Freeman, 2010). Freedom has advocated that complying with local communities' interests and concerns will necessarily result in a smoother project setup and better stakeholder relations.

***H2c**: The Social situation positively influences the Risk Management Practice in Palestine.*

2.2.12 Technological Situation and Risk Management Practice

New technologies assist effectively in the risk management of Public-Private Partnerships, with those projects in energy, transportation, and telecommunication particularly emphasizing the role of efficiency and innovation as critical factors in ensuring the success of the project (Mazher et al., 2022). The demand for modern

technologies in Palestine is met with mostly inadequate opportunities, which pose great challenges and create operational risks, thus further hindering service delivery. Technological Innovation Theory, proposed by Schumpeter (2013), states that while the adoption of new technologies brings about risk reduction, there is an increase in operational efficiency and the realization of better project outcomes. By adapting high-tech equipment, Risk Management Practices can be strengthened to better identify, assess, and monitor risks.

Combining technologies like renewable energy systems, smart infrastructure, and digital management platforms can help reduce operational and environmental risks in the field in Palestine (Aburas, 2023). Real-time monitoring systems, for example, are very helpful in detecting issues early to avoid expensive delays or project failures. Smart infrastructures, such as energy-efficient buildings or transport systems, enhance the resilience of projects by facilitating their adaptation to environmental shifts and reducing their long-term operational expenses (Exner & Andres, 2024). Furthermore, these digital management platforms might oversee and coordinate resource use, improve information flow among stakeholders, and augment project execution in almost every way.

Technological risks on RMPs concern outdated systems, a lack of resources, or a lack of infrastructure. With solutions, look at investments in new technologies and a certain degree of engagement with tech providers. Infrastructure being outdated in most of Palestine creates a window of opportunity to engage in a public-private partnership for investing in and adopting newer technology for greater risk management capability and project performance (Abdalsalam, 2024). Technological advancements provide tools for better project management to administer risk at inefficiency in operations and attain sustainability.

The RMP ensures the contemporary standards and sustainability of PPP projects rather than mere technical efficiency by fostering a healthy-technology environment (Du, 2019). In a resource-scarce situation such as Palestine, this determination grows more important as one pursues squeezing the greatest efficiency out of the resources at hand. RMP wants to use technology to ensure that projects are able to be completed within time frames and budgets, and to a level of quality, while still permitting some flexibility to unforeseen challenges.

Schumpeter (2013), in the Theory of Technological Innovation, states that the adoption of new technologies makes industries more efficient and less risky than conventional ways. Schumpeter insisted that innovations could be the only means to

enhance the performance of PPP projects, especially in other sectors like energy, telecommunication, and infrastructure. Thus, this study emphasizes the integration of technological innovations within the Risk Management Practice (RMP) to maintain the competitive edge and resilience of PPP projects.

***H2d**: The Technology situation positively influences the Risk Management Practice in Palestine.*

2.2.13 Environmental Situation and Risk Management Practice

Environmental hazards of water scarcity, energy inefficiency, and the larger presumption of climate change are to be considered in the formation of PPP-corresponding projects of regions like Palestine. Sustainability theory (Elkington, 1997) talks about this, where the long-term sustainability of the project and attaining its goals on a global level need to address environmental risks. These environmental risks are much pronounced in Palestine; any neglect of them may lead to disruptions in operational activities, penalties from regulators, or public resistance, which can be key factors that jeopardize the project (Latilo et al., 2024).

Adopting an efficient RMP is the main factor in dealing with environmental situations that pose a risk. This necessitates the practice of comprehensive environmental impact assessments (EIAs), intended to appraise potential consequences inflicted on the environment by a project and to guide decision-making processes (Omenge et al., 2019). In contrast, in a land of water scarcity and energy inefficiency, strategies constitute an integral part of the RMP, strategizing to counter these hindrances in advance. Strict adherence to environmental legislation also places much emphasis on ensuring that the projects abide by legal requirements and thereby avoid penalties that legal sanctions could entail (Werksman et al., 2014). Additionally, the embrace of green alternatives, such as solar energy and sustainable resource management, can significantly forestall environmental hazards and, hence, provide a better measure for the projects (Otundo Richard, 2024).

In infrastructure projects, implementing water management systems would greatly reduce water scarcity issues and guarantee sustainable water access to the people. Energy-efficient technologies such as solar energy or energy-saving building methods will not only reduce the operational cost but will also lessen the impact on the environment (Chel & Kaushik, 2018). By adopting such sustainability concerns, the RMP ensures that PPPs

meet not only regulatory requirements but also broader environmental objectives of Palestine.

The integration of sustainability within the RMP greatly facilitates the gain of public support for the PPP since communities demand that projects should contribute to environmental preservation (Aura et al., 2015). Also, projects being environmentally focused face fewer disturbances because they are better prepared to go through environmental challenges. Such measures help make the projects more resilient and thereby continue to provide benefits while conserving their environment. According to Jomo et al. (2016), aligning sustainable development goals with risk management will improve project outcomes and the long-term effects of PPPs on society.

According to the Sustainability Theory by Elkington (1997), adverse environmental effects are truly a by-product of modern development and therefore have to be controlled for the long-term success of a project. Elkington stressed that sustainable practices, such as environmentally friendly technologies and renewable energy solutions, should be incorporated to minimize the PPP projects' footprints on the environment. If such sustainable practices are inculcated into RMP, then this will further the sustainability-related objectives on a global level and rank the projects higher in terms of their viability.

***H2e**: The Environmental situation positively influences the Risk Management Practice in Palestine.*

2.2.14 Legal Situation and Risk Management Practice

A clear and stable legal structure is a necessary condition for the successful implementation of RMPs in PPPs, as it provides clarity, security, and predictability to all parties concerned. In Palestine, with its evolving legal setting, much risk still arises with contract enforcement, regulatory compliance, and dispute resolution, despite the coming into effect of the PPP Law in 2022. From the lens of Institutional Theory (DiMaggio & Powell, 1983), it is emphasized that clear laws, enforceable contracts, and adequate legal frameworks reduce uncertainties and build confidence among stakeholders; they form the basis of smooth employment of PPPs and achieving their objectives.

RMP should be maintained in any jurisdiction to remedy incidents such as binaries in defining legislation, instances of change of policy, or delay in contract enforcement, instances that could hamper, disrupt, or put a halt to a project (Adekunle et al., 2023).

Therefore, sufficient mechanisms should be in place to mitigate RMP, such as drafting clear and detailed contracts that stipulate the rights and obligations of each party to leave no room for mistakes and disputes (Osifo et al., 2025a). Furthermore, contracts should also include some form of dispute resolution mechanism, preferably arbitration or mediation, so as to ensure that any issues that arise are resolved swiftly without hindrance. Compliance initiatives are therefore equally important to legal risk mitigation and to ensuring that projects follow the relevant laws on the subject matter in question (Latilo et al., 2024).

Contracts on the other side of the fence must always remain flexible within the potential legal impediments on account of evolving political and regulatory conditions. Risk-sharing clauses may have to be inserted so that alterations are made either because of regulatory changes or due to some other unforeseen event (Gonçalves et al., 2018). If a new law or policy were passed affecting the terms of the project, such provisions would make sure that the public and private partners would be able to discuss changes so as not to threaten the actual development of the project (Tallaki & Bracci, 2021). This would assure the parties of a smooth road to the realization of the project and provide a stable climate for the PPP.

Risk Management Practices (RMPs) serve to ensure that operations are conducted smoothly with minimum disruptions in the pursuit of project objectives under PPPs in Palestine through legal instruments such as very well-drafted contracts, arbitrations, and regulatory compliance (W. Jiang et al., 2025). Good management of legal risks contributes to an enhanced feeling of confidence among the clients, the continuation of the projects, and, thereby, better strategy implementation to achieve the anticipated results.

According to DiMaggio and Powell (1983), equalization and rationalization within the institutional theory, an adequate and clear legal regime, remain one of the crucial factors in institutional stability and the smooth implementation of PPP projects. These authors suggested that unless there are clear rules and enforceable contracts, the construction of an environment where uncertainties can be mitigated and stakeholders can be sure of their circumstances will be hampered, which, in turn, makes risk management more difficult.

***H2f**: The Legal situation positively influences the Risk Management Practice in Palestine.*

2.2.15 Risk Management Practice and Public–Private Partnership (PPP) Projects Performance

Infrastructure and service delivery heavily rely on PPPs. The complexity of the sector in Palestine adds to the risk intensity, for the political instability, economic parameters, social tensions, technological constraints, and the ever-changing legal base create a very dynamic risk landscape (Oko-Odion & Angela, 2025). Considering all these intricacies, it is high time to carry on the Risk Management Practice (RMP), which includes risk identification, value assessment, transmission, and tracking, thus laying a solid foundation for the success of PPP projects (Omasete, 2014). The RMP attempts to deal with risks head-on so that changes and mishaps remain as minimal as possible, removing roadblocks for cost overruns, time delays, and stakeholder discontent, thereby improving the overall level of project performance along the four key indicators: cost, time, quality, and service delivery. RMP, therefore, is the bone of successful PPPs that would uplift the quality of infrastructure, jobs, and essential public services in Palestine, where project uncertainties are compounded by internal as well as external factors (Abdalsalam, 2024).

Risk management is crucial when executing PPP projects, primarily in unstable regions like Palestine. The collaboration between the public and private sectors set an unusual risk, necessitating the consideration of sound RMP alternatives (Obicci, 2017). Although properly done, RMP will provide better decisions and cooperation between stakeholders, while ensuring the alignment with the objectives set out for the project. Considering Project Management Theory (Kerzner & Saladis, 2017), the importance of a comprehensive management procedure is stressed since systematic risk management is the focus for achieving project success by predicting possible future problems and acting before these problems are realized. In the same spirit, Risk Management Theory (Hopkin, 2018) insists on having a structured way of searching for, evaluating, and controlling risks to protect the interests of both the public and the private stakeholders.

Operating amidst a politically uncertain environment, an unpredictable economic situation, and in a milieu of various social dynamics, risk management in Palestine should be more emphasized (Najeeb, 2024). By employing effective risk management strategies, PPPs can confront such challenges and allow projects to meet their objectives at hand. And in such ways, these can achieve cost efficiency, adherence to schedules, standards of quality, and stakeholder expectations. Thus, RMP essentially provides for keeping the

projects performing very well with an assurance of timely completion, staying within budget, and meeting the quality-of-standard infrastructure requirements.

Kerzner and Saladis (2017) in Project Management Theory conclude that effective management of risk will naturally lead to the success of the project. Kerzner stressed that project results can be enhanced when risk identification is done early, the potential impact is assessed, and mitigation works are assigned--risk mitigation being particularly crucial in difficult environments like Palestine. In PPPs, the RMP is essential to address uncertainties to ensure that both public and private stakeholders fulfill their objectives.

Hopkin (2018), in Risk Management Theory, stressed the need to follow structured processes to manage risks through the project lifecycle. His work underlined how a full approach to risk management, including risk identification processes and continuous monitoring, safeguards the interests of stakeholders and secures the successful completion of PPPs. This theory concurs with the need for sound RMPs in Palestine, where political and economic instability impose more layers of risk.

Fatima et al. (2024) outline the significance of PPPs in global infrastructure development and identify a critical gap in their performance assessment, specifically regarding risk management. The study proposes an innovative solution to address this deficiency. The study's main outcome is the development of this framework. It is designed to address the deficiency of structured risk management in the performance assessment of PPP projects, particularly in developing nations like Pakistan.

***H3**: The Risk Management Practice positively influences the performance of Public-Private Partnerships (PPPs) and projects in Palestine.*

2.2.16 Risk Identification Practice and PPP and Projects Performance

The process of risk identification forms the very foundation of any Risk Management Practice and thus aids project stakeholders in the early assessment of potential threats related to a project. In places like Palestine-basically, risk can stem from political uncertainties, economic changes, regulatory alterations, or constraints to resources. should be to identify such a risk as soon as possible, if at all, to lean towards a risk-proactive management intervention (Abu-Rmeileh & Iriqat, 2024). When we speak of risk identification, it essentially includes the documentation of an exhaustive, in-depth analysis of the project environment as viewed through the lens of the stakeholder concerns and previous data from similar projects, in conjunction with the informed opinion of

experts as to what may produce adverse effects considered under policy change, economic instability, social opposition, or technological failure (Willumsen et al., 2019; Yazdi et al., 2024). Hence, by staying ahead in working to identify these risks, stakeholders can remedy the very issues before they become great problems.

The Project Management Theory (Kerzner & Saladis, 2017) emphasizes the importance of identifying risks as the first step in the risk management process. It promotes some common understanding among stakeholders, which is critical for the allocation of resources and the design of suitable mitigation strategies. Early risk identification gives stakeholders the chance to create mitigation strategies that allow for the proper addressing of any eventualities and any disruption (DuHadway et al., 2019). In the case of Palestine, with the occurrence of external and internal factors such as political conflicts or economic instability, early risk identification paves the way for stakeholders to work towards preventative measures and take well-informed decisions.

Conversely, in the event stakeholders perceive any possible regulatory changes early enough in the project, they might then initiate arrangements with more-or-less flexible terms that can adjust to any such changes, therefore attenuating the negative exposures brought about by legal risks (Demirel et al., 2017). Likewise, social risks must be identified timely manner, i.e., intervention must be initiated to engage communities in addressing their concern so that opposition may be contained. This mitigation and risk management itself increases investor confidence, for there has been a clear elaboration of the way to mitigate a risk that otherwise could be (Samuels, 2024). Another perspective connects risk identification at an early stage to better project planning and, therefore, a higher chance of achieving the intended objectives in terms of time, cost, and scope.

Project Management Theory by Kerzner and Saladis (2017) emphasized the necessity of risk identification as an effective measure to set the stage for successful risk management. According to Kerzner, if risks are discovered earlier, then a project team might use various tools to avoid potential threats. Thus, the threats would have little effect on the time, cost, and quality of the project. He further explained that the identification of risks encourages collaboration among stakeholders towards agreeing on mitigation measures and efficiently allocating resources.

Studies revealed that poorly identified risks lead to poor contracts, misaligned risk-sharing arrangements, and clashes during project implementation (Fredson et al., 2023). Proper and comprehensive risk identification, i.e., through stakeholder

engagement, expert consultation, scenario analysis, and environmental scanning, offers the advantage of better planning and resilient project entities (Li et al., 2005).

The lack of identification of critical risks has been identified as a prominent cause leading to an underperformed PPP in several empirical studies conducted thus far (Osei-Kyei & Chan, 2015). In contrast, projects implementing structured frameworks for risk identification and management, mostly coordinated by national PPP units or multilateral advisory services, are delayed less, overrun in costs less, and exhibit better stakeholder alignment..

***H3a**: The Risk Identification Practice positively influences the performance of PPPs and projects in Palestine.*

2.2.17 Risk Assessment Practice and PPP, and Project Performance

Risk assessment studies the identified risk's probability of arising and the maximum extent it can inflict damage, distinguishing between those to be addressed immediately. In an environment that is so resource-poor and unpredictable like Palestine, risk assessment is crucial for focusing on high-priority risks, such as political instability, economic shocks, or public unrest (Polchar & Santamaria, 2024). Risks in risk assessment are categorized according to their probability and impact on key project objectives: time, cost, quality, and stakeholder satisfaction. This ensures the appropriate allocation of resources and development of focused measures to mitigate their immediate impacts. Risk Management Theory (Hopkin, 2018) defines a formal process of risk assessment as providing clarity regarding the magnitude of risks, which in turn allows decision-makers to respond to these risks through an appropriate strategic reaction.

In case of geopolitical conflicts, currency fluctuations, or community opposition, the proper assessment of risks will guarantee that the project team mitigates major threats first (Ifraimu et al., 2024). For instance, one may evaluate the impacts of economic restrictions, maybe due to sanctions, identify those affecting investments in the business venture, and institute financial contingency plans so that if economic sanctions are imposed, and the investments cannot be realized, the projects will continue and not be stopped midway for lack of funds (Roberts, 2025). If such social risks pertaining to public opposition or unrest in the locality are assessed, they might lead to stakeholder engagement strategies that could rather enhance public support and less opposition or protests, so that the risk of delay through protests or resistance is minimized.

With risk prioritized by probability and impact assessment, a risk assessment shall channel focus and efforts onto the severest threats, hence alleviating delays in realization, budget overruns, and quality issues (Cholakkal, 2025). Risk assessment ensures that, in the land of Palestine and its difficult environment, limited resources are channeled toward the most important risks, so that the projects are thus aligned to their general objectives and thereby create resilience. Implementing such a proactive risk management approach ensures smooth project implementation to deliver intended results amidst the complexities and uncertainties that mark the local context (Eyieyien et al., 2024).

Hopkin (2018), in Risk Management Theory, emphasized the value of organized risk assessment in decision-making processes, particularly related to Public-Private Partnership projects. They argued that by systematically assessing risks, high-priority risks are identified and possible impacts are clarified. These clarifications then allow stakeholders to allocate resources appropriately and address specific measures to mitigate those risks. Projects that have structured risk assessment integrated into the early stages tend to have favorable outcomes to cost, schedule, and service quality (Ma & Wu, 2020). On the contrary, when risks are not quantified or risk premiums are underpriced, it leads to ill-conceived financial models and contractual disputes that jeopardize project success (Dunn, 2023).

***H3b**: The Risk Assessment Practice positively influences the performance of PPPs and projects in Palestine.*

2.2.18 Risk Mitigation Practice and PPP, and Project Performance

Risk mitigation involves measures taken to lessen the likelihood and/or impact of a risk type while still trying to meet the agreed-upon objectives of a project. Thus, under the external scenario in Palestine, characterized by political unrest and economic fluctuations, and social unrest affecting Public-Private Partnerships (PPPs), mitigation keeps the projects alive (Mara'beh, 2018). Typical mitigations include risk transfer by insurance or outsourcing, risk avoidance through changes in design, and reduction of impact through contingency planning. The far-flung circumstances like Palestine necessitate strategies that are interlaid along the lines of the realities of the region, namely, political instability, economic volatility, and perhaps community opposition (Bukhari & Gaho, 2025).

It is used to guard against negative economic fallout from hindering government action, such as policy reversal or sudden nationalization, which could threaten project viability (Damoah & Kumi, 2018). Flexible financing may protect against shocks from economic cycles by providing buffers to absorb possible increases in cost or losses in funding due to currency devaluation or economic sanctions. Finally, social disturbances could be minimized, for instance, by involving local populations in project planning and implementation, addressing concerns, and seeking public support (George et al., 2024).

In Palestine, development contracts with provisions for unforeseen political events would help safeguard the projects from interruptions caused by policy shifts or geopolitical conflicts. The economic risk-sharing methods and hedging measures would serve to counteract economic volatility so that, at least theoretically, projects maintain their financial viability (Balassone et al., 2018). They therefore strongly stand for the project to continue, and in this regard, Walsh would take steps to enable the smooth running of the project and maintain the cost, time, and quality integrity of the project vis-à-vis the original objectives.

Risk mitigation is a key factor to ensure PPP projects are not disrupted and become resilient (Ampratwum et al., 2024). In the context of Palestine, however, where political instability, economic hardships, and social tensions dominate the risk areas, strong risk mitigation further enhances project performance in that infrastructure and services are delivered efficiently and in alignment with stakeholder requirements and public demand.

Keers and van Fenema (2018) stated that risk mitigation is a key factor in the successful implementation of PPPs. It stated that risk mitigation measures such as transferring risks by insurance, sharing costs, and flexible systems of finance minimize risk and keep projects running. The paper further established that projects in Palestine could never be able to meet their goals in any reasonable time frame without these modes of risk mitigation, given that political and economic risks are constantly high there in considering all those external events.

***H3c**: The Risk Mitigation Practice positively influences the performance of PPPs and projects in Palestine.*

2.2.19 Risk Management Implementation and Monitoring Practice and PPP, and Project Performance

Mitigation measures must be sustained, along with the supervision of their performance indicators to the highest standards, to maintain the capacity to adapt to the dynamic risk situation that is often unpredictable in Palestine. Hence, mitigation measures need to be implemented continuously to alleviate the existing risks, while monitoring their efficacy and updating the risk management plan as newer risks make their onset (Hubbard, 2020). A risk register, periodic risk reviews, and periodic performance assessments made in segmentation should be utilized ideally for stakeholders to be able to monitor progress and reassess risks throughout the entire project lifecycle (Holzbecher, 2023). The risk conditions in Palestine are of such a nature of uncertainty for it to be considered that maybe the risks are security concerns, policy changes, or some kind of sudden economic shifts for a period. Hence, a continuous monitoring framework becomes pertinent to ascertain whether any of the risk management plans pursued so far are still relevant and fully operational (Force, 2018).

The project management theory (Kerzner & Saladis, 2017) supports the process of controlling the project during the execution phase. This is done in the hope that at this stage, any newly perceived risks can be analyzed or reviewed, thus preventing their huge impact. Risk-review meetings should, therefore, be held regularly so that project teams can detect changes in economic conditions requiring some adjustments to financial plans. In addition, stakeholder feedback can alert the project team to social risks, such as local opposition to the project and public dissatisfaction, warranting immediate attention and intervention.

In Palestine, where political instability and clashing interests all act as a breeding ground for uncertainties, close monitoring is warranted to ensure that PPP projects remain true to their expected lines, thereby circumventing thrusts in cost and drag in schedule with some intentional sabotage in quality. Continuous reviews of the implementation of risk-management strategies would place project teams in a position to adopt versatile measures into project implementation as situations continue evolving with time (Goswami, 2024), thereby assuring the ability of the projects to still meet their objectives despite unanticipated contingencies. This sort of adaptability keeps the projects performing according to expectations and thus greener growth toward fruitful realization under a bit exacting, resource-constrained ambiance.

International best practices advise that dedicated PPP units or risk management offices should be established within government institutions so as to address concerns negatively affecting the implementation of PPP projects. Such units must therefore have the capacity to oversee project performance, track contractual obligations, and undertake coordination of risk responses among the stakeholders concerned (OECD, 2020; UNESCWA, 2015). Periodic monitoring reports, third-party audits, and participatory review processes enhance transparency with respect to risks and lead to adaptive governance.

***H3d**: The Risk Management Implementation and Monitoring Practice positively influences the performance of PPPs and projects in Palestine.*

2.2.20 Critical Success Factors and Public–Private Partnership (PPP) and Project Performance Through Risk Management Practice

In infrastructure and social services, PPPs stand as a critical point of reference, in the case of adverse surroundings like Palestine, where political instability, economic volatility, social tensions, technological constraints, environmental challenges, and an evolving legal framework all add to the overall risk in the said undertaking. The PESTEL framework will always keep Political, Economic, Social, Technological, Environmental, and Legal indicators into consideration to locate the Critical Success Factors (CSFs) that will affect the performance of a PPP project (Yüksel, 2012). These CSFs could be seen as operational requirements for the success of the PPP; however, these do not ensure the actual implementation of successfully deployed projects.

A strategic moderator that enhances the ability of CSFs to positively influence PPP performance is the practice of risk management. According to Grimsey and Lewis (2002) and Beck & Hardcastle (2016), risk management embraces the identification, assessment, and mitigation of risks, all for implementation and monitoring throughout the PPP project lifecycle. When managed well, risk management practices protect the integrity of CSFs and assist in adjusting project execution to take into account emerging circumstances. In the complex socio-economic-political context of Palestine, where external and internal factors contribute to a highly volatile environment, RMP would be a key option to ensure PPPs deliver quality infrastructure, generate employment, and improve public services.

Theories like Institutional Theory and Stakeholder Theory also amplify the instrumental role that RMP plays in the success of PPP. Institutional Theory (DiMaggio & Powell, 1983) holds that an effective risk management mechanism addresses external uncertainties, ensuring a trustworthy setting for project implementation. Where political and legal fluidity disrupts the state in regions like Palestine, effective RMP offers the much-needed stability to accomplish positive PPP outcomes. Yet, Stakeholder Theory (Freeman, 2010) stresses the importance of a strategic alignment of interests among stakeholders in managing risks. By identifying those risks arising from conflicts within stakeholders and challenges of economic and social nature, RMP makes sure that all parties are on the same page in PPP, and in turn, the risks get mitigated and cooperation improves.

The Diamond Model by Porter (1990) is a tool that investigates regions' competitive advantage. The components of the diamond can be used to understand the environmental factors affecting the operation of PPPs. Thus, risk management practices in Palestine should focus on ensuring that projects exploit local competitive advantages (e.g., availability of skilled labor or resources) while circumventing local disadvantages (e.g., infrastructural weaknesses or regulatory uncertainties). The Diamond Model thus provides insight into how local conditions work against or for the establishment of successful PPPs. In Palestine, RMP can be used to make sure that PPP projects take advantage of local competitive strengths and to mitigate risks stemming from resource deficiencies or from external conditions being against them.

The Resource-Based View (RBV) by Barney (1991) emphasizes the importance of resources and capabilities inside the organization to gain a competitive advantage. It is believed, according to this model, that managing internal resources well, be they financial, technological, or human capital, greatly affects the success of a project. Implementing excellent RMP in the case of PPPs can maximize both public and private partners' internal resources and capabilities. By foreseeing and addressing any risks, RMP prevents an organization from employing its resources effectively toward obtaining positive sustainability for project accomplishments.

Recent findings further suggest that risk management is essential to realizing the benefits emanating from Critical Success Factors (CSFs) in PPP project performance, particularly in fragile contexts such as Palestine. Ismail et al. (2022) viewed interrelated political, institutional, and regulatory risks as the foremost PPP barriers in Palestine, therefore emphasizing structured risk mitigation. Can Saglam et al. (2021) specify how

political and economic risks must be considered and managed proactively so as to improve performance. In studying water and energy PPPs in developing countries, Rasheed et al. (2022) stated that risk-related factors were rated in the top five CSFs while underpinning their importance.

According to Al-Saadi and Abdou (2016), in alignment with their results, UAE professionals ranked risk higher than financial or legal CSFs and rated it highly in terms of project success. Adepoju et al. (2025) averred that ambiguities in the sharing of risk give rise to disputes and failures and contended for continuous monitoring of risks. These results hence confirm that in high-risk environments, CSFs could only be effective when accompanied and supplemented by a robust risk management process.

***H4**: The Risk Management Practice significantly moderates the relationship between the Critical Success Factors (CSFs) evaluated by the PESTEL framework and performance of Public-Private Partnerships (PPPs) and projects in Palestine.*

2.2.21 Political Situation and Performance of PPP and Projects Through Risk Management Practice

Political instability in Palestine, generated by the governance crisis and regional conflicts, poses a serious threat to Public-Private Partnerships (PPPs) through policy changes, regulations, or operational disruptions. In such an unpredictable political environment, where policy changes and hold-for-the-government-heavy changes are made almost every day, a need arises to implement efficient Risk Management Practices (RMP) to mitigate those risks (Najeeb, 2024). RMP is designed to diminish the impact of political change, using political risk insurance, flexible contract terms, and contingency planning (Settembre-Blundo et al., 2021).

For instance, RMP can be drafted with clauses that enable the projects to cope with unforeseen political changes stemming from a change of government or civil unrest (Muchenga, 2016). These risk-sharing agreements between the public and private sectors provide a highly effective mechanism to protect investors from the financial consequences of political instability. Stakeholder engagement may initiate measures for anticipating policy changes and gathering support from local communities or political actors to lessen resistance (Bailey & Lumpkin, 2023). Through proactive engagement and clear communication, RMP creates a congenial environment for PPPs where disruptions are kept to a minimum and are well managed.

If the country faces political uncertainty as a perennial challenge, then RMP acts as the critical mediator so that PPP projects can advance even through turbulent political situations (Fathi, 2024). By early identification of political risks during the project life cycle and then putting in place the correct strategies to work through these risks (W. Jiang et al., 2025), RMP enables a project to avoid delays and cost overruns, and yet allows for cost reimbursement and project procurement objectives to be met (Latilo et al., 2024). This fast resolution of risks arising from unforeseen obstacles outside the sphere of projects enhances timely PPP implementation for infrastructure and services.

In their analysis of PPP policy in developing countries, Vihma and Wolf (2023) asserted that even with strong political will and enabling legislation, the project sometimes tends to perform poorly when mechanisms are not instituted to deal with unforeseen political shifts. This insight is of great pertinence to the Palestinian context, where policy continuity cannot always be assured, and external agencies may place constraints that are beyond the control of national institutions.

***H4a**: The Risk Management Practice significantly moderates the relationship between the Political situation and the performance of PPPs and projects in Palestine.*

2.2.22 Economic Situation and Performance of PPP and Projects Through Risk Management Practice

Economic volatility in Palestine, brought about by inflation, currency fluctuations, and lagging capital markets, poses immense financial risks to the Public-Private Partnerships (PPPs). Instability in the economic sphere within Palestine is intensified by external impediments of trade restrictions and dependency on international aid. According to Transaction Cost Economics (Williamson, 1981), economic stability presents much greater certainty in financing and operations and acts as an institutional frame of reference in which stakeholders from both public and private sectors work together. Risk Management Practice, on the other hand, works to curb such risks by way of methods that tend to counter financial uncertainties under such highly volatile economic conditions (Nafiu et al., 2025).

RMP may employ economic risk strategies, including financial hedges, flexible financing structures, cost-sharing arrangements, and contingency funds. For instance, financial reserves could be created by RMP in cases where currency devaluation or inflation is taking place, so that there is an adequate buffer against unexpected cost

increments (Fisunoğlu & Akyüz, 2025). The RMP approach may also be implemented to have the terms and conditions renegotiated with stakeholders so that the viability of the project remains intact while the project itself becomes economically sustainable despite the changes in the economic environment. All these mitigation measures reduce or eliminate the risk that cost overruns or delays may render a PPP project financially unviable in an incalculable environmental economic situation.

In the conflict regions like Palestine, where the economy is often constrained by external factors such as limited access to capital or shocks from outside, the banker mediates between RMP and project to maximize the resilience of the latter: By addressing economic risks beforehand, RMP guarantees that PPPs remain capable of physically coping with financial challenges, thus, to meet the cost and time requirements of the project (Mousa, Zhang, Ahmed, et al., 2024). This, therefore, improves the performance of PPP projects by ensuring that project activities remain on schedule within budget and aligned with the general development plan of the country, notwithstanding economic fluctuations.

Williamson (1981), in his theory of transaction cost economics, asserted that economic stability would constitute a precondition for efficient financing and operations. Williamson murmurs that economic uncertainties generally raise transaction costs and therefore foster an inefficient system of finance. Proper risk management strategies, such as financial hedging or flexible financing, are then necessary to mitigate these risks and ensure that PPP projects remain financially viable in the face of external economic shocks.

***H4b**: The Risk Management Practice significantly moderates the relationship between the economic situation and the performance of PPPs and projects in Palestine.*

2.2.23 Social Situation and Performance of PPP and Projects Through Risk Management Practice

With the social dynamics consisting of public perception, community support, and social equity, PPPs have an impact on how successfully they are implemented in Palestine. Should members of the public feel either opposed to privatization or fear unequal distribution of benefits from the project, this could trigger social unrest, protests, slowed-down implementation, etc. Stakeholder Theory (Freeman, 2010) urged that attention be paid to the concerns of the various stakeholders so that some social risk may be averted and that the project may be deemed legitimate and successful. Risk

Management Practice (RMP) serves to mitigate risks using mechanisms that include transparent communication, social impact assessments, and community engagement initiatives that help to cultivate trust and ensure that the project's objectives are aligned with the socio-economic needs of the community (CNAWP et al., 2025).

In Palestine, with social tensions rising through political, economic, and historical factors, under these circumstances, the RMP plays a pivotal role in ensuring the avoidance of PPP projects in furthering division or creating public opposition. When local communities are engaged in planning, PPP projects can respond and balance socio-economic concerns related to job creation, public services, or infrastructure, thus lowering the chances of protests or resistance by communities (Ragolane & Malatji, 2024). For instance, securing the communities' benefits from job opportunities or access to basic services can greatly enhance public support while reducing social disturbances.

RMP guarantees that the projects remain fair and that the benefits of the PPPs are shared equally among various groups of society. Through social impact assessment, any negative effects on local communities can be detected and handled so that projects are prepared to minimize harm and maximize public good (Wirba, 2024). This proactive measure helps build the trust of the public, a prerequisite for the long-term success of PPPs in places such as Palestine, where social equity is a highly sensitive matter.

In the process of managing social risk well, RMP produces greater outcomes for PPPs, thereby increasing stakeholder satisfaction and project success. Based on Hussain et al. (2022), the projects that meet the basis of community needs and address potential social risks are expected to be successful in the long run, both in meaningful, timely delivery and the socio-economic impact they intend to realize.

According to Freeman's Stakeholder Theory, it becomes a matter of social risk if any stakeholder is ignored or if his or her concerns are not addressed in a project. Freeman stated that RMP can help in managing social tensions by ensuring that the interest of stakeholders is both properly understood and compatible with project objectives (Freeman, 2010). This enhances project legitimacy by proactively engaging communities, thus avoiding opposition from the public.

***H4c**: The Risk Management Practice significantly moderates the relationship between the Social situation and performance of PPPs and projects in Palestine.*

2.2.24 Technological Situation and Performance of PPP and Projects Through Risk Management Practice

Public-Private Partnerships (PPPs) in Palestine face major efficiency and service problems due to technological constraints in the territory, including limited advanced infrastructure. In some instances, such barriers to the utilization of more modern technologies can hinder the very implementation of projects, especially those that require an advanced system in their operations and monitoring systems. Technological Innovation Theory suggests that in doing so, the adoption of new technologies can reduce operational risks and improve project outcomes (Schumpeter, 2013). In this way, the incorporation of advanced technologies could render the projects more efficient in operation and able to cope with the challenges arising from resource limitations.

Risk Management Processes help with the moderation of technological risks through solutions such as renewable energy systems, smart infrastructure, and digital tools, including real-time monitoring systems and predictive analytics (Luo et al., 2025). These technologies allow for better risk identification by detecting possible issues early and presenting an opportunity for intervention. Real-time monitoring systems, for example, alert one to operational failures or inefficiencies before they become issues, while predictive analytics can forecast risks, allowing those risks to be mitigated (Adepoju et al., 2025).

The Palestinian setting constrains the availability of technological resources within economic and infrastructural restrains. Here, it is assured that RMP intervention attempts to have the projects work around such constraints, given the technologies available (Zhang, 2024). With the integration of renewable systems and smart infrastructure, the RMP improves the sustainability of the project, reduces operational costs, and thereby enhances the performance of PPP projects, enabling efficient project outcomes that, without any technology, might have been substandard.

In managing technological risks, RMP plays an important role in improving the performance of PPPs by ensuring that the projects utilize available resources to the fullest, thereby improving the efficiency of service delivery and sustainability (Mazher et al., 2022). This allows these PPP projects in Palestine to meet their objectives and deliver long-term benefits regardless of the technological constraints present in the region.

While fighting against Schumpeter (2013) in his Technological Innovation Theory, adopting new technology decreases risks by increasing operational efficiency and

effectiveness. Schumpeter emphasized innovation as a way for companies to stay competitive and perform better. Within PPPs, from the technological risk perspective, the adoption of new technologies, such as new renewable systems and intelligent infrastructures, is very important to improve project performance.

***H4d**: The Risk Management Practice significantly moderates the relationship between the Technology situation and the performance of PPPs and projects in Palestine.*

2.2.25 Environmental Situation and Performance of PPP and Projects Through Risk Management Practice

Environmental challenges, like water scarcity, energy inefficiency, and land degradation, threaten Public-Private Partnerships in Palestine. With environmental concerns that may arise as legal issues, public opposition, or operational disturbances that could halt the execution of a PPP project (Almeile, 2021), it has become imperative to incorporate them into environmental project landscaping and execution to foster these concerns, so that these projects can survive in the long term while taking heed of Sustainability Theory, aka Elkington's framework of sustainability (Elkington, 1997), and toward the furtherance of global sustainability targets.

Risk Management Practice serves as a mediating factor for environmental risks through the introduction of management strategies, namely environmental impact assessments (EIAs), sustainable construction methods, and adherence to environmental legislation (Omenge et al., 2019). These management strategies reduce environmental risks by ensuring that projects are designed and implemented in ways that minimize negative environmental impacts. Adopting renewable energy systems or efficient water management systems can reduce the environmental footprint of a project, mitigate risks associated with resource depletion, and align with broader sustainability objectives (Hadian & Madani, 2015).

The environment is heavily stressed in Palestine due to scarce natural resources, political strife, and an under-performing economy; it is the mediation that RMP offers that is so much needed (Housen et al., 2019). Through the integration of sustainability in the design and construction of projects, RMP ensures that the environmental challenges toward PPP projects are taken into consideration so that these projects attain public support and every statutory law is followed for environmental protection (Aura et al., 2015). Some of these proactive steps work well in mitigating risks that would otherwise

have the potential to disrupt projects and include legal disputes, campaigns of public resistance, and outright environmental degradation, thereby enhancing the performance of projects.

RMP helps realize PPPs that are more sustainable and efficient by calling for the environment to be recognized from planning through project completion. By making sure that project objectives are compatible with environmental sustainability, RMP makes sure that projects are delivered, which the community will celebrate both in the short run and long-term environmental welfare (Cooper, 2005).

According to Elkington (1997), whose theory pertains to sustainability, environmental concerns should be integrated into the design and execution of the project to ensure its long-term viability. Through this sustainability alignment, Elkington maintained that the RM process will reduce risks arising from environmental disruption and will enhance the performance of the projects.

***H4e**: The Risk Management Practice significantly moderates the relationship between the Environmental situation and the performance of PPPs and projects in Palestine.*

2.2.26 Legal Situation and Performance of PPP and Projects Through Risk Management Practice

A shifting legal landscape in Palestine poses several business risks, specifically relating to the enforcement of contracts, regulatory compliance, and dispute resolution, all capable of adversely impacting the operation of PPPs (Mousa, Zhang, Ahmed, et al., 2024). With legal systems in Palestine continuing the process of legal evolution, the uncertainties on the structure of law and enforcement thereof are creating risks for PPPs, which ideally demand a stable and predictable legal environment for their very operations. Institutional Theory (DiMaggio & Powell, 1983) stresses the importance of such stability in the legal environment, as trust is developed, governance is applied consistently, and uncertainties are thereby minimized, all of which are necessary for efficient Risk Management Practice (RMP)

The legal risks are then moderated by the Risk Management Practice through measures such as making sure contracts are clear and enforceable, specifying dispute resolution procedures, and negotiating flexible contract terms (Uwamusi, 2025). An example would be risk-sharing frameworks capable of overcoming risks related to

regulatory uncertainty, ensuring safeguards for both public and private sector stakeholders. Such frameworks ensure that any legal challenge or change in regulations is managed in a way that would not adversely affect the continuation or successful implementation of the project (Latilo et al., 2024).

RMP plays a crucial mediatory role in Palestine, where legal clarity is still evolving, to provide the security that permits optimum project execution. Through clarifying the legal environment, creating adaptable contracts, and negotiating for systems of dispute resolution that the parties can rely upon (Panov et al., 2024), RMP diminishes the probability of legal disputes, engenders trust amongst stakeholders, and allows for smoother project implementation when legal confrontations could occur. Legally ambiguous in many instances, in Palestine, this pathway becomes more critical as actors in both the public and private sectors require the assurance that their rights and obligations will be enforced effectively (Morrar & Baba, 2022).

With the proactive management of legal risks and through RMP, PPP projects are enabled to stick to their project objectives, support legal and regulatory obligations, and substantially lessen the dangers of being disrupted by legal conflicts (Abu-Rmeileh & Iriqat, 2024; Najeeb, 2024). This eventually improves the performance of PPP projects in a way that guarantees their deliverables become among the short-term targets contributing to long-term development objectives.

DiMaggio and Powell (1983), through Institutional Theory, argued that a stable legal environment minimizes uncertainty regarding PPPs. Their thesis highlights that efficient RMP assures that legal risks, such as contract enforcement and regulatory compliance, are minimized through the development of stable and predictable legal mechanisms. In the case of Palestine, with still-building legal frameworks, the role of RMP becomes critical as a mediator to avert disruptions in PPP projects stemming from potential legal uncertainties.

***H4f**: The Risk Management Practice significantly moderates the relationship between the Legal situation and performance of PPPs and projects in Palestine.*

Chapter Three: Methodology

3.1 Introduction

This chapter explains the research methodology employed to investigate the relationship between critical success factors (CSFs) and the performance of public–private partnership (PPP) projects in Palestine, with a focus on the moderating effect of risk management practice (RMP). The research design is expounded upon, along with a range of philosophies that further explain the population, sampling strategy, data collection, and treatment instrumentation, procedures for validity and reliability, ethical considerations, and analysis methods. Providing a detailed explanation of these steps undertaken to carry out the study helps to locate the methodological foundation of the research results.

3.2 Research Design

The study adopts a quantitative, cross-sectional design to investigate the relationship between critical success factors and the performance of public–private partnership projects within the Palestinian organizations, with risk management practice serving as a moderating variable.

According to Capili (2021), cross-sectional design methods gather data with start points in time and are most likely to discover variable patterns and correlations without intervention in the study environment. Unlike longitudinal designs, which need data collection over an extended timeframe, a cross-sectional design is applicable when perceptions are required at a given moment in time, in a volatile context where political and economic situations may change rather quickly, as in the case of Palestine (Saunders et al., 2019).

The study benefits from using a quantitative approach because it allows structured surveys and statistical analysis to empirically determine the relationships among research variables in the conceptual framework (Table 3.1). It is applied in the process of gathering numerical data and using statistical methods to formulate and test hypotheses about relationships between variables (Fadele & Rocha, 2025). This method offered the advantage of generalizing results from a sample to a larger population and hence raising the external validity of the results.

The quantitative, cross-sectional design makes it highly relevant for Palestine with its specific socio-political and economic challenges, among which are political instability and fragmentation of institutions (Mousa, Zhang, Ahmed, et al., 2024). This design retrieves data from participants in specific projects from government and private sector partners, allowing the study to consider various viewpoints concerning CSFs and RMPs.

3.3 Study Population and Settings

The study was held in the West Bank of Palestine. Mainly deals with public sector officials, private sector executives, and project participants of PPP infrastructure projects established in Palestine in 2015-2025. The research concentrates on all PPP projects that are undertaken during this period. Infrastructure PPP projects in various sectors, including water management, municipal services, infrastructure, transport, energy, industrial zones, and solid waste treatment plants.

- **Public Sector**

Public Sector Officials: Representatives and public officials from key governmental bodies such as the Palestinian Water Authority (PWA), Palestinian Energy and Natural Resources Authority (PENRA), Environment Quality Authority, the Ministry of Planning, and the Ministry of Local Government, local authotities and municipalities, water desalination plants and programs, Investment Promotion and Industrial Estate Agency, Municipal Development and Lending Fund. These officials are involved in policy formulation, project oversight, and regulatory frameworks for PPPs.

- **Private Sector**

Private Sector Executives: Leaders from private entities, such as the Jericho Agro-Industrial Park (JAIP), Jenin Industrial Free Zone (JIFZ), Al-Minya Landfill, initiative (Palestine Investment Fund through Amaar Real- Estate Group), Massader Co. for Natural Resource Development and Infrastructure projects PADICO Holding (Palestine Development and Investment, Ltd), specific UNDP photovoltaic systems projects (Shamsi), Palestinian Waste-Water Engineers Group, and th Coordinating Council for Private Sector Institutions, which represent significant PPP initiatives in infrastructure, water management, energy, industrial and agricultural zones, bonded areas, and solid

waste treatment, and other private partners involved in project development, financing, and operations.

In this study, the population consists of stakeholders, experts, Board of Directors (BOD) members, employees, and management-level staff directly engaged in the implementation and operation of PPP projects, including engineers, technical staff, and administrative personnel working on projects in PPP infrastructure projects in Palestine. This encompasses individuals working in private sector and public sector infrastructures as well as international bodies and donors, municipalities, water authority, energy authority, investment promotion and industrial estate agency, investment funds, the Ministry of Planning, Ministry of Local Government.

3.4 Study Sample

The sample study was drawn from the West Bank's public-private sector. The research sampling approach seeks individuals who possess comprehensive expertise and operational experience in PPP infrastructure governance activities inside Palestinian territory. High-level public and private sector professionals, including policymakers, along with municipal officials, PPP consultants, regulatory authority representatives, engineers, project managers, financial advisors, and risk management experts, make up the specific population for this study.

To ensure broad representation across the heterogeneous population, the study employed a probability–stratified random sampling approach. The population was stratified by key variables such as the type of PPP activity (e.g., water, finance, healthcare, energy). Within each stratum, participants were selected through a simple random sampling technique. This two-stage process increased statistical power, reduced sampling error, and maximized representativeness across subgroups, thereby enhancing the validity of the inferences drawn.

Recent methodological literature suggested stratified sampling may diminish sampling error by way of decreasing variance within the strata and allowing for a more focused subgroup analysis (Ahmed, 2024; Kumar & Praveenakumar, 2025). Within each stratum, a simple random sampling technique was applied to select participants with a lower bias. In so doing, though, the two-stage process increased statistical power while also maximizing sample representativeness on population traits and, in essence, strengthening the validity of the inferences drawn from the study.

3.5 Sample Size Calculation

To ensure the study's findings are robust and representative, the sample size calculation is tailored to the multi-site, multi-stakeholder design and the organic variation-order approach (Bryson, 2018; Egami & Lee, 2024). The calculation accounts for the diverse population (public sector officials, private sector executives, project participants, investment fund representatives, and municipal representatives) and geographic settings (Ramallah, Nablus, Hebron, Jericho, Bethlehem, Jenin).

The PPP infrastructure projects in Palestine are not explicitly detailed in comprehensive, publicly available data from the provided references or broader web sources. However, the research indicated that the Palestine Investment Fund (PIF) encompasses roughly 4,000 total estimated public-private partnerships (PPPs), with an expected workforce of over 10,000 people (PIF, 2025). Derived from purposeful criteria in the selection of participation, concentrating on individuals with significant roles in PPP infrastructure projects, around 10% of the total employees have direct significant roles in PPP infrastructure projects. The estimated number based on the purposive sample is 1,000 employees.

The minimum recommended number for the sample is 278 employees, assuming a population size of around 1,000 public-private partnerships sector employees in the West Bank, Palestine. For this measurement, the researcher used the Raosoft® sample size formula that accounts for several important statistical parameters: confidence level, margin of error, and population proportion. The calculation was based on the formula as follows:

- Population size (N) = 1,000 (employees with significant PPP roles)
- Confidence level (c)= 95%
- Z = Z-score for desired confidence level (1.96 for 95%)
- Margin of error (E) = 5%
- r = response distribution (assume 50 for max variability)

$$x = \left(Z \cdot \frac{c}{100}\right)^2 \cdot r(100 - r)$$

$$n = \frac{N \cdot x}{(N-1)E^2 + x}$$

$$E = \sqrt{\frac{(N-n) \cdot x}{n(N-1)}}$$

Hence, using these parameters, the recommended sample size is 278 respondents. This would fairly represent the entire workforce of employees in the broader public-private partnerships sector, with an acceptable allowable error and level of confidence. To lend equity and representation, a simple random sampling technique was utilized. This technique permits every member in the population to be equally selected and therefore limits selection bias, enhancing the external validity of the findings (Rahman et al., 2022).

3.6 Study Instruments

The study employed a structured questionnaire as a tool for data collection. The questionnaire aimed at measuring the study's critical variables: critical success factors (independent variable), the performance of public–private partnership projects (dependent variable), and risk management practice (moderating variable). The tool was developed based on previously established instruments validated by past researchers to ensure content relevance, reliability, and construct validity.

The various sections of the tool were designed to systematically address the study's various components, as seen in Table 3.1 and Appendix A. The instrument was designed using measures validated by previous literature to ensure content validity and reliability:

3.6.1 Section One: This section gave participants clear and concise information about the purpose of this study, the identity and credentials of the researcher, and the intended use of the data. It also included an informed consent statement, which assured participants that their information would be kept confidential, participation was voluntary, and ethical standards had been followed. It then proceeded to describe the procedure for going through the questionnaire and answering questions, thus aiming at obtaining consistent responses.

3.6.2 Section Two: The purpose of the second section was to collect socio-demographic variables of respondents to carry out subgroup analysis and enrich the result interpretation about specific subjects. This section was essential for grasping any contextual factors that may influence the perception of PPPs and projects in Palestine. The demographic variables considered were:

- Age of respondents,
- Gender: Male or Female,
- Work Experience,
- Educational level,
- Job Role Level,
- Public-private sector activity.

3.6.3 Section Three: fourteen dimensions examined via sixty-five indicators to assess the research variables, as depicted in Table 3.1. The researcher constructed three components on a more general questionnaire: each grounded on previous studies to ensure content validity and reliability. Taking this process allows us to provide a complete examination of the interrelations between the performance of PPPs and the project, RMP, and CSF in the Palestinian public-private sectors.

3.6.3.1 Critical success factors (Independent Variable): This concept is measured using six main dimensions, including 22 indicators, that were validated by Bou Hatoum et al. (2023); Yüksel (2012).

3.6.3.2 Risk management practice (Moderator Variable): The questionnaire measures risk management practice that was utilized by Omasete (2014) through 23 indicators across four dimensions.

3.6.3.3 PPPs and Projects Performance (Dependent Variable): Adapted from (Mungai, 2021), this section contains 20 items measuring under four main dimensions.

Table (3.1) Items for Measuring Constructs

Construct	Type of Construct	Dimensions	Reference	Indicators
Critical Success Factors	Independent Variable	Political	Yüksel, I. (2012), Bou et al, (2023)	3
		Economics		3
		Social		5
		Technology		5
		Environmental		4
		Legal		2
Risk Management Practice	Moderator Variable	Risk Identification Practice	Omasete (2014)	5
		Risk Assessment Practice		5
		Risk Mitigation Practice		6
		Risk Management Implementation and Monitoring Practice		7
PPPs and Project Performance	Dependent Variable	Technical Skills	Mungai (2021)	5
		Financial Contribution		5
		Risk Mitigation		5
		Accountability		5
Total		**14**		**65**

These were assessed on a Likert scale, with 1 corresponding to 'Strongly Disagree' and 5 corresponding to 'Strongly Agree'. Thus, this method allows for perception measurement and intensive statistical analysis to study correlations, moderating effects, and structural relationships between constructs.

3.7 Data Collection

Given the nature of this research and the complex sociopolitical context of the Palestinian public-private sectors, a flexible and accessible data collection approach was essential. Therefore, the researcher adopted an online survey method as the primary data

collection strategy. The questionnaire was developed using Google Forms and distributed electronically via email and WhatsApp, two widely used communication tools in the region. The online setup remains a trustworthy and context-relevant avenue to randomize data collection from a wide, diverse sample of public-private sector employees while holding methodological rigor and institutional sensitivity in Palestinian consideration.

Before the onset, a consent form was presented to participants elucidating the purpose of the study, its voluntary nature, the confidentiality of the responses, and that the data would be used for academic purposes only. Therefore, no personal identifiers were requested from participants, thus ensuring respondent anonymity and ethical standards compliance concerning research.

The data collection was carried out over six weeks, thus keeping in line with the cross-sectional concept of the study, ensuring that all responses are representative of the same time context.

3.8 Instrument Reliability

Reliability means consistency and stability of measurement throughout time, which ensures the instrument accurately denotes the variables it is expected to measure. In this study, reliability was measured based on Cronbach's alpha; it is a very common statistical measure applied in determining the internal consistency of items or scores in a questionnaire. Cronbach's alpha computes the degree to which scores on items within a given construct tend to positively correlate (Cronbach, 1951).

Alpha Coefficient: The dependability scale usually ranges between 0 and 1. A value equal to or greater than 0.7 is regarded as good for providing evidence for internal consistency (Hair Jr et al., 2010). It means the items within the same construct (CSFs, the performance of PPP projects, and RMP) are measuring the same underlying concept.

An alpha coefficient below 0.70 indicates that there is an insufficient correlation between the items of the scale, and thus, potential modification may be required for the questionnaire items. When the Cronbach's alpha is 0.90 or above, reliability is considered excellent; this means that items have great internal consistency and are highly related to each other, something that is, in fact, good for constructs that are very specific and well defined (Sharma, 2016).

3.9 Instrument Validity

Validity, as defined by Cook and Beckman (2006) and Gillespie and Chaboyer (2013), pertains to the extent to which an instrument accurately measures its intended construct. It pertains to the precision and suitability of the instrument in assessing the constructs that the researcher wants to investigate. Content validity for this research was established through the involvement of a panel of experts.

To ensure such validity in this study, a structured process was followed to ensure the credibility and relevance of the questionnaire items measuring critical success factors (CSFs) and the performance of public–private partnership (PPP) projects, and risk management practice (RMP) in the Palestinian public sector.

In an effort to establish content validity, the questionnaire was reviewed with expert participation. Academic experts having their specializations in strategic management, research methodology, and statistics were invited to review and evaluate the questionnaire for content validity. The researcher conducted interviews with four experts: two were specialized in strategic management and two in research methodology. Their comments and suggestions mostly concerned the format, construction, clarity, and relevance of some questionnaire items vis-à-vis the research context.

Since Arabic is the most widely spoken language in Palestine, it was then translated into Arabic by the back-translation approach in order to establish semantic comparability. The translation was initially carried out by a multilingual expert from English into Arabic. Then, a different bilingual expert translated the Arabic version back into English. Discrepancies between the two English versions were rectified and resolved to ensure precision and cultural relevance.

3.10 Data Analysis

The study utilized two quantitative analytic methods to examine the interplay between critical success factors (CSFs) and the performance of public–private partnership (PPP) projects in Palestine, with the moderating effect of risk management practice (RMP), as per its conceptual design and hypotheses. The Statistical Package for the Social Sciences (SPSS) and SmartPLS for Structural Equation Modeling (SEM) were used in the analysis.

Partial Least Squares Structural Equation Modeling (PLS-SEM) was utilized for analysis. This method is taken into account when more complex models containing latent constructs and moderating effects are to be processed (Assaker & O'Connor, 2023). The use of PLS-SEM is more preferable when exploring phenomena, thereby also allowing for smaller sample sizes, and the data are not presumed to be normally distributed (Hair Jr et al., 2017). It is suitable when prediction or theory development is in view. It perfectly suits this study because of those parameters.

3.10.1 Descriptive Statistics

The first stage involves computing descriptive statistics for each demographic variable and the main study variables: mean, standard deviation, frequency, and percentage of all variables considered. It describes the demographics of the sample, including participants ' age, gender, years of experience, level of education, job title, and activity in public or private sectors. It also provides a general description of the entire response distribution by delineating important trends or patterns in public-private partnership success factors and performance in Palestine, as well as the moderating effect of risk management practice (Altukhi & Aljohani, 2024).

3.10.2 Measurement Model Evaluation

Various approaches were considered to decide upon the use of observed variables to represent the underlying constructs in the measurement model. The three broad steps were carried out:

- **Internal Consistency Reliability:** Composite Reliability (CR) and Cronbach's alpha were viewed for internal consistency. A CR value of 0.70 or higher was considered an index of reliability, whereas a Cronbach's alpha of 0.70 or higher was deemed sufficient. This step indicated that the set of indicators within one construct of CSFs or RMP, or performance of PPP projects, was all considered fairly equal in measuring the same core concept (Hair Jr et al., 2010).
- **Convergent Validity:** The convergent validity was determined with the average variance extracted (AVE). If the AVE were 0.50 or more, it meant that their measures shared a considerable amount of variance in common and were deemed

to be convergent. This, according to Hair Jr et al. (2014), could therefore guarantee that the measures indeed captured the latent variables reasonably.

- **Discriminant Validity:** Discriminant validity was measured with the Fornell-Larcker criterion and the Heterotrait-Monotrait (HTMT) ratio. The square root of the AVE of each construct was greater than its correlations with other constructs, according to the Fornell-Larcker criterion (Fornell & Larcker, 1981). Also, discriminant validity between constructs was evidenced if HTMT was under 0.85. Cross-loading examination-whether each item loads significantly on two or more dimensions, the last step in discriminant validity assessment (Chin, 1998b).

3.10.3 Structural Model Evaluation

An assessment of the structure took place to check the proposed relations and forecast accuracy of the model in general. This comprised four crucial phases:

- **Indicator Collinearity:** The Variance Inflation Factor (VIF) is used to measure the collinearity between indicators. The stability and dependability of structural route estimations are ensured by a VIF of less than 5, which denotes the lack of multicollinearity (Fornell & Bookstein, 1982).
- **Coefficient of Determination (R^2):** The R^2 value was calculated to assess the explanatory power of the model. The R-squared or $R2$ is used to explain the degree to which independent variables explain dependent variables such as CSFs, RMP, and performance of PPP projects. Cohen (2013) suggested that R2 values of 0.25, 0.50, and 0.75 be assigned weak, moderate, and strong correlations, respectively.
- **Predictive Relevance (Q^2)**: The Stone-Geisser Q^2 test was utilized to analyze models in predicting endogenous variables. The models involved the prediction of long-term performance of PPP projects in the Palestinian public-private sectors. Predictive relevance is confirmed if Q2 is greater than zero (Hair Jr et al., 2017).
- **Effect Size (f^2):** Using the f-squared (f^2) analysis, the effect of each independent variable on the dependent variables was measured. Size categories 0.02, 0.15, and 0.35 were used to classify effect sizes as small, medium, and large, respectively relative importance of each predictor was assessed (Cohen, 1992).

3.10.4 Hypothesis Testing

Standardized regression weights or beta coefficients and p-values will thus be employed to assess the magnitude of a set of direct, indirect, and total effects present in the structural model. When the corresponding p-value is less than 0.05, there exists a significant correlation among the variables. Bootstrapping shall be implemented to test whether there is a moderating impact of risk management practice on the relationship between critical success factors from the questionnaire and on PPP project performances (Hair Jr et al., 2017).

3.11 Ethical Consideration

Preserving the ethical integrity of our research was paramount. The research adhered to the ethical principles established by the Arab American University to comply with recognized research standards. Data collection would obtain approval from the university ethics committee to verify its compliance with ethical norms.

The survey began with a comprehensive introduction explaining the aim, objectives, and significance of the research. This was sent to every participant to enable them to make an informed decision about whether to participate. The information leaflet also made it clear that participation was completely voluntary and that, should they so wish, participants could withdraw from the study at any point without any negative consequences.

To protect the privacy and confidentiality of participants, no personally identifying information, such as names or personal information, was collected. Participants were reassured that their responses were confidential, with no unauthorized persons having access to the data. All collected data is stored in password-protected computers, accessible only to the researcher and their supervisor.

The study followed the principle of non-maleficence to ensure the respondents never encountered any form of physical, emotional, or professional harm. The questionnaire was painstakingly crafted to spare the respondents from any questions that may be considered sensitive or invasive to the degree of humiliation.

Chapter Four: Result

4.1 Introduction

This chapter displays the results of the statistical analyses undertaken to understand the effect of the Critical Success Factors on the Public–Private Partnership Projects Performance in Palestine, with particular focus on the moderating effect of Risk Management Practice on this relationship. The chapter first provides the demographics of the respondents to allow the reader to contextualize sample characteristics. It is then followed by the presentation of the measurement model evaluation that includes tests of reliability, convergent validity, discriminant validity, and model fit indices. The chapter closes with an examination of the structural model with a view to analyzing some direct effects and moderating effects on the proposed relationships. Hypothesis testing was carried out with Partial Least Squares Structural Equation Modelling (PLS-SEM).

4.2 Characteristics of Respondents

A total of 278 respondents participated in the survey, representing diverse demographics and professional backgrounds within the context of Public–Private Partnerships (PPPs) in Palestine.

- **Gender Distribution**: The sample comprised 168 males (60.4%) and 110 females (39.6%), indicating a higher representation of male respondents.
- **Age Distribution**: The majority of respondents were aged between 31 to 40 years (140 respondents, 50.4%), followed by those over 40 years (124 respondents, 44.6%). A small proportion were between 21 and 30 years old (5%).
- **Education Level**: Most participants held a bachelor's degree (65.1%), followed by master's degree holders (21.9%). Those with doctoral degrees made up 12.9%.
- **Work Experience**: A significant portion of the respondents had 5 to 10 years of experience (67.3%), followed by those with more than 10 years (19.8%), and less than 5 years (12.9%).
- **Job Role Level**: Respondents occupied various roles, with the highest proportion being engineering staff (21.2%), followed by administrative staff (15.8%), head of department (14.4%), and financial staff (13.3%). Other roles included policy advisors or consultants (11.5%), technical staff (10.1%), executive and director positions (7.6%), and stakeholders or board members (6.1%).

- **PPPs Sector Activity**: The largest segment of respondents worked in the industrial sector (25.2%), followed by energy (20.9%), water management (14.7%), municipal services (11.5%), solid waste treatment (7.2%), planning (7.6%), transport (6.8%), and housing and infrastructure (6.1%).

Table (4.1) Demographic variables of respondents' analysis

Variables	Options	Frequency	Valid Percentage%
Gender	Male	168	60.4%
	Female	110	39.6%
Age	From 21 to 30 years old	14	5%
	From 31 to 40 years old	140	50.4%
	More than 40 years old	124	44.6%
Education Degree	Bachelor's degree	181	65.1%
	Master's degree	61	21.9%
	Doctoral degree	36	12.9%
Work Experience	Less than 5 years	36	12.9%
	From 5 to 10 years	187	67.3%
	More than 10 years	55	19.8%
Job Role Level	Stakeholders or board members	17	6.1%
	Executive and director position	21	7.6%
	Head of department	40	14.4%
	Policy advisor or consultant	32	11.5%
	Administrative staff	44	15.8%
	Engineering staff	59	21.2%
	Technical staff	28	10.1%
	Financial staff	37	13.3%
PPPs Sector Activity	Planning	21	7.6%
	Water management	41	14.7%
	Municipal services	32	11.5%
	Housing and Infrastructure	17	6.1%
	Transport	19	6.8%
	Energy	58	20.9%
	Solid waste treatment	20	7.2%
	Industrial	70	25.2%
Total		278	100.0%

4.3 Descriptive Statistics

This section presents another aspect depicting respondents' perception toward the constructs looked at in the study, through a descriptive statistical analysis. All evaluations have taken a 5-point Likert scale into account, with responses averaged between 1 and 2.9 assumed to indicate a low degree of agreement, from 3 to 3.9 indicating a moderate degree of agreement, and 4 to 5 indicating a high degree of agreement.

The descriptive statistics, which equated to the mean scores and standard deviations, have been computed to understand the general trends between the responses on the constructs: Critical Success Factors (CSFs), Public–Private Partnership and Projects Performance (PPP&PP), and the Role of Risk Management Practice (RMP). These statistics provide the very first view of what perception and level of engagement Palestinian institutions may have with respect to each dimension.

Details are fully given in Tables 4.2-4.4 of responses sorted into three categories: positive, neutral, and negative, with respect to each construct and its dimensions. Such a kind of representation offers a clearer underscore as to which dimensions are strongly perceived by the respondents, and which might be somewhat challenging or uncertain to respondents. Such parameters need to be understood to distinguish between levels of preparedness and enactment of organizations for the strategies on Public–Private Partnership and Projects.

4.3.1 Critical Success Factors (CSFs)

This section presents descriptive statistics related to the Critical Success Factors (CSFs) that affect Public–Private Partnership (PPP) projects in Palestine. The analysis studies six main constructs: political, economic, social, technological, environmental, and legal. Each construct was measured by a group of items, while respondents' perceptions were evaluated using the mean, standard deviation, and percentage of negative, neutral, and positive responses. The agreement status was either high or medium, accordingly, depending on overall response trends.

- The political factors construct (P) recorded an overall mean of 3.984, with 80.1% of respondents expressing a positive perception, indicating a medium level of agreement. Among the items, P3 received the strongest agreement (Mean = 4.248, 89.2% positive), reflecting a strong belief in the importance of that political factor.

In contrast, P2 had the lowest mean (3.788) and only 70.9% positive responses, suggesting relatively less agreement on that specific political issue.

- Economic factors (E) showed an overall mean of 3.862, which also corresponds to a medium level of agreement, with 67.3% positive responses. E1 stood out with a mean of 4.007 and 77.0% positive responses, qualifying as a high level of agreement. However, E2 showed a weaker perception with only 54.3% agreement and a relatively high neutral response rate (28.1%), reflecting uncertainty or mixed opinions regarding that economic dimension.
- Social factors (S) had an overall mean of 3.940, corresponding to a medium level of agreement. The strongest agreement was observed for items S3 and S4, which recorded means of 4.119 and 4.173, and positive response rates of 87.1% and 92.4% respectively, indicating a high level of agreement. However, item S1 was notably weaker with only 62.2% positive responses and the highest negative rate among all social factors (22.3%).
- The technology factors (T) received the highest overall level of agreement among all constructs, with an average mean of 4.173 and 89.5% positive responses, indicating a high level of agreement. Items T3 and T4 were particularly strong, each achieving 96.4% positive responses, reflecting strong consensus among respondents on the technology requirements for PPP success. The consistency in high agreement across technology items underlines the perceived critical importance of technology considerations in PPP project implementation.
- Environmental factors (EN) presented high population agreement, with overall means at 4.105 and an 84.8% positive response rate. EN2 was considered the most favorable with an approval rating of 96.4%, whereas EN4 showed considerably weaker support with 70.1% positive and 18.0% neutral responses, thereby painting environmental issues with a broad brush as varying in importance across different dimensions.
- Legal factors (L) had emerged as the highest-rated construct, with an overall mean of 4.239 and a whopping 92.8% positive agreement. Both L1 and L2 items enjoyed very favorable views, especially L2, which achieved 96.4% positive responses, absent of any neutral or negative feedback. A strong consensus exists about the criticality of legal frameworks and their clarity for the successful implementation of PPP projects.

In summary, from the total analysis, all constructs gave an average value for CSFs of 4.051, with a standard deviation of 0.815. The overall percentage of positive responses was 81.2%; hence, most respondents agreed that these factors are important for achieving successful PPP outcomes in the Palestinian setting. The findings emphasize the multidimensional aspect of PPP success and hence the need to address political, technological, legal, economic, social, and environmental issues in a broad spectrum.

Table (4.2) Critical Success Factors Components, Dimensions, and Indicators: Mean, Standard Deviation, and Percentage

Construct	Q.#	Mean	Std.	% of Negative response	% of Neutral	% of Positive response	Level of Agreement
P	P1	3.917	0.941	14.4%	5.4%	80.2%	Medium
	P2	3.788	1.024	18.0%	11.2%	70.9%	Medium
	P3	4.248	0.740	3.6%	7.2%	89.2%	High
	Overall	3.984	0.902	12.0%	7.9%	80.1%	Medium
E	E1	4.007	0.942	10.4%	12.6%	77.0%	High
	E2	3.626	1.053	17.6%	28.1%	54.3%	Medium
	E3	3.953	0.829	3.6%	25.9%	70.5%	Medium
	Overall	3.862	0.941	10.6%	22.2%	67.3%	Medium
S	S1	3.658	1.092	22.3%	15.5%	62.2%	Medium
	S2	3.842	0.881	3.6%	37.1%	59.4%	Medium
	S3	4.119	0.714	3.6%	9.4%	87.1%	High
	S4	4.173	0.663	3.6%	4.0%	92.4%	High
	S5	3.910	0.808	0.0%	37.4%	62.6%	Medium
	Overall	3.940	0.832	6.6%	20.6%	72.7%	Medium
T	T1	3.942	0.925	11.5%	11.2%	77.3%	Medium
	T2	4.158	0.758	3.6%	11.2%	85.3%	High
	T3	4.270	0.644	3.6%	0.0%	96.4%	High
	T4	4.349	0.667	3.6%	0.0%	96.4%	High
	T5	4.144	0.653	3.6%	4.3%	92.1%	High
	Overall	4.173	0.729	5.2%	5.3%	89.5%	High
EN	EN1	4.133	0.664	3.6%	5.4%	91.0%	High
	EN2	4.295	0.652	3.6%	0.0%	96.4%	High
	EN3	4.068	0.938	11.2%	7.2%	81.7%	High
	EN4	3.924	0.997	11.9%	18.0%	70.1%	Medium
	Overall	4.105	0.813	7.6%	7.6%	84.8%	High
L	L1	4.115	0.681	3.6%	7.2%	89.2%	High
	L2	4.363	0.670	3.6%	0.0%	96.4%	High
	Overall	4.239	0.675	3.6%	3.6%	92.8%	High
CSFs		4.051	0.815	7.6%	11.2%	81.2%	High

4.3.2 Role of Risk Management Practice (RMP)

In this section, we present the descriptive statistics regarding the role of risk management practices (RMP) in Public-Private Partnership projects in Palestine. The analysis was categorized into the four main constructs of the Risk Identification Process (RIP), Risk Assessment Process (RAP), Risk Monitoring and Identification Process (RMIP), and Risk Mitigation and Implementation Process (RMIMP). Each of the constructs comprised many items that were evaluated through mean scores, standard deviation, and percentages of negative, neutral, and positive responses, depending on the level of agreement.

- The Risk Identification Process (RIP) obtained an overall mean of 4.066, with 81.9% positive responses. This reveals a high level of agreement among the respondents. All the items scored high, except for item RIP2. RIP1 received the strongest support (Mean = 4.133, 89.6% positive), while RIP2 had a slightly lower mean of 3.795 and only 73.0% positive responses, qualifying it as medium. The rest of the items (RIP3, RIP4, RIP5) showed strong agreement, each receiving more than 82% positive responses.
- The Risk Assessment Process (RAP) achieved an overall mean of 4.108, with 80.5% positive responses, also indicating a high level of agreement. Items RAP3, RAP4, and RAP5 were particularly strong, receiving over 74% positive responses, with RAP5 reaching 89.6%. However, items RAP1 and RAP2, though still showing favorable views (69.4% and 82.0% positive, respectively), were rated at a medium level of agreement due to higher neutrality, especially RAP1 (24.5% neutral).
- In contrast, the Risk Monitoring and Identification Process (RMIP) reflected a more moderate perception with an overall mean of 3.990 and 73.6% positive responses, categorized as a medium level of agreement. While RMIP1, RMIP2, and RMIP4 showed high levels of agreement (positive responses over 80%), RMIP3, RMIP5, and RMIP6 were rated medium. Notably, RMIP5 and RMIP6 had the highest negative and neutral response rates (over 19% negative), with lower positive response levels (56.5% and 62.9% respectively), indicating areas of concern in monitoring practices.
- The Risk Mitigation and Implementation Process (RMIMP) had the lowest overall mean among the constructs, at 3.885, and 71.9% positive responses,

corresponding to a medium level of agreement. RMIMP2 was the strongest item (Mean = 4.281, 87.8% positive), suggesting a well-perceived mitigation strategy. However, several items received lower agreement levels, particularly RMIMP6 and RMIMP7, which showed high negative response rates (38.1% and 29.5%, respectively) and the lowest positive responses across the entire construct (55.8% and 49.3%, respectively). These findings reflect significant variability in how mitigation practices are implemented and perceived.

Overall, the composite score for Risk Management Practice (RMP) was 4.012 with a standard deviation of 0.931, and 77.0% of respondents expressed positive agreement, suggesting a high level of perceived importance for risk management practices in ensuring the success of PPP projects. However, the variability across sub-dimensions indicates that while the overall framework is valued, certain components require targeted improvement for more effective risk handling.

Table (4.3) Risk Factors: Mean, Standard Deviation, and Percentage

Construct	Q.#	Mean	Std.	% of Negative response	% of Neutral	% of Positive response	Level of Agreement
RIP	RIP1	4.133	0.863	10.4%	0.0%	89.6%	High
	RIP2	3.795	1.036	19.4%	7.6%	73.0%	Medium
	RIP3	4.104	0.832	6.1%	11.5%	82.4%	High
	RIP4	4.140	0.945	10.4%	7.2%	82.4%	High
	RIP5	4.158	0.856	6.1%	11.5%	82.4%	High
	Overall	4.066	0.906	10.5%	7.6%	81.9%	High
RAP	RAP1	3.975	0.913	6.1%	24.5%	69.4%	Medium
	RAP2	3.942	0.921	13.7%	4.3%	82.0%	Medium
	RAP3	4.108	0.921	6.1%	19.1%	74.8%	High
	RAP4	4.263	0.750	2.5%	10.8%	86.7%	High
	RAP5	4.252	0.802	6.1%	4.3%	89.6%	High
	Overall	4.108	0.861	6.9%	12.6%	80.5%	High
RMIP	RMIP1	4.097	0.829	6.1%	11.5%	82.4%	High
	RMIP2	4.180	0.864	6.1%	11.5%	82.4%	High
	RMIP3	3.863	0.981	16.2%	7.2%	76.6%	Medium
	RMIP4	4.291	0.861	3.6%	15.8%	80.6%	High
	RMIP5	3.701	1.131	19.8%	23.7%	56.5%	Medium
	RMIP6	3.806	1.155	20.5%	16.5%	62.9%	Medium
	Overall	3.990	0.970	12.1%	14.4%	73.6%	Medium

RMIMP	RMIMP1	4.018	0.948	12.2%	7.2%	80.6%	High
	RMIMP2	4.281	0.770	3.6%	8.6%	87.8%	High
	RMIMP3	3.957	0.796	3.6%	23.0%	73.4%	Medium
	RMIMP4	3.982	0.909	10.8%	9.7%	79.5%	Medium
	RMIMP5	3.989	1.014	14.4%	8.6%	77.0%	Medium
	RMIMP6	3.475	1.271	38.1%	6.1%	55.8%	Medium
	RMIMP7	3.496	1.201	29.5%	21.2%	49.3%	Medium
	Overall	3.885	0.987	16.0%	12.1%	71.9%	Medium
RMP		4.012	0.931	11.4%	11.7%	77.0%	High

4.3.3 Public–Private Partnership and Projects Performance (PPP&PP)

This section presents the descriptive analysis of the relationship between Public–Private Partnership (PPP) practices and project performance. A total of four constructs were examined: Technical Skills (TS), Financial Capacity (FC), Risk Management (RM), and Accountability (AC). Each construct consists of a group of items measured according to their mean, standard deviation, and distribution of their responses; the interpretation depends on the extent of agreement.

- In this section, the descriptive analysis of the relationship between Public–Private Partnership (PPP) practices and project performance is summarized. Four key constructs were evaluated: Technical Skills (TS), Financial Capacity (FC), Risk Management (RM), and Accountability (AC). Each construct comprises multiple items measured by their mean, standard deviation, and distribution of responses, with interpretation based upon the overall level of agreement.
- The Technical Skills (TS) recorded an overall mean of 3.925 and 72.9% positive responses, indicating a medium level of agreement among respondents. Item TS4 received the highest support (Mean = 4.054, 82.0% positive), categorized as high. However, TS1 showed the weakest agreement with only 55.4% positive responses and the highest negative rate (20.5%), suggesting concerns regarding technical outcomes in some PPP projects.
- The Financial Capacity (FC) construct had an overall mean of 3.755, with 62.1% positive responses, also reflecting a medium level of agreement. FC3 was rated highest (Mean = 4.007, 77.0% positive), receiving a high level of agreement. In contrast, FC2 was notably weaker, with just 49.3% positive responses and the highest negative rate (35.6%) among all items in the construct, indicating concerns

about the adequacy of financial support in PPP projects. Similarly, FC4 and FC5 were marked by higher neutrality, indicating some level of uncertainty among respondents.

- The Risk Management (RM) construct demonstrated the strongest perception among all constructs, with an overall mean of 4.175 and a remarkably high 91.2% positive agreement, corresponding to a high level of agreement. All items within this construct exceeded 87% positive responses. Notably, RM5 stood out with a mean of 4.363 and 96.4% positive responses, reflecting respondents' high confidence in risk management practices being implemented effectively within PPP projects.
- The Accountability (AC) construct also exhibited a high level of agreement, with an overall mean of 4.088 and 78.1% positive responses. Items AC1 through AC4 maintained consistently high positive perceptions (above 80%), while AC5 showed a relatively weaker response (Mean = 3.806, 62.9% positive), which may point to room for improvement in transparency or responsibility structures in some PPP initiatives.

When combining all four constructs under the umbrella of Public–Private Partnership and Projects Performance (PPP&PP), the overall mean was 3.986, with 76.1% of respondents expressing a positive view. Despite being categorized at a medium level of agreement, the high scores in Risk Management and Accountability suggest that while PPPs are generally perceived to perform well, specific areas like financial capacity and certain technical elements may require enhanced strategies and stronger frameworks to ensure consistent success across projects.

Table (4.4) Public–Private Partnership Dimensions and Indicators: Mean, Standard Deviation, and Percentage

Construct	Q.#	Mean	Std.	% of Negative response	% of Neutral	% of Positive response	Level of Agreement
TS	TS1	3.647	1.114	20.5%	24.1%	55.4%	Medium
	TS2	3.968	0.955	12.9%	8.3%	78.8%	Medium
	TS3	3.968	0.893	7.2%	19.8%	73.0%	Medium
	TS4	4.054	0.837	7.2%	10.8%	82.0%	High
	TS5	3.989	0.877	7.2%	17.3%	75.5%	Medium
	Overall	3.925	0.935	11.0%	16.0%	72.9%	Medium

FC	FC1	3.863	1.007	14.4%	15.1%	70.5%	Medium
	FC2	3.439	1.252	35.6%	15.1%	49.3%	Medium
	FC3	4.007	0.942	10.4%	12.6%	77.0%	High
	FC4	3.626	1.053	17.6%	28.1%	54.3%	Medium
	FC5	3.842	0.881	3.6%	37.1%	59.4%	Medium
	Overall	3.755	1.027	16.3%	21.6%	62.1%	Medium
RM	RM1	4.119	0.714	3.6%	9.4%	87.1%	High
	RM2	4.144	0.653	3.6%	4.3%	92.1%	High
	RM3	4.133	0.664	3.6%	5.4%	91.0%	High
	RM4	4.115	0.681	3.6%	7.2%	89.2%	High
	RM5	4.363	0.670	3.6%	0.0%	96.4%	High
	Overall	4.175	0.676	3.6%	5.3%	91.2%	High
AC	AC1	4.104	0.832	6.1%	11.5%	82.4%	High
	AC2	4.140	0.945	10.4%	7.2%	82.4%	High
	AC3	4.097	0.829	6.1%	11.5%	82.4%	High
	AC4	4.291	0.861	3.6%	15.8%	80.6%	High
	AC5	3.806	1.155	20.5%	16.5%	62.9%	Medium
	Overall	4.088	0.925	9.4%	12.5%	78.1%	High
PPP&PP		3.986	0.891	10.1%	13.8%	76.1%	Medium

4.4 Evaluation of the Study Model

The study evaluation followed a structured approach, beginning with the assessment of data normality and continuing with the testing of two models: the measurement model and the structural model. The measurement model tested the constructs for reliability and validity in three important stages: internal consistency reliability, convergent validity, and discriminant validity. Hypothesis testing of the structural model was conducted by applying four main criteria: multicollinearity among indicators, coefficient of determination (R^2), predictive relevance (Q^2), and effect size (f^2). Through this, the data analysis is assured to be sturdy, allowing for the correct interpretation of the relationships between Critical Success Factors (CSFs), PPP, and Project Performance (PPP&PP), and Risk Management Practice (RMP).

4.4.1 Data Normality Evaluation

To assess whether the data met the assumption of normality required for parametric statistical analyses, both graphical and statistical methods were applied. This included evaluation of skewness and kurtosis for all observed variables, as well as formal

normality tests such as the Kolmogorov-Smirnov and Shapiro-Wilk tests (not displayed here). According to Kim (2013), data can be considered approximately normally distributed when skewness values fall within ±2 and kurtosis values remain below 7.

The results show that all items across the constructs fall well within these recommended thresholds. Skewness values range from -1.304 (L2) to 0.165 (S5), and all are comfortably within the ±2.0 range. This indicates that the data distributions are reasonably symmetric, although slightly skewed to the left in most cases (negative skew), which is typical in social science surveys with high agreement rates.

Similarly, kurtosis values for all items are below 7. The highest observed kurtosis was 3.272 (T3), which still lies well within the acceptable range. Most items exhibited platykurtic or mesokurtic distributions, with a few items (e.g., T3, EN2, RM5) showing moderate positive kurtosis, suggesting slight peakedness in distribution but not to a problematic extent.

Taken together, the skewness and kurtosis statistics provide strong evidence that the dataset approximates a normal distribution. This validates the use of parametric statistical procedures in the subsequent analyses, such as factor analysis, correlation, and regression. The results confirm that the assumption of univariate normality is met across all constructs, including Critical Success Factors (CSFs), Risk Management Practices (RMP), and Public–Private Partnership & Project Performance (PPP&PP). This pattern was consistent across constructs and dimensions, as outlined in Appendix C.

4.4.2 Internal Consistency Reliability

To evaluate the internal consistency reliability of the constructs, two key measures were applied: Cronbach's alpha (α) and Composite Reliability (CR). They are deemed to be the most accepted construct reliability indices that are used in SEM. An accepted Cronbach's alpha value should not be less than 0.70; values above 0.80 are deemed good, and above 0.90 they are considered excellent. Likewise, CR values greater than 0.70 are suitable for confirmatory research (Hair Jr et al., 2010).

- **First-Order Constructs**

For the first-order constructs, all the measured variables exhibited consistency from acceptable to excellent. The Critical Success Factors (CSFs) construct showed the highest internal consistency, with an α of 0.982 and a CR of 0.983, thus asserting the

strength of the measurement items. Within CSFs, all sub-constructs showed strong reliability: Political factors (P) had α = 0.857, Economic (E) α = 0.884, Social (S) α = 0.947, Technology (T) α = 0.944, Environmental (EN) α = 0.896, and Legal (L) α = 0.778. While the Legal dimension had the lowest alpha, it still surpassed the 0.70 threshold, indicating acceptable reliability.

Similarly, the Risk Management Practice (RMP) construct showed excellent internal consistency with α = 0.975 and CR = 0.977. All its components—Risk Identification Process (RIP), Risk Assessment Process (RAP), Risk Monitoring and Identification Process (RMIP), and Risk Mitigation and Implementation Process (RMIMP)—also achieved high reliability, with alpha values ranging from 0.895 to 0.964, and CR values between 0.920 and 0.973.

For the PPP and Project Performance (PPP&PP) construct, the overall internal consistency was also very high (α = 0.978, CR = 0.980). Among its sub-constructs, Technical Skills (TS) showed the highest reliability (α = 0.983, CR = 0.987), followed by Financial Capacity (FC) (α = 0.913), Risk Management (RM) (α = 0.959), and Accountability (AC) (α = 0.882). All these values exceed the recommended threshold, ensuring the reliability of performance-related indicators.

- **Second-Order Constructs**

The second-order constructs—CSFs, RMP, and PPP&PP—also demonstrated excellent internal consistency, with Cronbach's alpha values of 0.978, 0.942, and 0.954, respectively. Corresponding CR values were 0.982, 0.958, and 0.967, confirming that the higher-order conceptual models are consistently measured by their respective first-order dimensions.

In conclusion, the reliability analysis strongly supports the internal consistency of all measurement constructs at both the first-order and second-order levels. This confirms the appropriateness of the items used in measuring each construct and reinforces the robustness of the instrument used in the study.

Table (4.5) Construct Reliability Analysis

Construct	Cronbach's alpha	CR
→ First Order		
CSFs	0.982	0.983
P	0.857	0.913
E	0.884	0.929
S	0.947	0.960
T	0.944	0.958
EN	0.896	0.928
L	0.778	0.899
RMP	0.975	0.977
RIP	0.964	0.973
RAP	0.947	0.960
RMIP	0.895	0.920
RMIMP	0.944	0.954
PPP&PP	0.978	0.980
TS	0.983	0.987
FC	0.913	0.935
RM	0.959	0.968
AC	0.882	0.917
→ Second Order		
CSFs	0.978	0.982
RMP	0.942	0.958
PPP&PP	0.954	0.967

4.4.3 Convergent Validity

Having stated by F. Hair Jr et al. (2014), convergent validity is "the degree to which a measure correlates positively with other measures of the same construct." In this study, two major tests on convergent validity were carried out: outer loadings and average variance extracted (AVE).

4.4.4 Outer Loading

The outer loading is paramount when determining convergent validity because it shows the intensity of association between a construct and its indicators. Hair Jr et al. (2017) state that if the outer loading value is above 0.70, the indicator contribution is deemed strong, while values close to or greater than 0.80 indicate excellent reliability of indicators. The outer loading results of both first-order and second-order are distributed, and the summary of the results is shown in Appendix D.

- **First-Order Constructs**

All first-order constructs demonstrated strong outer loading values, with most indicators exceeding the 0.70 threshold. Within the Critical Success Factors (CSFs), all items under the Political (P), Economic (E), Social (S), Technology (T), Environmental (EN), and Legal (L) constructs showed high loading values. Specifically, P2 (0.933), E2 (0.961), S4 (0.955), T3 (0.977), and EN2 (0.923) demonstrated particularly strong item reliability. The lowest loading observed among CSFs was EN4 (0.829), which still meets the minimum criteria.

For the Risk Management Practice (RMP) constructs, indicators of all sub-dimensions—including Risk Identification Process (RIP), Risk Assessment Process (RAP), Risk Monitoring and Identification Process (RMIP), and Risk Mitigation and Implementation Process (RMIMP)—showed adequate to excellent loadings. RIP items were particularly strong, ranging from 0.839 to 0.969. RAP3 and RAP1 both loaded at 0.969 and 0.968, respectively, indicating very strong alignment. RMIP5 (0.725) and RMIP6 (0.728) had the lowest loadings among all RMP indicators but were still above the acceptable threshold.

Within the PPP and Project Performance (PPP&PP) domain, all constructs, Technical Skills (TS), Financial Capacity (FC), Risk Management (RM), and Accountability (AC), exhibited strong item loadings. TS indicators were exceptionally high, with values from 0.944 to 0.980. RM indicators also performed well (0.865 to 0.968). However, AC5 had the lowest loading across all items at 0.595, suggesting that this indicator may be a weaker representation of the Accountability construct and may warrant reconsideration in future studies.

- **Second-Order Constructs**

The second-order construct analysis confirmed that each higher-level latent variable was well represented by its associated first-order constructs. CSFs showed outer loadings ranging from 0.925 to 0.969, confirming strong convergent validity. RMP dimensions, too, showed good alignment since RIP (0.949), RAP (0.920), RMIP (0.925), and RMIMP (0.897) point toward strong contributions. The four main constructs under the second-order construct of PPP&PP also witnessed strong loadings by Technical Skills (0.913), Financial Capacity (0.973), Risk Management (0.924), and Accountability (0.941), thus ensuring the hierarchical structure of the model.

In conclusion, outer loading analysis shows that the vast majority of measurement items are good satraps for their presumed construct; thus, providing substantial support for construct validity and construct relevance, which further enables a sound basis of measurement models for any further analysis of the structural model.

4.4.5 Average Variance Extracted (AVE)

To determine convergent validity, each of the constructs was tested through the calculation of the Average Variance Extracted. AVE is concerned with how much variance is captured by a latent construct versus how much variance is due to measurement error. According to F. Hair Jr et al. (2014), an AVE value of 0.50 and above is acceptable, i.e., more than 50 percent of the variance of its observed indicators is explained by the construct.

- **First-Order Constructs**

All first-order constructs exceeded the AVE threshold of 0.50, confirming that the observed variables adequately represent their underlying latent constructs. For the Critical Success Factors (CSFs) dimensions, AVE values ranged from 0.762 (EN) to 0.827 (S). The overall AVE for CSFs was 0.725, demonstrating strong convergent validity across the six sub-constructs: Political (P = 0.779), Economic (E = 0.813), Social (S = 0.827), Technology (T = 0.820), Environmental (EN = 0.762), and Legal (L = 0.817).

Within the Risk Management Practices (RMP) construct, the overall AVE was 0.652, also indicating acceptable convergent validity. The individual sub-constructs, RIP (0.877), RAP (0.829), RMIP (0.658), and RMIMP (0.750), demonstrated strong performance, particularly RIP and RAP, which had the highest AVE values among all first-order constructs, indicating that the variance explained by their indicators was very high.

For Public–Private Partnership and Project Performance (PPP&PP), the overall AVE was 0.708, surpassing the recommended threshold. Among its sub-constructs, Technical Skills (TS) reported an exceptionally high AVE of 0.937, followed by Risk Management (RM) at 0.860, Financial Capacity (FC) at 0.743, and Accountability (AC) at 0.692, all confirming strong convergent validity.

- **Second-Order Constructs**

The second-order constructs also demonstrated excellent convergent validity. CSFs recorded an AVE of 0.900, followed by PPP&PP at 0.880, and RMP at 0.852. These values confirm that the second-order latent variables are well represented by their corresponding first-order dimensions, thereby validating the higher-order structural framework.

The AVE analysis has confirmed that all constructs, including first and second order ones, bear convergent validity above the minimum levels. From these findings, the measurement model can be said to be strong, and the instruments might have been very reliable to have capturing satisfactorily the theoretical dimensions of PPP project success and risk management.

Table (4.6) Average Variance Extracted (AVE) Analysis

Construct	**AVE**
→ First Order	
CSFs	0.725
P	0.779
E	0.813
S	0.827
T	0.820
EN	0.762
L	0.817
RMP	0.652
RIP	0.877
RAP	0.829
RMIP	0.658
RMIMP	0.750
PPP&PP	0.708
TS	0.937
FC	0.743
RM	0.860
AC	0.692
→ Second Order	
CSFs	0.900
RMP	0.852
PPP&PP	0.880

4.4.6 Discriminant Validity

Discriminant validity truly reflects how two variables are distinct conceptually and statistically. In this study, discriminant validity was evaluated with the application of the Fornell-Larcker Criterion, the Heterotrait-Monotrait ratio, and the cross-loading method (Fornell & Larcker, 1981). These three tests were applied to both the first and second-order constructs to guarantee that every construct was empirically distinct from all the other constructs in the model.

4.4.6.1 Discriminant Validity Analysis (First Order)

- **Fornell-Larcker Criterion**

Appendix (E) illustrates that the diagonal elements in the correlation matrix represent the square root of the AVE for each construct. All constructs demonstrated discriminant validity, as their diagonal values (e.g., AC = 0.832, E = 0.902, EN = 0.873, etc.) exceeded their respective inter-construct correlations with other constructs. This indicates that each construct is more strongly related to its own measures than to those of any other construct.

- **Heterotrait-Monotrait (HTMT) Ratio**

The HTMT matrix in Appendix (F) further supports discriminant validity. According to Fornell and Larcker (1981), HTMT values should be below 0.90 for stricter evaluation or 0.90 for exploratory models. Most HTMT values fall below the acceptable threshold of 0.90; several values exceeded it. For instance, RMIP–AC (1.059), RM–L (1.136), and E–EN (1.005) were slightly above 1.00, suggesting potential discriminant validity concerns. These elevated values may indicate conceptual overlap between certain constructs, particularly between risk monitoring and accountability, or between environmental and economic factors. Nevertheless, the majority of HTMT values are within range, reinforcing the overall integrity of construct separation.

4.4.6.2 Discriminant Validity Analysis (Second Order)

- **Fornell-Larcker Criterion**

Appendix (G) shows the second-order discriminant validity evaluation. Here, all second-order constructs, CSFs (0.948), RMP (0.923), and PPP&PP (0.938) exhibited

square roots of AVE greater than their inter-construct correlations. This confirms the distinctiveness of higher-order constructs in relation to each other.

- **Heterotrait-Monotrait (HTMT) Ratio**

Appendix (H) supports these findings. The HTMT ratios among second-order constructs were generally acceptable. For example, CSFs–PPP&PP (0.978) and CSFs–RMP (0.937) were both slightly below or near the 0.90–1.00 mark, suggesting close but distinguishable relationships. However, the HTMT between PPP&PP and RMP was 1.021, marginally exceeding the recommended threshold. This suggests potential overlap between these two higher-order constructs, likely due to the integration of risk management factors into performance outcomes in PPP contexts.

Overall, the Fornell-Larcker analysis confirms discriminant validity for both first-order and second-order constructs. The HTMT analysis indicates generally acceptable values, with only a few instances slightly exceeding conservative thresholds. These minor overlaps may reflect theoretical linkages between constructs rather than measurement flaws, but they do suggest areas that warrant careful theoretical justification in the model discussion. Nevertheless, the discriminant validity of the model is considered acceptable for structural equation modeling.

4.4.6.3 Cross-Loading Analysis

Cross-loadings constitute a method that stands supplementarily to discriminant validity, involving looking into the extent to which each observed variable or indicator correlates more strongly with its respective construct than with some other construct. Chin (1998a) asserted that a measurement model is considered valid if each indicator's loading is greater for the construct it is assigned to than the loadings of that indicator for any other constructs. It was mostly that the indicators load higher on the constructs to which they belong than on constructs that are unrelated to them, thus asserting the discriminant validity of the model at a plurality of levels, as detailed in Appendix (I).

The results from the cross-loading matrix demonstrate that each indicator exhibits the highest loading on its corresponding construct. For instance, item P1 loads at 0.865 on the Political (P) construct, which is significantly higher than its correlations with other constructs such as E (0.766), S (0.692), or TS (0.764). Similarly, E2 loads 0.961 on the

Economic (E) construct, while its cross-loadings on other constructs like S (0.714) or T (0.797) remain lower.

Within the Risk Management Practice (RMP) components, all items under RIP, RAP, RMIP, and RMIMP also show proper alignment. For example, RIP3 loads 0.969 on RIP, exceeding its correlations with other constructs such as RAP (0.963) and RMIP (0.802). Although some cross-loadings are moderately high (due to theoretical overlaps), none exceed the item's primary loading, maintaining acceptable discriminant validity.

A few items, such as RMIP5 (0.725) and AC5 (0.595), present relatively low primary loadings and comparable correlations with other constructs (e.g., RMIMP, RM, or FC), but still retain the required condition of loading highest on their intended latent factor. These values, while not problematic, suggest areas that may benefit from item refinement or reevaluation in future model iterations.

Overall, the cross-loading analysis confirms that all indicators demonstrate appropriate construct membership, as each item's outer loading on its respective construct exceeds its cross-loadings on other constructs. This provides additional evidence supporting the model's discriminant validity, aligning well with prior Fornell-Larcker and HTMT results.

4.5 Structural Model Assessment

After confirming the reliability and validity of the constructs, the next stage was to evaluate the structural model to estimate the proposed links among the constructs. The researcher performed four assessments to analyze the structural model: the multicollinearity test, coefficient of determination (R^2), predictive relevance (Q^2), and effect size (f^2) tests.

4.5.1 Indicator Multi-collinearity

Under the condition of guaranteeing the model's prediction accuracy, the presence of collinearity was analyzed among the indicator variables using the Variance Inflation Factor (VIF) modeling. According to (Fornell & Bookstein, 1982), a VIF greater than 5 indicates some concern in collinearity, although another school of thought gives the argument that even a VIF value above 3 should be considered for collinearity.

The analysis revealed that none of the items exceeded the critical VIF threshold of 5.0, which indicates that serious multicollinearity does not exist within the measurement model. However, several items did approach or exceed the 3.0 benchmark, which may warrant attention in model refinement or future research design.

Among the Critical Success Factors (CSFs), notable values included S2 (4.522) and S5 (4.524), indicating moderate to high collinearity. Similarly, EN2 (4.701) and EN1 (3.866) were among the highest in the Environmental construct. In the technology subdimension, T4 also displayed a relatively high VIF of 4.512. These values, while not violating the 5.0 rule, may suggest overlapping variance among predictors within their respective constructs.

For the Risk Management Practice (RMP) dimension, RMIP1 (4.622) and RMIP2 (3.649) showed moderately high multicollinearity, followed by RMIMP3 (3.454) and RMIMP5 (2.96). Similarly, in the PPP&PP construct, RM4 displayed a VIF of 3.88, while FC2 (4.355) was the highest in the Financial Capacity dimension.

Despite these elevated values, all indicators fall within acceptable thresholds for Partial Least Squares Structural Equation Modeling (PLS-SEM), particularly when predictive accuracy is prioritized over explanatory modeling. The data, therefore, support the conclusion that multicollinearity is not a serious issue within this model.

In summary, while some indicators approach conservative cautionary thresholds, the overall multicollinearity profile of the measurement model is within acceptable limits. This validates the suitability of the indicators for continued use in the structural analysis without risk of estimation distortion due to redundancy. All detailed VIF values for each indicator are provided in Appendix J.

4.5.2 Coefficient of Determination (R^2)

The Coefficient of Determination (R^2) is a fundamental metric to assess the predictive power of the structural model. It measures the amount of variance in an endogenous latent variable explained by its related exogenous variables. According to Cohen (2013), R^2 values can be categorized as follows: approximately 0.02 have negligible explanatory power; approximately 0.15, moderate explanatory power; and anything beyond 0.35 is considered a strong explanatory power.

In this study, the R^2 values of the dependent constructs indicate a very high level of predictive accuracy. Table 4.7 presents the R-square and adjusted R-square values for

the constructs under examination. The results show that TS (Technical Skills) has an R^2 of 0.854, FC (Financial Contribution) has an R^2 of 0.945, RM (Risk Mitigation) has an R^2 of 0.852, AC (Accountability) has an R^2 of 0.866, and PPP&PP has the highest R^2 value at 0.966. All adjusted R^2 values are consistent with the original R^2 values, confirming the stability of the model.

Thus, the model explains a large part of the total variability within each construct. Specifically, 85.4% of the variance in TS was accounted for by its predictors, 94.5% of the variance in FC was accounted for by its predictors, and 96.6% of the variance in PPP&PP was accounted for by its predictors. On the other hand, RM and AC have 85.2% and 86.6% of their variances, respectively, with strong explanatory power. These values are more than the threshold for strong explanatory power and affirm the sturdiness of the structural model.

In a nutshell, the R^2 values have shown that the structural model has an excellent capability of prediction. This implies that the exogenous variables chosen explained to a major extent the variance observed in the essential dependent constructs, along with the validity of the theoretical model used in this study.

Table (4.7) Results of R2

Construct	R-square	R-square adjusted	Degree
TS	0.854	0.854	High
FC	0.945	0.945	High
RM	0.852	0.852	High
AC	0.866	0.866	High
PPP&PP	0.966	0.965	High

4.5.3 Predictive Relevance (Q^2)

The term predictive relevance, known as Q^2 by Stone (1974), has to be considered as one of the criteria in judging the prediction of observed values for endogenous latent constructs by a structural model. It is derived from a blindfolding procedure under a PLS-SEM approach. Hair Jr et al. (2017) stated that Q^2 values above zero imply that the model, in a way, predicts the endogenous variable being looked at.

The Q^2 analysis results for this study appear in Table 4.8. All five key constructs — TS, FC, RM, AC, and PPP&PP — show strong predictive relevance. The Q^2 values for these constructs are 0.833 for TS, 0.856 for FC, 0.819 for RM, 0.759 for AC, and an

uppermost 0.908 for PPP&PP. These values are well above the threshold of zero, assuring the model of strong predictive realization.

Furthermore, the RMSE and MAE values give a nice resonance to this conclusion. TS shows an RMSE of 0.416 and an MAE of 0.271, FC follows behind with an RMSE of 0.387 and an MAE of 0.234. RM has an RMSE of 0.431 and an MAE of 0.270. AC comes with the highest errors amongst all five outcomes, with an RMSE of 0.498 and an MAE of 0.318, though the values are acceptable. More importantly, PPP&PP checksum has the most accurate predictions by giving the smallest RMSE of 0.309 and MAE of 0.195. To conclude, the model shows a high level of predictive relevance for all constructs it was tested on. These results also attest to the strength of the structural model as a whole and its ability to robustly predict outcomes across all its dependent constructs.

Table (4.8) Results of Q2

Construct	Q^2 predict	RMSE	MAE
TS	0.833	0.416	0.271
FC	0.856	0.387	0.234
RM	0.819	0.431	0.270
AC	0.759	0.498	0.318
PPP&PP	0.908	0.309	0.195

4.5.4 Effect Size (f^2) tests

Effect size (f^2) is a critical metric in evaluating the contribution of each exogenous construct to an endogenous construct within the structural model. It measures the change in the coefficient of determination (R^2) when a specific exogenous variable is removed, thereby quantifying the unique variance explained by that construct (Chin, 1998a). According to (Cohen, 1992), f^2 values are interpreted as follows: 0.02 indicates a small effect, 0.15 is a medium effect, and 0.35 or above a large effect.

The findings from this study reveal exceptionally high effect sizes across all structural paths examined, confirming strong predictive relationships among constructs. Notably, the effect of PPP&PP on other constructs demonstrates significant influence. The f^2 value for PPP&PP → FC is 17.105, indicating an extremely large effect, while PPP&PP → AC follows closely at 6.483. Similarly, PPP&PP has strong effects on TS (5.861) and RM (5.778), all of which fall under the "high" effect size classification.

In addition, the effect size from CSF → PPP&PP is recorded at 0.850, and from RMP → PPP&PP at 2.274, both well above the threshold for a high effect. Even the lowest observed f^2 value in the model, CSF → RMP at 0.223, still exceeds the cutoff for medium and qualifies as a high effect.

In conclusion, the results highlight the dominant explanatory power of the PPP&PP construct across the model, as well as significant contributions from CSF and RMP to various endogenous variables. These insights reinforce the robustness of the structural model and underscore the importance of the proposed pathways.

Table (4.9) Results of f^2

Construct	F2	Degree
PPP&PP -> TS	5.861	High
PPP&PP -> FC	17.105	High
PPP&PP -> RM	5.778	High
PPP&PP -> AC	6.483	High
CSF -> PPP&PP	0.850	High
RMP -> PPP&PP	2.274	High
CSF -> RMP	0.223	Medium

4.6 Research Hypotheses Assessment

The last phase of the structural model assessment is related to the hypothesized relationships, which are evaluated based on the path coefficient test. In accordance with Hair Jr et al. (2017), bootstrapping procedures with 5,000 subsamples were adopted to examine the proposed hypotheses. The results for testing the hypotheses of the study are displayed in Figure 4.1, wherein the inner model values represent the results of the hypothesized relationships in the path analysis.

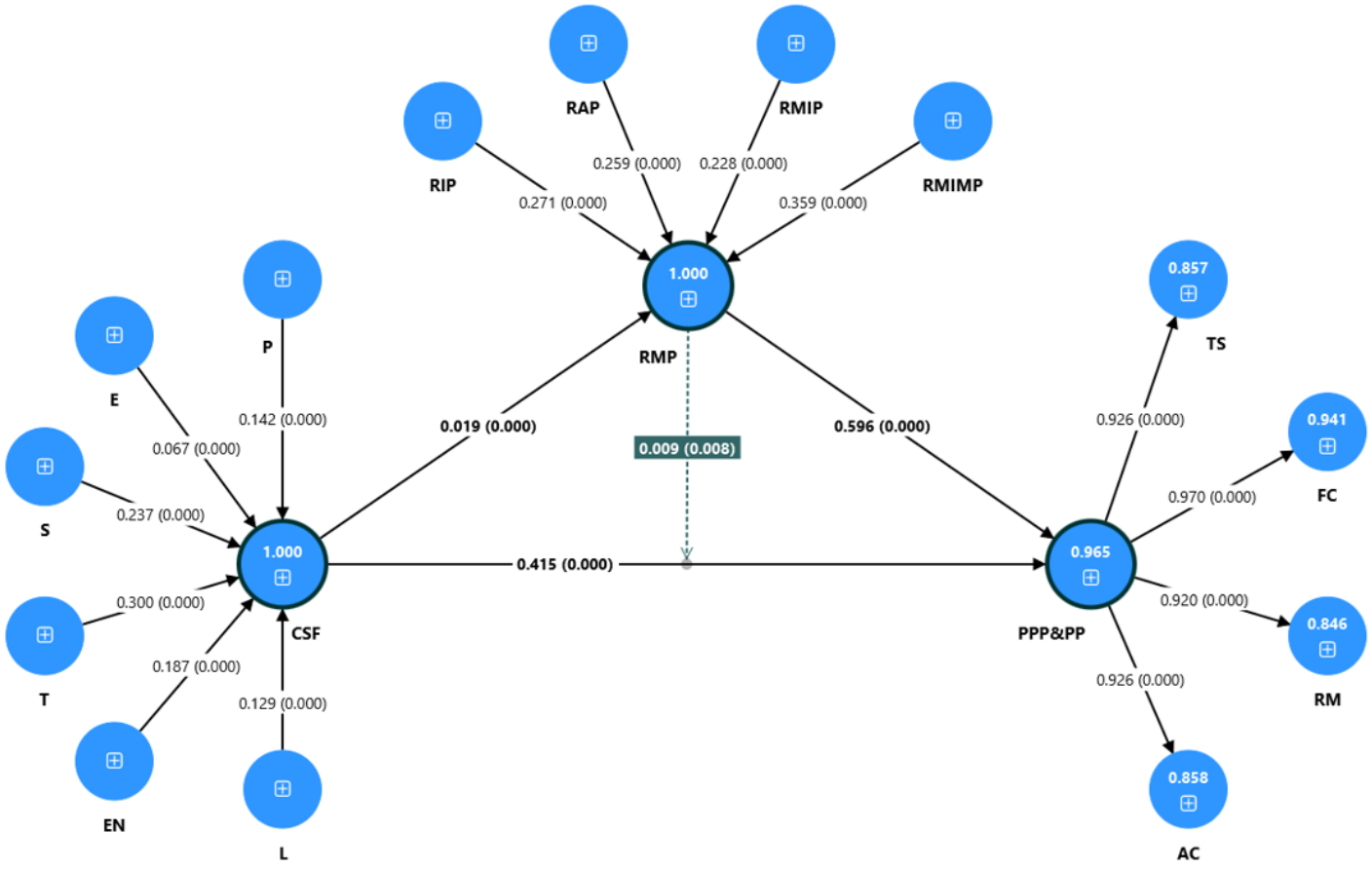


Figure (4.1) Results of Path Analysis

*Values within the inner model indicate the (p-value), while values in the outer model denote the β-value.

4.7 Results of the Hypothesis

4.7.1 Critical Success Factors (CSFs) and Performance of Public-Private Partnerships (PPPs) and Projects

The structural model assessment confirmed that Critical Success Factors (CSFs), evaluated through the PESTEL framework, have a significant and positive impact on the performance of Public-Private Partnerships (PPPs) and projects in Palestine. This is evidenced by the overall path coefficient for H1 ($\beta = 0.415$) and a highly significant t-value of 10.599 ($p < 0.001$), indicating strong predictive power and statistical robustness. These findings underscore the crucial role that political, economic, social, technological, environmental, and legal factors play in determining the success of PPP ventures.

At the dimensional level, the model further validates all six individual components of the PESTEL framework, as shown in hypotheses H1a through H1f. Each sub-construct exhibits statistically significant contributions to PPP&PP performance, with p-values all at 0.000, confirming the reliability of the observed relationships.

- Political (P) influences (H1a) are positively related to PPP&PP performance, with a path coefficient of 0.059 and a t-value of 10.745, indicating that stable governance, policy clarity, and public institutional support are essential drivers.
- Economic (E) conditions (H1b) also contribute positively, albeit with a smaller $\beta = 0.028$, but with a very high t-value of 11.326, reflecting the significance of macroeconomic indicators, financial viability, and resource availability in PPP implementation.
- Social (S) factors (H1c) have a larger impact ($\beta = 0.098$, $t = 9.921$), demonstrating that public acceptance, social equity, and stakeholder engagement are highly influential in shaping project success.
- Technological (T) factors (H1d) exhibit a path coefficient of 0.124, the second highest among all sub-factors, with a t-value of 9.676, indicating that access to innovation, digital infrastructure, and technical capacity are essential enablers for PPP efficiency and modernization.
- Environmental (EN) concerns (H1e), with $\beta = 0.078$ and $t = 9.966$, reflect increasing awareness of sustainable practices, ecological risk mitigation, and regulatory environmental standards that affect PPP outcomes.

- Finally, the Legal (L) framework (H1f) also shows a statistically supported impact (β = 0.054, t = 8.559), implying that enforceable contracts, legal protection, dispute resolution, and clarity in the legal environment are fundamental for PPP trust and risk mitigation.

Table (4.10) Results of the First Hypothesis

Hypothesis	**Direction**	***β*** **coefficient**	**Std.**	***t*** **Value**	***p*** **Value**	**Result**
H1	CSFs → PPP&PP	0.415	0.039	10.599	0.000	Supported
H1a	P → PPP&PP	0.059	0.005	10.745	0.000	Supported
H1b	E → PPP&PP	0.028	0.002	11.326	0.000	Supported
H1c	S → PPP&PP	0.098	0.010	9.921	0.000	Supported
H1d	T → PPP&PP	0.124	0.013	9.676	0.000	Supported
H1e	EN → PPP&PP	0.078	0.008	9.966	0.000	Supported
H1f	L → PPP&PP	0.054	0.006	8.559	0.000	Supported

*Note. **P<0.05*

4.7.2 Critical Success Factors (CSFs) and Risk Management Practice (RMP)

The second hypothesis (H2) explored the relationship between Critical Success Factors (CSFs)—measured through the PESTEL framework—and their influence on Risk Management Practices (RMP) in the context of Public-Private Partnerships in Palestine. The results indicate a positive and statistically significant relationship, with a path coefficient (β = 0.019), a t-value of 5.848, and a p-value of 0.000, confirming strong empirical support for H2. Although the effect size is relatively modest compared to H1, the statistical significance indicates that CSFs remain a valid predictor of effective risk management integration in PPP frameworks.

Each sub-dimension of the CSFs, as represented by hypotheses H2a through H2f, was also found to have a positive and statistically significant impact on RMP, albeit with small coefficients—suggesting that while each factor plays a meaningful role, their individual contributions are modest in scale.

- Political (P) influences (H2a) revealed a path coefficient of 0.003, with a t-value of 5.787 and p < 0.001, affirming that political stability, policy clarity, and governmental support enhance the risk identification and mitigation processes in PPPs.

- Economic (E) factors (H2b) showed the smallest yet significant effect (β = 0.001, t = 5.490), suggesting that while financial conditions and macroeconomic trends are relevant, their individual influence on RMP is limited in isolation.
- Social (S) influences (H2c) exhibited a slightly stronger coefficient (β = 0.004, t = 5.971), indicating the importance of societal expectations, cultural alignment, and stakeholder communication in shaping responsive and inclusive risk strategies.
- Technological (T) factors (H2d) presented a path coefficient of 0.006 and the highest t-value among sub-factors (t = 5.999), highlighting the growing importance of digital infrastructure, technical innovation, and system automation in effective risk monitoring and control.
- Environmental (EN) considerations (H2e) also contributed positively (β = 0.004, t = 5.920), suggesting that environmental risks, regulatory pressures, and sustainability mandates are becoming integral to risk management design and planning.
- Legal (L) variables (H2f) showed a statistically supported relationship (β = 0.002, t = 5.438), reinforcing the notion that legal frameworks, enforceable agreements, and regulatory compliance are foundational to robust risk governance within PPP structures.

Table (4.11) Results of the Second Hypothesis

Hypothesis	**Direction**	***β*** **coefficient**	**Std.**	***t*** **Value**	***p*** **Value**	**Result**
H2	CSFs → RMP	0.019	0.003	5.848	0.000	Supported
H2a	P → RMP	0.003	0.000	5.787	0.000	Supported
H2b	E → RMP	0.001	0.000	5.490	0.000	Supported
H2c	S → RMP	0.004	0.001	5.971	0.000	Supported
H2d	T → RMP	0.006	0.001	5.999	0.000	Supported
H2e	EN → RMP	0.004	0.001	5.920	0.000	Supported
H2f	L → RMP	0.002	0.000	5.438	0.000	Supported

*Note. **P<0.05*

4.7.3 Risk Management Practice (RMP) and Performance of PPPs and Projects

The third hypothesis (H3) postulates that Risk Management Practice (RMP) significantly contributes to the performance of Public-Private Partnerships (PPPs) and

projects in Palestine. The statistical analysis yields a highly significant path coefficient of β = 0.596, with a t-value of 16.430 and a p-value of 0.000, indicating strong empirical support for H3. This result suggests that an effective and comprehensive risk management system plays a central and robust role in enhancing the overall success and sustainability of PPPs and infrastructure-related ventures.

Breaking down RMP into its sub-dimensions, hypotheses H3a through H3d confirm the significance of each component individually:

- Risk Identification Practice (RIP) (H3a) exhibits a path coefficient of 0.161 with a t-value of 15.207, indicating that identifying and understanding potential risks early in the project lifecycle contributes meaningfully to PPP performance.
- Risk Assessment Practice (RAP) (H3b) shows a path coefficient of 0.154 and a t-value of 18.739, suggesting that evaluating the probability and impact of identified risks allows for more informed decision-making and strategic planning.
- Risk Mitigation Practice (RMIP) (H3c) has a path coefficient of 0.136 with a t-value of 10.708, reflecting the importance of developing proactive strategies to reduce or eliminate threats before they materialize.
- Risk Management Implementation and Monitoring Practice (RMIMP) (H3d) demonstrates the highest sub-dimension impact with a coefficient of 0.214 and a t-value of 14.231, underscoring the critical role of executing and continuously monitoring risk responses to ensure real-time adaptability and project control.

Table (4.12) Results of the Third Hypothesis

Hypothesis	**Direction**	***β*** **coefficient**	**Std.**	***t*** **Value**	***p*** **Value**	**Result**
H3	RMP → PPP&PP	0.596	0.036	16.430	0.000	Supported
H3a	RIP → PPP&PP	0.161	0.011	15.207	0.000	Supported
H3b	RAP → PPP&PP	0.154	0.008	18.739	0.000	Supported
H3c	RMIP → PPP&PP	0.136	0.013	10.708	0.000	Supported
H3d	RMIMP → PPP&PP	0.214	0.015	14.231	0.000	Supported

*Note. **P<0.05*

4.7.4 Moderating Effect of Risk Management Practice (RMP)

Hypothesis H4 investigates whether Risk Management Practice (RMP) significantly moderates the relationship between Critical Success Factors (CSFs)—evaluated through the PESTEL framework—and the performance of Public-Private

Partnerships (PPPs) and projects in Palestine. The results provide strong evidence to support this hypothesis. With a moderating effect coefficient of β = 0.009, a t-value of 2.414, and a p-value of 0.008, the interaction effect between CSFs and RMP on PPP&PP performance is statistically significant. This indicates that the presence of strong risk management practices amplifies the positive influence of CSFs on PPP success.

Further support is offered by the sub-hypotheses (H4a to H4f), which dissect this moderation effect across each component of the PESTEL framework:

- H4a: The interaction between the Political environment (P) and RMP significantly influences PPP performance (β = 0.002, t = 4.979, p = 0.000), indicating that in politically unstable environments, robust risk management helps mitigate uncertainty and enhance project outcomes.
- H4b: The Economic environment (E), when managed under effective risk frameworks, shows a significant moderation effect (β = 0.001, t = 4.666, p = 0.000), reflecting the role of risk tools in navigating inflation, funding issues, and economic volatility.
- H4c: The Social environment (S) also benefits from risk moderation (β = 0.003, t = 5.178, p = 0.000), especially in managing stakeholder expectations and public resistance.
- H4d: The Technological dimension (T) reveals a moderating effect (β = 0.003, t = 5.262, p = 0.000), suggesting that RMP contributes to smoother tech integration and innovation adoption in PPPs.
- H4e: Regarding the Environmental factors (EN), RMP plays a vital role in enhancing resilience against environmental risks (β = 0.002, t = 5.162, p = 0.000).
- H4f: Lastly, the Legal framework (L) also demonstrates a significant interaction effect (β = 0.001, t = 4.848, p = 0.000), underscoring the need for legal risk monitoring and compliance in PPP projects.

Table (4.13) Results of the Fourth Hypothesis

Hypothesis	**Direction**	***β* coefficient**	**Std.**	***t* Value**	***p* Value**	**Result**
H4	CSFs x RMP → PPP&PP	0.009	0.004	2.414	0.008	Supported
H4a	P x RMP → PPP&PP	0.002	0.000	4.979	0.000	Supported
H4b	E x RMP → PPP&PP	0.001	0.000	4.666	0.000	Supported
H4c	S x RMP → PPP&PP	0.003	0.001	5.178	0.000	Supported

H4d	T x RMP → PPP&PP	0.003	0.001	5.262	0.000	Supported
H4e	EN x RMP → PPP&PP	0.002	0.000	5.162	0.000	Supported
H4f	L x RMP → PPP&PP	0.001	0.000	4.848	0.000	Supported

*Note. **P<0.05*

4.8 Chapter Summary

This chapter delivers a detailed explanation of the structural framework through PLS-SEM to investigate the relationships between CSFs, RMP, and the performance of PPP&PP in Palestine. The measurement model displayed good reliability, with outer loadings above 0.7 and AVE scores above 0.5, which establishes convergent validity. Discriminant validity was also attested with the help of the Fornell-Larcker criterion and HTMT ratios.

VIF values showed no critical problem of multicollinearity, all being below the threshold value. The R-square values for all endogenous constructs were quite high, with a range of 0.852 to 0.966, suggesting excellent explanatory power. The Q^2 values were above 0.75 for all constructs, and low values of RMSE and MAE have made an added endorsement for the predictive accuracy of the model.

Effect size (f^2) results revealed high levels of influence of the exogenous constructs on endogenous ones, especially from PPP&PP to FC (17.105) and TS (5.861). CSFs are hypothesized to influence both PPP&PP and RMP significantly (H1, H2), with all PESTEL factors exerting a positive contribution. Hence, RMP significantly positively influences PPP&PP performance (H3), supported by its dimensions: RIP, RAP, RMIP, and RMIMP.

Lastly, moderation analysis (H4) revealed that RMP strengthens the relationship between CSFs and PPP&PP performance. Thus, emphasizing the importance of risk management for improvement in project outcomes. In summary, the findings attest to the model's validity and predictive power and clearly show that both CSFs and RMP have contributed considerably to successful PPPs and projects in Palestine, thus providing critical implications for policymakers and practitioners.

Chapter Five: Discussion of Findings

5.0 Introduction

This chapter contains links between empirical results with theoretical expectations, highlighting where the outcomes confirm, extend, or diverge from the literature on Public–Private Partnerships (PPPs), Critical Success Factors (CSFs), Risk Management Practices (RMPs), and project performance in fragile and conflict-affected contexts such as Palestine. The purpose here is to compare the statistical results with prior research and theoretical frameworks such as the PESTEL model, systems theory, stakeholder theory, and risk management theory; to analyze the extent to which the hypotheses are supported or refuted by the data; and to draw broader implications for policy, practice, and future research concerning the role of CSFs and RMPs in determining PPP project performance in Palestine. By integrating quantitative outcomes with theoretical insights, this chapter provides a comprehensive understanding of how political, economic, social, technological, environmental, and legal factors, together with structured risk management practices, influence the success and sustainability of PPP projects, while also clarifying the moderating role of RMP in strengthening the relationship between CSFs and PPP performance.

5.1 Descriptive Analysis Discussion

Descriptive statistics for critical success criteria reveal that political, economic, social, technological, environmental, and legal aspects are strongly regarded by respondents as obstacles to the success of any public-private partnership initiative. The technology and legal aspects were highly regarded, with mean ratings above 4.2 on a five-point Likert scale, and more than 90 percent of respondents approved of them. According to Vecchi et al. (2021) and Osei-Kyei and Chan (2015), technology competence and legal clarity are considered key factors affecting PPP sustainability. The wide recognition of the issue of legal consideration in the literature tends to emphasize the urgent need for enforceable contracts and clear regulatory frameworks in fragile contexts such as Palestine, a peculiar case of political and institutional fragmentation, which puts the parties at risk of disputes. With political fragility absent, there is therefore robust evidence

to support that infrastructural quality and technology adequacy are among the most crucial enablers for the success of PPPs (Hendrawan et al., 2024).

Regarding economic and social constructs, positive but mild levels of agreement were observed, as opposed to the technology and legal constructs. Economic factors such as financial viability and macroeconomic stability recorded higher levels of neutrality and lower mean value, suggesting practitioners' uncertainty or skepticism. This finding supports the macroeconomic challenges cited in the Palestinian context, including dependency on external aid, currency instability, and shallow development of capital markets (Umamaheswaran et al., 2024). The social domain varies likewise, with the items concerning stakeholder engagement and equity coming less in agreement than the items concerning societal benefits. Divergence suggests that while PPPs are regarded as socially relevant, issues around inclusion, transparency, and fair delivery of services remain. This is further deepened by the literature stating that in conflict-affected societies, social acceptance of PPP projects hangs not only on the provision of the services but on issues of perceived equity and participation of the communities (Sharqia, 2024).

The environmental-mag dimensions endured relatively higher ratings as respondents acknowledged higher importance being assigned to environmental compliance, sustainability, and climate-related considerations. This finding is consonant with a global trend of mainstreaming environmental sustainability in infrastructure development, in support of the Sustainable Development Goals (SDGs) and climate adaptation frameworks (Liu et al., 2024). Nevertheless, the divergence in evaluation across specific items, where less consensus was achieved on certain concerns from an environmental perspective, suggests that sustainability discourse is well accepted but remains troubled in implementation. These findings imply that PPP projects in Palestine may be aware of environmental obligations but struggle with resource constraints, regulatory inconsistencies, and competing priorities that affect the systematic incorporation of sustainability measures.

The analysis of RMP constructs shows high recognition of the importance of risk identification, assessment, monitoring, and mitigation in PPP implementation. Overall mean values exceeded 4.0, indicating strong consensus on the role of structured risk management processes. The highest endorsement was given to risk identification and risk assessment, suggesting that stakeholders perceive early recognition and evaluation of risks as critical preventive measures. Nevertheless, the weaker results for risk monitoring and mitigation, with higher negative responses and greater variance, highlight gaps in

continuous oversight and the practical execution of mitigation strategies. These findings correspond with prior research in fragile contexts, which identifies monitoring and mitigation as the most resource-intensive and institutionally demanding stages of risk management (Nabeel, 2024; Tallaki & Bracci, 2021). In Palestine, where uncertainty and external shocks are prevalent, systematic monitoring is often hindered by a lack of institutional capacity, while mitigation requires political and financial instruments that may not always be accessible.

Based on the PPP project-performance view, descriptive statistics have differing consequences but are generally positive. The two aspects of risk management and accountability were perceived as satisfactory, with means above 4.1 and positive responses above 80%. Such results indicate the perception of respondents that in PPP projects in Palestine, risk management strategies and accountability mechanisms have been successful in implementation. What is interesting here-against the backdrop of respondents' appreciating RMP highly-is that respondents' views of PPP project-performance helped in further strengthening (Bahamid et al., 2022; Eyieyien et al., 2024). On the opposite hand, comparatively lower means and higher levels of neutrality across financial capacity and technical performance introduce doubts relating to financial sustainability on the one hand and the actual technical outcomes on the other. Such an increased concern from a social reflection of the economic and institutional underpinning has recently been tagged by some authors as limited access to financing, weak capital markets, and capacity limits in technical implementation (Mousa, Zhang, & Sumarliah, 2024).

The result indicates that the multidimensional working method in PPPs in Palestine sits amidst sheer chaos. The respondents gave a rather robust affirmative stand to the CSFs and accompanying RMPs, the variability among the constructs, however, denotes that it remains tricky to translate philosophical acceptance towards practical consistency. Instability of political nature, economic fragility, and institutional fragmentation seem to modulate, at least in part, the degree to which PPPs might realize their full potential. The consensus amongst respondents over technical and legal dimensions might be attributed to a wish-ideal recognition rather than an actual implementation. In contrast, the weaker agreement on economic, social, and some risk mitigation keywords indicates the external impediments contextually blocking recognition that can be tackled through policy reforms and capacity building.

In conclusion, the descriptive findings present a balanced picture: PPP stakeholders in Palestine demonstrate strong awareness of the importance of CSFs and risk management, but their perceptions also reveal critical weaknesses in financial sustainability, social inclusiveness, and continuous risk oversight. These outcomes are consistent with both global PPP research and the unique contextual challenges facing Palestine. The results provide a robust platform for the inferential analyses that follow, as they highlight the dimensions where theoretical expectations are confirmed, and where contextual realities demand more nuanced consideration. In this way, the descriptive analysis not only contextualizes the dataset but also contributes directly to the interpretation of the hypotheses tested in subsequent sections.

5.2 Critical Success Factors (CSFs) and Performance of Public-Private Partnerships (PPPs) and Projects

The structural model assessment confirmed that Critical Success Factors (CSFs), evaluated through the PESTEL framework, exert a significant and positive impact on the performance of Public–Private Partnerships (PPPs) and projects in Palestine. The overall path coefficient for the first hypothesis (H1) ($\beta = 0.415$, $t = 10.599$, $p < 0.001$) demonstrates that CSFs are robust predictors of PPP success, validating the developed theoretical propositions. This finding underscores the notion that PPP performance does not solely rest upon financial or technological resources and is influenced by such an interdependent array of political, economic, social, technological, environmental, and legal factors. This corroborates global evidence that a PPP is inherently multidimensional and requires balanced consideration across different institutional and contextual considerations (Almarri & Boussabaine, 2025; Debela, 2022).

The analysis supports Hypothesis H1a, showing that political factors significantly impacted PPP performance ($\beta = 0.059$, $t = 10.745$, $p < 0.001$). Respondents mentioned stable governance, transparent policies, and institutional support as facilitators for the success of PPPs. The above statement is reinforced by international studies, which, from the inception of research in this field, have maintained political commitment to have become one of the most important predictors of PPP outcomes (Ahmadabadi & Heravi, 2019; Çakmak & Gediz Oral, 2023). In fragile contexts such as in Palestine, political instability and fragmented governance mechanisms have increased transaction costs, potential approval delays, and erosion of investor confidence (Almeile, 2021; Bekr,

2017). Hence, the observable implication from this study shows that even a slight improvement in policy clarity and government commitment could translate into a drastic enhancement in the feasibility and outcomes of PPPs. This finding also connects to Institutional Theory, which suggests that stable political institutions bring about the regulatory certainty that long-term investments require (DiMaggio & Powell, 1983).

Economic conditions (H1b) were also found to positively contribute to PPP performance ($\beta = 0.028$, $t = 11.326$, $p < 0.001$), though with a smaller effect size relative to other CSFs. This outcome reflects the dual role of economic stability provides the foundation for financial viability, but on the other hand, it remains a persistent challenge in Palestine due to dependence on foreign aid and restricted access to capital markets (Ghogal et al., 2024; Sabra, 2022). Respondents' acknowledgment of the economic dimension demonstrates awareness that PPPs cannot thrive without reliable financing mechanisms, predictable macroeconomic indicators, and resource availability. Transaction Cost Economics similarly underscores that stable macroeconomic environments reduce uncertainty, lower risk premiums, and facilitate efficient contractual arrangements (Li et al., 2005; Osei-Asibey et al., 2025). Yet, the modest β coefficient also indicates the practical limitations of economic stability in Palestine, where external shocks and donor dependency continue to undermine private sector confidence.

Social factors (H1c) emerged as particularly influential, with a path coefficient of $\beta = 0.098$ ($t = 9.921$, $p < 0.001$), surpassing both political and legal dimensions in magnitude. This result affirms that public acceptance, stakeholder engagement, and perceptions of social equity are central to PPP outcomes (Xiahou et al., 2022). The finding is consistent with the Stakeholder Theory, which emphasizes the legitimacy and support from affected communities as necessities for the sustainability of a project (Freeman, 2010). In Palestine, with a widespread public skepticism toward privatization, social inclusiveness becomes the defining element of project feasibility. Previous studies have shown that PPPs are subject to protests, delays, and even reputational risks when there is a lack of strong community involvement (Ahmad & Islam, 2024; Amadi et al., 2020). Hence, from the statistical point of view, this study has highly supported the prominence of social CSFs, implying that performance enhancement must be achieved through not only trust-building mechanisms and technical excellence but also participatory governance miles.

The technological dimension (H1d) displayed the second-highest coefficient among all sub-factors ($\beta = 0.124$, $t = 9.676$, $p < 0.001$). This implies that opportunities

concerning innovation, digital infrastructure, and technology expertise are influencers for PPP efficiency. The relevance of technology CSFs to the theme corresponds to the Technological Innovation Theory that puts forward productivity enhancement, cost reduction, and, in the long run, sustainability of new technologies (Schumpeter, 2013). The capacity for technology for PPPs is always associated with improvements in service delivery, especially in the energy, health, and transport sectors (Rumiantsev et al., 2024; Sailer et al., 2021). However, technological barriers are identified in Palestine due to infrastructure gaps and a lack of digital capacity for modernization (Kaletnik & Lutkovska, 2021). This huge positive effect fostered by this factor indicates that the transfer of technology, capacity building, and development of digital governance platforms would greatly contribute to the improved performance of PPPs.

Environmental considerations (H1e) were also statistically significant ($\beta = 0.078$, $t = 9.966$, $p < 0.001$). The increase in land value is driven by the consideration of infrastructure, housing policy, land, lush recreational parks, and a control scheme for more intensive areas. The value increment is tremendously influenced by people deciding to comply with the law, the conjoining design of the infrastructure, and the climate change objectives pursued (Ellinger et al., 2024). PPP demand for compliance with climate change mitigation objectives and green infrastructure standards is continually growing worldwide (Nwaogbe et al., 2025). When it comes to Palestine, environmental CSFs have reached a paramount level, considering the competition for resources, with water and energy problems highlighted as the most severe. Unsustainable projects, therefore, are most likely suffering delays, regulatory interference, and possible opposition from the public (Latilo et al., 2024). The result points to stakeholders realizing that environmental compliance is too good to just lodge as an enforcement box; it also enhances the long-term legitimacy and resilience of the developer, in line with the broad framework of SDGs that strive to integrate the environment into infrastructure development (Gupta et al., 2020).

The legal framework discriminant affected the dependent variable significantly ($\beta = 0.054$, $t = 8.559$, $p < 0.001$), thereby making the case stronger on the need for enforceable contracts, legal protection, dispute resolution mechanisms, and regulatory certainty. Good law assures certainty, protects property rights, and minimizes the possibility of opportunism from either public or private partners (Yescombe, 2011). In Palestine, despite the passing of the PPP Law in 2022, contradictions in enforcement and bureaucratic inefficiencies remain substantial barriers (Palestinian Cabinet, 2022). The

significant statistical support for legal CSFs in this study demonstrates that clarity and enforceability of legal frameworks are viewed by practitioners as indispensable for PPP success. This aligns with findings from other fragile contexts, where weak legal institutions have been linked to higher rates of PPP failure (Osifo et al., 2025b).

It is important that all hypotheses H1a-H1f are supported to further support the multidimensional nature of PPP performance. On the other hand, the different PESTEL facets influence project outcomes to varying degrees and beyond that factor. As far as the findings suggest, technology and social factors seem to have strong impacts in Palestine; however, political, legal, and environmental factors remain highly relevant in the long-term sustainability. In essence, this really means that organizations and partnerships cannot gain a competitive advantage unless there is an alignment/disequilibrium between the external and internal (Barney, 1991). To put it simply, PPP performance does not seem to arise from one or two factors but from the interaction of social legitimacy, political-economic stability, technological competence, environmental responsibility, and legal certainty.

5.3 Critical Success Factors (CSFs) and Risk Management Practice (RMP)

The other hypothesis that was tested in this study (H2) concerned the possible relation between CSFs as defined by the PESTEL framework and the incidence of Risk Management Practice (RMP) under the domain of PPPs in Palestine. The structural model reflected a positive correlation signed well-supervised ($\beta = 0.019$, $t = 5.848$, $p = 0.000$). The effect size for this hypothesis was much smaller than for H1, although the high degree of significance indicates that CSFs can still be considered viable predictors of successful integration of risk management within PPP frameworks. These results back the theoretical claims made about the positive influence of the management of political, economic, social, technological, environmental, and legal factors on the ability of PPP projects to efficiently identify, evaluate, minimize, and monitor risk (Mazher et al., 2022; Meyer & Reniers, 2022).

Hypothesis H2a posits that there exists a favorable correlation between political influences and risk management planning. Political stability and sound policy, together with political will, serve to strengthen institutional arrangements for the detection and mitigation of risks ($\beta = 0.003$, $t = 5.787$, $p < 0.001$). This finding is, in fact, consistent

with studies that find such presence of clear-cut policies within a framework of stable governance dispels political risks, including those arising from prohibited or arbitrary policy changes with adverse effects on profitability, new contract renegotiations, or even arbitrary cancellations by public authorities of any element of a PPP project (Mayer, 2018; Mousa, Zhang, & Sumarliah, 2024). The presence of this tiny yet significant positive effect in politically unstable Palestine with ineffective government suggests that even minuscule political improvements go a long way in enhancing proactive risk management (Nyarko et al., 2024). Furthermore, political commitment means transaction costs are reduced, and investor trust is enhanced-a factor that becomes paramount in structured risk schemes.

Hypothesis H2b, which examined the relationship between economic factors and RMP, was also supported, though with the smallest effect size ($\beta = 0.001$, $t = 5.490$, $p < 0.001$). This suggests that while macroeconomic stability, financial resources, and investment viability are relevant, their direct influence on risk management remains limited in isolation. Prior research emphasizes that economic fragility, including high unemployment, dependence on donor aid, and restricted capital markets, often undermines the ability to allocate resources to risk assessment and mitigation (de Mello & Ter-Minassian, 2024; Mishkin, 2010; Williamson, 1981). In practice, this means that economic stability contributes indirectly to stronger RMP by creating financial bandwidth for risk planning and contingency measures. However, in Palestine's constrained economic environment, such contributions are necessarily modest. This finding underscores the need for complementary interventions, such as international guarantees or blended finance, to enable PPP stakeholders to implement more comprehensive risk strategies.

The social dimension with larger coefficients than all those dimensions before ($\beta = 0.004$, $t = 5.971$, and $p < 0.001$), thereby reinforcing the claims that the engagement of stakeholders, social equity, and cultural fit form the bases on which decisions are made in risk impacts. The social CSFs let risk awareness be embedded by ensuring that other views get taken into consideration when plans are being made, so that some risks that others might have missed get identified (Lotfi et al., 2024). This finding complements Stakeholder Theory, which holds that an inclusive decision-making process increases its legitimacy and responsiveness to concerned parties (Freeman, 2010). Whilst Privatization in Palestine may be met with opposition and protests resulting from public distrust, there is a strong call for social RMP instruments (Abu-Rmeileh & Iriqat, 2024). Involving

communities and issues of equity would greatly address potential reputational and operational risks for PPP projects and thus avoid delays and build support for infrastructure programs. Hence, even though the coefficient is quite small, being statistically significant means the social dimensions do come into play in somewhat embedding responsive and inclusive risk management approaches.

Technological factors (H2d) were given the highest weightage ($\beta = 0.006$, $t = 5.999$, $p < 0.001$) concerning the application of digital infrastructure and technology innovation and automation systems to risk management. This finding is supported by Technological Innovation Theory, which suggests that technological developments go on to provide improved facilities for monitoring, forecasting, and controlling (Schumpeter, 2013). Due to the presence of technological facilities such as data analytics and digital monitoring systems, real-time project performance monitoring by the PPP stakeholders is possible, which leads to quick responses to arising risks (Exner & Andres, 2024). Technology would be a compensating factor in highly uncertain situations, such as fragile cases in Palestine, against institutional weaknesses. From technology that has a significant effect, the present research tries to assert the remarkable improvement of RMP in PPPs through investment in digital governance systems, along with technical training.

Environmental factors (H2e) significantly affected RMP ($\beta = 0.004$, $t = 5.920$, $p < 0.001$). Thus, this may be the major inference indicating the possible confluence of sustainability and environmental risk management with infrastructure design. Environmental critical success factors stipulate that PPP projects be climate-resilient, resource-efficient, and incorporate environmental legislation within their risk framework (Chel & Kaushik, 2018; Omenge et al., 2019). The environmental hazards are neither marginal in nature nor secondary to the very feasibility of a project in Palestine. Incorporation of environmental risk assessments in PPP designs guarantees that their feasibility adapts to evolving regulations and public expectations of sustainability. Thus, this is a conclusive finding that supports existing global evidence on how adherence to environmental laws lessens environmental hazards and safeguards stakeholders' legitimacy to exist in the long run (Otundo Richard, 2024).

Legal factor variables (H2f) had a statistically significant relationship with RMP ($\beta = 0.002$, $t = 5.438$, $p < 0.001$), emphasizing the foundational importance of enforceable contracts, compliance with regulations, and mechanisms for resolving disputes. Legal clarity becomes the procedure within which risk is allocated and managed to reduce uncertainty and avoid any potential for opportunism (Vecchi et al., 2021; Yescombe,

2011). In the Palestinian context, because the PPP Law of 2022 has yet to be put fully into operation, legal frameworks are both vital and in an uncompleted development stage (Palestinian Cabinet, 2022). Thus, through the significant effect noted here, one could ascertain that legal improvements such as streamlined procurement, transparent dispute resolution, and enforceability of contracts are to be considered basic elements for embedding solid risk governance on PPPs. This implies that even slight enhancements on the legal side may lead to great advances in enabling all stakeholders to properly handle risks in a uniform and predictable manner.

H2 and its sub-hypotheses (H2a-H2f) were validated as one set of hypotheses to validate the statement that CSFs constitute relevant elements for RM practices in PPPs, some being weaker in their contributory dynamics. The results supported the assumptions by pointing towards the interlinkages of and interdependence between the greater institutional setting of PPPs and the internal risk governance systems. Furthermore, the results point out that the political, social, and legal spheres supply the framework and institutions through which risk cognizance and management take place, and that relatively stronger RMPs are concerned with these dimensions as opposed to those along technology and environmental lines. This integrated view is supported by Systems Theory, which views PPP as a complex system where many factors interact to shape outcomes (Fortune & White, 2006).

5.4 Risk Management Practice (RMP) and Performance of PPPs and Projects

The third hypothesis (H3) assumed that Risk Management Practice (RMP) has a significant effect on the performance of Public–Private Partnerships (PPPs) and projects in Palestine. The structural model's findings give very strong support to this hypothesis, with a path coefficient $\beta = 0.596$, t-value = 16.430, and p-value = 0.000. Considering findings, it can be empirically argued that risk management is rather a determinant of PPP performance than a secondary process. Among other hypotheses, this coefficient, having the largest magnitude, somewhat suggests that structured risk management weighs heavily on the outcomes of projects than the singular CSFs. Theoretically and empirically, it supports the argument provided in the literature that risk management is therefore compulsory toward the end of ensuring efficiency, quality, timely completion, and

sustainability of highly complex infrastructure projects (Bahamid et al., 2022; Eyieyien et al., 2024).

Lending support to H3a, with a coefficient $\beta = 0.161$ ($t = 15.207$, $p < 0.001$), here is an effect of risk identification on the PPP performance. Risk management essentially starts with the identification of risks and uncertainties at an early stage (Oko-Odion & Angela, 2025). By systematically identifying potential risks, the project teams might foresee any disturbances and take measures to avert them, thus bringing in a risk viewpoint in decision-making. On the other hand, this study points out that risk identification could be of much higher importance in the Palestinian context would be highly important, given the magnitude of political, financial, and environmental uncertainties surrounding their projects (El-Mougher & Mahfuth, 2021). The great degree of significant statistical backing tries to suggests that PPPs will highly benefit from numerous risk workshops, stakeholder consultations, and scenario analyses aimed at avoiding expensive delays and ensuring project continuity.

The factor of risk assessment aside, which stands as an exception for Hypothesis 3b, risk types and risk assessment were less consequential, and with coefficients and significance values $\beta = 0.154$ ($t = 18.739$; $p < 0.001$), they are the verification to the effect that the identification process should include assessment of the probability of the occurrence of risk and the consequence of already identified risks. If such an assessment is carried further, then an application of evaluating risk priorities should be given attached to resources and responses based on the seriousness of the risk. Support of the various previous findings is provided by the results obtained that emphasize structured assessment methods such as probability-impact matrices, sensitivity analyses, and risk scoring systems in PPP risk governance (Wang et al., 2021). Given quite the opposite of external shocks (i.e., withdrawal of donors or some restrictions on trade) that may radically change the financial assumptions in Palestine, through rigorous assessment, the concerned parties may be able to concert contingency plans on modifications to strategies as appropriate (Yoganandham, 2023). This is an important finding because even if a risk is well identified, if that risk is not really assessed, then its management may never be executed, ultimately weakening the partnership for project purposes.

The empirical evidence supported Hypothesis H3c, illustrated by the path coefficient value of $\beta = 0.136$ ($t = 10.708$, $p < 0.001$). This means that using mitigation methods meant to be proactive is to lessen or eliminate the risk before it becomes a reality. In PPPs, typical mitigation measures lie mostly within the scope of contract clauses,

insurance instruments, guarantees, or operational measures, such as supplier diversification and flexible designs (Cai, 2024; Rybnicek et al., 2020). Mitigation, under political instability and lack of resources, is challenging to achieve, yet its significance never fades. For instance, political risk insurance may safeguard the investors from regional uncertainties or secure guarantees backed by donors (Bukhari et al., 2024). Significance in statistics implies that mitigation does not necessarily completely cancel out risks but instead reduces some forms of them: the probability or the level of impact, thus increasing stakeholder confidence and leading to building project resilience.

Execution of risk responses and performance monitoring had the greatest coefficient ($\beta = 0.214$; $t = 14.231$, $p < 0.001$). This reiterates the need for the implementation of risk responses, with periodic evaluation of their efficacy throughout the life cycle of the project. Such monitoring ensures that risk responses remain malleable to new risks or changes in circumstances. This finding agrees with the PMI (2017), which posited that monitoring and control serve as the foundation for the sustainable management of risks. A significant conclusion drawn from the study proves the utmost importance of monitoring in vulnerable settings due to the rapid emergence of hazards from political unrest, curl-up in public policy, or disruption in supply chains. Business operations provide the best results from continuous monitoring, with real-time tracking technologies, along with periodic audits and flexible governance structures. This further supports Systems Theory, proposing that the feedback loop and adaptive learning mechanisms are integral processes in assuring resilience for complex undertakings (Fortune & White, 2006).

Full validity was observed for H3, and its sub-dimensions indicate that RMP is a multidimensional concept in PPP performance. Risk management involves four processes-execution of identification, assessment, mitigation, and monitoring-acting as one whole cycle through which consideration is given to inherent or potential risks, and intervention is always applied in managing those risks all over the duration of a project. Implementation and monitoring are more important than the other elements; therefore, mitigation strategies alone cannot suffice, since PPPs succeed or fail based on those. This finding might be of great interest to Palestine, where external shocks occur quite often and ongoing adaptation to sustain project viability becomes a prerequisite.

5.5 Moderating Effect of Risk Management Practice (RMP)

The fourth hypothesis (H4) examined whether Risk Management Practice (RMP) moderates the relationship between Critical Success Factors (CSFs) and the performance of Public–Private Partnerships (PPPs) and projects in Palestine (Yüksel, 2012). The results provide strong evidence in favor of this proposition. The moderating coefficient was statistically significant ($\beta = 0.009$, $t = 2.414$, $p = 0.008$), indicating that the positive impact of CSFs on PPP performance is amplified in the presence of robust risk management systems (Beck & Hardcastle, 2016; Grimsey & Lewis, 2002). This finding demonstrates that risk management is not only a direct driver of PPP success (as confirmed in H3) but also functions as a catalyst that strengthens the effectiveness of CSFs across political, economic, social, technological, environmental, and legal domains.

The analysis of H4a revealed that RMP significantly moderates the relationship between the political environment and PPP performance ($\beta = 0.002$, $t = 4.979$, $p < 0.001$). In politically volatile settings such as Palestine, policy changes, institutional instability, and shifting governance priorities create substantial risks for long-term infrastructure partnerships. Without risk management, these uncertainties can erode investor confidence and delay implementation (Bekr, 2017; Çakmak & Gediz Oral, 2023). However, the significant moderation effect suggests that robust RMP mechanisms, political risk insurance, scenario planning, and government–private sector coordination committees help buffer projects against political shocks. This aligns with Institutional Theory, which argues that adaptive mechanisms can reduce the constraining effects of weak institutions on organizational outcomes (DiMaggio & Powell, 1983).

The results for H4b confirmed that RMP significantly moderates the influence of economic conditions on PPP performance ($\beta = 0.001$, $t = 4.666$, $p < 0.001$). Macroeconomic instability, inflationary pressures, and limited access to capital are recurrent issues in Palestine (Sabra, 2022). While such conditions can undermine financial sustainability, the evidence shows that effective risk frameworks help mitigate their effects by embedding financial hedging strategies, developing flexible pricing mechanisms, or leveraging blended finance instruments. This finding resonates with Transaction Cost Economics, which posits that mechanisms that reduce uncertainty lower transaction costs and improve contractual efficiency (Williamson, 1981). Thus, RMP enhances the economic viability of PPPs by ensuring that financial risks are anticipated and systematically addressed.

The moderation effect was strongest for the social dimension (H4c: $\beta = 0.003$, $t = 5.178$, $p < 0.001$). Public resistance, stakeholder misalignment, and equity concerns often represent critical risks to PPP legitimacy (Marumo, 2022). The findings indicate that RMP plays a vital role in channeling social dynamics into constructive risk strategies, stakeholder engagement frameworks, grievance mechanisms, and participatory monitoring. This, in turn, corroborates the Stakeholder Theory claim that the organizational performance is better if different stakeholder needs are systematically integrated into governance structures (Freeman, 2010). With a high socio-political sensitivity in Palestine, risk management becomes effective with the element of transparency and inclusiveness that improves acceptance while reducing opposition among the community.

Hypothesis H4d was confirmed, as results suggested a refrigeration moderating effect between the technological factors and PPP performance ($\beta = 0.003$, $t = 5.262$, $p < 0.001$). PPPs are heavily dependent on technological integration, whether it is for digital monitoring systems or new technological processes of construction. However, in adopting new technology lies its threat of obsolescence, failure in integration, or threat to cybersecurity (Sailer et al., 2021). The observation of the moderate effect suggests that RMP mitigates these threats by providing redundancy systems, cybersecurity protocols, and ongoing technical training. This is consistent with Technological Innovation Theory, which states that absorptive capacity and adaptive mechanisms are necessary to absorb technology efficiently (Schumpeter, 2013). While in fragile contexts, a strong RMP allows PPPs to import innovation without compromising the reliability of projects.

Environmental conditions (H4e) also displayed a significant moderation effect ($\beta = 0.002$, $t = 5.162$, $p < 0.001$). More commonly, environmental sustainability is taken as a crucial factor in infrastructure projects (Liu et al., 2024). In the case of Palestine, risk factors like water scarcity, waste management, and ecological degradation are high-stakes for PPPs. The profoundly significant interaction effect demonstrates that risk management frameworks reinforce environmental CSFs by incorporating environmental risk assessments and tools of climate adaptation strategy and regulatory compliance. It thus joins the general body of literature linking environmental risk governance with resilience and long-term project viability (Latilo et al., 2024; Nwaogbe et al., 2025).

The moderating role of RMP was also confirmed in the legal dimension (H4f: $\beta = 0.001$, $t = 4.848$, $p < 0.001$). In PPPs, legal frameworks underpin contract enforceability, risk allocation, and dispute resolution. However, in fragile contexts, legal ambiguity often

increases risks of opportunistic behavior or contract breakdown (Osifo et al., 2025b). The findings here suggest that strong RMP mechanisms, compliance audits, legal monitoring, and contractual risk-sharing tools enhance the protective role of legal frameworks. In Palestine, where the PPP Law of 2022 remains in early stages of implementation, RMP provides an additional safeguard that reduces uncertainty and reinforces investor trust.

Taken together, the findings from H4 and its sub-hypotheses (H4a–H4f) confirm that RMP serves as an effective moderator across all dimensions of the PESTEL framework. While the direct influence of CSFs on PPP performance (H1) is strong, the results of H4 demonstrate that CSFs become significantly more impactful when coupled with risk management systems. This aligns with Systems Theory, which conceptualizes organizations as dynamic systems in which interactive components amplify overall outcomes. RMP functions as a systemic amplifier that enhances the strength of political, economic, social, technological, environmental, and legal success factors.

More importantly, the results emphasize the asymmetric importance of RMP across various dimensions. Given that the social and technological dimensions exhibited the highest moderation coefficients, risk management follows as especially critical where uncertainty stems from social factors or technological complexities. The economic and legal coefficients, although low, were statistically significant, which tends to suggest that even marginal enhancements in financial and legal RMP mechanisms have a real bearing on performance.

Contribution

Theoretical Contribution

- First, it extends the applicability of the PESTEL framework to PPP research by empirically validating its six dimensions, political, economic, social, technological, environmental, and legal, as determinants of PPP performance. While earlier studies highlighted subsets of CSFs and demonstrated that a holistic PESTEL-based approach provides a more comprehensive explanation of PPP success. The results confirm that all six factors contribute significantly to PPP outcomes, thereby broadening the theoretical understanding of how contextual and institutional elements shape infrastructure partnerships.
- Second, this study enriches the risk management literature by empirically confirming that RMP is both a direct driver of PPP performance (H3) and a

significant moderator of the relationship between CSFs and PPP success (H4). The results underscore that risk management does not operate in isolation but interacts synergistically with other success factors, amplifying their influence. This integrated finding advances Systems Theory and Institutional Theory by showing how governance stability, technological capacity, and social inclusiveness interact dynamically with structured risk practices to produce sustainable project outcomes.

- Third, the study contributes to PPP research in fragile contexts. Most empirical PPP studies focus on developed or emerging economies, leaving limited insights into high-risk and politically volatile environments. By situating the analysis in Palestine, the research fills a critical gap, demonstrating that while the relative magnitudes of CSFs and RMP differ, their combined importance remains universal. This adds depth to comparative PPP literature by showing how institutional fragility shapes the hierarchy of success factors, with social legitimacy, technological adaptability, and risk monitoring emerging as particularly decisive in fragile states.
- Finally, the study provides empirical evidence of the argument that RMP should be viewed as a capability and relational mechanism. As a capability, it has internal RMP structures with which to identify, assess, mitigate, and monitor risks. As a relational mechanism, it ensures a better fit between contextual success factors and project outcomes. Thus, it is in this double definition that the approach to the theory of risk management in PPPs is enriched and provides further perspectives on future research, including cross-country comparative studies and longitudinal assessments.

Practical Contribution

- First, the results thus emphasize the need to institutionalize the risk management system by putting in place applicable PPP rules. Palestine should provide for the consideration of risk registers, risk assessment method guidelines, and monitoring mechanisms in the PPP contracts. If RMPs are included in the regulations, project transparency increases, and opportunistic risks can be lessened, thereby building investor confidence.
- Second, the results show that social engagement and technological integration play a pivotal role in determining PPP performance in fragile settings. Hence, for

practitioners, risk frameworks need to be designed in a way that provides community consultation mechanisms, grievance redressal procedures, and participatory monitoring that enhance legitimacy while reducing social resistance. Concurrently, having a sound digital infrastructure coupled with knowledge of innovation and technical training increases efficiency and creates the ability for a real-time risk assessment system. This will ultimately build PPPs that are more inclusive, adaptive, and resilient.

- Third, the study emphasizes that economic and legal weaknesses can be mitigated through risk frameworks. While financial fragility and legal ambiguities are persistent challenges in Palestine, the evidence shows that effective RMPs, such as financial hedging, donor-backed guarantees, compliance audits, and dispute resolution tools, help stabilize project performance. This insight is actionable for both governments and private investors, who can leverage tailored risk instruments to protect investments and ensure continuity.
- Fourthly, foreign aid development partners and donors should align capacity-building initiatives according to the conclusions contained herein. Technical assistance includes interventions to improve national capabilities in risk identification and monitoring; provide training to PPP Units in the use of advanced risk identification tools; and offer financial instruments to cover political and economic risks that cannot be otherwise mitigated, thus making PPP markets in fragile states more attractive and sustainable for external stakeholders.
- Finally, this study provided further pragmatic recommendations for the setup of PPP contracts and governance structures. The PPP contracts must define a clear division of risks to grant a fair level of assurance regarding the efficacy of either the partners or the monitoring body to carry out their obligations regarding performance. Also, adaptive clauses should allow for some degree of flexibility. The governance framework must provide inter-agency cooperation via formal venues and frequent interactions and discussions between the public and private sectors. Any mechanism that will be targeted at enhancing performance shall secure PPPs from further uncertainty.

Practical Implications and Recommendations

Practical Implications for Practitioners

- The findings provide clear guidelines to practitioners of PPPs in planning, implementation, and management in Palestine and similar fragile contexts. First, due to the strong freight effect of Risk Management Practices (RMP) on PPP performance, RMP ought to be integrated as key project activities rather than merely ancillary tasks. This would include maintaining detailed risk registers, conducting risk assessment workshops regularly, and prioritizing risks using the probability–impact matrix.
- The results show that social and technological factors exert relatively higher impacts on PPP performance. Hence, practitioners may consider designing and implementing a stakeholder engagement strategy that comprises community consultations, transparent communication, and a grievance-handling mechanism. Accepting social legitimacy decreases the probability of the project being submissive to opposing groups or reputational risks. In terms of technological factors, enhanced investment in digital tools, monitoring systems, and technical training is critical for ensuring the enhanced efficiency and resilience of projects.
- This research confirms that weaknesses created by legal and economic considerations are, to some extent, remedied by the risk framework. Practitioners would do well to study contracts through the lens of risk allocations and guarantee and ensure the contracts against occurrences not foreseen in the face of force majeure. Auditing for compliance will also instill trust and reduce disputes. Flexibility afforded by contracts and safeguards provided by risk allocation can indeed save the project's continuity in fragile socio-political and economic conditions.
- In the sphere of PPPs, risk management should be viewed by practitioners as an adaptive learning process. The findings about monitoring practices depict the changing nature of risks through the project life cycle. Therefore, practitioners should be responsible for institutionalizing feedback loops, deriving early-warning indicators, and laying down adaptive governance mechanisms that lead to adaptive action when new risks emerge.

Practical Implications for Policymakers

- The findings offer important insights to policymakers. Therefore, risk management should be introduced into the PPP governance framework

immediately and without delay. Hence, countries should move toward codifying national RMP laws and provisions that require risk registers, risk assessment, and risk monitoring for PPP contracts. This would enhance transparency and accountability, thus reassuring the business community.

- Founding elements for PPPs' establishment in Palestine are political, legal, and economic. They, however, appear extremely unstable and fail to ensure the success of PPPs in Palestine. Thus, political decision-makers should increase their commitment and institutional support to ensure that such a policy is not interrupted by election cycles. Laws should be clear, stable, and enforced, reducing as much uncertainty and transaction costs as possible in this regard. Additionally, attention should be given to an improved implementation of the PPP Law (2022), including procurement and creation of dispute resolution systems.
- Given the massive importance of social and technological critical success factors, there will have to be a balance between inclusion and tolerance for innovation while setting forth the PPP framework. This may include setting up frameworks for stakeholder engagement and requirements to disclose public contracts, together with compliance-based participatory output monitoring systems. If public investments are made in digital infrastructure and innovation-oriented policy areas, PPP partners may access state-of-the-art technologies in risk assessment and service provision.
- Policymakers should cooperate with development partners to mobilize external support programs that serve as risk-sharing instruments political risk insurance, credit guarantees, and blended financing schemes. These provide compensation based on weak domestic financial markets and ensure a security base for the private sector to participate.
- Finally, policymakers should work closely with development partners to mobilize external support for risk-sharing instruments, credit guarantees, and blended finance schemes. These tools can compensate for weak domestic financial markets and provide the stability necessary for private sector participation.

Recommendations for Future Studies

- Comparative Cross-Country Research: Future studies should examine the CSFs–RMP–PPP performance nexus in other fragile and conflict-affected states.

Comparative analyses between Palestine and countries with similar institutional and economic conditions (e.g., Lebanon, Jordan, or other developing regions) would enhance the external validity of findings and reveal context-specific versus universal determinants of PPP success.

- Longitudinal and Dynamic Analysis: This study adopted a cross-sectional approach, capturing perceptions at a single point in time. Longitudinal studies would allow researchers to track how the influence of CSFs and RMP evolves over the different stages of a PPP project lifecycle—from initiation through implementation to operation. This could provide richer insights into causal dynamics and the sustainability of observed effects.
- Sector-Specific Investigations: PPP performance factors often vary by sector (e.g., energy, transport, water, education, or health). Future research should therefore disaggregate the analysis and explore how CSFs and RMP interact within specific sectors. This would support more tailored policy and managerial interventions.
- Expansion of Risk Dimensions: While this study operationalized RMP through identification, assessment, mitigation, and monitoring, future studies could integrate broader risk categories such as cybersecurity risks, climate risks, and geopolitical risks. Incorporating these dimensions would strengthen theoretical models in light of evolving global challenges.
- Methodological Diversification: This study employed structural equation modeling (SEM-PLS) with survey data. Future studies could combine mixed methods approaches—including case studies, interviews, and archival contract analysis—to triangulate findings and capture nuanced perspectives from diverse stakeholders. Simulation-based modeling could also be applied to predict outcomes under varying risk scenarios.
- Role of Governance and Institutional Trust: The results highlighted the importance of political and legal CSFs. Future research should delve deeper into governance quality, corruption, and institutional trust as mediating or moderating variables, offering a finer-grained understanding of how institutional weaknesses or reforms shape PPP performance.
- Private Sector and Donor Perspectives: While this study focused primarily on the perceptions of PPP practitioners in Palestine, future research should incorporate the perspectives of private investors, financial institutions, and international

donors. These stakeholders play critical roles in financing, guaranteeing, and implementing projects, and their viewpoints may differ from public sector practitioners.

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Appendices

Appendix (A) Research Questionnaire – English Version

Questionnaire

Dear Participants,

In your hands is a questionnaire distributed by a Ph.D. student in the Strategic Management program at the School of College of Graduate Studies, Arab American University of Palestine. The study topic is “Unveiling Success: Critical Success Factors in Public–Private Partnership Projects Performance in Palestine: The Moderating Role of Risk Management Practice”.

Completing the questionnaire is expected to consume approximately 10-15 minutes of your time, and the gathered information will contribute to academic research. Your participation is entirely anonymous, and there is no need to provide your name or department. The compiled data will be presented solely as summary statistics. Your involvement in this survey is optional, and you can refrain from answering any questions. By responding to all questions, you signify your agreement to participate.

Your participation is greatly valued, as your input will significantly contribute to the study's findings.

If you have any questions concerning the research or the questionnaire, please don't hesitate to reach out to the researcher on the mobile number provided: 00972569583071

Thanks for your cooperation and time

*Part One (Demographics Data). Please fill in the following

1. Age:

[ ] From 21 to 30 years old

[ ] From 31 to 40 years old

[ ] More than 40 years old

2. Gender: -

[ ] Male

[ ] Female

3. Educational Degree?

[ ] Below a bachelor's degree

[ ] Bachelor's degree

[ ] Master's degree

[ ] Doctoral degree

4. Work Experience

[ ] Less than 5 years

[ ] From 5 to 10 years

[ ] More than 10 years

5. Job Role Level:

[ ] Stakeholders or board members

[ ] Executive and director position

[ ] Head of department

[ ] Policy advisor or consultant

[ ] Administrative staff

[ ] Engineering staff

[ ] Technical staff

[ ] Financial staff

[ ] Other (Please specify): _____

6. Public-Private Sector Activity:

[ ] Planning

[ ] Water management

[ ] Municipal services

[ ] Housing and Infrastructure

[ ] Transport

[ ] Energy

[ ] Solid waste treatment

[ ] Industrial

[ ] Other (Please specify): _____

*Part Two (Questionnaires)

Please indicate the level of your agreement or disagreement with the statement, as it reflects your satisfaction. Mark the appropriate response with an (X): Strongly Disagree, Disagree, Neutral, Agree, or Strongly Agree.

Item #	Questions	Strongly Disagre	Disagre	No Opinion	Agree	Strongly Agree
Critical Success Factors (CSFs)						
Political						
1.	Streamlined tax and trade policies from the government benefit our organization.					
2.	Government support for human rights positively impacts our operations.					
3.	Union activities for worker representation influence our business environment.					
Economics						
4.	Globalization and increased competition have stimulated our organizational growth.					
5.	Regional economic developments create new localized opportunities for us.					

6.	Involvement of non-construction actors in the value chain enriches our industry.					
Social						
7.	The aging workforce increases the risk of losing institutional knowledge.					
8.	Diversity and inclusion policies enhance our workplace environment.					
9.	Changing customer preferences drives our strategic decisions.					
10.	Social responsibility pressures from NGOs influence our company practices.					
11.	A declining influx of young workers affects our workforce sustainability.					
Technology						
12.	Modernizing aging infrastructure creates new business opportunities.					
13.	Data analytics tools support informed decision-making.					
14.	Off-site construction enhances project efficiency.					
15.	Emerging technologies improve project and industry outcomes.					
16.	3D printing enables intricate and tailored design solutions.					
Environmental						
17.	Environmental awareness among stakeholders drives our sustainability initiatives.					
18.	We respond proactively to regulations promoting efficiency and waste reduction.					
19.	Regulations on greenhouse gas emissions influence our project planning.					
20.	Renovation trends create market opportunities for our services.					
Legal						
21.	New delivery systems improve our project management efficiency.					
22.	Innovative legal models enhance our business performance.					
Risk Management Practice (RMP)						
Risk Identification Practice						
23.	Risk inspection is done by managers.					
24.	Roles and responsibilities for risk identification are clearly defined.					
25.	Financial statement analysis enhances risk identification.					

26.	Establishing standards enhances risk identification.					
27.	Risk rating and collateral enhance risk identification.					
Risk Assessment Practice						
28.	Risks are evaluated with assumptions and uncertainties being clearly considered and presented.					
29.	Risk is evaluated in terms of both quantitative and qualitative value.					
30.	Measurement of both quantities in which risk assessment is concerned - potential loss and probability of occurrence – is carried out by the company					
31.	A risk with a large potential loss and a low probability of occurring is often treated differently from one with a low potential loss and a high likelihood of occurring.					
32.	Risks are subdivided into individual levels for further analysis.					
Risk Mitigation Practice						
33.	The company insures different types of risks, but not all risks.					
34.	The company does not insure catastrophic risks.					
35.	The organization has a mechanism for estimating potential losses at the time of entering into insurance contracts.					
36.	The company trains insured parties on ways to avoid or minimize the chances of losses occurring.					
37.	The company has a mechanism for transferring certain risks to third parties, e.g., through reinsurance/hedging.					
38.	The company sets aside sufficient technical reserves to pay for claims.					
Risk Management Implementation and Monitoring Practice						
39.	The risk management program is well-documented.					
40.	Risk management efforts are supported by senior management.					
41.	Employees are properly trained in the risk management policies of the firm.					
42.	The roles and responsibilities of each employee in the risk management efforts of the firm are well communicated to them.					
43.	Controls are in place to evaluate the efficiency of the risk management program.					

44.	Regular reviews of risk management efforts and reporting to senior management.					
45.	Risks are subdivided into individual levels for further analysis.					
Public–Private Partnership (PPPs) and Project Performance						
Technical Skills						
46.	PPPs have brought in technical expertise in fields where such is required in carrying out the corporation's projects.					
47.	Experienced personnel have been sourced through the engagement of PPPs in carrying out projects.					
48.	Key competencies are well screened by way of involving PPPs, enhancing better project management within the corporation.					
49.	Customized specialized training has been offered by PPPs in areas where there is a need for special skills.					
50.	Skills development has been developed in the corporation by involving PPP in project execution and implementation.					
Financial Contribution						
51.	Financial support for feasibility analysis to check the viability of the corporation's projects is provided because of the PPP.					
52.	Budget requirements are well met where PPPs are in place, covering the project life.					
53.	Sufficient leverage in case of deficiency has been eased through PPPs covering cost needs.					
54.	Capital requirements for big projects have been adequately met by way of PPPs.					
55.	Running costs have been well considered in engaging PPPs in carrying out various projects within the corporation.					
Risk Mitigation						
56.	Risk analysis is well carried out before any corporation's project undertakings are carried out.					
57.	The type of contract agreement in PPPs has clear ways in which risk is dealt with to mitigated.					
58.	Guarantee from the government on risk control and mitigation is well in place in the life of the PPP projects.					

59.	Appropriate risk allocation measures have been put in place to attribute the risk accordingly.					
60.	Contingency measures where adverse risk scenarios arise are in place and are frequently assessed.					
Accountability						
61.	Transparency has been enhanced in PPPs to increase accountability.					
62.	Information timeliness measures are highly advocated for in the project operations.					
63.	Financial reporting practices have been put in place and are functional in pursuit of accountability.					
64.	The accuracy of information is highly exercised in PPPs for decision-making.					
65.	Internal control measures are well in place for checks and balances.					

Appendix (B) Research Questionnaire – Arabic Version

الاستبيان

المشاركين الأعزاء،

بين أيديكم استبيان يتم توزيعه من قبل طالب دكتوراه في برنامج الإدارة الاستراتيجية بكلية الدراسات العليا - الجامعة العربية الأمريكية في فلسطين.

موضوع الدراسة هو "كشف عوامل النجاح: العوامل الحاسمة لنجاح أداء ومشاريع الشراكة بين القطاعين العام والخاص في فلسطين: الدور التعديلي لممارسات إدارة المخاطر".

من المتوقع أن يستغرق إكمال الاستبيان حوالي 10-15 دقيقة من وقتكم، وستساهم المعلومات التي سيتم جمعها في البحث الأكاديمي. مشاركتكم ستكون سرية بشكل كامل، ولا حاجة لذكر اسمكم أو مكان عملكم. سيتم تقديم البيانات المجمعة في صورة إحصاءات ملخصة فقط. إن مشاركتكم في هذا الاستبيان اختيارية، ويمكنكم الامتناع عن الإجابة على أي من الأسئلة.

إن مشاركتكم ذات قيمة كبيرة، حيث أن مدخلاتكم ستساهم بشكل كبير في نتائج الدراسة.

إذا كانت لديكم أي استفسارات بخصوص البحث أو الاستبيان، فلا تترددوا في التواصل مع الباحث على الرقم المحمول:
00972569583071

الجامعة العربية الامريكية

شكرًا لتعاونكم ووقتكم.

الجزء الأول (البيانات الديموغرافية). الرجاء تعبئة ما يلي:

1. العمر؟

[ ] من 21 إلى 30 سنة

[ ] من 31 إلى 40 سنة

[ ] أكثر من 40 سنة

2. الجنس؟

[ ] ذكر

[ ] أنثى

3. ما هو أعلى مؤهل علمي حصلت عليه؟

[ ] أقل من البكالوريوس

[ ] بكالوريوس

[ ] ماجستير

[ ] دكتوراة

4. عدد سنوات الخبرة؟

[ ] أقل من 5 سنتين

[ ] من 5 إلى 10 سنوات

[ ] أكثر من 10 سنوات

5. مستوى الدور الوظيفي؟

[ ] أصحاب المصلحة أو أعضاء مجلس إدارة

[ ] منصب تنفيذي أو مدير

[ ] رئيس قسم

[ ] مستشار سياسات أو خبير استشاري

[ ] موظفون إداريون

[ ] موظف هندسي

[ ] موظف تقني

[ ] موظف مالي

[ ] أخرى (يرجى التحديد): _____.

6. مجال نشاط الشراكة بين القطاعين العام والخاص؟

[ ] التخطيط

[ ] إدارة المياه

[ ] الخدمات البلدية

[ ] الإسكان والبنية التحتية

[ ] النقل

[ ] الطاقة

[ ] معالجة النفايات الصلبة

[ ] الصناعة

[ ] أخرى (يرجى التحديد): _____.

الجزء الثاني (الاستبيانات)

يرجى الإشارة إلى مدى اتفاقك أو عدم اتفاقك مع البيان الذي يصف مدى رضاك. استخدم الرمز (X) للإجابة المناسبة (أعارض بشدة، أعارض، محايد، أوافق، أوافق بشدة).

#	الاسئلة	أعارض بشدة	أعارض	محايد	أوافق	أوافق بشدة
عوامل النجاح الحرجة (CSFs)						
السياسية						
1.	سياسات الضرائب والتجارة المبسطة من قبل الحكومة تعود بالنفع على منظمتنا.					
2.	دعم الحكومة لحقوق الإنسان يؤثر إيجابياً على عملياتنا.					
3.	أنشطة النقابات لتمثيل العمال تؤثر على بيئة أعمالنا.					
الاقتصادية						
4.	العولمة وزيادة المنافسة حفزت نمو منظمتنا.					
5.	لتطورات الاقتصادية الإقليمية تخلق فرصاً محلية جديدة لنا.					
6.	مشاركة جهات غير إنشائية في سلسلة القيمة تُثري صناعتنا.					
الاجتماعية						
7.	تقدم القوى العاملة في العمر يزيد من خطر فقدان المعرفة المؤسسية.					
8.	سياسات التنوع والشمول تعزز بيئة عملنا.					
9.	تغير تفضيلات العملاء يدفع قراراتنا الاستراتيجية.					
10.	ضغوط المسؤولية الاجتماعية من المنظمات غير الحكومية تؤثر على ممارسات شركتنا.					
11.	انخفاض تدفق العمالة الشابة يؤثر على استدامة القوى العاملة لدينا.					
التكنولوجية						
12.	تحديث البنية التحتية القديمة يخلق فرصاً تجارية جديدة.					
13.	أدوات تحليلات البيانات تدعم اتخاذ القرارات المبنية على المعلومات.					

.14	البناء خارج الموقع يعزز كفاءة المشاريع.					
.15	التقنيات الناشئة تحسن نتائج المشاريع والصناعة.					
.16	الطباعة ثلاثية الأبعاد تتيح حلول تصميم معقدة ومخصصة.					
البيئية						
.17	وعي أصحاب المصلحة البيئي يدفع مبادراتنا نحو الاستدامة.					
.18	نستجيب بشكل استباقي للوائح التي تعزز الكفاءة وتقليل النفايات.					
.19	اللوائح المتعلقة بانبعاثات الغازات الدفيئة تؤثر على تخطيط مشاريعنا.					
.20	اتجاهات التجديد تخلق فرصاً سوقية لخدماتنا.					
القانونية						
.21	أنظمة التسليم الجديدة تحسن من كفاءة إدارة مشاريعنا.					
.22	النماذج القانونية المبتكرة تعزز أداء أعمالنا.					
ممارسات إدارة المخاطر (RMP)						
ممارسات تحديد المخاطر						
.23	يقوم المديرون بعمليات فحص المخاطر.					
.24	الأدوار والمسؤوليات لتحديد المخاطر محددة بوضوح.					
.25	تحليل البيانات المالية يعزز تحديد المخاطر.					
.26	وضع المعايير يعزز تحديد المخاطر.					
.27	تقييم المخاطر والضمانات يعزز تحديد المخاطر.					
ممارسات تقييم المخاطر						
.28	يتم تقييم المخاطر مع الأخذ في الاعتبار الافتراضات والشكوك وتوضيحها.					
.29	يتم تقييم المخاطر من الناحية الكمية والنوعية معاً.					
.30	يتم قياس كل من الخسائر المحتملة واحتمال حدوثها من قبل الشركة.					
.31	يتم التعامل مع المخاطر ذات الخسارة الكبيرة واحتمالية الحدوث المنخفضة بشكل مختلف عن تلك ذات الخسارة الصغيرة واحتمالية الحدوث العالية.					
.32	يتم تقسيم المخاطر إلى مستويات فردية لمزيد من التحليل.					
ممارسات التخفيف من المخاطر						
.33	تؤمّن الشركة أنواعاً مختلفة من المخاطر ولكن ليس جميعها.					
.34	الشركة لا تؤمّن ضد المخاطر الكارثية.					
.35	لدى المنظمة آلية لتقدير الخسائر المحتملة عند توقيع عقود التأمين.					
.36	تقوم الشركة بتدريب المؤمن لهم على طرق تجنب أو تقليل فرص وقوع الخسائر.					
.37	لدى الشركة آلية لنقل بعض المخاطر إلى أطراف ثالثة (مثل إعادة التأمين/التحوط).					
.38	تحتفظ الشركة باحتياطيات فنية كافية لسداد المطالبات.					
ممارسات تنفيذ ومتابعة إدارة المخاطر						
.39	برنامج إدارة المخاطر موثق جيداً.					
.40	جهود إدارة المخاطر مدعومة من الإدارة العليا.					

.41	الموظفون مدربون بشكل مناسب على سياسات إدارة المخاطر في الشركة.					
.42	يتم إبلاغ كل موظف بدوره ومسؤولياته في جهود إدارة المخاطر.					
.43	توجد ضوابط لتقييم فعالية برنامج إدارة المخاطر.					
.44	تتم مراجعات دورية لجهود إدارة المخاطر وتُرفع تقارير للإدارة العليا.					
.45	يتم تقسيم المخاطر إلى مستويات فردية لمزيد من التحليل.					
الشراكة بين القطاعين العام والخاص (PPPs) وأداء المشاريع						
المهارات الفنية						
.46	جلبت الشراكات بين القطاعين العام والخاص خبرات فنية في المجالات التي تتطلبها مشاريع المؤسسة.					
.47	تم استقدام كوادر ذات خبرة من خلال إشراك الشراكات بين القطاعين العام والخاص في تنفيذ المشاريع.					
.48	تم التدقيق في الكفاءات الأساسية عبر إشراك الشراكات، مما عزز إدارة المشاريع.					
.49	تم تقديم تدريب متخصص مخصص من خلال الشراكات في المجالات التي تتطلب مهارات خاصة.					
.50	تم تطوير مهارات المؤسسة عبر إشراك الشراكات في تنفيذ المشاريع.					
المساهمة المالية						
.51	يتم توفير الدعم المالي لتحليل الجدوى لمشاريع المؤسسة بفضل الشراكات.					
.52	يتم تلبية متطلبات الميزانية عبر الشراكات طوال دورة حياة المشروع.					
.53	تسهيل توفير التمويل في حال وجود عجز عبر الشراكات لتغطية التكاليف.					
.54	يتم تلبية متطلبات رأس المال للمشاريع الكبرى عبر الشراكات.					
.55	يتم أخذ التكاليف التشغيلية في الاعتبار عند إشراك الشراكات في المشاريع.					
التخفيف من المخاطر						
.56	يتم إجراء تحليل للمخاطر قبل أي مشروع للمؤسسة.					
.57	نوع اتفاقية العقد في الشراكات يحتوي على آليات واضحة للتعامل مع المخاطر.					
.58	ضمانات من الحكومة للسيطرة على المخاطر والتخفيف منها موجودة خلال دورة حياة مشاريع الشراكات.					
.59	تم وضع تدابير مناسبة لتوزيع المخاطر بشكل عادل.					
.60	توجد تدابير احتياطية للتعامل مع سيناريوهات المخاطر السلبية وتتم مراجعتها بشكل متكرر.					
المساءلة						
.61	تم تعزيز الشفافية في الشراكات لزيادة المساءلة.					
.62	يتم التشديد على مبدأ سرعة الحصول على المعلومات في عمليات المشاريع.					
.63	تم وضع ممارسات للتقارير المالية وتعمل بشكل فعّال لتعزيز المساءلة.					
.64	يتم تطبيق دقة المعلومات بشكل كبير في الشراكات لدعم اتخاذ القرار.					
.65	تدابير الرقابة الداخلية قائمة بشكل فعّال لضمان الضوابط والتوازنات.					

Appendix (C) Result of Normality

Construct		Q.#	N	Skewness		Kurtosis	
				Statistic	Std. Error	Statistic	Std. Error
CSFs	P	P1	278	-0.883	0.146	0.030	0.291
		P2	278	-0.580	0.146	-0.757	0.291
		P3	278	-0.970	0.146	1.132	0.291
	E	E1	278	-0.770	0.146	-0.230	0.291
		E2	278	-0.121	0.146	-1.194	0.291
		E3	278	-0.295	0.146	-0.691	0.291
	S	S1	278	-0.327	0.146	-1.189	0.291
		S2	278	-0.004	0.146	-1.141	0.291
		S3	278	-0.777	0.146	1.090	0.291
		S4	278	-0.955	0.146	2.333	0.291
		S5	278	0.165	0.146	-1.449	0.291
	T	T1	278	-0.767	0.146	-0.118	0.291
		T2	278	-0.774	0.146	0.555	0.291
		T3	278	-1.136	0.146	3.272	0.291
		T4	278	-1.272	0.146	3.083	0.291
		T5	278	-0.937	0.146	2.445	0.291
	EN	EN1	278	-0.900	0.146	2.143	0.291
		EN2	278	-1.172	0.146	3.164	0.291
		EN3	278	-0.956	0.146	0.158	0.291
		EN4	278	-0.574	0.146	-0.733	0.291
	L	L1	278	-0.839	0.146	1.699	0.291
		L2	278	-1.304	0.146	3.093	0.291
RMP	RIP	RIP1	278	-1.246	0.146	1.327	0.291
		RIP2	278	-0.640	0.146	-0.724	0.291
		RIP3	278	-0.841	0.146	0.363	0.291
		RIP4	278	-1.033	0.146	0.230	0.291
		RIP5	278	-0.901	0.146	0.275	0.291
	RAP	RAP1	278	-0.438	0.146	-0.775	0.291
		RAP2	278	-0.946	0.146	0.248	0.291
		RAP3	278	-0.691	0.146	-0.518	0.291
		RAP4	278	-0.834	0.146	0.405	0.291
		RAP5	278	-1.205	0.146	1.446	0.291
	RMIP	RMIP1	278	-0.834	0.146	0.380	0.291
		RMIP2	278	-0.930	0.146	0.260	0.291
		RMIP3	278	-0.761	0.146	-0.353	0.291
		RMIP4	278	-0.942	0.146	-0.113	0.291
		RMIP5	278	-0.222	0.146	-1.359	0.291
		RMIP6	278	-0.422	0.146	-1.289	0.291
	RMIMP	RMIMP1	278	-0.907	0.146	0.037	0.291
		RMIMP2	278	-1.007	0.146	0.840	0.291
		RMIMP3	278	-0.355	0.146	-0.408	0.291
		RMIMP4	278	-0.836	0.146	0.080	0.291

		RMIMP5	278	-0.815	0.146	-0.402	0.291
		RMIMP6	278	-0.065	0.146	-1.679	0.291
		RMIMP7	278	0.015	0.146	-1.539	0.291
PPP&PP	**TS**	TS1	278	-0.170	0.146	-1.328	0.291
		TS2	278	-0.836	0.146	-0.119	0.291
		TS3	278	-0.550	0.146	-0.443	0.291
		TS4	278	-0.845	0.146	0.428	0.291
		TS5	278	-0.626	0.146	-0.238	0.291
	FC	FC1	278	-0.578	0.146	-0.715	0.291
		FC2	278	0.056	0.146	-1.638	0.291
		FC3	278	-0.770	0.146	-0.230	0.291
		FC4	278	-0.121	0.146	-1.194	0.291
		FC5	278	-0.004	0.146	-1.141	0.291
	RM	RM1	278	-0.777	0.146	1.090	0.291
		RM2	278	-0.937	0.146	2.445	0.291
		RM3	278	-0.900	0.146	2.143	0.291
		RM4	278	-0.839	0.146	1.699	0.291
		RM5	278	-1.304	0.146	3.093	0.291
	AC	AC1	278	-0.841	0.146	0.363	0.291
		AC2	278	-1.033	0.146	0.230	0.291
		AC3	278	-0.834	0.146	0.380	0.291
		AC4	278	-0.942	0.146	-0.113	0.291
		AC5	278	-0.422	0.146	-1.289	0.291

Appendix (D) Outer Loading of Indicators

Construct		Questions	Outer Loading
→ First Order			
CSFs	**P**	P1	0.865
		P2	0.933
		P3	0.847
	E	E1	0.889
		E2	0.961
		E3	0.852
	S	S1	0.859
		S2	0.912
		S3	0.929
		S4	0.955
		S5	0.888
	T	T1	0.774
		T2	0.948
		T3	0.977
		T4	0.900
		T5	0.918
	EN	EN1	0.873
		EN2	0.923
		EN3	0.864
		EN4	0.829
	L	L1	0.923
		L2	0.884
RMP	**RIP**	RIP1	0.964
		RIP2	0.839
		RIP3	0.969
		RIP4	0.954
		RIP5	0.952
	RAP	RAP1	0.968
		RAP2	0.844
		RAP3	0.969
		RAP4	0.925
		RAP5	0.839
	RMIP	RMIP1	0.896
		RMIP2	0.851
		RMIP3	0.866
		RMIP4	0.783
		RMIP5	0.725
		RMIP6	0.728

	RMIMP	RMIMP1	0.853
		RMIMP2	0.806
		RMIMP3	0.866
		RMIMP4	0.954
		RMIMP5	0.875
		RMIMP6	0.828
		RMIMP7	0.872
PPP&PP	**TS**	TS1	0.944
		TS2	0.957
		TS3	0.978
		TS4	0.980
		TS5	0.979
	FC	FC1	0.891
		FC2	0.790
		FC3	0.861
		FC4	0.880
		FC5	0.883
	RM	RM1	0.942
		RM2	0.951
		RM3	0.968
		RM4	0.907
		RM5	0.865
	AC	AC1	0.915
		AC2	0.905
		AC3	0.920
		AC4	0.777
		AC5	0.595
→ Second Order			
CSFs		**P**	0.925
		E	0.948
		S	0.937
		T	0.969
		EN	0.961
		L	0.95
RMP		**RIP**	0.949
		RAP	0.92
		RMIP	0.925
		RMIMP	0.897
PPP&PP		**TS**	0.913
		FC	0.973
		RM	0.924
		AC	0.941

Appendix (E) Fornell-Larcker criterion (1st Order)

Fornell	AC	E	EN	FC	L	P	RAP	RIP	RM	RMIMP	RMIP	S	T	TS
AC	0.832													
E	0.867	0.902												
EN	0.771	0.903	0.873											
FC	0.904	0.928	0.847	0.862										
L	0.847	0.825	0.908	0.826	0.904									
P	0.882	0.904	0.834	0.879	0.853	0.883								
RAP	0.892	0.899	0.811	0.848	0.749	0.910	0.911							
RIP	0.918	0.870	0.759	0.878	0.728	0.899	0.958	0.937						
RM	0.837	0.849	0.914	0.853	0.981	0.848	0.755	0.736	0.927					
RMIMP	0.814	0.709	0.745	0.888	0.814	0.750	0.691	0.751	0.810	0.866				
RMIP	0.947	0.783	0.698	0.872	0.842	0.790	0.749	0.795	0.843	0.866	0.811			
S	0.732	0.849	0.903	0.829	0.902	0.797	0.652	0.618	0.918	0.751	0.768	0.909		
T	0.878	0.912	0.922	0.885	0.918	0.868	0.844	0.842	0.934	0.796	0.852	0.893	0.906	
TS	0.778	0.725	0.742	0.893	0.758	0.815	0.726	0.789	0.772	0.920	0.762	0.728	0.783	0.968

Appendix (F) Heterotrait-Monotrait ratio (1st Order)

HTMT	AC	E	EN	FC	L	P	RAP	RIP	RM	RMIMP	RMIP	S	T	TS
AC														
E	0.974													
EN	0.857	1.005												
FC	1.001	1.035	0.929											
L	1.024	0.966	1.074	0.961										
P	1.008	1.038	0.950	0.996	1.032									
RAP	0.955	0.989	0.883	0.913	0.859	1.011								
RIP	0.976	0.950	0.812	0.937	0.826	0.990	1.001							
RM	0.915	0.908	0.972	0.902	1.136	0.931	0.786	0.757						
RMIMP	0.905	0.770	0.796	0.955	0.944	0.832	0.729	0.786	0.848					
RMIP	1.059	0.857	0.750	0.946	0.998	0.880	0.775	0.818	0.908	0.946				
S	0.809	0.916	0.974	0.886	1.039	0.883	0.689	0.643	0.958	0.787	0.833			
T	0.951	0.994	0.986	0.949	1.055	0.959	0.882	0.874	0.975	0.838	0.909	0.944		
TS	0.840	0.778	0.786	0.942	0.866	0.889	0.754	0.812	0.792	0.957	0.804	0.750	0.808	

Appendix (G) Fornell-Larcker criterion (2nd Order)

Fornell	CFS	PPP&PP	RMP
CFS	0.948		
PPP&PP	0.947	0.938	
RMP	0.901	0.969	0.923

Appendix (H) Heterotrait-Monotrait ratio (2nd Order)

HTMT	CFS	PPP&PP	RMP
CFS			
PPP&PP	0.978		
RMP	0.937	1.021	

Appendix (I) Cross Loading Result

Construct		Q.#	P	E	S	T	EN	L	RIP	RAP	RMIP	RMIMP	TS	FC	RM	AC
CSFs	P	P1	0.865	0.766	0.692	0.758	0.670	0.695	0.803	0.788	0.727	0.682	0.764	0.793	0.773	0.781
		P2	0.933	0.860	0.683	0.751	0.795	0.697	0.844	0.880	0.572	0.682	0.736	0.794	0.703	0.710
		P3	0.847	0.765	0.732	0.788	0.738	0.861	0.733	0.737	0.791	0.624	0.659	0.741	0.769	0.843
	E	E1	0.834	0.889	0.600	0.812	0.735	0.670	0.936	0.926	0.749	0.624	0.690	0.861	0.724	0.879
		E2	0.828	0.961	0.714	0.797	0.785	0.689	0.841	0.861	0.706	0.687	0.629	0.880	0.729	0.795
		E3	0.781	0.852	0.951	0.848	0.904	0.854	0.595	0.659	0.663	0.687	0.641	0.769	0.829	0.680
	S	S1	0.727	0.730	0.859	0.663	0.777	0.732	0.470	0.565	0.516	0.714	0.553	0.642	0.700	0.536
		S2	0.740	0.826	0.912	0.853	0.838	0.851	0.671	0.649	0.857	0.714	0.755	0.883	0.870	0.826
		S3	0.724	0.751	0.929	0.864	0.843	0.890	0.555	0.601	0.749	0.704	0.684	0.752	0.942	0.696
		S4	0.789	0.762	0.955	0.905	0.853	0.928	0.611	0.614	0.780	0.704	0.747	0.769	0.941	0.724
		S5	0.637	0.793	0.888	0.753	0.790	0.677	0.487	0.530	0.557	0.631	0.548	0.712	0.695	0.518
	T	T1	0.550	0.689	0.776	0.774	0.635	0.642	0.479	0.448	0.638	0.631	0.520	0.657	0.698	0.517
		T2	0.826	0.883	0.842	0.948	0.831	0.808	0.793	0.818	0.815	0.624	0.698	0.826	0.814	0.845
		T3	0.798	0.863	0.821	0.977	0.914	0.870	0.835	0.847	0.794	0.624	0.743	0.832	0.888	0.840
		T4	0.830	0.809	0.765	0.900	0.891	0.884	0.822	0.863	0.772	0.656	0.733	0.786	0.859	0.877
		T5	0.891	0.869	0.844	0.918	0.880	0.929	0.839	0.795	0.826	0.656	0.823	0.890	0.951	0.856
	EN	EN1	0.767	0.818	0.861	0.885	0.873	0.920	0.685	0.740	0.808	0.756	0.689	0.811	0.968	0.793
		EN2	0.728	0.820	0.858	0.960	0.923	0.873	0.729	0.731	0.741	0.756	0.713	0.793	0.888	0.764
		EN3	0.675	0.670	0.753	0.647	0.864	0.760	0.493	0.600	0.405	0.737	0.559	0.589	0.707	0.508
		EN4	0.740	0.840	0.662	0.690	0.829	0.583	0.730	0.759	0.423	0.737	0.616	0.747	0.587	0.592
	L	L1	0.854	0.900	0.867	0.924	0.848	0.923	0.769	0.790	0.881	0.552	0.692	0.862	0.907	0.877
		L2	0.672	0.561	0.755	0.719	0.791	0.884	0.526	0.542	0.619	0.552	0.679	0.609	0.865	0.633

RMP	**RIP**	RIP1	0.842	0.819	0.565	0.801	0.722	0.665	0.964	0.908	0.704	0.524	0.754	0.824	0.709	0.839
		RIP2	0.761	0.664	0.567	0.686	0.687	0.676	0.839	0.768	0.721	0.524	0.842	0.801	0.679	0.763
		RIP3	0.870	0.903	0.631	0.865	0.751	0.715	0.969	0.963	0.802	0.914	0.702	0.860	0.729	0.915
		RIP4	0.879	0.837	0.547	0.762	0.701	0.678	0.954	0.932	0.732	0.914	0.706	0.818	0.672	0.905
		RIP5	0.853	0.842	0.579	0.822	0.688	0.671	0.952	0.910	0.759	0.851	0.691	0.805	0.652	0.870
	RAP	RAP1	0.851	0.914	0.658	0.832	0.831	0.705	0.898	0.968	0.677	0.851	0.669	0.832	0.740	0.817
		RAP2	0.843	0.772	0.630	0.706	0.804	0.700	0.778	0.844	0.499	0.631	0.684	0.709	0.703	0.628
		RAP3	0.893	0.856	0.600	0.776	0.791	0.709	0.912	0.969	0.656	0.631	0.682	0.784	0.682	0.840
		RAP4	0.806	0.799	0.545	0.720	0.659	0.636	0.858	0.925	0.740	0.624	0.591	0.748	0.607	0.873
		RAP5	0.749	0.747	0.538	0.797	0.616	0.659	0.903	0.839	0.815	0.624	0.679	0.777	0.702	0.881
	RMIP	RMIP1	0.806	0.793	0.595	0.772	0.583	0.721	0.856	0.803	0.896	0.801	0.648	0.814	0.734	0.920
		RMIP2	0.771	0.810	0.556	0.807	0.611	0.656	0.907	0.857	0.851	0.801	0.638	0.808	0.678	0.919
		RMIP3	0.690	0.625	0.766	0.759	0.640	0.736	0.628	0.588	0.866	0.772	0.776	0.758	0.722	0.765
		RMIP4	0.533	0.585	0.671	0.723	0.676	0.731	0.596	0.548	0.783	0.772	0.626	0.681	0.700	0.777
		RMIP5	0.425	0.481	0.554	0.525	0.370	0.572	0.379	0.327	0.725	0.695	0.440	0.577	0.623	0.533
		RMIP6	0.520	0.410	0.622	0.482	0.468	0.695	0.331	0.365	0.728	0.695	0.537	0.542	0.652	0.595
	RMIMP	RMIMP1	0.555	0.565	0.617	0.694	0.543	0.701	0.620	0.532	0.914	0.648	0.675	0.732	0.679	0.800
		RMIMP2	0.597	0.535	0.687	0.705	0.629	0.823	0.562	0.499	0.861	0.648	0.688	0.685	0.787	0.791
		RMIMP3	0.801	0.815	0.820	0.850	0.863	0.864	0.738	0.764	0.798	0.632	0.766	0.839	0.829	0.792
		RMIMP4	0.622	0.596	0.617	0.714	0.636	0.692	0.694	0.610	0.782	0.632	0.874	0.806	0.707	0.721
		RMIMP5	0.599	0.458	0.502	0.553	0.532	0.637	0.622	0.521	0.663	0.703	0.853	0.704	0.651	0.632
		RMIMP6	0.652	0.614	0.650	0.620	0.631	0.581	0.614	0.583	0.573	0.703	0.853	0.769	0.609	0.553
		RMIMP7	0.703	0.687	0.642	0.663	0.655	0.616	0.688	0.657	0.636	0.630	0.872	0.833	0.634	0.623
PPP&PP	**TS**	TS1	0.778	0.730	0.686	0.742	0.672	0.655	0.784	0.739	0.756	0.630	0.944	0.888	0.671	0.759
		TS2	0.720	0.644	0.675	0.730	0.658	0.720	0.720	0.629	0.790	0.637	0.957	0.850	0.723	0.767
		TS3	0.842	0.725	0.692	0.759	0.754	0.744	0.805	0.768	0.693	0.637	0.978	0.859	0.758	0.746
		TS4	0.792	0.696	0.728	0.784	0.722	0.777	0.762	0.675	0.776	0.620	0.980	0.870	0.797	0.779
		TS5	0.813	0.715	0.739	0.771	0.784	0.769	0.749	0.703	0.675	0.620	0.979	0.853	0.781	0.712
	FC	FC1	0.719	0.694	0.710	0.742	0.684	0.726	0.726	0.643	0.815	0.590	0.932	0.891	0.719	0.801

		FC2	0.672	0.629	0.622	0.599	0.600	0.608	0.613	0.582	0.611	0.590	0.836	0.790	0.620	0.576
		FC3	0.834	0.889	0.600	0.812	0.735	0.670	0.936	0.926	0.749	0.669	0.690	0.861	0.724	0.879
		FC4	0.828	0.961	0.714	0.797	0.785	0.689	0.841	0.861	0.706	0.669	0.629	0.880	0.729	0.795
		FC5	0.740	0.826	0.912	0.853	0.838	0.851	0.671	0.649	0.857	0.672	0.755	0.883	0.870	0.826
	RM	RM1	0.724	0.751	0.929	0.864	0.843	0.890	0.555	0.601	0.749	0.672	0.684	0.752	0.942	0.696
		RM2	0.891	0.869	0.844	0.918	0.880	0.929	0.839	0.795	0.826	0.869	0.823	0.890	0.951	0.856
		RM3	0.767	0.818	0.861	0.885	0.873	0.920	0.685	0.740	0.808	0.869	0.689	0.811	0.968	0.793
		RM4	0.854	0.900	0.867	0.924	0.848	0.923	0.769	0.790	0.881	0.682	0.692	0.862	0.907	0.877
		RM5	0.672	0.561	0.755	0.719	0.791	0.884	0.526	0.542	0.619	0.682	0.679	0.609	0.865	0.633
	AC	AC1	0.870	0.903	0.631	0.865	0.751	0.715	0.969	0.963	0.802	0.624	0.702	0.860	0.729	0.915
		AC2	0.879	0.837	0.547	0.762	0.701	0.678	0.954	0.932	0.732	0.624	0.706	0.818	0.672	0.905
		AC3	0.806	0.793	0.595	0.772	0.583	0.721	0.856	0.803	0.896	0.669	0.648	0.814	0.734	0.920
		AC4	0.533	0.585	0.671	0.723	0.676	0.731	0.596	0.548	0.783	0.669	0.626	0.681	0.700	0.777
		AC5	0.520	0.410	0.622	0.482	0.468	0.695	0.331	0.365	0.728	0.700	0.537	0.542	0.652	0.595

Appendix (J) Indicator Multi-collinearity Result

Construct		Questions	IVF
CSFs	**P**	P1	2.445
		P2	3.418
		P3	1.951
	E	E1	2.114
		E2	2.461
		E3	2.268
	S	S1	3.977
		S2	4.522
		S3	1.987
		S4	1.352
		S5	4.524
	T	T1	1.282
		T2	1.161
		T3	2.262
		T4	4.512
		T5	2.902
	EN	EN1	3.866
		EN2	4.701
		EN3	2.941
		EN4	2.921
	L	L1	1.681
		L2	1.681
RMP	**RIP**	RIP1	2.668
		RIP2	2.728
		RIP3	2.255
		RIP4	2.795
		RIP5	1.566
	RAP	RAP1	1.37
		RAP2	2.825
		RAP3	2.063
		RAP4	1.26
		RAP5	2.736
	RMIP	RMIP1	4.622
		RMIP2	3.649
		RMIP3	2.602
		RMIP4	3.143
		RMIP5	3.25
		RMIP6	2.157

	RMIMP	RMIMP1	1.321
		RMIMP2	1.785
		RMIMP3	3.454
		RMIMP4	1.769
		RMIMP5	2.96
		RMIMP6	1.582
		RMIMP7	3.027
PPP&PP	**TS**	TS1	2.957
		TS2	2.236
		TS3	3.068
		TS4	2.876
		TS5	1.481
	FC	FC1	2.146
		FC2	4.355
		FC3	2.081
		FC4	2.303
		FC5	2.265
	RM	RM1	1.786
		RM2	2.949
		RM3	1.491
		RM4	3.88
		RM5	1.142
	AC	AC1	1.528
		AC2	2.776
		AC3	3.95
		AC4	2.004
		AC5	1.808

Appendix (K) IRB Approval Letter

IRB Approval Letter

Study Title: "Unveiling Success: Critical Factors and Public–Private Partnership Infrastructure Projects In Palestine and the Role of Risk Management as a Moderator".

Submitted by: **Dua'a Riyad Mohammad Aweidah**

Date received: 7th October 2025

Date reviewed: 13th October 2025

Date approved: 13th October 2025

Your Study titled **"Unveiling Success: Critical Factors and Public–Private Partnership Infrastructure Projects In Palestine and the Role of Risk Management as a Moderator"** with the code number **"R-2025/A/72/N"** was reviewed by the Arab American University Institutional Review Board - Ramallah and it was approved on the 13th of October 2025.

Sajed Ghawadra, PhD
IRB-R Chairman
Arab American University of Palestine

الجامعة العربية الأمريكية . فلسطين
مجلس اخلاقيات البحث العلمي . رام الله
IRB-R
ARAB AMERICAN UNIVERSITY-PALESTINE
INSTITUTIONAL REVIEW BOARD - RAMALLAH

General Conditions:

1. Valid for 6 months from the date of approval.
2. It is important to inform the IRB-R with any modification of the approved study protocol.
3. The Bord appreciates a copy of the research when accomplished.

كشف عوامل النجاح: العوامل الحاسمة لنجاح أداء ومشاريع الشراكة بين القطاعين العام والخاص في فلسطين: الدور التعديلي لممارسات إدارة المخاطر

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الملخص

المقدمة: تُعد الشراكات بين القطاعين العام والخاص (PPPs) أساسية لتطوير البنية التحتية في المناطق المحدودة الموارد مثل فلسطين، لكنها تواجه تحديات ناتجة عن عدم الاستقرار السياسي، وضعف الأنظمة التنظيمية، وسوء إدارة المخاطر. تهدف هذه الدراسة إلى تحديد العوامل الحاسمة للنجاح (CSFs) باستخدام إطار عمل PESTEL (السياسي، الاقتصادي، الاجتماعي، التكنولوجي، البيئي، القانوني) ودراسة ممارسات إدارة المخاطر (RMPs) كعامل تعديلي يؤثر على أداء مشاريع الشراكة. كما تسعى لسد الفجوات في البحث الخاص بالسياقات الهشة، بهدف تحسين نتائج المشاريع في قطاعات مثل النقل، المياه، والطاقة. المنهجية: تم اعتماد تصميم كمي وعرضي، حيث تم استطلاع آراء أصحاب المصلحة في مشاريع الشراكة بين القطاعين العام والخاص (مسؤولون حكوميون، شركاء من القطاع الخاص، مديرو مشاريع) في فلسطين باستخدام استبيان منظم. تم تحليل البيانات باستخدام نمذجة المعادلات الهيكلية بطريقة المربعات الصغرى الجزئية (PLS-SEM) لاختبار الفرضيات حول تأثير العوامل الحاسمة للنجاح على أداء مشاريع الشراكة والدور التعديلي لممارسات إدارة المخاطر.

النتائج: أظهرت العوامل الحاسمة للنجاح تأثيرًا إيجابيًا قويًا على أداء مشاريع الشراكة، مما يشير إلى أن عوامل مثل الاستقرار السياسي، الأطر القانونية الواضحة، ومشاركة أصحاب المصلحة حاسمة لتحقيق فعالية التكلفة، الالتزام بالجداول الزمنية، الجودة، والاستدامة. كما أثرت العوامل الحاسمة بشكل كبير على ممارسات إدارة المخاطر، مما يوحي بأن بيئة سياسية وقانونية داعمة تعزز تحديد المخاطر، تقييمها، التخفيف منها، ومراقبتها. حسّنت ممارسات إدارة المخاطر أداء الشراكة مباشرة، مما يبرز أهميتها في التعامل مع السياق المتقلب في فلسطين، حيث تسود عدم الاستقرار السياسي والشكوك الاقتصادية. كما كشف التأثير التعديلي لممارسات إدارة المخاطر على العلاقة بين العوامل الحاسمة وأداء المشاريع أن إدارة المخاطر القوية تعزز تأثير العوامل الحاسمة على نتائج المشروع.

الآثار العملية: ينبغي على صانعي السياسات دمج ممارسات إدارة المخاطر في أطر الشراكة، إعطاء الأولوية للاستقرار السياسي والإصلاحات القانونية، وتعزيز تدريب أصحاب المصلحة. يمكن أن يقلل ذلك من حالات الفشل، يجذب الاستثمارات، ويعزز البنية التحتية المستدامة، مما يفيد الجهات المانحة والمجتمعات في المناطق المتأثرة بالصراعات.

الكلمات المفتاحية: الشراكات بين القطاعين العام والخاص، العوامل الحاسمة للنجاح، ممارسات إدارة المخاطر، إطار عمل PESTEL، أداء المشروع.