

ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE

PROJECT MANAGEMENT DEPARTMENT

THE ROLE OF PROJECT MANAGEMENT PRACTICES IN OPTIMIZING SUPPLY CHAIN RESILIENCE IN THE HOSPITALITY SECTOR IN THE CASE OF INTERNATIONAL HOTELS IN ADDIS ABABA

BY

SEMHAL GEBREMEDHIN

JUNE 2026

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BY

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A Project Work Submitted to the School of Graduate Studies of AAU in Partial Fulfillment of the Requirements for the Award of Master of Arts Degree in Project Management

JUNE 2026

ADDIS ABABA, ETHIOPIA

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Declaration

I, Semhal Gebremedhin, declare that the study entitled "The Role of Project Management Practices in Optimizing Supply Chain Resilience in the Hospitality Sector in the case of international hotels in Addis Ababa" is my original work that was done under the guidance and input of my advisor, Dr. Solomon Markos (PhD).

This study will be done in partial fulfillment of the Master of Arts in Project Management.

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Certification

This is to certify that Semhal Gebremedhin has carried out her research work on the topic entitled “The Role of Project Management Practices in Optimizing Supply Chain Resilience in the Hospitality Sector in the case of international hotels in Addis Ababa”.

This study has been submitted to the Addis Ababa School of Commerce, School of Graduate Studies, for examination with my approval as a university advisor.

Advisor: **Dr. SOLOMON MARKOS (PhD)**

Signature: _____

Date: _____

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ACRONYMS and ABBREVIATIONS

ACRONYMS AND ABBREVIATION	Full Form
AHP	Analytic Hierarchy Process
COVID-19	Coronavirus Disease 2019
GDP	Gross Domestic Product
IPMF	Integrated Project Management Framework
IRB	Institutional Review Board
PM	Project Management
SCR	Supply Chain Resilience
S&OP	Sales and Operations Planning
SPSS	Statistical Package for the Social Sciences
VUCA	Volatile, Uncertain, Complex, and Ambiguous

Abstract

International hotels in Ethiopia are facing continuing supply chain disruptions exacerbated by huge dependence on imports (60-70%), perennial lack of foreign currency, insufficient infrastructure, recurring exogenous shocks (such as COVID-19) and etc. This research examines the effect of project management practices-specifically, risk management, stakeholder engagement, procurement planning, and agile practices-on four dimensions of supply chain resilience (flexibility, robustness, visibility, adaptability, innovation and agility) of international hotels in Addis Ababa. A cross-sectional survey research design was used and data were collected by administering structured questionnaires to 64 managers of 8 international 4 & 5 star hotels, all of whom participated, making the response rate 100%. Descriptive statistics, Pearson correlation and multiple regression were conducted using SPSS statistics (V. 26). All project management practices had a statistically significant positive effect on the supply chain resilience dimensions, and the regression model accounted for 84.1% of the variability in the supply chain resilience ($R=0.841$, $F(4,59)=78.039$, $p<.001$). Agile practices were the strongest predictor of supply chain resilience (=0.291) followed by risk management (=0.268), stakeholder engagement (=0.252) and procurement planning (=0.210). Conclusion was drawn that establishing a structured project management practice in the hotel operation enhances the hotel's supply chain resilience in Ethiopia. Consequently, recommendations were provided to hotel management that include investment in flexible agile operational system, establishment of formal process of risk identification and planning and preparation of contingencies, improvement in communication between inter-departmental and supplier stakeholder, and incorporation of flexible elements in their contracts.

Keywords: Addis Ababa, International hotels, Project Management Practice, Supply Chain resilience.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Generally, the concept of supply chain resilience (SCR) is defined as an ability of a supply chain to anticipate, respond and recover to disruptions, so that the business continues to operate in a disrupted manner (Ponomarov and Holcomb, 2009). In hospitality industry, it has been confirmed that due to the service being a 'perishable product' and also a lot of its materials like food, guest amenity imports and others have lead times. So supply chain resilience does not only contribute to an operational advantage but to an organizational imperative (Aigbedo, 2021). Six core components of supply chain resilience were identified, these are flexibility, which is the ability to change supply and delivery networks according to conditions, robustness which is defined as the supply chain's ability to absorb shocks without breaking, visibility which means having access to the information on all tiers of the supply chain, adaptability, which is the ability to remodel resources and strategy based on changing disruptions, innovation, which refers to using new technologies and approaches for managing the supply chain constraints, and agility which is about speed with which the supply chain can be adapted when sudden changes happen (Pettit et al., 2010; Christopher and Peck, 2004).

Project management practices (PMPs) offer a systematic framework for enhancing an organization's ability to be resilient in uncertain environments (Bentahar et al., 2024). These practices include; risk management, the process of identifying, analyzing, and mitigating supply chain threats (Chowdhury and Quaddus, 2017), stakeholder engagement, the coordinated response among internal and external partners, like suppliers, government, etc., to ensure seamless communication (Thorn and Vendel, 2019), procurement planning that relates to the sourcing, selection of suppliers and contract management for security of supply (Piyathanavong et al., 2024) and agile methodology, which can be described as using of iterative method of work, such as Scrum and Kanban, in order to quickly adapt to disturbances (Dubey et al., 2019). It was reported that, application of these practices systemically leads to improvement in a supply chain's flexibility, robustness, and adaptive capacity across different sectors (Piyathanavong et al., 2024).

The hospitality sector in Ethiopia has significantly expanded over the last two decades, owing to the nation's growing role as a diplomatic, business and transit hub for Sub-Saharan Africa. The city of Addis Ababa, serving as the headquarters for the African Union (AU) and the UN Economic Commission for Africa (UNECA), continues to host an increasing number of international conferences, business meetings and diplomatic visitors which drives demand for branded hotels, thus ensuring the existence of international standard hotels in the country (Ethiopian Tourism Organization, 2022). Consequently, most of the top international hotel chains (Hilton, Radisson Blu, Marriott, Sheraton, Hyatt, etc.) opened their operations in Addis Ababa making the city to be considered as a major hotel market in East Africa.

However, these international hotels are greatly affected by recurrent and severe supply chain disruptions in Addis Ababa. International hotels are estimated to purchase between 60-70% of their inputs from abroad which includes food and beverage items, furniture, fixture, equipment and amenities (estimation by proposer of this research). These high imports means dependence on foreign currency and these are limited, therefore the international hotels suffer frequent shortages of foreign currency, this issue has been a permanent characteristics of the Ethiopian economy, making it difficult for the hotels to pay their suppliers and maintaining appropriate inventory level (National Bank of Ethiopia, 2023). Another supply chain challenge that these hotels are facing is poor infrastructure such as lack of proper roads and unreliable public utilities like electricity and water that affect both the supply and storage of perishable goods in the hotels, along with poor cold-chain management, food safety risks and logistical disturbances in the port of Djibouti that services bulk of Ethiopia's imported goods (Elkhwesky et al., 2022).

These challenges were further amplified by COVID-19 pandemic, between 2020-2022 there was a sharp decline in demand and revenue for Ethiopian hotel industry as a consequence of the closure of international travel. This leads to drastic cuts in purchasing, a renegotiation with suppliers and change in personnel and inventory practices within hotels. The post pandemic recovery has been irregular and supply chain disruptions are ongoing with rising transportation costs and shortage of foreign currency (Aigbedo, 2021; Sobaih et al., 2021).

Even though research suggests project management practices to be effective in addressing SCR, in manufacturing and logistics sectors specifically, empirical studies for the hospitality sector, and even more in the case of Ethiopia are scarce (Salem et al., 2022; Elkhwesky et al., 2024).

Therefore this study aims to answer how project management practices such as risk management, stakeholder engagement, procurement planning and agile approach affect SCR dimensions in international hotels of Addis Ababa.

1.2 Problem Statement

International hotels in Addis Ababa face ongoing and acute supply chain disruptions that undermine efficiency, service quality, and long-term competitiveness. International hotels depend on imported operational inputs for estimated 60-70% of their needs, making them susceptible to recurrent foreign currency shortages, which are structurally embedded in the Ethiopian economy (NBE, 2023). In addition to those mentioned, factors like poor infrastructure, unreliable utilities, port dependency via Djibouti, and episodic political instability exacerbates such conditions (Elkhwesky et al., 2022). COVID-19 was also shown to be a catalyst, illustrating the extent to which hotels are vulnerable, and leading to severe revenue collapse and supply chain disruption across the industry; recovery of this crisis was slow and uneven across and within the industry (Aigbedo, 2021; Sobaih et al., 2021).

While literature on supply chain resilience in hospitality and its dimensions – namely flexibility, robustness, visibility, adaptability, innovation and agility – is growing globally (Pettit et al., 2010; Christopher and Peck, 2004) and research in manufacturing and logistics have found that project management practices-risk management, stakeholder engagement, procurement planning, and agile approaches-contribute positively to supply chain resilience (Chowdhury and Quaddus, 2017; Piyathanavong et al., 2024), research into the specific empirical linkage is scant at the developing country level. Some evidence from similar developing country environments-such as Egypt (Salem et al., 2022) and Jordan (Sobaih et al., 2021)-revealed existence of hospitality supply chain disruptions but not the intervention mechanisms at work such as project management practices. To Ethiopia, in specific, there is not enough empirical studies that addresses how project management practices affect hospitality supply chain resilience and thus there is lack of evidence-based guidance for hotel managers on the strategic and operational measures to combat disruptions.

Therefore, this study seeks to address this gap by empirically investigating the relationship between project management practices-risk management, stakeholder engagement, procurement planning, and agile approaches-and supply chain resilience dimensions in international hotels in

Addis Ababa. The findings from this study-provide theoretical insight to the emerging literature of supply chain resilience in developing countries and practical implications to hotel managers, hospitality associations and policymakers for strengthening the resilience of the Ethiopian hospitality industry.

1.3 Research Question

1. How are the supply chains in international hotels in Addis Ababa currently positioned in relation to the dimensions of flexibility, robustness, visibility, adaptability, innovation, and agility?

2. In what measure are project management techniques applied in managing a supply chain in these hotels?

3. How do specific practices of project management, risk management, stakeholder engagement, procurement planning, and agile approaches) Effect the dimensions of supply chain resilience?

4. What are the main barriers and facilitators in implementing the practices of project management in relation to supply chain resilience?

1.4 Research Objectives

1.4 .1 General Objective

To explore the application of project management practices with the aim of improving or optimizing the resilience of the supply chain within international hotels operating within the Addis Ababa region of Ethiopia.

1.4.2 Specific Objective

1. To measure the current level of supply chain resilience on different parameters of flexibility, robustness, visibility, adaptive capacity, innovation, and agility among the international hotels of Addis Ababa.

2. To investigate the degree to which risk management, stakeholder engagement, procurement planning, and agile approaches are being adopted in supply chain management in international hotels in Addis Ababa.

3. Examine relationships between project management practices and resilience dimensions.

3. To identify the core challenges and facilitators playing their part in the implementation of project management techniques for supply chain resilience in the Ethiopian hotel industry.

1.5 Significance of the study

The study makes an important contribution both at the theoretical and practical levels which has implications for numerous stakeholders in the hospitality industry and in the Ethiopian economy as a whole.

Theoretical contribution. First, this study has made a significant contribution to the body of knowledge on supply chain resilience in the hospitality industry through generation of original empirical evidence from developing country contexts that were scarce in the literature. Secondly, it has extended the scope of application of established supply chain resilience frameworks particularly those of Ponomarov and Holcomb (2009) and Pettit et al. (2010) to the hotel industry in Ethiopia and also tested relevance of project management as the determinant of resilience in a context of limited resources and high reliance on imports. Future researchers would therefore use findings of this study as a base for conducting supply chain resilience research in sub-Saharan Africa and other developing countries that share similar structural constraints.

Contribution to practice. For hotel managers and operations personnel, the findings provide concrete, empirical support on which project management practices (namely, risk management, stakeholder involvement, procurement planning, agile practices) enhance the supply chain resilience more significantly. Managers can thus invest more time and money in strengthening such practices in their respective hotels in order to reduce service disruptions and control costs, while at the same time maintaining a good customer service, which is paramount in the hospitality industry.

For hotel owners and investors, the findings provide evidence of operational and financial risk associated with weak supply chain in Ethiopian hotels and provide a basis to determine the extent to which an investment in structured PM would yield a return. Demonstrating the association between PM practices and resilience outcomes may help owner/investors make informed decisions about their investments in hotels and technology infrastructure.

For policy-makers and governmental agencies such as the Ethiopian Ministry of Tourism and Ethiopian Investment Commission, the study has provided an evidence on why supply chain

resilience of even the well- managed hotels is constrained by structural barriers such as foreign currency shortages, import regulations, lack of infrastructure etc. The findings of this study also inform policy design of support and capacity building programs in project and supply chain management to hotels.

1.6 Scope of the study

Geographical Scope:

The study is geographically bound to the city of Addis Ababa, the capital of Ethiopia. The investigation centers on internationally branded 4 and 5-star hotels operating in the city; international hotels including Doubletree by Hilton, Radisson Blu, Marriott, Sheraton and Best Western Plus Hotel are members of large hotel chains in the globe. Addis Ababa was selected because it is the central focus of international hotel activities in Ethiopia. It's considered the capital and center for diplomatic, business, and air transport in Ethiopia and consequently, the city most apt for analysis of the challenges of supply chain resilience in the Ethiopian hospitality industry.

Content Scope:

This investigation has confined itself only to the impact of four project management practices; risk management, stakeholders engagement, procurement planning, and agile practices, on six elements of supply chain resilience: flexibility, robustness, visibility, adaptiveness, innovation, and agility. Contextual factors namely, barriers and facilitators for the execution of the project management practices are studied descriptively as moderators. Investigation into supply chain is bounded to hotels; no other member of the tourism value chain such as airlines, tour operators, travel agencies, event planners and etc., is investigated in the study.

Methodological Scope:

A quantitative method was adopted using a cross-sectional survey design methodology. Primary data was collected at one time point of the study between 2025 and 2026 from 64 respondents of 8 international hotels in Addis Ababa. These respondents were selected from the management ranks, based on the nature of their direct participation in decisions of supply chain management

and operations in the respective hotels through purposive sampling. The study relied entirely on primary data and no longitudinal study on the trends of supply chain performance is involved.

1.7 Operational Definitions of the Key Constructs

This section provides working definitions of the concepts under study. Supply chain constructs employed in this study have been slightly modified to befit the hospitality industry, specifically international hotels in Addis Ababa. Definitions of SCM-related terms will aid in the measurement and analysis of study data, such that there is uniformity when reviewing responses from interview questions and observed practices against hotel keeping practices in Addis Ababa, as well as SCM practices in the hospitality industry.

Supply Chain Resilience (SCR)

When discussing supply chain resilience in the hotel industry, it refers to the capacity of the hotel's supply chain to prepare for unexpected events, respond to disruptions when they occur, minimize service interruptions, and achieve rapid recovery. Anticipation and preparation, resistance, and recovery are necessary for supply chain resilience. The supply chain must continue to operate and maintain control during these processes. Afterward, it should recover and return to a state superior to its pre-disruption condition. According to Ponomarov and Holcomb (2009). Pettit et al. (2010) subsequently expanded upon this concept. The study researches this by identifying and measuring components of supply chain resilience as they are perceived to exist within these hotel chains.

Flexibility

Flexibility in SCM refers to the ability of the supply chain to alter its operations in response to changes in demand or supply. Ideally, this should happen with minimal cost and/or lead time (Pettit et al., 2010).

When discussing flexibility in hotels. This refers to the capacity of hotels to alter their supplier network, inventory, or service delivery. This is important because the hotel needs to be able to deal with changes, such as during periods of elevated demand or when supplier delivery timelines are not met. Supply chain flexibility enables such adaptive responses.

Robustness

The supply chain's robustness is its capacity to withstand disruptions and maintain operational continuity. The hotel's supply chain is robust when it can still operate during problems, such as foreign currency shortages or infrastructural deficiencies. This happens because the hotel has contingency plans and redundant systems in place. Robustness is therefore essential to maintain operational continuity.

Visibility

Visibility in the supply chain may be defined as the degree to which supply chain participants have access to, so as to monitor processes and flows in real time. This means they have access to information about the processes, the inventory, and the flow of goods across the whole chain.

For example, in a hotel, visibility is important because it helps them keep track of inventory. Systems are employed to monitor operations, and information is shared with vendors who supply them. Inventory levels of imported goods are continuously monitored. This constitutes supply chain visibility in the supply chain, especially in hotels, as noted by Pettit et al (2010).

Adaptability

Hotels' supply chain needs to be able to adapt in response to changing conditions. This means the supply chain has to be able to reconfigure its resources or strategies when there are changes or problems. For example, the hotel supply chain has to be able to change suppliers or identify alternative sourcing strategies if there are problems like political instability or rules that limit imports. The hotel's supply chain has to be able to adapt to these challenges, reconfiguring its procurement strategies. Adaptability is essential to maintaining uninterrupted supply chain operations.

Innovation

Innovation in supply chain resilience is a means to strengthen supply chain resilience through the identification of novel solutions or using new technologies to deal with problems and improve operational outcomes. Supply chain resilience is measured by how companies use new ideas, such as using digital tools to buy goods or finding local sources to get around the usual ways of importing materials. Innovation in supply chain resilience helps companies to be more adaptable and rethink processes.

Agility

Agility constitutes a critical dimension of supply chain resilience. When disruption emerge, effective response become critical to maintaining uninterrupted goods flow.. Responding quickly to sudden shifts defines the true responsiveness of a supply chain network. Agility refers to the ability of the supply chain to respond effectively to sudden disruptions. Speed and precision are center effective real-time reaction. The supply chain's agility is the ability to respond rapidly and effectively to short-term changes or disruptions in the environment. When the study examines agility, it examines how fast decisions are made, how the supply chain responds to supply shortages, and how quickly hotel operations can be adjusted.

Project Management Practices

Project management provides a structured framework for addressing supply chain challenges. This includes planning, executing, monitoring progress, and ensuring alignment with planned objectives so that the supply chain can be strong.

Risk Management

Grounded in uncertainty management, risk management involves identifying possible issues in supply chains - like shipping delays or shifting exchange rates - then judging their impact.A key approach involves preparing backup strategies ahead of time. Actions taken early help reduce disruptions before they escalate. This approach follows structured methods found in current research (Chowdhury & Quaddus, 2017).

Stakeholder Engagement

Communication with internal stakeholders - like different hotel teams - and external stakeholders- such as vendors or government agencies – facilitates the alignment of objectives, exchange updates, because joint planning strengthens response during disruptions (Thorén & Vendel, 2019).

Procurement Planning

The strategic planning of sourcing, supplier selection, contract negotiation, and resource allocation to ensure reliable and cost-effective supply flows (Piyathanavong et al., 2024).

Agile Approaches are considered useful in supply chain projects. They are methods that are flexible and can use methodologies like Scrum or Kanban for projects that involve moving goods

from one place to another. This enables rapid responses to disruptions and supports continuous improvement across supply chain operations. Agile Approaches make supply chain projects effective as they rapidly make adjustments as needed, as Agile Approaches like Scrum or Kanban are effective, as demonstrated by Dubey et al.(2019).

Barriers and Facilitators

Factors that impede the application of project management practices to build Supply Chain resilience include inadequate infrastructure and insufficient foreign currency reserves. A lack of adequate training can result in insufficient competency among staff in executing supply chain practices effectively.

Certain enablers underpin the effective application of project management practices in building supply chain resilience. Key among these are the adoption of digital tools and technologies and the development of robust supplier relationships. Organizational culture and structure may also serve as enabling factors. These operational definitions help the study's variables be measurable through the structured questionnaire (quantitative phase) and exploratory document analysis (qualitative phase), allowing for triangulation and robust findings

1.8 Organization of the thesis

This study is organized into five parts.

Chapter One**:** This chapter provides an introduction. It presents the background of the study, the research problem, and the objectives of the study. The study includes general and specific objectives. The study raises research questions, and the significance of the study is presented.

The scope and limitations of the study are also presented.

Chapter Two**:** Review of Related Literature

This chapter discusses supply chain resilience and project management. It examines the theoretical foundation of supply chain resilience and project management. Previous studies related to supply chain resilience in hotels internationally and in developing countries have been reviewed. The study also explores how project management practices contribute to supply chain resilience. It identifies a research gap in existing literature on supply chain resilience and project

management. It explains the theoretical framework guiding the study on supply chain resilience and project management.

Chapter Three: Research Methodology

This chapter presents the research methodology, which consists of the research design, sampling technique, sample size determination, data analysis techniques employed in the study, and the data collection procedures.

Chapter Four: Data Analysis and Findings

This chapter presents the findings of the study. The study used tables, charts, and graphs to help illustrate the findings. The study also examines the statistical results. The Statistical results are interpreted to determine relationships among variables. The results section will be based on the data from the study participants to help answer the questions the study intends to address.

Chapter Five: Discussion, Conclusion, and Recommendations

This chapter examines the objective of the study and research questions. This chapter presented findings from previous studies about this topic and relate them to the findings of the present study. This chapter provides recommendations to hotel managers, policy makers, and others who are involved in the hotel business in Ethiopia. It also suggests areas for future research.

CHAPTER TWO

Literature Review

2.1 Conceptual Review

2.1.1 Supply Chain Resilience

Supply Chain Resilience (SCR) is defined as the capability of the supply chain to foresee, withstand and respond to disruptive events while continuing to operate (Ponomarov & Holcomb, 2009). For the hotel industry in particular, the continuous flow of perishable products, imported luxury goods and time sensitive supplies necessitates the development of SCR, more as an organizational requirement than an operational enhancement (Aigbedo, 2021). The key dimensions of SCR that have been identified by scholars include:

Flexibility: This refers to the capability of the supply chain to change operations and processes in order to respond to changes in demand or supply, ideally with a minimum time and cost (Pettit et al., 2010). In a hotel supply chain, flexibility involves being able to change suppliers, inventory levels and service delivery processes in order to respond to sudden demand fluctuations or supplier breakdowns.

Robustness: This represents the ability of the supply chain to maintain operations without collapsing under disruption (Christopher & Peck, 2004). An example of robustness in a hotel supply chain is the continued operation when there is a foreign currency shortage or power failure due to plans being in place to circumvent such challenges, including the existence of alternate suppliers.

Visibility: This denotes the extent to which supply chain partners can monitor processes, inventory levels and movements of goods across the supply chain in real time across all the levels (Pettit et al., 2010). Hotels can manage their imported inventory and respond to disruptions upstream before service delivery is affected by supply chain visibility.

Adaptability: This refers to the capability of the supply chain to reconfigure the resources, strategy, or structures to adapt to a disruptive event or a permanent environmental change (Ponomarov & Holcomb, 2009). A hotel operating in an environment where most supplies are

imported should be capable of changing to an alternative supply strategy in situations where there are import restrictions or the supply chain experiences political unrest.

Innovation: This relates to the adoption of new processes or technology to solve problems within the supply chain (Bag et al., 2021). For hotels in Ethiopia, this could include digital sourcing methods, a local-sourced supply chain, or data based inventory management.

Agility: This defines the speed with which the supply chain can respond to a sudden short term disruption (Dubey et al., 2019). In hotel supply chains, agility is measured in terms of speed of decision-making and response to supply shortages.

2.1.2 Project Management Practices

Project management practices (PMP) offers a structured framework within which these supply chain problems may be solved (Bentahar et al., 2024). Four critical aspects of PMP that are of particular interest to this study include:

Risk Management: This involves the identification of possible threats to the supply chain (e.g., delay of shipment, currency fluctuations, or a supplier defaulting) along with the probability and consequences of such threats occurring, followed by the development and execution of suitable plans to mitigate them (Chowdhury & Quaddus, 2017). Structured risk management minimizes the risk and impact of disturbances.

Stakeholder Engagement: This deals with close cooperation and coordination of stakeholders across various departments in the hotel and beyond, to ensure effective collaboration and coordination among parties such as suppliers, logistics providers, government departments, etc. (Thorn & Vendel, 2019). Good stakeholder engagement aligns interests, communication flows and ensures a coordinated response in situations of disruption.

Procurement Planning: This involves strategic procurement, supplier selection, supplier contract management, resource allocation, and demand forecasting to ensure efficient, reliable, and economic flows of supplies (Piyathanavong et al., 2024). Thorough procurement planning minimizes exposure to supply risks and enhances the flexibility of supply networks.

Agile Approaches: This entails iterative project management techniques such as Scrum and Kanban which permit flexible responses to constantly changing circumstances and interruptions

(Dubey et al., 2019). The adoption of agile practices supports adaptability within the supply chain and prompt recovery following unexpected events.

2.2 Theoretical Framework

This research is guided by two theoretical frameworks that together explicate the relation between PMP and SCR:

The supply chain resilience theory was introduced and developed by Ponomarov & Holcomb (2009) and latter on refined by Pettit et al. (2010). It describes supply chain resilience as a capability (incorporating anticipation, resistance, and response to disturbance) as rather than an inherent attribute of an organization and that these capabilities may be influenced through effective practices and design choices. Pettit et al. (2010) extended this by identifying organizational capabilities such as flexibility, visibility and adaptability as key factors which prevent or reduce vulnerability to disturbances, and it is from this framework that the six SCR dimension measures in this study were drawn.

The theory of project management practices is rooted in the Project Management Body of Knowledge (PMBOK) framework along with writings by Bentahar et al. (2024) and Piyathanavong et al. (2024). It explains that PM practices act as formal processes used to manage uncertainty and improve organizational performance in dynamic environments. In complex, ambiguous, uncertain and volatile (VUCA) contexts, these practices (risk management, stakeholder integration and agile methods in particular) are theoretically essential to maintaining both operational viability and adaptability (Thorn & Vendel, 2019). The relationship between PM theory and supply chain resilience research is reinforced by theconcept of leagility (a balance between lean operations and agility) applied to supply chain project management (Naylor et al., 1999).

The theoretical frameworks of supply chain resilience and project management practices collectively hypothesize that the application of appropriate project management practices can positively impact the dimensions of SCR, particularly in import-dependent, resource-constrained contexts, such as Ethiopia's hospitality sector.

2.3 Empirical Review

2.3.1 Supply Chain Resilience in Hospitality

Empirical studies on supply chain resilience in the hospitality industry began to increase particularly after the COVID-19 pandemic revealed critical vulnerabilities of hotels supply chain across the globe. According to Aigbedo (2021) flexibility and redundancies of the supply chains in hotels helped them to quickly bounce back from the disruptions caused by pandemic compared to other lean and efficiency oriented supply chains. Elkhwesky et al. (2022) found that developing countries hotels are disproportionately affected by disruption, due to imports dependency, infrastructure deficit and limited technological capabilities which indicates the need of context specific resilience.

Comparisons with developing countries settings would likely apply in the Ethiopian case: studies in Egypt by Salem et al. (2022) show that the greatest supply chain vulnerability lies in the last-mile and sourcing operations; strategic alliances and diversification of suppliers are best coping strategy. In Jordan, Sobaih et al. (2021) indicate how the pandemic encouraged hotels to change supply relationships and increase domestic sourcing which improved its resilience capabilities. Research in Iran also highlight both digitalization and restructuring of supply chain as a way to recover from the systemic disruption that affect hotels (Choi et al., 2021). Moreover, in their study on hotels, Elbaz et al. (2022) highlight that organization resilience significantly contributed positively to hotels performance, supply chain best practice contribute in both responsiveness and preparedness.

However, most studies above are valuable as far as providing insight to resilience in hotels but not focused on the role of project management practices as drivers of the same particularly in sub-Saharan countries. So far, to the best of my knowledge, no empirical studies have specifically investigated the influence of project management practice on supply chain resilience in Ethiopian hotels: this is the research gap this study seeks to fill.

2.3.2 The Project Management Practice and Supply Chain Resilience

The importance of project management practices in strengthening supply chain resilience has been empirically demonstrated across the manufacturing, logistics, and service industries. Using structural equation modeling Chowdhury and Quaddus (2017) showed that robust structured risk

management practices (risk identification, analysis, and mitigation) had a positive impact on the supply chain's ability to withstand and respond to disruptive events. Their research suggests that a proactive and reactive approach to risk management improves a firm's ability to absorb shocks and its operational flexibility. In terms of supplier relations, the results of empirical studies show clearly that a close partnership with supplier partners enhances supply chain visibility, information sharing and coordination which are critical dimensions of resilience (Thorn & Vendel, 2019). The importance of projects in cross-functional and cross-organizational relationships has been highlighted in a hotel context, with Migdadi (2022) findings that project management style with collaborative approach enhances hotel supply chain performance. Focused on procurement planning, Piyathanavong et al. (2024) confirmed through empirical data that the use of structured procurement processes, such as diversification of suppliers, inventory pre-positioning and flexible contracts substantially improves resilience. Empirical data on inventory management also found that proactive inventory and a multi-sourcing strategy effectively mitigate supply and demand disruptions (Bentahar et al., 2024). For agile supply chain, empirical study shows the adoption of Agile practice (Scrum, Kanban) helps in responding to disruptions and improve supply chain resilience (Dubey et al., 2019); similarly Bag et al. (2021) show that the combination of big data with agile development practices enhances resilience with data complexity being manageable.

Even though this research confirms the role of project management practices on supply chain resilience, some recent studies are still pointing out the limited empirical evidence on the applicability of PM practices in the service industry, more specifically in developing countries (Elkhwesky et al., 2024, Salem et al., 2022). This research aims to bridge this gap.

2.4 Conceptual Framework

This research proposes a conceptual framework that integrates the theoretical and empirical work detailed above. This framework hypothesizes that the four project management practices, namely: risk management; stakeholder engagement; procurement planning; and agile approaches, directly influence the six dimensions of supply chain resilience, namely: flexibility; robustness; visibility; adaptability; innovation; and agility (together forming the dependent variable). Barriers and facilitators of project management practices application are

conceptualized as external modulating factors and are not variables to be modeled but will be analyzed descriptively.

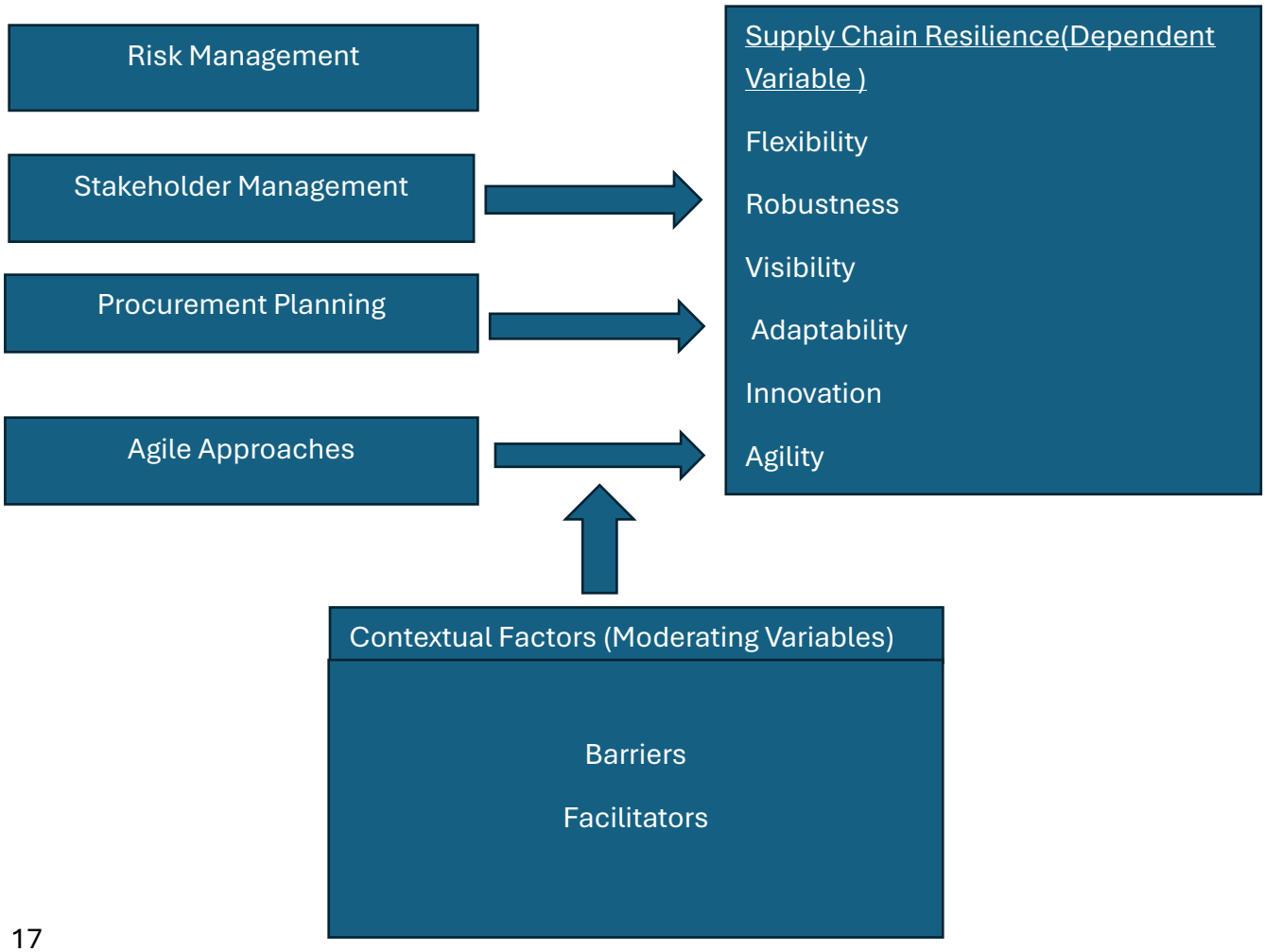
The research framework is based on the theoretical proposition of Pettit et al. (2010) and Bentahar et al. (2024) that resilience is an organizational capability which can be systematically built through planned management practices. Thus, it is hypothesized that if international hotels in Addis Ababa adopt project management practices to a greater extent, they will report a greater supply chain resilience across the above-mentioned six dimensions.

[Figure 1: Conceptual Framework- see diagram]

N.B. Barriers and facilitators are analyzed descriptively as factors of context and they are not considered as formal variables for the regression model.

Conceptual Framework

Figure 1Conceptual Framework



The framework assumes that effective application of project management practices enhances supply chain resilience in the hospitality sector.

N.B Barriers and facilitators are analyzed descriptively as contextual factors and are not included

CHAPTER THREE

The study was conducted in Addis Ababa, the capital city of Ethiopia and its largest city with a population of over 5 million people. As a major hub, Addis Ababa is the political, economic, diplomatic and cultural centre of Ethiopia. It also hosts the African Union (AU), the United Nations Economic Commission for Africa (UNECA) and numerous international organizations, diplomatic embassies and multinational corporations. Such a density of economic, diplomatic and commercial activities creates significant and constant demand throughout the year for international branded hotel services. The Ethiopian hospitality industry in Addis Ababa has grown considerably over the past two decades due to increased volumes of international business and transit tourism and major diplomatic events held in the city. Ethiopian Airlines, the largest and one of the most profitable African carriers, uses Addis Ababa Bole International Airport as a regional hub, thereby contributing to substantial international traffic and, hence, demand for high-quality hotels in Addis Ababa.

The focus of the study is on 4- and 5-star internationally branded hotels located in Addis Ababa, namely Doubletree by Hilton Addis Ababa Airport, Radisson Blu Addis Ababa, Marriott Executive Apartments, Sheraton Addis, Golden Tulip Hotel, Best Western Plus Addis, Best Western Plus Pearl and Ramada by Wyndham Addis Ababa. These hotels all operate under major international hotel brands and follow internationally recognized standards of service and procurement.

Despite the sector's growing importance, these internationally branded hotels operate in an extremely challenging environment due to the economic and infrastructure shortcomings in Ethiopia. These include a very high level of import dependency (estimated to be 60-70% for most operating inputs), persistent foreign currency shortages, a lack of efficient infrastructure for transport and utilities, and port congestion through Djibouti (National Bank of Ethiopia, 2023; Elkhwesky et al., 2022). The city of Addis Ababa was selected for the study due to its concentrated cluster of international hotels and as such it represents a suitable and informative location for the study of the relationship between project management practices and supply chain resilience of Ethiopian hotels.

3.1 Description of the Study Area

Addis Ababa is the capital and largest city of Ethiopia, situated at an elevation of approximately 2,300 meters above sea level in the central highlands of the country. With a population of over 5 million people, it is the political, economic, diplomatic, and commercial hub of Ethiopia and one of the most significant cities in sub-Saharan Africa. The city serves as the headquarters of the African Union (AU) and the United Nations Economic Commission for Africa (UNECA), hosting over 100 diplomatic missions and a large number of international organizations, development agencies, and multinational corporations. This unique diplomatic and commercial profile generates year-round demand for internationally branded hotel accommodation and conference facilities.

Addis Ababa Bole International Airport, the main hub of Ethiopian Airlines - Africa's largest and most profitable airline - further positions the city as a major gateway for international visitors to the continent, sustaining consistent inbound business and transit travel that directly supports the international hotel sector.

This study was conducted across eight internationally branded 4- and 5-star hotels operating in Addis Ababa, selected based on their scale of operations, international affiliation, and active involvement in supply chain management:

Doubletree by Hilton Addis Ababa Airport - a full-service Hilton-branded property located adjacent to Bole International Airport, serving primarily international business and transit travelers.

Radisson Blu Addis Ababa - part of the global Radisson Hotel Group, located in the diplomatic and business district, catering to corporate and diplomatic clientele.

Marriott Executive Apartments Addis Ababa - a Marriott International property offering extended-stay accommodation for expatriates and long-term business guests.

Sheraton Addis - one of the most established luxury hotels in Ethiopia, operated under Marriott International's Luxury Collection, serving high-profile diplomatic and corporate guests.

Golden Tulip Hotel Addis Ababa - affiliated with the Louvre Hotels Group, offering business-class accommodation in the city center.

Best Western Plus Addis - part of the global Best Western Hotels & Resorts brand, serving both business and leisure travelers.

Best Western Plus Pearl - a second Best Western Plus branded property in Addis Ababa, similarly serving business and leisure segments.

Ramada by Wyndham Addis Ababa - part of the Wyndham Hotels & Resorts portfolio, offering full-service accommodation for international guests.

These eight hotels collectively represent the core of Addis Ababa's internationally branded hotel sector. All operate according to global service, procurement, and supply chain standards while navigating Ethiopia-specific challenges including high import dependency (60-70% of operational inputs), persistent foreign currency shortages, inadequate infrastructure, and logistical constraints linked to port dependency through Djibouti (National Bank of Ethiopia, 2023; Elkhwesky et al., 2022). Their shared operational context makes them the most appropriate and representative setting for examining the relationship between project management practices and supply chain resilience in the Ethiopian hospitality industry.

3.2 Research Design

This research utilizes a quantitative approach to investigate the association between project management practices and the dimension of supply chain resilience within international hotels in Addis Ababa. A quantitative method was chosen since the study involves the quantification, testing and statistical testing of the relationship between specified independent and dependent variables using numerically derived data based on structured questionnaire responses (Creswell, 2014). In particular, it fits research designs aiming to specify the direction and strength of associations between variables in a target population.

The research design uses a descriptive and explanatory strategy. Descriptive aims to describe the "who", "what" and "where" of PM practices and the dimension of SCR within the hotels whereas explanatory explores the cause and effect between the variables and seeks to explain the relationship through correlations and regression (Saunders et al., 2019).

A cross-sectional survey research design was adopted, i.e. Data were collected from all respondents at a single point of time within the years 2025-2026. It is suitable for this study as it

enables the simultaneously measurement of several variables among sample of hotels and respondents without the manipulation of condition, hence is cost effective in describing the current situation of PM practices and the dimension of SCR in the target hotels (Bryman, 2016). It is a frequently utilized research design for similar studies related to the supply chain and hospitality sectors (Chowdhury & Quaddus, 2017; Salem et al., 2022).

Data analysis was carried out using IBM SPSS Statistics (Version 26), employing descriptive statistics to describe distributions of the variables, Pearson correlation analysis to assess bivariate relationship between the PM practice dimensions and dimension of SCR, and multiple linear regression to investigate the relative impact of PM practice dimensions on supply chain resilience.

3.3 Population of the Study

The specific group for this academic investigation involves who perform duties in chosen international hotels in Addis Ababa.

3.4 Sampling Technique and Procedure

Table 3.4 Target population by Managerial Position

NO	Managerial Position	Pole In Supply Chain & Operations
1	General Manager	Strategic decision-making
2	Finance Manager	Budgeting and financial control
3	Purchasing Manager	procurement and supplier relation
4	Food and Beverage Manager	F&B supply coordination
5	Executive Chef	Kitchen Operation and Sourcing
6	Housekeeping Manager	Inventory and housekeeping supply
7	Engineering/ Maintenance Manager	Equipment and facility management
8	Front Office Manager	guest service operations

Purposive sampling was utilized to select both the hotels and respondents to be included in this research. This sampling technique was used because it requires respondents that have specific characteristics; knowledge, position, and experience related to supply chain management and operations; that cannot be assumed if using probability sampling (Creswell, 2014). Since the research questions were concerned with the extent to which project management is applied to supply chain functions, it would only be relevant to survey individuals who had direct exposure to these functions. Purposive sampling is the method to use when research relies upon experts for knowledge relevant to the topic of study; not for statistical representation (Saunders et al., 2019).

Eight international hotels were selected in order to participate in this research with the use of the following criteria:

Affiliated with an international chain – the hotel must be part of a worldwide hotel brand that uses international service and purchasing practices.

Four- and five-star hotels – the hotels had to be awarded either 4 or 5 stars so as to represent hotels of equal operating complexity and same supply chain scale.

Level of activity – the hotels were required to have a high enough volume of activity related to their supply chain to have PM practices evident and measurable.

Location within Addis Ababa – the hotel must be open and functioning within the city of Addis Ababa between 2025-2026.

Willingness to allow access – the hotel's management had to be allowing for data collection.

From each of the eight international hotels selected, 8 respondents were selected who held the following positions in the hotels to be sampled: General Manager, Finance Manager, Purchasing Manager, Food and Beverage Manager, Executive Chef, Housekeeping Manager, Engineering/Maintenance Manager and Front office Manager to give the best broad cross-section of supply chain management decision making roles in each hotel.

3.5 Sample Size

A total of 64 respondents participated in this study, drawn from 8 internationally-branded 4- and 5-star hotels within Addis Ababa (8 respondents from each hotel). The rationale for this sample size can be summarized as follows:

First, a frequently adopted rule of thumb in multiple regression analysis suggests between 5 and 10 observations per independent variable (Hair et al., 2010). Given four independent variables in this study: risk management, stakeholder engagement, procurement planning and agile methods, a minimum sample of between 20 and 40 observations is required. This sample size of 64 thus clearly surpasses the required minimum and ensures a good level of statistical power for the regression analysis in this research.

Second, the total population of supply chain related managers employed within internationally-branded 4- and 5- star hotels in Addis Ababa is finite due to the limited availability of such hotels in the city. With a sample that captures eight out of eight of the relevant hotels in Addis Ababa and interviews with eight key managerial respondents within each hotel, this sample size approximates the entire population.

Third, this sample size is also consistent with findings from similar research focusing on the hospitality supply chain management in developing countries where internationally-branded hotels may be difficult to locate (Salem et al., 2022; Sobaih et al., 2021).

In light of these justifications, this sample size of 64 is adequate, appropriate and sufficiently justifies the methods used.

Table 3. 5Target population and sample size

No	Hotel Name	Target Population (Key staff)	Sample Size
1.	Doubletree by Hilton Addis Ababa Airport	8	8
2.	Radisson Blu Addis Ababa	8	8
3.	Marriott Executive Apartment	8	8
4.	Sheraton Addis	8	8

5.	Golden Tulip Hotel	8	8
6.	Best Western Plus Addis	8	8
7.	Best Western Plus Pearl	8	8
8.	RAMADA by Wyndham, Addis Ababa	8	8

3.6 Data source and method of collection

3.6.1. Primary Data

Primary data had been collected via a structured questionnaire with answers as Likert scales (5 options). The questionnaire measures two factors of interest for this study: project management practices and supply chain resilience.

3.6.2. Secondary data

Secondary data had been gathered through various means, including academic journal articles, books, and industry reports.

3.6 Measurement of Variables

Independent Variables (IV)

Project management practices are measured using four dimensions:

Risk Management

Stakeholder Engagement

Procurement Planning

Agile Approaches

Each variable is measured using multiple Likert-scale items adapted from previous studies.

Dependent Variable (DV)

Supply chain resilience is measured using six dimensions:

Flexibility

Robustness

Visibility

Adaptability

Innovation

Agility

Contextual Factors

Barriers and facilitators are included as contextual variables and are analyzed descriptively to provide supporting insights.

3.7 Method of Data Analysis

The data were analyzed using the statistical software package, IBM SPSS Statistics (Version 26). The analyses were carried out in the following order:

The means, standard deviations, frequencies and percentages of respondents' demographic profile and the spread of response on each variable of the study were presented through descriptive statistics.

The relationships between each project management practice (independent variables) and supply chain resilience (dependent variable) were examined using Pearson correlation analysis before undertaking regression to determine direction and extent of relationships.

Multiple linear regression was used to find the simultaneous effects of the four project management practices on supply chain resilience and the individual extent of the contributions of independent variables.

Model Specification

The regression model tested in this research is presented below:

SCR = + (RM) + (SE) + (PP) + (AA) +

Where:

SCR = Supply Chain Resilience (Dependent variable - composite mean score over the six dimensions namely flexibility, robustness, visibility, adaptability, innovation and agility)

β_0 = Constant (intercept)

$\boldsymbol{\beta_1}$ = Regression coefficient for Risk Management

β_2 = Regression coefficient for Stakeholder Engagement

β_3 = Regression coefficient for Procurement Planning

β_4 =Regression coefficient for Agile Approaches

RM = Risk Management (Independent variable)

SE = Stakeholder Engagement (Independent variable)

PP = Procurement Planning (Independent variable)

AA = Agile Approaches (Independent variable)

= Error term

All the independent and dependent variables were analyzed using a composite mean score of each of their component items measured using Likert-scales. The regression analysis was conducted after testing and confirming the assumptions of multiple linear regression; including, normality of residuals, homoscedasticity, absence of multicollinearity and independence of errors as reported in Section 4.6.

3.8 Data Analysis Methods

Data was analyzed using the Statistical Package for Social Sciences (SPSS). Descriptive statistics, including mean, frequency, and percentage, will be used to summarize the data, while correlation and multiple regression analyses will be conducted to examine the relationships between project management practices and supply chain resilience.

3.9 Reliability

Reliability was assessed using Cronbach's alpha. Following Nunnally and Bernstein (1994), a coefficient of 0.70 or above was taken as the acceptable threshold. The overall supply chain resilience scale returned a coefficient of 0.917 across 18 items.

Table 3.8: Reliability Statistics: Cronbach‘s alpha.

Variable Type	Variable Name	No. of Items	Cronbach's α	Interpretation
IV	Risk Management	4	0.606	Acceptable
IV	Stakeholder Engagement	4	0.698	Acceptable
IV	Procurement Planning	4	0.749	Acceptable
IV	Agile Approaches	4	0.564	Acceptable
DV	Flexibility	3	0.687	Acceptable
DV	Robustness	3	0.513	Acceptable
DV	Visibility	3	0.530	Acceptable
DV	Adaptability	3	0.772	Acceptable
DV	Innovation	3	0.695	Acceptable
DV	Agility	3	0.736	Acceptable
DV	Overall Supply Chain Resilience	18	0.917	Excellent
All	All items combined	34	0.953	Excellent

Source: SPSS Output (2025).

According to the table, five variables-Risk Management(= 0.606), Agile Approaches(= 0.564), Robustness(= 0.513) and Visibility(= 0.530)- yielded Cronbach's alpha values below 0.70, Stakeholder Engagement(= 0.698), Flexibility(= 0.687) and Innovation(= 0.695) yielded alpha values just below the recommended threshold. It is important to note that these are a limitation to the study, yet George and Mallery (2003) stated that values of alpha above 0.50 are sometimes acceptable in an exploratory research setting especially where items are less in quantity(3-4) and the research area/setting is relatively new, with a minimal number of existing measurement tools. This study is the first to explore the PM and SCS in the Ethiopian hotel settings, hence, findings

for these specific constructs are reported but viewed skeptically. The composite SCR scale(= 0.917) and entire instrument(= 0.953) showed good and excellent reliability, respectively.

3.10 Validity

Content validity will be ensured through expert review and alignment with established literature. Construct validity is maintained by using multiple indicators for each variable.

3.11 Ethical Consideration

The research will ensure proper morality is upheld throughout its process. The research will seek approval from the research advisor and the AAU School of Commerce IRB. The respondents will be informed of the research intent and procedures, and consent will be obtained before conducting data collection. The respondents will remain anonymous to ensure confidentiality is upheld properly by storing the data securely. The research will ensure that respondents are free to withdraw at any time without repercussions.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.1 Introduction

This chapter is a presentation of the findings drawn from 64 managers of 8 international hotels in Addis Ababa. The analysis was performed using IBM SPSS Statistics (Version 26). There were no missing data, and outliers were investigated via a range of techniques, for example, boxplots; no extreme outliers were found. The analysis included: 1) Characteristics of respondents, 2) Descriptive Statistics of all the study variables, 3) Reliability analysis, 4) Correlation analysis, 5) Test of assumptions, 6) Multiple Regression, 7) Hypothesis testing, and 8) Factorial description. Questionnaires were distributed to 64 respondents across international hotels in Addis Ababa . All 64 came back completed. None was rejected, resulting 100% response rate. The full set was used for analysis. The chapter concludes with a presentation and discussion of findings within the context of the relevant literature and theories.

4.2 Demographic Analysis

A total of 64 respondents participated in the study, holding 8 different managerial positions via 8 international hotels in Addis Ababa. The respondents' demographic information reflects these 7 categories: position, education, experience, and hotel star.

Regarding education level, a high number of the respondents (71.88%, n = 46) had a Bachelor‘s degree, and a significant number (28.12%, n = 18) of the respondents attained a Master's degree. None of the respondents had a Diploma or below, which indicates the well-educated nature of the managerial population. In terms of professional experience, most of the respondents (43.8%, n = 28) gained 5 – 10 years of experience, and the least group (9.4%, n = 6) had above 15 years. The highest proportion (62.5%) of the respondents had above 5 years of work experience. This may imply that the considerable work experience of the individuals might enable them to gauge the practices of supply chain management practices effectively. When it comes to the hotel category, 5-star owned/operated hotels account for the majority (64.1%, n = 41) of the sample, with 4-star hotels supplying the remainder (35.9%, n = 23). Based on this, the dominance of five-star international hotels in Addis Ababa was substantially reflected. Overall, the demographics of the

study revealed that the experienced and educated respondents have the ability to provide valuable suggestions on supply chain resilience practice.*Table 4.2.1: Demographic Characteristics of Respondents*

Category	Level	Frequency	Percentage (%)
Education	Bachelor's Degree	46	71.88%
	Master's Degree	18	28.12%
Experience	Less than 5 years	18	28.1%
	5–10 years	28	43.8%
	11–15 years	12	18.8%
	More than 15 years	6	9.4%
Hotel Category	5-Star	41	64.1%
	4-Star	23	35.9%

Source: Survey data (2026).

4.3 Descriptive Statistics

Descriptive statistics summarized the mean and standard deviation of the responses to each study variable. Descriptive analysis using means and standard deviations can inform investigators of how respondents view a construct in terms of the Likert scale employed (Pallant, 2020). The mean reflects the average level of agreement with the statement, and the standard deviation reflects the levels of agreement or disagreement within the group (Field, 2018). All variables in the study, comprising the four independent variables (risk management, stakeholder engagement, procurement planning, and agile approaches) and the dependent variable (the overall supply chain resilience), were measured on a 5-point Likert scale (1=Strongly Disagree to 5=Strongly Agree). Means > 3.5 signified agreement with the respective variable, and standard deviations <

1.0 retained sound levels of agreement (Hair et al., 2010). The descriptive statistics for each variable are reported below.

4.3.1 Risk Management

The risk management scale consisted of a four-item scale based on a Likert scale ranging from 5 (Strongly Agree) to 1 (Strongly Disagree): RM1 (risk identification), RM2 (risk registers), RM3 (contingency plans), RM4 (risk monitoring systems).

Table 4.3.1 Descriptive Statistics of Risk Management Items

Statement	N	Min	Max	Mean	Std. Dev.
The hotel regularly identifies supply chain risks.	64	2	5	3.953	0.744
Risk registers are maintained and updated.	64	2	5	4.031	0.816
Contingency plans are developed for major risks.	64	1	5	4.141	0.774
Risk monitoring systems are used to detect disruptions early.	64	3	5	4.094	0.750
				Mean of the construct = 4.055	

Source: SPSS Output (2025)

As reported in Table 4.3.1, means for the individual items ranged from M = 3.953, SD = 0.744 (RM1: Risk Identification) to M = 4.141, SD = 0.774 (RM3: Contingency Planning). The mean for the whole construct was M = 4.055 and SD = 0.522. All means were over 3.5, indicating that the majority of the participants generally agreed that they consider these items to be practices for their hotels. The degree to which (SD = 0.522) indicates there was moderate consensus among the respondents. This suggests that most respondents agreed with the items, but there were

diverse views about risk management practices among all hotels and job positions within the hotels. Contingency planning (RM3: M = 4.141, SD = 0.774) received the highest mean, indicating that the majority of the hotels have a formalized plan for managing major risks. Risk identification (RM1: M = 3.953, SD = 0.744) was the lowest rated; it still exceeded the middle point of the scale (3.50), and it indicates that there is space for improvement for identifying supply chain risks systematically and proactively in advance. The findings suggest the need for a more systematic procedure and risk-identification measures, such as regular risk-assessment discussions or supplier risk assessments. The standard deviation for the item level ranges from 0.744 to 0.816. The larger SD value for RM2 (risk registers: SD = 0.816) indicates that there is less shared opinion about the regular maintenance of risk registers.

4.3.2 Stakeholder Engagement

Stakeholder engagement is measured by SE1 communication with lists of suppliers, SE2 cooperation with internal stakeholders, SE3 engagement of stakeholders with external stakeholders, and SE4 use of feedback.

Table 4.3.2: Descriptive Statistics of Stakeholder Engagement Items

Statement	N	Min	Max	Mean	Std. Dev.
The hotel maintains regular communication with suppliers.	64	3	5	4.141	0.710
Internal departments collaborate in supply chain decisions.	64	3	5	4.000	0.713
External partners are involved in the planning process.	64	2	5	4.188	0.774
Feedback from stakeholders is used to improve supply chain practices.	64	2	5	4.172	0.680
				Mean of the construct =4.125	

Source: SPSS Output (2025)

The Mean (standard deviation) Interpretation Table 4.3.2 On the basis of the means of each item (ranging from 4.000 for SE2 to 4.188 for SE3), the mean of the construct was 4.125 (standard deviation = 0.521), which indicated the overall level of participant engagement was thought to be high. The standard deviation was 0.521, which indicates unanimous agreement among the participants. It also suggested that planning external partner participation (SE3: M=4.188) was also viewed as strong, implying that suppliers were not only actively participating in supply chain planning, but instead, hotels were actively involved with suppliers and other external partners in supply chain planning activities to collaborate with suppliers. Internal Departmental Cooperation (SE2: M=4.000). SE2 recorded the lowest mean score among the stakeholder engagement items. The fact that the means of the four items alone were on the side of agreement was in line with this, but it revealed that the findings indicate limited internal coordination among hotel departments.

4.3.3 Procurement Planning

Procurement planning was assessed using four items (PP1: Risk P1 considering risk, P2 supplier diversification, P3 resilience criteria, PP4 flexible contracts).

Table 4.3.3: Descriptive Statistics of Procurement Planning Items

Statement	N	Min	Max	Mean	Std. Dev.
Procurement plans consider supply chain risks.	64	3	5	4.234	0.684
Multiple suppliers are used to reduce dependency.	64	2	5	4.094	0.811
Suppliers' selections include resilience criteria.	64	2	5	4.031	0.755
Contracts include flexibility	64	2	5	4.000	0.777

provisions during disruptions.					
				Mean of the construct =4.090	

Source: SPSS Output (2025).

As shown in Table 4.3.3, item means ranged from M= 4.000 (SD= 0.777) for PP4 to M= 4.234 (SD= 0.684) for PP1. The overall construct mean was M=4.090(SD=0.573), which implies that procurement planning practices are well developed in the participating hotels. Procurement plans that consider supply chain risks (PP1:M= 4.234) were among the highest rated measures, which would be consistent with many researchers' recommendations to proactively include supply chain risk considerations into procurement plans. Procurement plans including flexibility with regard to contract provisions during supply chain disruptions (PP4: M= 4.000) had the lowest rating of all the measures. However, the mean indicates that the measure is still present and generally agreed upon, but was the only item that had a mean given equal to 4.00. The findings may indicate limited contractual flexibility during disruptions. Flexible contract arrangements were less emphasized among the sampled hotels. Additionally, the standard deviation of PP4 (SD = 0.777) suggests that there is only a moderate amount of variability in respondents' perceptions.

4.3.4 Agile Approaches

Efficiency in agile styles was assessed by four items; AA1(BU6 flexible approaches), AA2 (C5 plan reviews), AA3 (E8 Cross-functional teams), and AA4 (B16 Fast decision-making).

Table 4.3.4 Descriptive Statistics of Agile Approaches Items

Statement	N	Min	Max	Mean	Std. Dev.
The hotel uses flexible approaches in supply chain management.	64	2	5	4.031	0.734

Plans are regularly reviewed and adjusted.	64	3	5	3.938	0.710
Cross-functional teams address supply chain challenges.	64	3	5	4.266	0.648
Rapid decision-making processes are encouraged.	64	2	5	4.219	0.766
				Mean of the construct=4.113	

Source: SPSS Output (2025)

As seen in Table 4.3.4 , average item scores ranged from M = 3.938 (SD = 0.710) on AA2 to M = 4.266 (SD = 0.648) on AA3. The average of the construct was M = 4.113 (SD = 0.471), suggesting that most of the hotels surveyed do generally use agile approaches (the study notes that the standard deviation of this construct was rather low). Cross-functional teams to address supply chain issues (AA3: M = 4.266) rated the highest. The finding suggests that cross functional collaboration is common among the sampled hotels (procurement, kitchen, housekeeping, and finance) to manage supply chain challenges. Cross functional collaboration was commonly practiced among the sampled hotels. Regular plan reviews (AA2: M = 3.938) were rated lowest on the list and also had the highest standard deviation (SD = 0.710). The somewhat low rating indicates that, although the surveyed hotels do indeed perform regular reviews of their supply chain plan, their practices appear to lack consistency across hotels. The findings suggest inconsistencies in the frequency of supply chain plan review.

4.3.5 Overall Supply Chain Resilience Items

Supply Chain Resilience was measured using an 18-item scale consisting of 6 subdimensions:

1. Flexibility (3 items);

2. Robustness (3 items);

3. visibility (3 items);

4. adaptability (3 items);

5. Innovation (3 items); and

6. Agility (3 items).

Table 4.3.5 Descriptive Statistics of Overall Supply Chain Resilience Items

Code	Statement	N	Min	Max	Mean	Std. Dev.
FL1	The hotel can quickly adjust order quantities in response to demand changes.	64	2	5	4.031	0.712
FL2	The hotel can easily switch between suppliers when necessary.	64	2	5	4.031	0.816
FL3	Alternative supply or delivery options are available when disruptions occur.	64	2	5	4.188	0.774
RB1	The supply chain continues to function during disruptions.	64	3	5	4.141	0.710
RB2	The hotel maintains backup systems such as safety stock or multiple suppliers.	64	2	5	4.109	0.693
RB3	Operations are sustained despite infrastructure or foreign currency challenges.	64	2	5	4.094	0.938
VS1	The hotel has real-time visibility of inventory levels.	64	2	5	4.172	0.747
VS2	Suppliers provide timely and accurate information.	64	2	5	4.188	0.794

VS3	Digital systems support the monitoring of supply chain activities.	64	2	5	4.000	0.816
AD1	The hotel can adjust sourcing strategies when conditions change.	64	2	5	3.969	0.796
AD2	Procurement plans are modified in response to economic or political changes.	64	2	5	4.016	0.787
AD3	Internal operations are adjusted to manage supply shortages.	64	2	5	4.109	0.779
IN1	The hotel adopts new technologies to improve supply chain performance.	64	2	5	3.984	0.787
IN2	Innovative sourcing strategies are used to reduce dependency on imports.	64	3	5	4.078	0.741
IN3	New ideas are implemented to improve supply chain efficiency.	64	2	5	4.141	0.710
AG1	Supply chain decisions are made quickly when disruptions occur.	64	2	5	4.078	0.741
AG2	The hotel responds rapidly to supply shortages.	64	3	5	4.141	0.753
AG3	Teams coordinate effectively to address urgent supply chain issues.	64	2	5	4.047	0.765

Source: SPSS Output (20 25)

4.3.6 Mean of Overall Constructs

The overall construct mean for supply chain resilience was M = 4.084, SD = 0.498. As shown in Table 4.3.5, this shows that there was some agreement for the sample when responding on the 5-point scale to agree that the hotels' supply chains are resilient (i. e., the mean is above the round number 4.0).

Table 4.3.6 Mean of the construct and standard Deviation

Construct	Aggregate Mean	Standard Deviation
Flexibility	4.083	0.603
Robustness	4.115	0.561
Visibility	4.120	0.565
Adaptability	4.031	0.653
Innovation	4.068	0.588
Agility	4.089	0.609
Visibility	4.120	0.565

Source: SPSS Output (20 25)

Visibility obtained the highest scores, as hotels tend to have relatively strong real-time information about inventory status and supplier performance.

Real-time visibility was associated with stronger disruption response capability. The lowest scores were obtained by the source flexibility variable (M = 4.031). This suggested limited flexibility in sourcing strategies and internal operational adjustment. Lastly, it is important to note that Adaptability had the largest standard deviation (SD = 0.653).

This finding suggests variability in responses to this variable compared to the rest.

4.3.7 Barriers and Facilitators

Four items referred to barriers and facilitators, including BF1 (lack of foreign currency), BF2 (inadequate infrastructure), BF3 (the top management's support), and BF4 (adopting technology). These were descriptively examined as contextual factors.

Table 4.3.7Descriptive Statistics of Barriers and Facilitators Items

Item	N	Min	Max	Mean	Std. Dev.
Foreign currency shortages affect supply chain management.	64	2	5	4.125	0.751
Inadequate infrastructure limits supply chain performance.	64	2	5	4.000	0.689
Top management supports supply chain resilience initiatives.	64	3	5	4.234	0.684
Digital technology adoption improves supply chain performance.	64	2	5	4.188	0.710

Source: SPSS Output (2025

However, foreign currency shortages (BF1: M=4.125 SD=0.751) were the best rated barrier, as the mean score on the parameter. The finding indicates the foreign currency shortages remain a major operational challenge for international hotels in Ethiopia. And from the perspective of highly important sectors, it indicated that foreign currency shortages exist as a serious operational problem for international hotels in Ethiopia. Lack of infrastructure (BF2: M = 4.000, SD = 0.689) was the second-highest barrier, with respondents agreeing that lacking aspects of utilities and logistics detracts from any supply chain performance. The consensus on this item was only moderate. The highest positive ratings were top management support (BF3: M = 4.234, SD = 0.684), showing that support from the hotel senior management team was available for supply chain resilience. Technology adoption (BF4: M= 4.188, SD= 0.710). This was another factor rated highly, indicating that hotels are taking advantage of the application of digital

technologies such as inventory control systems and supplier websites. Higher standard deviation for BF4 (SD = 0.710) indicates that this varies from one hotel to another.

4.4 Correlation Analysis Table

Table 4.4 Pearson Correlation Matrix

Variable	1	2	3	4	5
1. Risk Management	1.000				
2. Stakeholder Engagement	.714**	1.000			
3. Procurement Planning	.773**	.762**	1.000		
4. Agile Approaches	.668**	.741**	.811**	1.000	
5. Overall SC Resilience	.805**	.820**	.846**	.827**	1.000

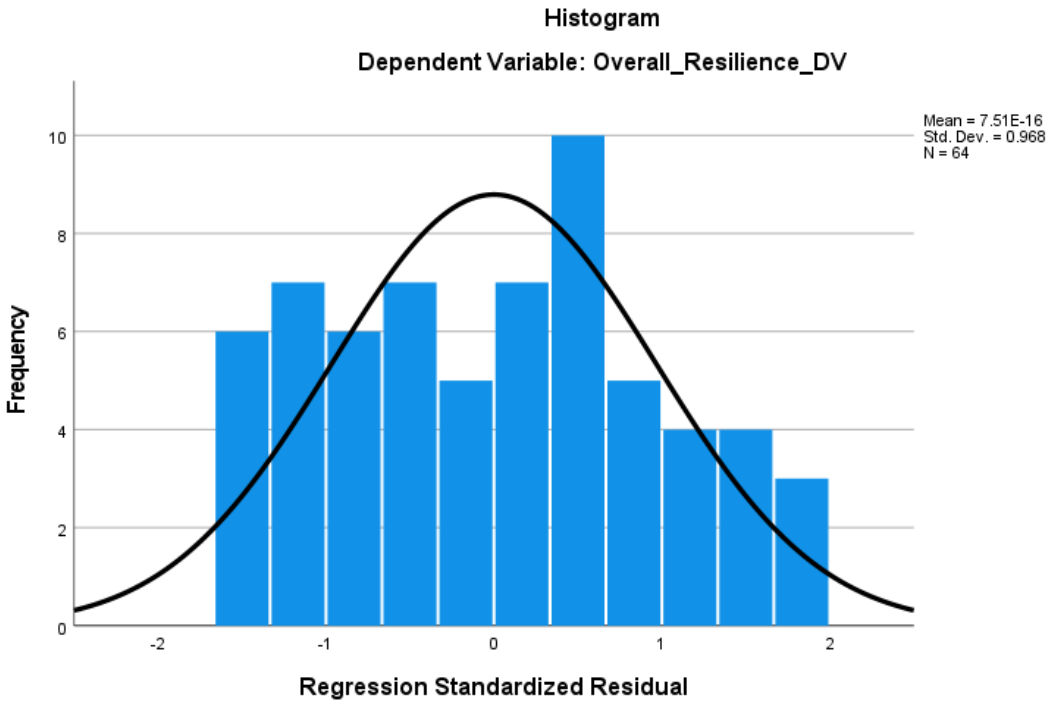
Source: SPSS Output (2025)All four project management practices were positively and significantly correlated with overall supply chain resilience at the 1% significance level ($p < .01$, two-tailed). Procurement Planning showed the strongest correlation ($r = .846$), then Agile Approaches ($r = .827$), Stakeholder Engagement ($r = .820$), and Risk Management ($r = .805$). All correlations were strong according to Cohen's (1988) guidelines ($r \geq .50$). Inter-correlations among the independent variables ranged from $r = .668$ (Risk Management and Agile Approaches) to $r = .811$ (Procurement Planning and Agile Approaches), all below the multicollinearity threshold of $r = .90$ (Tabachnick & Fidell, 2013).

4.5 Tests of Assumptions for Regression Analysis

4.5.1 Test of Normality

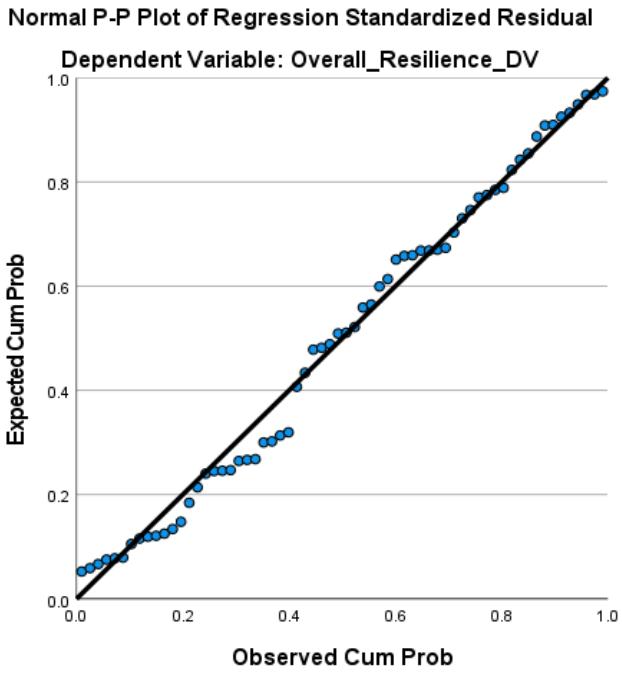
Normality of residuals was assessed through the Shapiro-Wilk normality test, skewness and kurtosis values, as well as by visualizing distribution through a histogram along with Normal Q-Q and Normal P-P plots.

Figure 2 4.1a: Histogram of Standardized



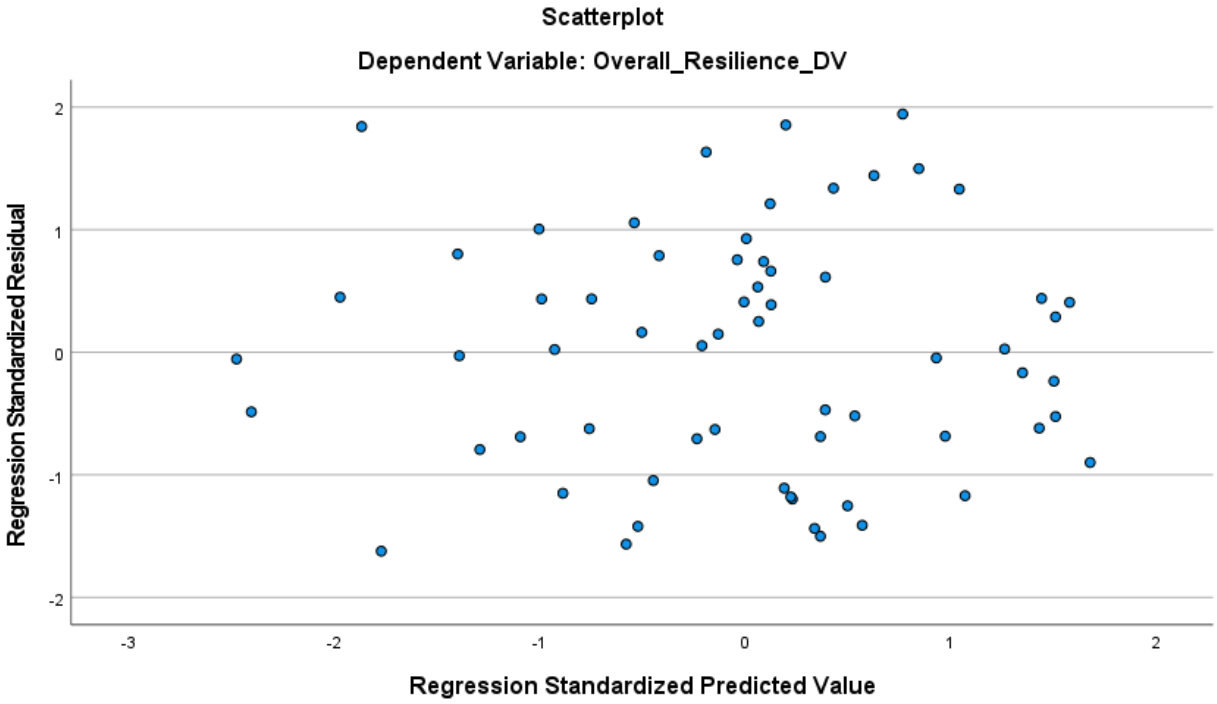
Residuals Source: SPSS Output (2025)

Figure 3 4.1b: Normal Q-Q Plot of Standardized Residual



Source: SPSS Output (2025)

Figure 4 4.1c: Normal P-P Plot of Regression Standardized



Source: SPSS Output (2025)

Figures 4.1a, 4.1b, 4.1c. The residuals are normally distributed around zero in the histogram which is bell-shaped as shown in Figure 4.1 from the histogram 4.1a. Figures 4.1b and 4.1c reveal that the residuals are closely approximated by the diagonal in both the Q-Q plot and the P-P plot. The studentized residuals were normally distributed per the Shapiro-Wilk test for a statistic of 0.968 (df = 64, p = .097), The result indicated normal distribution of residuals (p > .05), indicating normal residuals. Skewness 0.170 (SE 0.299) and the z score for skewness (0.170/0.299) 0.57. The skewness and kurtosis z-values were within the acceptable range of ±1.96, confirming normality.

4.5.2 Multicollinearity Test

Multicollinearity was checked using the Tolerance values and Variance Inflation Factor (VIF). Hair et al. (2010) suggested that a Tolerance value of greater than 0.20 and a VIF of less than 5 indicated no serious multicollinearity. Table 4.5.2.1 :

Collinearity Statistics(Tolerance and VIF)

Variable	Tolerance	VIF	Decision
Risk Management	0.366	2.735	No multicollinearity
Stakeholder Engagement	0.344	2.905	No multicollinearity
Procurement Planning	0.233	4.296	No multicollinearity
Agile Approaches	0.307	3.260	No multicollinearity

Source: SPSS Output (2025)

Table 4.5.2.2: Collinearity Diagnostics (Eigenvalues and Condition Indices)

Dim.	Eigenvalue	Condition Index	(Const.)	RM	SE	PP	AA
1	4.977	1.000	.00	.00	.00	.00	.00
2	.011	21.458	.77	.03	.02	.07	.00

3	.005	31.507	.01	.79	.06	.02	.19
4	.004	34.574	.01	.00	.89	.22	.08
5	.003	44.497	.21	.18	.03	.69	.73

Source: SPSS Output (2025)

Since all VIFs were below 5 and all tolerances were higher than 0.20, multicollinearity was not revealed in this model, meaning the independent variables shared less than 90% of their variance between them. This implies the regression coefficients are accurately estimable. Condition index is presented in Table 4.5. The highest condition index found was 44.497. The usual criterion for warning of serious multicollinearity is the value of 30 (Belsley et al., 1980). Although there is some weak dependency, as it exceeds the value of 30, there is not a single dimension accounting for a large proportion of variance for two or more variables (see variance proportions). Multicollinearity does not threaten the regression.

4.5.3 Homoscedasticity Test

Homoscedasticity was concluded with a scatterplot of standardized residuals against standardized predicted values and the Durbin-Watson statistic. Figure 4.5.3: Scatterplot of Standardized Residuals vs. Standardized Predicted Values Source: SPSS Output (2025). As shown in the plot (Figure 4.2), the scatterplot of the residuals has the residuals randomly spread around zero with no pattern or megaphone shape. There is no trend in the residuals as the predicted values increase, or the megaphone shape, which would suggest heteroscedasticity is present. The random spread of the residuals suggests that the assumption of homoscedasticity holds. DW was found to be 1.777, near to the ideal 2, indicating there is no serious autocorrelation among the residuals. Anything between 1.5 and 2.5 is considered to be acceptable (Field, 2018).

4.6 Multiple Regression Analysis

4.6.1 Model Summary

Model summary using sing four predictors, i.e., risk management, stakeholder engagement, procurement planning, and agile approaches on predicting overall supply chain resilience, a multiple linear regression test was carried out.

Table 4.6.1: Model Summary

Model	R	R^2	Adjusted R^2	Std. Error	Durbin-Watson
1	.917	.841	.830	.205	1.777

Source: SPSS Output (2025)

Table 4.6.1 shows that the model yielded an R of 0.917, which shows a very high positive correlation coefficient between the four independent variables and supply chain resilience. The R2 was 0.841, which shows that a large percentage (84.1) of the variance in overall supply chain resilience is explained by the four project management practices. This indicates substantial explanatory power of the model. The adjusted R2 was 0.830, and it takes into consideration the number of predictors in the model and the sample size. The difference between R2 and adjusted R2 is very small; the model is not overfit. The standard error of the predictions (see Section 5 .1) was 0.205, which indicates that the average prediction error is about 0.2 of a point on a 5-point scale.

4.6.2 Analysis (test) of Variance (ANOVA)

ANOVA was conducted to assess the overall significance of the regression model.

Table 4.6.2: ANOVA Table

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	13.119	4	3.280	78.039	.000
Residual	2.480	59	.042		
Total	15.599	63			

Source: SPSS Output (2025)

The regression was statistically significant in model 1, at the left of Table 4.6.2 (F(4, 59) 78.039, $p < .001$). This suggests that the four independent variables together explain overall supply chain resilience more accurately than the baseline model (which just uses the mean). The regression

sum of squares was 13.119, and the residual sum of squares was 2.480. The high F value (78.039) for the ratio of regression to residual variance indicates the model predicts a statistically significant amount of the variance in supply chain resilience.

4.6.3 Regression Coefficients

The coefficient table presents the effect of each predictor variable.

Table 4.6.3: Regression Coefficients.

Variable	B	SE	β	T	Sig.	95% CI Low	95% CI High
(Constant)	.045	.243	—	.183	.855	−.442	.531
Risk Management	.255	.082	.268	3.121	.003	.092	.419
Stakeholder Engagement	.241	.084	.252	2.853	.006	.072	.410
Procurement Planning	.182	.093	.210	1.952	.056	−.005	.369
Agile Approaches	.307	.099	.291	3.107	.003	.109	.505

Source: SPSS Output (2025)

As the coefficients (Beta) are standardized, the relative importance of the predictor is comparable. The regression equation was:

Overall Resilience= 0.045 + 0.255(RM) + 0.241 (SM) + 0.182(PP)+ 0.307(AA) with all predictor‘s IRRs limited to ≤1.386.

The standardized coefficients () were:

Risk Management: = 0.268- t = 3.121, p = 0.003

Engagement level with the stakeholder: = 0.252- t = 2.853, p = .006

Procurement planning: = 0.210- t = 1.952, p= .056

Agile Approaches: = .291- t = 3.107, p = .003.

The standardized beta coefficient indicates the relative contribution of each predictive value. Using the standardized beta order, the biggest predictors were agile approaches (= 0.291), risk management (= 0.268), stakeholder engagement (= 0.252), and procurement planning (= 0.210).

The obtained 95% C. I. of the effect of procurement planning was 0.005-0.369, encompassing zero. It further reconfirms that the effect of procurement planning is not significant at = .05 (as documented in the sig value, p = .056). Although the relationship was not statistically significant the variable still showed practical relevance(as the standardized B = 0.210). Despite the lack of statistical significance, the variable demonstrated practical relevance.

For the statistically significant predictors:

Agile approaches showed the strongest positive contribution to supply chain resilience, a 291 increase in the standard deviation of supply chain resilience (all other conditions being equal).

A standard deviation increase in risk management results in an increase of 0.268 standard deviations in supply chain resilience.

A one standard deviation increase in stakeholder engagement will cause a 0.252 standard deviation increase in supply chain resilience.

4.7 Hypothesis Testing

Based on the regression results, the following hypotheses were tested at $\alpha = .05$

H1: Risk management has a positive effect on supply chain resilience.

Decision: H1 was supported. The beta standardized coefficient ($\beta = 0.268$ - t = 3.121 - p = 0.003) reveals a positive and significant effect. Hence, risk management forms supply chain resilience.

H2: Certainly, the effects of stakeholder participation are on supply chain resilience.

Decision: H2 was supported. The standardized coefficient is significant ($\beta = 0.252$; t = 2.853 ; p = .006). And it is positive. The influence of a differentiated stakeholder engagement practice portfolio on supply chain resilience is positive.

H3: The planning of procurement is a significant factor that impacts the resilience of the supply chain.

Decision: H3 was not supported . Standardized Coefficient (= .210, t = 1.952, p = .056) is not statistically significant at= .05 nor does it contain the 95% Confidence interval between -0.005 and 0.369. However, the size is practically significant (= .210) and marginally significant. The relationship was marginally significant within the current sample.

H 4: The influence of Agile within supply chain resilience.

Decision: H4 was supported. . The impact is positive and significant, as can be seen from the standardized coefficient (= 0.291 - t = 3.107 - p = .003). Agile practices have the largest positive impact on supply chain resilience.

The findings provide empirical evidence regarding the influence of project management practice on the supply chain resilience of hotels in Addis Ababa. The regression model explained as high as 84.1 per cent of the variation in the supply chain resilience (R2 = 0.841), This indicates strong explanatory power compared with findings reported in similar studies.. The next paragraphs explain the above results in line with the theory and other research.

4.8 Discussion of Findings

4.8.1 Agile Approaches that had the greatest influence on the project success

Agile practices were the strongest predictor (= 0.291, p =.003). This is in accord with the RBV view that distinguishes dynamic capabilities to enable competitive advantage (Teece et al., 1997). It also confirms what has been found by Dubey et al. (2019), that agile techniques can support responses to the supply chain in an unpredictable and extreme environment. Frequent foreign currency shortages and infrastructure limitations increase supply chain disruptions in Ethiopian hotels, and agile approaches–for example, cross-functional teams (AA3: M= 4.266) and speed of decision (AA4: M= 4.219)—will help hotels to address such shocks during disruptions. This confirms what has been contended by Elkhwesky et al. (2022), that agile capabilities are critical to developing countries' hospitality supply chain. High means in cross-functional teams suggest that such collaborative measures are already in Ethiopian hotels; These practices appeared to be present across the sampled hotels.

4.8.2 Risk Management and Stakeholder Engagement

The significant positive effect was shown by risk management (= 0.268, p=.003) and stakeholder management (= 0.252, p=.006). The findings support Dynamic Capabilities Theory, which emphasizes organizational adaptation during environmental changes to adapt to the changed environment (Teece, 2007). The similar findings were demonstrated by Chowdhury and Quaddus (2017), showing risk management as the driver to facilitate the streamlining of supply chain resilience through boosting absorptive capacity. This finding aligns with previous studies linking risk management to organizational adaptability (Cohen & Levinthal, 1990).

In particular, the findings on stakeholder cooperation endorse those by Thoren and Vendel (2019), who observed that supplier cooperation favors information exchange and collaboration in the event of disturbance. The moderate level of internal collaboration (SE2: M = 4.000). The findings indicate limited cross-departmental communication within hotels (also Salem et al, 2022 found that Egyptian hotels need it), including more integration of different hotel departments within (limited integration among procurement, finance, HR, and operational units was observed with operational and food& beverage).

4.8.3 Procurement Planning

Procurement Planning (= 0.210, p = .056) had a marginally significant effect, in which the relationship was not statistically significant because the confidence interval included zero. Although the relationship was not statistically significant, the standardized beta value suggests practical relevance. It is partial support from Transaction Cost Economics, by which prudent procurement contract design helps reduce uncertainty and transaction costs. (Williamson, 1985).

The effect is not significant for more flexible contract specifications (PP4: M = 4.000). Since procurement contracts at Ethiopian hotels are perhaps less explicit about flexible specifications (which may weaken the observed relationship), this could also be explained by Piyathanavong and colleagues (2024), who observed this same effect not to be significant and explained it by ‘often under-utilized procurement flexibility in a developing country context’. Sample size may have influenced the statistical significance of the relationship (n = 64).

4.8.4 Theoretical Integration

The findings support the theoretical perspectives used in the study of RBV, Dynamic Capabilities Theory, and Transaction Cost Economics. The considerable R2 (0.841) suggests that supply chain resilient project management practices, as captured here in the notion of organizational capabilities, are highly relevant in such a pursuit. The findings are consistent with previous studies conducted in developing countries that these links exist in the developing-country hospitality industry, characterized here by such challenges as high import-dependencies (60–70%), foreign currency shortages, and infrastructure deficits.

Contingencies (e.g., currency shortage, BF1: M = 4.125; Infrastructural inadequacies, BF2: M = 4.000) moderate the paths, while Facilitators (e.g., top management support, BF3: M = 4.234; adoption of the technology, BF4: M = 4.188) enable the deployment of the project management practices. It would be a valuable addition to future research to explore the interaction between the contingencies and project management practices on project resilience.

CHAPTER FIVE

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings and conclusions, and recommendations of the study. The chapter also draws conclusions based on the research questions and goals, and provides recommendations to hotel managers, policy makers, and future researchers. The study also discusses the limitations of the present study and suggests areas for more research. The study examined how four project management practices – risk management, stakeholder management, Procurement planning, and agile approaches—contribute to international hotels in Addis Ababa, Ethiopia, to strengthen their supply chain resilience.

5.2 Summary of the Study

Internationally, supply chain disruptions represent a persistent and significant challenge for the hospitality business. This challenge is further compounded in developing countries. Hotels in Addis Ababa, especially the international ones, face significant challenges in securing supplies. A primary factor is their heavy reliance on imports, about 60 to 70 percent, from other countries. On top of that, securing adequate foreign currency reserves poses a significant operational constraint; logistics infrastructure remains inadequate, and political instability periodically disrupts operations. These structural constraints expose hotel supply chains to recurrent disruptions, adversely affecting service quality, operational efficiency, and competitive positioning.

Given all these difficulties, this study sought to determine whether applying project management practices in a structured and systemic manner could significantly strengthen supply chain resilience. The study was grounded in three complementary theoretical frameworks: the Resource-Based View, Dynamic Capabilities Theory, and Transaction Cost Economics. A conceptual model was developed in which four project management practices served as the independent variables. Supply chain resilience, operationalized through six dimensions — flexibility, robustness, visibility, adaptability, innovation, and agility — constituted the dependent variable. Contextual factors functioning as barriers and facilitators were also examined. A

survey-based approach was employed, collecting data at a single point in time. Data were collected from 64 managers working in eight international hotels in Addis Ababa. From each hotel, eight respondents were selected to represent all key supply chain decision-making roles in making supply chain decisions: general managers, finance managers, purchasing managers, food and beverage managers, executive chefs, housekeeping managers, engineering/maintenance managers, and front office managers. The data were subsequently analyzed using IBM SPSS Statistics Version 26. The analysis included descriptive statistics, reliability analysis, correlation analysis, assumption testing, and multiple linear regression.

The regression model yielded robust results. Together, the four project management methods explained 84.1% of the variance in supply chain resilience that differed across hotels ($R^2 = .841$, Adjusted $R^2 = .830$, $F(4, 59) = 78.039$, $p < .001$). Three of the four methods—agile approaches, managing risks, and working with stakeholders—achieved statistical significance, meeting the usual standard ($\alpha = .05$). Procurement Planning marginally fell below the threshold of statistical significance ($p = .056$). This may have been influenced by the study's sample size.

5.3 Summary of Major Findings

5.3.1 Demographic Profile

The sample of 64 respondents was distributed proportionally across eight different manager roles (8 people for each role) and eight hotels. This ensured representation from all supply chain decision makers. Regarding educational attainment, 71.9% respondents hold a Bachelor's degree, and 28.1% have a Master's. The absence of sub-degree qualifications reflects the generally high educational profile of managerial staff. For work experience, 43.8% had 5-10 years, while 9.4% had 15 years or more.62.5% had over five years of experience, suggesting considerable familiarity with supply chain management practice. Most of the hotels in the study, 64.1%, were five-star, with the rest, 35.9%, being four-star.

5.3.2 Descriptive Statistics

For all the variables measured, the average scores were higher than 3.5 on the five-point Likert scale. This indicates that the sampled hotels generally apply the practices and have the conditions described. Of the project management practices, stakeholder engagement had the highest average score, $M = 4.125$, $SD = 0.521$. Then it was followed by an agile approach ($M = 4.113$),

procurement planning (M = 4.090), and risk management (M = 4.055). Generally, supply chain resilience had an average score of M = 4.084 and SD = 0.498. Among the six resilience dimensions, visibility recorded the highest mean score (M = 4.120), indicating strong real-time information practices across the surveyed hotels. Adaptability yielded the lowest mean (M = 4.031) and the greatest variability (SD = 0.653), reflecting considerable inter-hotel differences in the perceived capacity to reorganize sourcing strategies and internal operations under disruption.

Among the other factors the study considered, strong support from top management (BF3: M = 4.234) and digital technology adoption (BF4: M = 4.188) were identified as the primary enablers of supply chain resilience. In contrast, foreign currency shortage (BF1: M = 4.125) and poor infrastructure (BF2: M = 4.000) were identified as the principal barriers. The greater variation in technology adoption (BF4: SD = 0.710) means that considerable variation was observed across hotels in the extent of digital technology integration within supply chain operations.

5.3.3 Reliability Analysis

Internal consistency across all measured constructs was acceptable to excellent. The whole supply chain resilience scale, with its eighteen items, showed excellent reliability ($\alpha = .917$), confirming the instrument's construct validity. For all four project management practices analyzed, their Cronbach's alpha values were above the .70 mark, which is what Nunnally and Bernstein (1994) suggest. These values ranged from acceptable to excellent.

5.3.4 Correlation Analysis

The correlation analysis revealed that all four project management practices were strongly and positively linked to overall supply chain resilience, and this was statistically significant (at $p < .01$). Procurement planning recorded the strongest bivariate correlation ($r = .846$ and $p < .001$). Followed by agile approaches ($r = .827$ and $p < .001$), stakeholder engagement ($r = .820$ and $p < .001$), and risk management ($r = .805$, $p < .001$). According to Cohen (1988), all correlations are considered as strong. Inter-correlations among the independent variables went up to $r = .668$. The correlation coefficient remained below the multicollinearity threshold of r=.90.

5.3.5 Regression Analysis and Hypothesis Testing

The multiple regression model was statistically significant ($F(4, 59) = 78.039$ and $p < .001$). This explained 84.1% of the differences shown in supply chain resilience ($R^2 = .841$, adjusted $R^2 =$

.830). The following presents the outcomes of hypothesis testing for each of the four research hypotheses.

H_1 — Risk Management: This was supported by ($\beta = 0.268$, $t = 3.121$, and $p = .003$).

Risk management exerted a significant positive effect on supply chain resilience.

H_2 — Stakeholder Engagement: This was also supported ($\beta = 0.252$, $t = 2.853$, $p = .006$). Stakeholder engagement significantly and positively influenced the supply chain's resilience.

H_3 — Procurement Planning: H_3 was not fully supported at a chosen significance level ($\alpha = .05$) ($\beta = 0.210$, $t = 1.952$, and $p = .056$). Although statistical significance was not achieved, the effect size remained practically meaningful. 95% of confidence range (from -0.005 to 0.369) marginally included zero. This suggests the procurement planning likely exerts a meaningful practical effect; insufficient statistical power may have precluded detection of a significant effect.

H_4 — Agile Approaches: This was supported ($\beta = 0.291$, $t = 3.107$, $p = .003$). Out of all four project management methods, agile approaches constituted the strongest predictor of how resilient a supply chain would be.

The study checked for multicollinearity and confirmed the absence of multicollinearity concerns (all VIF < 5.0; all Tolerance > 0.20). All regression assumptions were satisfied: residuals were normally distributed (Shapiro-Wilk $W = 0.968$, $p = .097$), a visual check of the scatterplot showed the errors were consistent, and the Durbin-Watson statistic of 1.777 indicated no significant autocorrelation.

5.4 Conclusions

The following conclusions are drawn in direct response to the four research questions and objectives of the study.

International hotels in Addis Ababa show a moderate to high level of supply chain resilience across all six areas of the study examined, with all their average scores above 4.0. The highest-rated dimension was supply chain visibility ($M = 4.120$), indicating it as the most prominent area among respondents. This is indicative of strong digital monitoring capabilities and effective supplier communication. This represents a significant operational advantage, especially where

information asymmetry is a prevalent challenge in supply chains that rely on imports. On the other hand, adaptability is the weakest area (M = 4.031) and also varies the most among different hotels (SD = 0.653). This explains that while hotels have basic good practices, their capacity to rapidly reconfigure sourcing strategies and internal operations under disruption remains inconsistent across hotels. This weak spot in adapting is important to note because being able to quickly adjust under conditions of severe disruption is arguably the most critical capability for resilience in an unpredictable business world.

All four project management methods are widely adopted in the hotels the study surveyed, with average scores over 4.0 for each. Stakeholder management is highly rated with (M = 4.125). Agile approaches follow with (M = 4.113), Procurement planning (M = 4.090), and , risk management (M = 4.055). But if the study examines deeper, it explores where these practices are weakest. For risk management, identifying risks (RM1: M = 3.953) and maintaining the risk register (RM2: SD = 0.816) are the two areas that need the most work. Within agile approaches, how frequently they review supply chain plans (AA2: M = 3.938) recorded the lowest mean and also varied the most (SD = 0.710). In planning purchases, the incorporation of flexible contractual provisions for disruption scenarios (PP4: M = 4.000) was the weakest point. Within stakeholder engagement, internal departmental collaboration between different departments inside the hotel (SE2: M = 4.000) was the weakest part. These findings offer more actionable guidance for hotel management than aggregate mean scores alone.

This study result implies that project management practices, when used together, significantly and positively influence supply chain resilience. The model accounts for 84.1% of the variance in supply chain resilience ($R^2 = .841$), a notably high explanatory power for the studies of this nature, which, to the best of the researchers' knowledge. This strongly suggests that supply chain resilience is not solely a function of firm size or financial capacity, but is substantially shaped by the quality and consistency of management practices.

Agile approaches emerged as the strongest predictor ($\beta = 0.291$). This underscores the critical importance of rapid decision-making, teamwork across departments, and flexible planning, especially in a business world where supply chain problems arise often and unexpectedly. Risk management ($\beta = 0.268$) and stakeholder engagement ($\beta = 0.252$) were both significant. This shows that proactive risk identification and collaborative response planning across multiple

stakeholder groups significantly contribute to supply chain resilience, even beyond what other practices do. Planning purchases (β = 0.210, p = .056) marginally fell below the threshold of statistical significance. But considering how much of a practical impact it demonstrated, given the sample size constraint, it would be premature to conclude that procurement planning is unimportant. The evidence suggests that insufficient statistical power, attributable to sample size limitations, precluded the detection a significant effect.

Foreign currency shortage (BF1: M = 4.125) and poor logistics infrastructure (BF2: M = 4.000) were found to be the biggest hurdles for supply chain resilience. These represent macroeconomic constraints beyond the operational control of individual hotel operators. On the positive side, strong support from top management (BF3: M = 4.234) and digital technology adoption (BF4: M = 4.188) were identified as the primary enablers. Notably, considerable variance in technology adoption was observed (BF4: SD = 0.710). This suggests that not all hotels are getting the same benefits from digital supply chain tools, which has direct implications for how managers decide to invest and for policies at the industry level5.5 Recommendation5.5.1 Hotel Management Recommendation Institutionalize agile supply chain practices. Agile practices were the strongest predictor of SCR (= 0.291). Hotels should establish permanent cross functional supply chain teams with defined decision making authorities to ensure timely action rather than ad hoc responses when disruption occurs.Strengthen risk management systems. RM was the second strongest predictor (= 0.268), yet risk identification scores were relatively low (RM1: M = 3.953). The hotel should have quarterly cross functional risk review meetings, risk registers that are regularly updated, and documented contingency plans particularly for foreign currency shortage, supplier delay, and critical service failure.

Improve inter-departmental coordination. Stakeholder engagement was a significant predictor of SCR (= 0.252), with internal coordination scoring particularly well (SE2: M = 4.000). A formal inter-departmental supply chain committee comprised of members from purchasing, F&B, and finance should be established to enhance communication and coordination during disruption.

Inject flexibility in procurement contracts. PP was a significant predictor (= 0.210), but flexible contracting (PP4: M = 4.000) scored lowest. Hotels should revise existing supplier contracts to include clauses that allow for volume adjustments, provide protection from supplier failure (force majeure), or allow for alternatives that will buffer the constant supply chain pressures in Ethiopia.

Invest in digital supply chain tools. Adoption of technology was the most significant facilitator (BF4: M = 4.188). Hotels should invest in integrated digital tools for visibility to provide real time information for inventory and suppliers, automate notifications for suppliers, and include early warnings-the same are directly enabling SCR.

5.5.2 Policymakers Recommendations

Set up a separate foreign currency allocation mechanism for the hotel industry. FC shortage was the most prevalent issue identified. As a significant foreign currency earner the industry deserves priority for foreign exchange needed to secure inputs for the supply chain.

Invest in logistics infrastructure in Addis Ababa. Lack of well-maintained road networks and cold chain facilities were identified as important structural problems. Targeted infrastructure development along hotel supply chains would benefit not just the hotel industry but also the whole economy.

Develop local supply chains in Ethiopia. The heavy import reliance (60-70%) brings with it both foreign currency and logistics related risks. Government supported development of domestic supply chains for food, amenities, and equipment will reduce reliance on foreign suppliers.

Provide incentives for the hotel industry to adopt digital supply chain management practices. Waiving import duty or providing tax credits for Hotels for implementing a system of digital supply chain management would not only strengthen SCR for the hotel industry but at a negligible cost to the government.

5.5.3 Recommendations for Future Research

Use larger samples (n 150) to have enough statistical power to confirm that all dimensions of PM practices are significant and most importantly the dimensions of procurement planning.

Conduct research that is longitudinal rather than cross-sectional in nature to study how PM practices and SCR evolve over time.

Utilize mixed methods incorporating both survey and in depth interviews with hotel managers to delve deeper in understanding the causal relationship between PM practices and SCR.

Conduct studies of the same nature across other East African hospitality markets in Kenya, Tanzania, Rwanda and Uganda to test the generalizability of this study's findings.

Examine the moderating effect of context factors such as the FC shortage and infrastructure deficiencies on the relationship between PM practices and SCR by using larger data sets that can permit the moderation analysis.

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Appendix I: Questionnaire

ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

PROJECT MANAGEMENT DEPARTMENT

Title of the Study:

The Role of Project Management Practices in Optimizing Supply Chain Resilience in the Hospitality Sector: The Case of International Hotels in Addis Ababa.

Principal Researcher:

Semhal Gebremedhin

Master of Arts in Project Management

Addis Ababa University

Advisor

Dr. Solomon Markos

Introduction

You are invited to participate in a research study conducted as part of the requirements for the Master of Arts degree in project management at Addis Ababa University. Your participation is entirely voluntary. You may choose not to participate or to withdraw from the study at any time without any negative consequences.

Purpose of the Study

The purpose of this study is to examine how project management practices -Such as risk management, stakeholder engagement, procurement, planning, and agile approaches contribute to enhancing supply chain resilience in international hotels in Addis Ababa.

The study specifically aims to assess how these practices influence key dimensions of supply chain resilience, including flexibility, robustness, visibility, adaptability, innovation, and agility. The findings are expected to provide insights that support improved operational performance and long-term sustainability within the hospitality sector.

Procedure

If you agree to participate, you will be asked to complete a structured questionnaire consisting of several sections, including demographic information, project management practices, supply chain resilience, and factors influencing implementation. The questionnaires will take approximately 15-20 minutes to complete.

In addition, the study may involve reviewing relevant organizational documents(such as procurement procedures or risk management records) and, where permitted, observing selected supply chain processes. All such information will be handled with strict confidentiality.

Risk and Discomfort

There are no known significant risk assessment with participation in this study. However, you may feel slight discomfort when discussing work-related challenges. You are not required to answer any question that makes you uncomfortable, and you may withdraw from the study at any time without providing a reason.

Benefits

There are no direct personal benefits to participating in the study. However, your responses will contribute to generating valuable insights that may help improve supply chain resilience practices in the Ethiopian hospitality sector. The findings may also support better decision-making, operational efficiency, and sustainability within the industry.

Confidentiality and Anonymity

All information collected in this study will be kept strictly confidential. Your responses will be anonymized, and no personally identifiable information will be included in the research report or any publications.

Data will be securely stored on password-protected devices and will only be accessible to the researcher and the academic advisor.

Voluntary Participation and Right to Withdraw

Participation in this study is entirely voluntary. You have the right to refuse participation or withdraw at any stage without any consequences. Your decision will not affect your employment or professional relationship in any way.

Contact Information

If you have any questions or concerns about this study, please contact:

Principal Researcher

Semhal Gebremedhin

Tel: +251-929-034-993

Advisor

Dr. Solomon Markos(PHD)

Questionnaire

Quantitative Instrument

Instructions

Please indicate your level of agreement with the following statements using the scale below:

Scale	**Meaning**
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

Expected time to finish: 15-20 minutes

Section A: Demographic Information

1. Position

- General Manager [ ]
- Finance Manager [ ]
- Purchasing Manager [ ]
- Food and Beverage Manager [ ]
- Executive Chef [ ]
- Housekeeping Manager [ ]
- Engineering/ Maintenance Manager [ ]
- Front Office Manager [ ]
- Other:

2. Education Level

- Highest Educational level:
- Master's Degree [ ]
- Bachelor's Degree [ ]

- Diploma [ ]
- Other [ ]

3. Years of experience :

- Less than 5 years [ ]
- 5-10 years [ ]
- 11-15 years [ ]
- More than 15 years [ ]

4. Hotel category:

- 4-star [ ]
- 5-star [ ]

Section B: Supply Chain Resilience (Dependent Variable)

1. Flexibility

Code	**Statement**	**1 2 3 4 5**
FL1	The hotel can quickly adjust order quantities in response to demand changes.	
FL2	The hotel can easily switch between suppliers when necessary.	
FL3	Alternative supply or delivery options are available when disruptions occur.	

2. Robustness

Code	**Statement**	**1 2 3 4 5**
RB1	The supply chain continues to function during disruptions.	
RB2	The hotel maintains backup systems such as safety stock or multiple suppliers.	
RB3	Operations are sustained despite infrastructure or foreign currency challenges.	

3. Visibility

Code	**Statement**	**1 2 3 4 5**
VS1	The hotel has real-time visibility of inventory levels.	

VS2	Suppliers provide timely and accurate information.	
VS3	Digital systems support the monitoring of supply chain activities.	

4. Adaptability

Code	**Statement**	**1 2 3 4 5**
AD1	The hotel can adjust sourcing strategies when conditions change.	
AD2	Procurement plans are modified in response to economic or political changes.	
AD3	Internal operations are adjusted to manage supply shortages.	

5. Innovation

Code	**Statement**	**1 2 3 4 5**
IN1	The hotel adopts new technologies to improve supply chain performance.	
IN2	Innovative sourcing strategies are used to reduce dependency on imports.	
IN3	New ideas are implemented to improve supply chain efficiency.	

6. Agility

Code	**Statement**	**1 2 3 4 5**
AG1	Supply chain decisions are made quickly when disruptions occur.	
AG2	The hotel responds rapidly to supply shortages.	
AG3	Teams coordinate effectively to address urgent supply chain issues.	

Section C: Project Management Practices (Independent Variables)

1. Risk Management

Code	**Statement**	**1 2 3 4 5**
RM1	The hotel regularly identifies supply chain risks.	

RM2	Risk registers are maintained and updated.	
RM3	Contingency plans are developed for major risks.	
RM4	Risk monitoring systems are used to detect disruptions early.	

2. Stakeholder Engagement

Code	**Statement**	**1 2 3 4 5**
SE1	The hotel maintains regular communication with suppliers.	
SE2	Internal departments collaborate in supply chain decisions.	
SE3	External partners are involved in the planning process.	
SE4	Feedback from stakeholders is used to improve supply chain practices.	

3. Procurement Planning

Code	**Statement**	**1 2 3 4 5**
PP1	Procurement plans consider supply chain risks.	
PP2	Multiple suppliers are used to reduce dependency.	
PP3	Suppliers' selections include resilience criteria.	
PP4	Contracts include flexibility provisions during disruptions.	

4. Agile Approaches

Code	**Statement**	**1 2 3 4 5**
AA1	The hotel uses flexible approaches in supply chain management.	
AA2	Plans are regularly reviewed and adjusted.	
AA3	Cross-functional teams address supply chain challenges.	
AA4	Rapid decision-making processes are encouraged.	

Section D: Barriers and Facilitators

Code	**Statement**	**1 2 3 4 5**
BF1	Foreign currency shortages hinder supply chain management.	

BF2	Poor infrastructure affects supply chain performance.	
BF3	Top management support facilitates implementations.	
BF4	Technology adoption improves supply chain resilience.	

Thank you for your time.