COLLEGE OF BUSINESS AND ECONOMICS

SCHOOL OF COMMERCE GRADUATE PROGRAM

MASTERS IN BUSINESS LEADERSHIP

THE EFFECT OF AGILE LEADERSHIP PRACTICES ON INNOVATION BEHAVIORS: THE MODERATING ROLE OF CHANGE READINESS AT MINT

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A PROJECT WORK SUBMITTED TO ADDIS ABABA UNIVERSITY SCHOOL OF COMMERCE IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTER'S DEGREE IN BUSINESS LEADERSHIP

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JUNE, 2025

ADDIS ABABA, ETHIOPIA

Statement of Declaration

I, **Abel Million,** declare that this research, entitled "**The Effect of Agile Leadership Practices on Innovation Behavior: The Moderating Role of Change Readiness at MInT**" is my original work and has not been submitted to other institution of higher learning as a thesis and all sources of information have been duly acknowledged.

I have carried out the research independently under the supervision of the research advisor, **Mr. Wasihun Mohammed (PhD)**

Abel Million

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2025

Addis Ababa University

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STATEMENT OF CERTIFICATION

I **Dr. Wasihun Mohammed**, hereby certify that the research entitled "**The Effect of Agile Leadership Practices on Innovation Behavior: The Moderating Role of Change Readiness at MInT**" is conducted by Abel Million under my supervision.

The work is original and is appropriate for submission for the award of the Masters of Arts degree in Business Leadership.

Wasihun Mohammed (PhD)

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2025

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DEPARTMENT OF BUSINESS LEADERSHIP

The Effect of Agile Leadership Practices on Innovation Behavior: The Moderating Role of Change Readiness at MInT

By: Abel Million

Board of Examiners Approval

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ACKNOWLEDGEMENTS

First and foremost, I thank God for His unfailing grace and guidance throughout this academic journey. His strength and favor have been my foundation.

I am deeply grateful to my family for their constant support, especially my father, whose dedication and values have always inspired me to pursue excellence.

My sincere appreciation goes to Dr. Wasihun Mohammed, my advisor, for his invaluable guidance, encouragement, and thoughtful feedback throughout this research.

I would also like to thank the Human Resource team at the Ministry of Innovation and Technology (MInT) for their assistance during the data collection process, and the study participants whose valuable responses made this research possible.

Finally, I gratefully acknowledge Addis Ababa University for providing me the privilege to pursue my Master of Arts in Business Leadership, and to my fellow colleagues for their support throughout these two transformative years of study.

ABSTRACT

The focus of this research is to examine the influence of agile leadership practices on innovation behavior at the head quarter ministry of innovation and technology (MInT) of Ethiopia and the moderating role of change readiness. Agile leadership practices, such as team empowerment, collaboration, iterative feedback, continuous learning and transparency are getting high accolades as the driver of innovation behavior in a complex environment. But it is less studied in public organizations, especially in developing countries. By using a quantitative method, data was collected from an accessible population of 105 employees across three sector in MInT HQ using structured questionnaires on google-form. Descriptive statistics and inferential analyses were used; multiple regression and moderation analyses were performed to investigate the associations among variables. The Findings indicate that the only agile leadership practice having a statistically significant and positive impact on innovation behavior is continuous learning ($\beta = 0.495$, $p < 0.001$). Change readiness substantially moderates the influence of agile leadership practices on innovation behavior and strengthens the effects. Yet, only collaboration did not present a significant interaction effect with readiness for change. The study encourages innovation behavior among the public sector organizations like MINT. The most important factor is for them to drive a culture of continuous learning with high level of change readiness. Recommendations focus on continuous learning efforts, increasing transparency, and developing organizational readiness for change.

Keywords: *Agile leadership practices, innovation behavior, change readiness, public sector, developing countries.*

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LIST OF ACRONYMS/ABBREVATIOINS

MInT	Ministry of Innovation and Technology
HR	Human Resource
ICT	Information Communication and Technology
HQ	Head Quarter
TE	Team Empowerment
C	Collaboration
IF	Iterative Feedback
CL	Continuous Learning
T	Transparency
CR	Change Readiness
IB	Innovation Behavior
SPSS	Statistical package for social science
ANOVA	Analysis of Variance
VIF	Variance Inflation Factor

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Innovation is a key driver of organizational success that enables organizations to stay competitive, adapt to a changing environment, and meet the evolving needs of stakeholders. While organizations face a complex and fast-paced global aspect, leadership practices that promote flexibility, agility, and responsiveness have become essential (Denning, 2018). According to (Rigby et al., 2016), Traditional leadership styles that exercise rigid structures and centralized authority, often struggle to develop the adaptability required for innovation. For this reason, organizations started to begin adopting agile leadership principles to promote collaboration, creativity, and continuous learning to make sure they remain competitive in a rapidly changing world.

Agile leadership is a modern leadership framework that emphasizes team empowerment, decentralized decision making, iterative feedback, and an adaptive mindset (Appelo, 2011). The leadership style encourages an environment where risk-taking, experimentation, and continuous learning flourish. Unlike conventional leadership models that prioritize hierarchical and fixed processes. As stated by Highsmith (2009), agile leadership is often effective in industries that require technological advancements, rapid market response, and customer demands, such as research and development, software development, and technology-dependent enterprises. Previous studies have indicated that organizations that embrace agile leadership are better equipped to handle uncertainty, drive innovation, and foster employee engagement (Rigby et al., 2016).

In addition, agile leadership has been extensively studied in the private sector, especially within technology and innovation-driven companies. However, its implementation in the public sector remains underexplored. Most of the time, public sector organizations follow formalized procedures and prioritize stability. Based on Mulgan (2014), these characteristics can slow down adaptability and innovation process, even though they may be helpful for compliance and governance. Currently, governments are recognizing the significance of agile leadership practices to improve their service quality and simplify their decision-making process. Countries

like Australia and United Kingdom have started to use agile leadership practices into their government offices to improve policy execution, and responsiveness (Ringson & Matshabaphala, 2024).

In Ethiopian context, enhancing innovation behavior is ground breaking for achieving national strategic objectives and economic growth. The Ministry of Innovation and Technology (MInT) plays an important role in driving Ethiopia's innovation and digital transformation, by supporting technological solutions and research initiatives across different sectors. Nonetheless, challenges such as lack of change readiness, rigid hierarchy, and bureaucratic inefficiency is hampering the implementation innovation behaviors. Given these challenges, governement organizations needs a leadership practices that promotes, collaboration, flexibility, and adaptability to develop innovation behavior within the institution.

Regardless of the global push for agile leadership in public sectors, there is a limited empirical research assessing its significance within Ethiopian government organizations. Researches on leadership in Ethiopia has primarly focused on private sectors which leaves a notable gap in understanding on how agile leadership practices can be utilized into the public sector. This study plans to present a solution by studying the role of agile leadership practices (team empowerment, collaboration, iterative feedback, continuous learning, and transparency) on innovation behavior within the Ministry of Innovation and Technology. Additionally, the study seeks to explore the moderating role of change readiness, which refers to the ability and willingness of individuals and organizations to embrace and implement change effectively (Holt et al., 2007).

Researchers, policymakers, and organization leaders will get benefited from understanding the relationship between agile leadership practices and innovation behaviors in Ethiopian public sectors. By investigating how agile leadership practices influence innovation behaviors within MInT, this research aims to generate theoretical, and practical insights into leadership strategies that can help organizations succeed in their respective sector. Additionally, analyzing change readiness as a moderator, the study will provide an important understanding of the conditions required for agile leadership practices to succeed in a dynamic environment. The finding from the study is expected to support the broader scope on public sector leadership by offering practical recommendations for organization leaders within Ethiopia.

1.2. Statement of the Problem

The Ministry of Innovation and technology (MInT) plays a vital role in leading Ethiopia's digital transformation including Research and Innovation, ICT, and Digital Economy. Despite its mission, the ministry faces various challenges in achieving its overall objectives. These challenges include resource availability, bureaucratic challenges, and change resistance within employees, all of which hinders the Ministry's ability to maximize its innovation solutions. This challenges prohibit the Ministry's ability to fulfill its mandate effectively in this dynamic environment.

A modern approach to overcome these challenges is the adoption of agile leadership practices. These leadership practices emphasize adaptability, flexibility, and responsiveness thorough its practices such as team empowerment, collaboration, iterative feedback, continuous learning, and transparency. Because of agile leadership style's reputation as a driver of workplace culture that embraces experimentation, creativity, and innovation, these practices are widely used within private sector organizations, especially those within information and communication technology fields (Appelo, 2011; Rigby et al., 2016).

However, even though its reputations the application of agile leadership practices within the public sector organizations is still significantly underexplored, particularly in developing countries Such as Ethiopia. The public sector's hierarchical structures and leadership approaches may shape how these agile practices function and impact productivity. This gap that exists in literature presents an important opportunity to assess whether agile leadership practices can support innovation behavior within public sector organizations like MInT, and whether change readiness can influence the relationship between agile leadership practices and innovation behavior. This gap in the literature is significant, as the distinct cultural, political, and economic contexts of public sector organizations may affect how effective agile leadership practices can be.

According to Holt et al. (2007), the extent to which organizations and their employees are ready to accept and implement change will likely determine how well agile leadership drives innovation. Employees's attitude towards change, their confidence in adapting, and resource availability and support all helps them determine how ready they are for change. As stated by Janssen (2000), change readiness can have a role in testing if agile leadership practices

contribute to innovation behavior which can be observed. As an example, if employee's at MInT are resistant to change or if they do not have the necessary resources, it could be difficult even to the leaders who follows agile leadership.

The literature on the combined effects of agile leadership and change readiness on innovation behaviors in public sector organizations especially in developing nations is severely lacking despite the growing recognition of their significance. The majority of research on agile leadership has been done on private sector companies whereas the majority of studies on public sector innovation behaviors have been done in developed nations (Damanpour 1991; Rigby et al., 2016).

This gap in knowledge limits our understanding of how agile leadership practices can be effectively implemented in public sector environments and how change readiness may strengthen or weaken their influence on innovation behavior. Therefore, this study examines how agile leadership practices affect innovation behaviors by evaluating the moderating role of change readiness. Its goal is to offer practical advice to MInT and other public sector organizations looking to improve their innovation practices. The study's conclusions are anticipated to have theoretical as well as practical ramifications, providing practitioners, researchers and policymakers with insightful information.

1.3. Research Questions

The study is led by the following research questions:

1. What is the current level of agile leadership practices, innovation behaviors, and change readiness within MInT?
2. What is the effect of agile leadership practices (team empowerment, collaboration, iterative feedback, continuous learning, and transparency) on innovation behaviors within MInT?
3. How does change readiness moderate the relationship between agile leadership practices and innovation behaviors?
4. Which agile leadership practice has the strongest impact on innovation behaviors within MInT?

1.4. Research Objectives

The study has the following objectives:

- **General Objective**: To investigate the effect of agile leadership practices on innovation behaviors and the moderating role of change readiness within the Ministry of Innovation and Technology HQ.
- **Specific Objectives**:

1. To assess the level of agile leadership practices, innovation behaviors, change readiness within MInT.
2. To test the effect of team empowerment, collaboration, iterative feedback, Continuous learning, and transparency on innovation behaviors within MInT.
3. To explore the moderating role of change readiness in the relationship between agile leadership practices and innovation behaviors.
4. To identify the agile leadership practice that has the strongest influence on innovation behaviors within MInT.

1.5. Significance of the Study

The study consists both theoretical and practical significance. On the theoretical side, it fills a gap in existing research by examining how agile leadership practices influence innovation behaviors, and also how change readiness moderates this relationship, specifically within a public sector organization in developing country. Agile leadership has been widely studied in the private sector. But, its significance in public sectors remains underexplored. Additionally, the study also includes change readiness as a moderating factor, adding to the wider discussion on how leaders adapt in bureaucratic environment.

On the practical side, the findings will offer crucial insights for MInT and other public sector organizations who aims to strengthen their innovation behavior to achieve organizational success. By identifying essential agile leadership practices—such as team empowerment, collaboration, iterative feedback, continuous learning, and transparency, this study will provide a guide to enhance agile leadership practices. Additionally, by exploring change readiness, it will clarify on organizational factors that either support or hinder agile leadership practices. These

knowledge can help policymakers develop strategies to drive a culture of innovation and adaptability in public organizations, which supports Ethiopia's digital transformation.

1.6. Scope of the Study

The scope of the study emphasis on how agile leadership practices affect innovation behaviors, and how change readiness moderates this relationship the study's scope looks at MInT HQ. It examines the effects of five essential agile leadership practices—team empowerment, collaboration, iterative feedback, continuous learning, and transparency—on employees innovation behaviors including idea generation, promotion, and execution. To provide a thorough grasp of agile leadership influence the study focuses on MInT HQ staff from three different sectors: research and innovation, ICT and digital economy, and administration. Geographically, speaking the study is restricted to MInT's headquarter because it is the main center for the nation's public innovation projects and policymaking. The main focus is on MInT HQ because of its strategic mandate to promote national innovation, even though the findings might provide useful information for other public and private institutions.

1.7. Limitations of the Study

It is crucial to recognize the limitations of this research although its goal is to offer insightful information about the connections among agile leadership practices innovation behaviors and change readiness. The Ministry of Innovation and Technology (MInT) in Ethiopia is the only organization in which the study was carried out which may restrict the findings applicability to other public or private sector organizations especially those in diverse cultural or economic contexts. Second, the study uses only primary data by using questionnaires to gather self-reported data which could be biased due to things like employee comprehension or an exaggerated assessment of Innovation behaviors. Third, because this study uses cross-sectional design (collecting data at one point in time), the study can not definitively provide cause and effect relationship between the independent variables and dependent variable. Finally, there may be additional factors that can affect innovation behavior in the government sector that are not captured in this study. The study will use strong methodology and carefully analyze and interprets the data that will be collected to address the limitations.

1.8. Definition of Key Terms

This sections defines the key terminologies that will be used throughout the research.

- **Team Empowerment:** refers to giving employees autonomy and control over their responsibility, and allowing them to make decisions, and actively engage in innovative activities (Appelo, 2011).
- **Collaboration:** It refers to describing the collective effort of team members which are working together to solve problems and exchange ideas (Highsmith, 2011).
- **Iterative Feedback:** It involves the process of reviewing, learning, and improving work based on feedback. It helps both leaders and teams to improve outputs and drive innovation (Rigby et al., 2016).
- **Continuous Learning:** It represents a sustained commitment from an organization to learning and skill development to support ongoing improvements, strategies, and work culture (Denning, 2018).
- **Innovation Behaviors:** It can be defined as an individual or group actions linked with idea initiation, idea promotion, and idea implementation within an organization (Mumford & Licuanan, 2004).
- **Change Readiness:** The willingness and ability of an organization and its employees to accept and implement changes effectively (Holt et al., 2007).

1.9. Organization of the study

This research consists of five chapters, each of them addresses different part of the research process. The first chapter is Introduction, which lays the groundwork by presenting the background of the study, problem statement, research questions, and general and specific objectives. It also explains the significance of the study, scope, limitations of the study, and definition of key terms. Chapter two consists of the literature review that reviews key theoretical perspectives and previous empirical research on agile leadership, innovation behaviors, and change readiness. This chapter discusses different theories and looks at their integration, in addition to their contextual factors in a developing country. Then, it will summarizes the methodological approaches used in previous studies, and highlight relevant knowledge gaps and

build the conceptual framework and hypothesis of the study. Chapter three discusses about the research methodology of the research. It outlines the research approach, design, sampling techniques, data collection tools, and analytical methods employed. It also explains the research will be conducted and how the data's will be handled to ensure reliability and validity. The fourth chapter presents the results and discussions. This chapter provides an depth analysis and interpretation of the findings of the study. It also discusses the implications of the findings and compares it with the related literature. Chapter five consists of findings, conclusions, and recommendations. It summarizes the major outcomes, draws conclusions based on the result, and proposes actionable recommendations. The chapter also offers areas for future researches.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

Literature review provides an in-depth study of the extant theories and empirical work on agile leadership, innovation practices, and change readiness. This chapter has three main sections: the theoretical review, empirical review, and conceptual framework. Its primary purpose is to review the latest researches made and identify gaps in the existing knowledge and then establish a theoretical foundation for the study. By combining the relevant theories and previous empirical findings this chapter aims to develop an understanding on how agile leadership practices affect innovation behavior and how change readiness moderates the relationship.

2.2. Theoretical Review

This section reviews relevant theories developed to support the research. These theories are Complexity Theory, Resource-Based View (RBV), and the Theory of Organizational Readiness for Change. All these theories contribute towards a unique perspective to understand the relationship between agile leadership practices, innovation behavior, and change readiness. Additionally, the theories will provide a strong foundation for public sector organizations to perceive how agile leadership practices can foster innovation behavior and explore how change readiness contributes to the overall dynamics.

2.2.1. Agile Leadership

According to Uhl-Bien & Marion (2009), agile leadership is the latest leadership style that promotes adaptability, autonomy, and collaboration. In a volatile and uncertain environments where conventional leadership models often struggles, agile leadership empowers individuals to take ownership for their decisions, and assume responsibility for the outcomes. It is defined by its key practices, including team empowerment, collaboration, iterative feedback, continuous learning, and transparency. These practices foster a culture of innovation and responsiveness (Appelo, 2011).

Agile leadership provides different practices for organizations to forecast changes, and prepare for them by enhancing their innovation capabilities, empowering employees, driving collaboration, and supporting continuous learning within the organization. These practices aligns with complexity leadership theory, which states that modern organizations including public sector organizations, function in a dynamic and unpredictable environments. In such scenarios, traditional leadership styles are insufficient, and flexible, and adaptive leadership styles becomes more essential. Complexity theory offers a useful insight to understand the growing importance of agile leadership, especially in public sector organizations like the Ministry of Innovation and Technology (MInT), where change readiness and agility are important to achieve its vision.

2.2.2. Innovation Behaviors

Actions and activities taken by individuals or groups to promote innovation are referred to as innovation behaviors. According to Janssen (2000) these behaviors include the creation dissemination and application of ideas. Idea generation is coming up with fresh original ideas and idea promotion is getting people to agree with them. Idea implementation is the process of transforming concepts into workable solutions. Since innovation behaviors are the means by which new concepts are created disseminated and put into practice they are essential for fostering organizational innovation. According to the resource-based view (RBV) theory which suggests that firms gain a competitive edge by utilizing their special resources and capabilities such as leadership practices to spur innovation it offers a helpful lens through which to view innovation behaviors (Barney 1991). In this study agile leadership practices are seen as strategic assets that help companies encourage innovation behaviors by establishing an atmosphere that makes workers feel empowered encouraged and inspired to come up with new ideas.

2.2.3. Change Readiness

According to Holt et al.(2007) change readiness is the degree to which people and organizations are ready to accept and execute change. Employee attitudes toward change their confidence in their capacity to adjust and the accessibility of resources and support networks are all included. The organizational readiness for change theory (Weiner, 2009) highlights the importance if employees willingness and confidence to adopt and implement change. According to this theory, two elements influence the change. The first one is change efficacy which refers to the belief of one's ability to carry out the change and the second one is change valence, which means the

value employees attach to the change itself. In the context of the study, change readiness is considered a key factor that moderates the relationship between agile leadership practices and innovation behavior.

2.2.4. Integration of Theories

This section discusses the integration of the theories discussed in the previous sections to understand how agile leadership influences innovation and how this relationship is affected by change readiness. This study integrates three theories: Complexity leadership theory, Resource-Based View (RBV), and the theory of organizational readiness for change. Each theory contributes to the overall research in a different perspective that, when combined, will help us understand the leadership practices in an organizational environment.

CLT provides crucial insight for interpreting agile leadership in unpredictable and fast-changing environments. As Uhl-Bien and Marion (2009) stated, modern organizations operate in a complex system that is characterized by uncertainty and rapid change. In such environments, traditional leadership which is often rigid and, centralized, lacks an edge when it comes to efficiency. Compared with agile leadership, which aligns well with complexity theory because it prioritizes adaptability, collaboration, and continuous learning. By promoting team empowerment and iterative feedback, leaders can help organizations in developing countries like Ethiopia to address challenges and act accordingly.

Stepping on CLT, the resource-based view (RBV) offers a different perspective on leadership. RBV suggests that an organization's competitive advantage comes from its ability to utilize internal resources that are valuable, rare and difficult to find (Barney, 1991). In this context, agile leadership practices such as team empowerment, collaboration, iterative feedback, continuous learning, and transparency, are treated as an intangible asset that can boost innovation behavior within the Ministry. When these practices are integrated within the organization, they can create an environment where employees are encouraged to experiment, share ideas, and expand their innovation behavior. Therefore, RBV supports CLT by framing agile leadership as a crucial element that drives innovation behavior.

The third theory is the theory of organizational readiness for change (Weiner, 2009), which helps explain when and why agile leadership practices succeed or fail. This theory explains two key elements: The first one is change efficacy which refers to the belief of one's ability to carry out

the change and the second one is change valence, which means the value employees attach to the change itself. Additionally, change readiness is proposed as a moderating variable which means it can enhance or weaken the effect of agile leadership practice on innovation behavior.

These three theories form a coherent framework that explains how agile leadership fosters innovation behavior, and how change readiness moderated this relationship. This view is important in a public sector organization like MInT, where research and innovation, and ICT and digital economy is a priority.

Agile leadership practices are crucial resources that help organizations promote innovative behaviors according to the resource-based view (RBV). The theory of organizational readiness for change explores how change readiness can either increase or decrease agile leadership practice's capacity to boost innovation. By combining these theories, the study plans to collect data from respondents, interpret it carefully and draw conclusion to answer the research questions.

2.3. Empirical Review

Earlier Studies Reviewed This section covers all the previous studies with agile leadership practices focusing on innovation behaviors, and self-initiated change readiness. This segment discusses to the fullest detail the most recent and important research, including the highlights of key findings, methods, and significant gaps in the literature review, This is constructed from the available empirical material and the groundwork visibility of research problem is formulated to fit the current study.

2.3.1. Agile Leadership and Innovation Behaviors

Innovation behavior in the context of an organization have been widely examined with agile leadership practices particularly in the context of the private sector. A case in point is Rigby et al. (2016) who documented that organizations with agile leaders were much more likely to have a culture of experimentation and collaboration which in turn lead the employees to productive innovative behaviors such as idea formulation, and execution. The study pointed out practices like enablement, teamwork, and collaboration which are crucial for innovation behaviors. Appelo (2011) for example argued equally about feedback and lack of silos in creating free environments where employees could be encouraged to try different things and take risks.

Stride and Restubog (2021) highlighted structural characteristics such as empowerment, considerable autonomy as strong predictors of innovation behaviors. These are aimed at incorporating agile leadership qualities. The impact of empowering agile leadership on innovation practices was further analyzed by Denning (2018) focusing on technology firms. Like most other studies he concluded that those agile leaders who spent more time empowering their teams and providing continuous feedback displayed higher levels of innovation behaviors. He also stressed the need for adequate support to be offered to the employees in order to activate their creative potential. These findings imply that agile leadership practices are essential for fostering innovation behaviors due to their impact on employee empowerment, collaboration, and continuous learning.

With the exception of the recent studies in the public sector, most of these research works have concentrated on private sector organizations, specifically in the technology and software domains. This lacks the empirical examination on the use of agile leadership in public sector organizations within developing countries such as Ethiopia. This is a gap in the literature because the distinctive sociocultural, political, and economic features of public sector organizations may alter the application and effectiveness of agile leadership practices.

2.3.2. Change Readiness as a Moderator

A number of research works focus on the role of change readiness in organizational change and innovation. For example, Holt et al. (2007) designed a scale for measuring change readiness and discovered that organizations with a high level of change readiness were more successful at implementing change initiatives and achieving innovations. The study underlined the importance of the employees' attitudes, beliefs, and skills relative to change support for the environment. Equally, Weiner (2009) stressed the importance of leadership in strengthening change readiness by appreciating vision, resource provision, and addressing employee concerns.

Armenakis et al. (1993) performed a study analyzing the effect of change readiness on innovation activities within the healthcare sector. The study found that more prepared employees were more likely to engage in suggesting new ideas as well as implementing new processes. The research pointed out the role of leadership in driving a position of change readiness by underscoring the benefits of change and offering required support. From this evidence, it is clear

that change readiness is a crucial factor aimed at increasing the impact of leadership practices directed towards enabling innovation behavior.

Even though data evidences have been provided, there is insufficient research exploring how change readiness acts as a moderator between agile leadership practices and innovation behaviors, especially in the public sector of a developing country. This lack of focus makes the literature gap more significant because studying how leadership affects an organization's willingness to adapt to change is important for understanding innovation in complicated systems.

2.3.3. Agile Leadership in African Public Institutions

A study made by Ringson and Matshabaphala (2024) revealed that agile leadership practices improve public service delivery by fostering adaptive responses to citizen needs in South Africa. Additionally, a study by Ochieng (2021), stated that the implementation of agile strategies on e-government initiatives in Kenya impacted the innovation of digital transformation projects.

2.3.4. Contextual Factors in Developing Countries

In this section, contextual factors in developing countries will be discussed since the existence of limited published work on agile leadership and innovation behaviors, because most research focuses on developed countries. The agile leadership practices in Ethiopia, a developing country, must be understood in terms of its culture, politics and economy. For example, Damanpour (1991) describes how bureaucracies, limited resources and rigid social structures tend to undermine innovation in public sector institutions in developing countries. These contextual elements point to the need for aggressive research exploring how agile leadership and change readiness can enhance innovative behaviors in public sector institutions in developing countries.

Tidd and Bessant (2018) stated the problem of riving innovation in public sector organizations in Africa. The researchers observed that many organizations in developing countries face unexpected innovation challenges, which include a lack of available resources, inadequate training, and a general resistance to change. The research emphasized the need for better leadership that encourages innovation in spite of these challenges. From these findings, it can be assumed that agile leadership practices and change readiness can help in driving innovation behavior in public sector organizations in developing countries.

2.3.5. Methodological Approaches

Table 2.1: Methodological approaches used in previous studies

Study	Methodology	Key Finding	Limitations
Denning(2018)	Large-scale survey; Multiple regression analysis	Agile leadership practices (e.g., team empowerment, iterative feedback) positively influence innovation behaviors in technology firms.	Cross-sectional design limits causal inference; Focused on private sector organizations.
Holt et al. (2007)	Factor analysis; Structural equation modeling (SEM)	High levels of change readiness enhance innovation success in organizations.	Relies on quantitative data only; Limited focus on public sector organizations.
Uhl-Bien, Marion & McKelvey (2007)	Complexity leadership theory; Qualitative interviews	Leadership adaptability is essential for fostering innovation in complex organizations.	Lacks large-scale empirical validation.
Mulgan (2014)	Public sector innovation review; Thematic analysis	Leadership-driven innovation is crucial in government reform initiatives.	Lacks empirical data; theoretical discussion only.

Source: Developed by the researcher (2025)

The above table 2.1 summarizes the methodological approaches used in previous studies on agile leadership, innovation behaviors, and change readiness. It highlights the key findings and limitations of the approaches. Additionally, the summary emphasizes the need for more longitudinal and mixed-methods research in public sector organizations.

2.4. Identification of Research Gaps

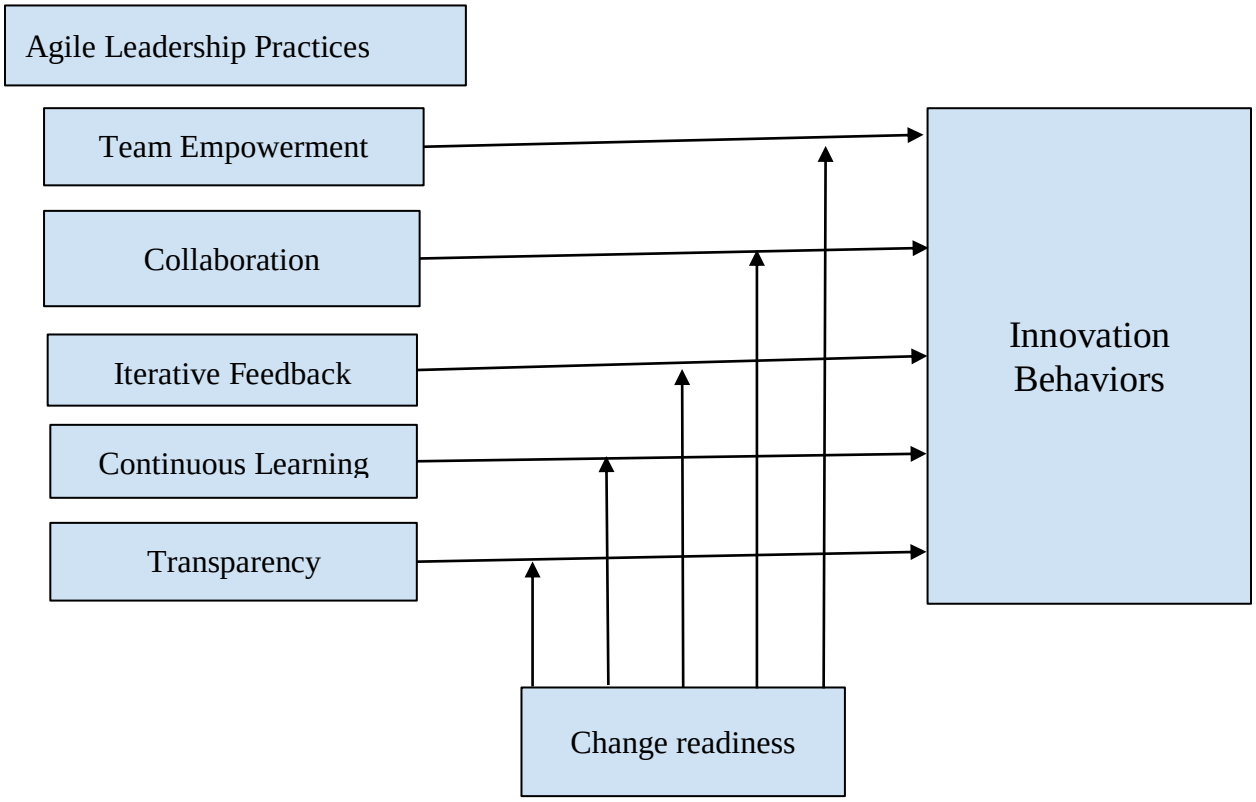
Recent research points out some critical gaps that make this study important. Firstly, there is limited perception on how agile leadership practices operate in public sector organizations, mainly in developing countries like Ethiopia. Secondly, there is no clear picture of how change readiness influences the relationship between agile leadership practices and innovation behavior. Third, there's a real shortage of studies looking at the specific challenges and opportunities for encouraging innovation through agile leadership and change readiness in developing countries. Finally, many studies rely on limited methods, like one-time data collection or focusing only on private companies, which calls for more thorough, context-specific research. By tackling these gaps, this study hopes to shed new light on how agile leadership and change readiness can spark innovation in public sector organizations.

2.5. Conceptual Framework

This study is developed based on Complexity Leadership Theory (CLT), which emphasizes the need for adaptive, flexible, and decentralized leadership in complex environments (Uhl-Bien, Marion, & McKelvey, 2007). CLT provides a strong foundation for understanding how agile leadership practices influence innovation behaviors in bureaucratic settings such as MInT. Using the complexity leadership theory, this study recognized that agile leadership practices should facilitate active engagement among employees, which enables innovation behavior to flourish in response to organizational challenges.

The conceptual framework below shows the relationship between agile leadership practices (team empowerment, collaboration, iterative feedback, continuous learning, and transparency) as an independent variable, innovation behaviors as the dependent variable, and change readiness as the moderating variable.

Figure 2.1: Conceptual Framework



Source: Developed by the researcher (2025)

Hypothesis

The hypothesis statements are proposed below on the bases of complexity theory which highlights leadership adaptability in a dynamic and complex environment.

H1: Team empowerment have a significant and positive effect on innovation behaviors.

H2: Collaboration have a significant and positive effect on innovation behavior.

H3: Iterative feedback have a significant and positive effect on innovation behavior.

H4: Continuous learning have a significant and positive effect on innovation behavior.

H5: Transparency have a significant and positive effect on innovation behavior.

H6: Change readiness significantly and positively moderates the relationship between team empowerment and innovation behavior.

H7: Change readiness significantly and positively moderates the relationship between collaboration and innovation behavior.

H8: Change readiness significantly and positively moderates the relationship between iterative feedback and innovation behaviors.

H9: Change readiness significantly and positively moderates the relationship between continuous learning and innovation behaviors.

H10: Change readiness significantly and positively moderates the relationship between transparency and innovation behaviors.

CHAPTER THREE

RESEARCH METHODOLOGY

Introduction

This chapter provides details about the methodology that is used in the study. It consists of research design and approach, sampling techniques used for the research. In addition, the chapter consists of the methods used for data collection and analysis, reliability and validity, and ethics that should be considered while assessing the effect of agile leadership practices on innovation behavior and the moderating role of change readiness at MInT.

3.1. Research Design

This study adopted both descriptive and explanatory research designs. The descriptive research design was used to assess the existing levels of agile leadership practices, innovation behaviors, and change readiness at MInT, whereas the explanatory research design helps to explore how these variables are related and how change readiness moderates the relationship. A cross-sectional approach was used to gather data at a single point in time to make the process more practical and time efficient. The design was appropriate for identifying patterns and testing the relationships among variables (Yin, 2018; Saunders et al., 2019; Bryman, 2021).

3.2. Research Approach

The research approach that is used to conduct the research is quantitative research, which facilitates the collection and analysis of numeric data through statistical techniques (Creswell & Creswell, 2018). As stated by Saunders, Lewis, & Thornhill, (2019), a quantitative approach helps to maintain objectivity and allows for consistent, reliable data that can be used to generalize. This approach is useful to study the cause and effect relationship between agile leadership practices and innovation behaviors, and it also helps us to study the moderating role of change readiness.

3.3. Target population and sampling

3.3.1. Target Population

The target population for this study includes employees working within the Ministry of Innovation and Technology (MInT) HQ in Ethiopia, across its three sectors: Research and Innovation, ICT and Digital Economy, and Administration. As per the data gathered from the MInT HQ HR, The population size was 296, including full-time employees across the three different sectors. However, 108 employees from the Administration sector were excluded from the target population due to the irrelevance of their roles to the research objectives. These excluded staff include support staff, security workers, store keepers and the likes, who are not directly engages in innovation behavior. After this changes, the eligible population for this study was 188 professional staffs distributed as follows:

Table 3.1: Adjusted Target Population by Sector

Sector	**Original Staff**	**Eligible Population**
Research & Innovation	72	72
ICT & Digital Economy	71	71
Administration	153	45
Total	**296**	**188**

Source: HR Department, MInT (2025)

3.3.2. Sampling Frame

The sampling frame consists of a list of all 188 eligible employees obtained from MInT HQ Human Resources department. This employee included employee's full name, their sector, and job roles. In addition, the frame was stratified by sector to ensure accurate sampling from each sector within the MInT HQ.

3.3.3. Sampling Technique

This study uses a multi staged sampling technique, the first stage begins with a stratified sampling followed by simple random sampling. The stratified random sampling is used to divide

the total population of 188 employees into three strata's based on their functional sectors: Research & Innovation, ICT & Digital Economy, and Administration. This ensures that employees from each sector are proportionally represented in the study. After the stratification, simple random sampling (SRS) is applied to select participants within each sector to ensure that each eligible respondents has equal chance to be included.

3.3.4. Sample Size

The sample size for this study is determined using Yamane's (1967) formula, which is a widely used method for calculating sample size from a finite population. Yamane's formula is expressed as:

$$n = \frac{N}{1 + N(e^2)}$$

Where:

n = Sample size

N = Population size (188 in this study)

e = Margin of error (expressed as a decimal)

For this study, a 95% confidence level and a margin of error of 5% (0.05) are used. Thus

$$n = \frac{188}{1 + 188(0.05^2)}$$

$$n = \frac{188}{1 + 0.47}$$

$$n = \frac{188}{1.47}$$

$$n = 128$$

Thus, the final sample size is 128 employees, which are distributed across three sector as follows:

Table 3.2: Sample size allocation based on Yamane's Formula (1967)

Sector	**Population**	**Sample size**
Research & Innovation	72	49
ICT & Digital Economy	71	48
Administration	45	31
Total	**188**	**128**

Source: Researcher's calculation based on Yamane's formula (1967)

3.4. Data Sources and Types

This study uses primary data collected through structured questionnaires. The questionnaires are designed to measure the following variables: agile leadership practices (team empowerment, collaboration, iterative feedback, Continuous learning, and transparency), innovation behaviors, and change readiness.

The questionnaires are developed based on validated scales from previous studies, to ensure that the items are valid and reliable measures of the constructs.

3.5. Data Collection Method

This study collected data by using a structured questionnaire to ensure reliability and consistency across all respondents within the organization. The questionnaires that will be distributed consist of four sections: demographic information, agile leadership practices, innovation behavior, and change readiness. The Demographic information will capture gender, age group, educational background, sector, job position, and work experience. Agile leadership practices will be tested based on team empowerment, collaboration, iterative feedback, continuous learning, and transparency, by using a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). Innovation behaviors will measure idea generation, promotion, and implementation, while change readiness will evaluate employees' willingness to adopt and implement change. To ensure validity, pre-tested, standardized scales will be used before full distribution.

3.6. Validity and Reliability

3.6.1. Validity

Validity refers to the extent to which the research instruments measure what they are intended to measure. In this study, construct validity was ensured by using well-established validated scales to ensure the questionnaire accurately measures the intended constructs, such as agile leadership practices, innovation behaviors, and change readiness. Additionally, content validity was ensured by reviewing the questionnaire with experts in the field of study. The feedback from the validity test is used to refine the questionnaire, ensuring that the items are clear, understandable, and comprehensive.

3.6.2. Reliability

Reliability refers to the consistency and stability of the measurements over time. In this study, internal consistency was evaluated using Cronbach's alpha, a statistical measure that indicates the extent to which the items in a scale are correlated. A Cronbach's alpha value of 0.7 or higher is considered acceptable, indicating that the scale is reliable and consistent. The reliability of the scales used in the questionnaire is tested during the pilot study, and any necessary adjustments are made to ensure that the scales are reliable.

Table 3.3: Cronbach's alpha for variables

Practice dimensions	Cronbach's alpha	No. of items
Team empowerment	0.83	5
Collaboration	0.77	5
Iterative feedback	0.89	5
Continuous learning	0.89	5
Transparency	0.88	5
Change readiness	0.83	5
Innovation behavior	0.76	5

Source: Survey data (2025)

Table 3.3 shows the Cronbach's alpha value of the study is above 0.7 for all 35 items measuring the independent variables, dependent variable, and the moderating variable which grant the confidence that the collected data from the Ministry of innovation and technology has high reliability and consistency with the scale.

3.7. Data Analysis Methods

The data analysis sections involves descriptive and inferential statistics. Descriptive statistics outline the demographic data of respondents and the distribution of responses for each variables. To report the demographic information of respondents, including their gender, age group, educational background, sector/department, job position, and years of experience, frequency distribution will be adopted. To describe the average response of each variables, and assess the variability of responses, measures of central tendency (mean) and measure of dispersion (standard deviation) was be employed.

Inferential statistics are used to test the hypotheses and test the relationships between variables. The direct effects of agile leadership practices on innovation behaviors as assessed by using multiple regression analysis. Whereas, to explore the moderating role of change readiness in the relationship between agile leadership practices and innovation behavior, moderated regression analysis will be implemented (Hair et al., 2020). The multiple regression model is structured as follows:

Multiple Regression Model $Y: \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$

Where:

Y= Innovation Behaviors

X_1= Team Empowerment

X_2= Collaboration

X_3= Iterative Feedback

X_4= Continuous Learning

X_5= Transparency

β_0= Intercept

β_1,β_2,β_3,β_4,β_5= Regression coefficients

ε= Error term

Moderated Regression Model

To explore the moderating role of change readiness on the relationship between agile leadership practices and innovation behaviors, the below moderated regression model is given below:

Moderated Regression Model: Y: $\beta_0 + \beta_1 X + \beta_2 M + \beta_3 (X * M) + \varepsilon$

Where:

X = Agile Leadership Practices (Composite Score)

M = Change Readiness

X*M = Interaction Term for Moderation

β_0= Intercept

$\beta_1, \beta_2, \beta_3$ = Regression coefficients

ε= Error term

The above model to tests how agile leadership practices represented by (X) influence innovation behavior (Y), and whether change readiness (M) influences this relationship. (X*M) represents the interaction term to test the moderating effect. In addition, a significant result for this term would indicate that the strength or direction of agile leadership practice's impact on innovation behavior depends on the level of change readiness. The coefficients ($\beta_1, \beta_2, \beta_3$) reflect the effect sizes. Lastly, β_0 represents the intercept and ε captures unexplained variance (Hayes, 2018).

3.8. Ethical Considerations

This section discusses the ethics that is considered in this study. Participants were first provided with a clear explanation of the research purpose and procedures. In addition, informed consent was obtained before starting to fill the questionnaire. They were also informed that they could withdraw from the process at any time without any consequences. Confidentiality was also maintained by excluding any personal identifiable information and all responses were stored securely and used only for academic purposes. Anonymity was preserved by avoiding the inclusion of names and other personal identifiers to allow free participation without any concern. Furthermore, participation was entirely voluntary, with no pressure, and individuals had the freedom to withdraw at any stage (Creswell & Creswell, 2018).

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1. Introduction

This chapter presents the data collected through structured questionnaires and provides a detailed analysis using SPSS. The findings of the study are presented in the form of descriptive statistics and inferential statistics. This chapter is divided into two sections. The first section presents descriptive statistics that includes percentage, frequency, mean, and standard deviation with the help of table. The second section presents inferential statistics which includes multiple regression and moderated regression.

4.2. Response Rate

The researcher distributed 35 questionnaires to a sample size of 128 employee's from the total population of 188 in Ministry of innovation and technology. Out of 128 sample size, 105 employees returned, yielding a response rate of 82%, which is considered acceptable.

Table 4.1: Response Rate

Target Population	128
Responses Collected	105
Response Rate	82%
Non-returned Responses	23
Non-returned Response Rate	18%

Source: Survey data (2025)

4.3. Demographic Information of Respondents

This sub-section shows the demographic data of participants including employee's gender, age group, educational background, sector, job position, and work experience.' According to the below table 4.2, 60% of the participants in this study are males and 40% of the participants are

female. This data shows that the male participants were slightly higher compared to the female participants.

The age group distribution shows that majority of the respondents fall within the 36-46 age group accounting for 51.4%, followed by 26-35 age group (24.8%). This suggests that more than half of the participants are in their mid-career stage. Respondents aged 46-55 account for 20%, while those above 56 represent 3.8%. This indicates a relatively young workforce within MInT.

Most respondents hold a Master's degree (76.2%), which indicates a highly educated workforce. 21% of participants hold Bachelor's degree while Diploma holders represent only 2.9%. This data shows a high concentration of master's degree holders which indicates the technical nature of roles at MInT.

According to Table 4.2, respondents are fairly distributed across the three sectors. Research and Innovation (40%), ICT and Digital Economy (37.1%), and Administrative sector accounting for 22.9%. This shows a balanced sample with more representation from the technical and innovation-oriented sectors.

The majority of the respondents fall under team members or staff (71.4%), while the rest hold Supervisory (12.4%), Managers (8.6%), and Directors (7.6%). This shows that the data reflects the views of employees at various leadership positions.

A significant number of respondents (64.8%) have 11 or more years of experience, which suggests a mature and experienced workforce. 31.4% of respondents have 7 to 10 years of experience while 3.8% of the staff have 4 to 6 years of experience. This shows that most participants are seasoned professionals with a significant period at MInT.

Table 4.2: Demographic profile

Variable	Category	Frequency	Percentage (%)
Gender	Male	63	60
	Female	42	40
	Total	105	100
Age group	26-35	26	24.8
	36-45	54	51.4
	46-55	21	20
	>56	4	3.8
Educational Background	Diploma	3	2.9
	Degree	22	21
	Masters	80	76.2
Sector	Administrative	27	25.8
	ICT and Digital Economy	39	37.1
	Research and Innovation	39	37.1
Job position	Team member/Staff	75	71.4
	Team Leader/Supervisor	13	12.4
	Manager	9	8.6
	Director	8	7.6
Work experience	4 to 6	4	3.8
	7 to 10	33	31.4
	>=11	68	64.8

Source: Survey data (2025)

4.4. Descriptive Statistics of individual variables

This section presents the descriptive statistics for the variables in the study. The five agile leadership practices (team empowerment, collaboration, iterative feedback, continuous learning, and transparency), the dependent variable (innovation behavior), and the moderating variable (change readiness). These statistics provide insight about the general trends and variability of responses from the participants.

Descriptive statistics were computed to examine the average responses and variability of the constructs. All items were measured using a 5-point Likert scale, where 1 = Strongly Disagree and 5 = Strongly Agree. Cronbach's alpha is also reported to show internal reliability.

4.4.1. Team Empowerment

Table 4.3, shows that the mean score for team empowerment is 3.53 (SD = 0.76), indicating a moderate to high perception of empowerment within team at MInT. In addition, employees generally agree that they have autonomy and they are trusted to make decisions.

Table 4.3: Respondent Perception of Team empowerment

Items	N	Mean	Standard deviation (SD)
My team has the authority to make important decisions.	105	3.38	0.994
Team members take ownership of their work without needing constant supervision.	105	3.75	0.938
Our team is encouraged to find solutions independently.	105	3.81	0.867
Leaders trust employees to make decisions in their areas of expertise.	105	3.41	1.053
Our organization provides the necessary support for teams to operate autonomously.	105	3.3	1.028
Team empowerment	105	3.53	0.75802

Source: Survey data (2025)

4.4.2. Collaboration

Table 4.4, shows that collaboration variable has the highest mean score of 3.76 (SD = 0.62). This suggests strong agreement among employees regarding teamwork, trust, and cross-departmental cooperation within MInT.

Table 4.4: Respondent Perception of Collaboration

Practice dimensions	N	Mean	Standard deviation (SD)
Team members actively share knowledge and expertise.	105	3.64	0.942
We work together to find solutions to challenges.	105	3.78	0.855
There is a high level of trust and cooperation within our team.	105	3.54	0.899
Employees are encouraged to collaborate across departments.	105	3.36	0.992
Team collaboration enhances overall organizational performance.	105	4.46	0.572
Collaboration	105	3.756	0.62387

Source: Survey data (2025)

4.4.3. Iterative feedback

According to table 4.5, the construct shows a mean score of 3.33 (SD = 0.82), which indicates that while feedback mechanism are present, there is moderate variation in how many employees perceive their effectiveness.

Table 4.5: Respondent Perception of Iterative feedback

Practice dimensions	N	Mean	Standard deviation (SD)
Feedback is regularly provided to help improve our performance.	105	3.42	0.988
Employees receive constructive feedback that helps them grow.	105	3.44	0.94
We use feedback to refine and improve our processes.	105	3.45	0.899
Our organization encourages open discussions about feedback.	105	3.09	1.057
Leader's value and act on employee feedback.	105	3.27	1.022
Iterative feedback	105	3.331	0.82407

Source: Survey data (2025)

4.4.4. Continuous learning

Table 4.6 shows that the mean for continuous learning is 3.71 (SD = 0.68), showing positive perceptions of learning opportunities and experimentation within the organization.

Table 4.6: Respondent Perception of Continuous Learning

Practice dimensions	N	Mean	Standard deviation (SD)
Our organization encourages continuous learning and skill development.	105	3.88	0.817
Employees are given opportunities to develop new skills.	105	3.75	0.769
Learning is integrated into our daily work processes.	105	3.79	0.781
We are encouraged to experiment with new ideas and approaches.	105	3.5	0.856
Training and development programs are actively supported by leadership.	105	3.61	0.838
Continuous learning	105	3.71	0.67997

Source: Survey data (2025)

4.3.5. Transparency

Table 4.7 shows that transparency had a lower mean of 3.08 (SD = 0.83), suggesting a relatively neutral or mixed perception of openness in communication and access to information.

Table 4.7: Respondent Perception of Transparency

Practice dimensions	N	Mean	Standard deviation (SD)
Information is openly shared within the organization.	105	2.9	1.052
Employees have access to important organizational decisions.	105	3.11	0.891
Leaders communicate openly and honestly with employees.	105	3.24	1.052
Our organization values transparency in decision-making.	105	3.08	0.987
Employees are informed about key strategic initiatives.	105	3.08	0.987
Transparency	105	3.08	0.82541

Source: Survey data (2025)

4.3.6. Change Readiness

The average score of change readiness is 3.45 (SD = 0.70). This data reflects a relatively positive but varied perception of employees' preparedness to embrace change.

Table 4.8: Respondent Perception of Change Readiness

Variable	N	Mean	Standard deviation (SD)
Employees feel prepared for upcoming changes in our organization.	105	3.45	0.94
There is strong support for new initiatives.	105	3.27	0.933
People in this organization are adaptable to change.	105	3.7	0.854
The organization effectively communicates why changes are necessary.	105	3.36	0.889
Employees are confident in their ability to manage organizational change.	105	3.45	0.909
Change readiness	105	3.45	0.69904

Source: Survey data (2025)

4.3.7. Innovation Behavior

Innovation behavior has the highest among all constructs with a mean score of 3.98 (SD = 0.56). This indicates a strong tendency among employees to engage in idea generation, experimentation, and collaboration for innovation.

Table 4.9: Respondent Perception of Innovation Behavior

Variable	N	Mean	Standard deviation (SD)
I actively seek out new ideas that can improve our work processes.	105	4.13	0.708
I experiment with new methods to improve efficiency.	105	3.99	0.672
I take the initiative to implement innovative solutions.	105	4.07	0.724
I collaborate with others to generate creative solutions.	105	4.11	0.684
My organization encourages and rewards innovative behavior.	105	3.61	1.07
Innovation behavior	105	3.98	0.56372

Source: Survey data (2025)

4.5. Multiple Regression Analysis

Before running multiple regression analysis, the necessary statistical assumptions were tested. Normality is examined visually using Q-Q plot and Histogram. Followed by Mean, and Standard deviation. The visual inspection seemed somehow skewed, however, residuals showed a roughly normal distribution centered around zero (Mean = 2.04E-15, SD = 0.976).

The scatterplot of standardized residuals versus predicted values demonstrated a random dispersion pattern without any systematic trends, satisfying the homoscedasticity and linearity requirement. Multicollinearity diagnostics revealed no concerns, with all variance inflation factors (VIFs) below 3 (range: 1.86 to 2.77) and tolerance values above 0.2. The Durbin-Watson statistic of 2.12 confirmed the independence of residuals. Three marginal outliers were identified but retained after verification, as their impact on the overall model was negligible in this sample size. These diagnostic tests collectively confirm that the data meets all necessary assumptions for multiple regression analysis.

Additionally, Pearson correlation matrix was conducted to check the relationship between the study variables.

Table 4.10: Pearson Correlation Matrix of Study Variables

Correlations

		Mean for innovation behavior	Mean for team empowerment	Mean for collaboration	Mean for iterative feedback	Mean for continuous learning	Mean for transparency
Pearson Correlation	Mean for innovative behaviour	1	0.394	0.376	0.391	0.619	0.371
	Mean for team empowerment	0.394	1	0.716	0.669	0.562	0.639
	Mean for collaboration	0.376	0.716	1	0.578	0.517	0.52
	Mean for iterative feedback	0.391	0.669	0.578	1	0.57	0.717
	Mean for continuous learning	0.619	0.562	0.517	0.57	1	0.632
	Mean for transparency	0.371	0.639	0.52	0.717	0.632	1

Source: Survey Data (2025)

The results shows that team empowerment, collaboration, iterative feedback, continuous learning, and transparency exhibit statistically significant positive correlation with innovation learning. Among the agile leadership practices continuous learning shows the strongest association (r = 0.619). Moderate positive correlations were observed among the agile leadership practices themselves (r = 0.515 to r = 0.717). However, they do not restrict us from proceeding with the regression analysis as further collinearity diagnostics are tested including variance inflation factor. Therefore, we can proceed to the multiple regression analysis to test the effect of each independent variables.

The multiple regression analysis section presents the outcome of multiple linear regression analysis studied to investigate the effect of agile leadership practices on innovation behavior. The independent variables included were team empowerment, collaboration, iterative feedback,

continuous learning, and transparency. The dependent variable used was innovation behavior. Statistical package for social science (SPSS) software was used to perform the analysis. The results are presented in the form of model summary, ANOVA and Coefficients table.

4.5.1. Model Summary

Table 4.11: Model Summary of Agile Leadership Practices Predicting Innovation Behavior

Model Summaryb					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.627a	0.393	0.363	0.45009	2.12
a. Predictors: (Constant), Mean for transparency, Mean for collaboration, mean for continuous learning, Mean for iterative feedback, Mean for team empowerment					
b. Dependent Variable: Mean for Innovation behavior					

Source

The above table 4.11 explains the model summary of agile leadership practices predicting innovation behavior. The model explains 39.3% of the variance in innovation behavior (R^2 = 0.393), which indicates innovation behavior is 39.3% explained by the agile leadership practices. Whereas, the adjusted R^2 accounts for the number of predictors used and confirms a strong model fit. The Durbin-Watson value of 2.120 indicates no auto correlation in the residuals.

4.5.2. ANOVA Table

Table 4.12: ANOVA Table for Regression Model

ANOVAa						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.99	5	2.599	12.828	.000b
	Residual	20.06	99	0.203		
	Total	33.05	104			
a. Dependent Variable: Mean for Innovation behavior						
b. Predictors: (Constant), Mean for transparency, Mean for collaboration, mean for continuous learning, Mean for iterative feedback, Mean for team empowerment						

Source

The above table 4.12, shows the ANOVA table for the regression model. The ANOVA F-value ($F = 12.828$) with a P-value of ($P < 0.001$) indicates that the overall regression model is statistically significant.

4.5.3. Coefficients and Predictor Significance

Table 4.13: Coefficients of Agile Leadership Practices Predicting Innovation Behavior

Coefficientsa								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.925	0.297		6.483	0		
	Mean for team empowerment	0.035	0.097	0.047	0.359	0.72	0.362	2.766
	Mean for collaboration	0.048	0.104	0.053	0.455	0.65	0.459	2.176
	Mean for iterative feedback	0.048	0.085	0.071	0.569	0.571	0.397	2.52
	mean for cotinious learning	0.495	0.089	0.598	5.596	0	0.537	1.861
	Mean for transparency	-0.078	0.085	-0.115	-0.917	0.361	0.392	2.55
a. Dependent Variable: Mean for Innovation behavior								

Source

According to the result in Table 4.13, it shows that among the five agile leadership practices, only continuous learning had a statistically significant effect on innovation behavior ($\beta = 0.495$, $p < 0.001$). This shows that as continuous learning increases, innovation behavior also significantly increases. The other variables including: team empowerment, collaboration, iterative feedback, and transparency, had no statistically significant effect suggesting that their individual influence on innovation behavior is not strong when all variables are considered simultaneously. The negative beta coefficient for transparency implies a potential inverse relationship, although the effect is not statistically significant. The variance inflation factor (VIF) was < 5 and Tolerances > 0.1 which indicated no multicollinearity between the independent variables.

4.6. Moderation Analysis

This section assess the moderating role of change readiness in the relationship between each agile leadership practices and innovation behavior. Each moderation analysis tests whether change readiness strengthens or weakens the effect of the respective independent variable on the dependent variable.

4.6.1. The Moderating Role of Change Readiness on Team Empowerment and Innovation Behavior

According to table 4.14, the interaction term between team empowerment and change readiness had a statistically significant p-value of 0.025. This suggests that change readiness significantly moderates the relationship between team empowerment and innovation behavior.

Additionally, when change readiness is high, the influence of team empowerment on innovation behavior becomes stronger. This implies that empowering employees is more likely to lead to innovation behavior when those employees are open and prepared for change.

Table 4.14: Moderating effect of CR on TE and IB

Variables	Beta	SE	95% confidence interval		p-value
			Lower	Upper	
Team empowerment (A)	-0.45	0.25	-0.934	0.037	0.07
Change readiness (B)	-0.15	0.24	-0.626	0.333	0.546
A*B intercept	0.157	0.07	0.02	0.295	0.025

Source: Survey data (2025)

4.6.2. The Moderating Role of Change Readiness on Collaboration and Innovation Behavior

The interaction between collaboration and change readiness was not statistically significant (p = 0.254), indicating no moderation effect.

According to the data, change readiness does not significantly influence the relationship between collaboration and innovation behavior. In other words, even in highly change ready environments, collaboration does not have a greater effect on innovation behavior.

Table 4.15: Moderating effect of CR on C and IB

Variables	Beta	SE	95% confidence interval		p-value
			Lower	Upper	
Collaboration (A)	-0.26	0.37	-0.988	0.465	0.477
Change readiness (B)	-0.06	0.37	-0.786	0.671	0.876
A*B intercept	0.114	0.1	-0.084	0.312	0.254

Source: Survey data (2025)

4.6.3. The Moderating Role of Change Readiness on Iterative Feedback and Innovation Behavior

The moderation effect of change readiness on iterative feedback and innovation behavior was statistically significant (p = 0.001) suggesting that change readiness significantly strengths the relationship between iterative feedback and innovation behavior.

Furthermore, employees who work in a change ready work environment benefit more from iterative feedback processes. The readiness for change enhances how feedback is utilized for innovation.

Table 4.16: Moderating effect of CR on IF and IB

Variables	Beta	SE	95% confidence interval		p-value
			Lower	Upper	
Iterative feedback (A)	-0.69	0.23	-1.14	-0.247	0.003
Change readiness (B)	-0.14	0.19	-0.512	0.24	0.475
A*B intercept	0.198	0.06	0.081	0.315	0.001

Source: Survey data (2025)

4.6.4. The Moderating Role of Change Readiness on Continuous Learning and Innovation Behavior

The interaction term between continuous learning and change readiness was statistically significant (p = 0.001).

Additionally, the positive impact of continuous learning on innovation behavior is significantly enhanced when employees are ready to embrace change. Thus, change readiness expands the benefits of learning culture.

Table 4.17: Moderating effect of CR on CL and IB

Variables	Beta	SE	95% confidence interval		p-value
			Lower	Upper	
Continuous learning (A)	-0.06	0.18	-0.416	0.292	0.729
Change readiness (B)	-0.56	0.21	-0.975	-0.152	0.008
A*B intercept	0.18	0.05	0.077	0.284	0.001

Source: Survey data (2025)

4.6.5. The Moderating Role of Change Readiness on Transparency and Innovation Behavior

The interaction term between transparency and change readiness also shows a significant p-value (0.000), confirming a moderation effect.

When change readiness is high, transparency contributes more meaningfully to innovation behavior. Transparent environments with readiness for change foster a more innovation behavior.

Table 4.18: Moderating effect of CR on T and IB

Variables	Beta	SE	95% confidence interval		p-value
			Lower	Upper	
Transparency (A)	-0.83	0.21	-1.235	-0.42	0
Change readiness (B)	0.057	0.16	-0.25	0.364	0.711
A*B intercept	0.201	0.05	0.101	0.3	0

Source: Survey data (2025)

4.7. Hypothesis Testing

This section evaluates the hypothesis that was proposed in Chapter Two.

H1: Team empowerment have a significant and positive effect on innovation behaviors.

The regression coefficient table 4.13 shows that team empowerment have a positive effect on innovation behavior but it is not significant (Beta = 0.035, p = 0.720). Thus the hypothesis is rejected.

H2: Collaboration have a significant and positive effect on innovation behavior.

The regression coefficient table 4.13 shows that collaboration have a positive effect on innovation behavior but it is not significant (Beta = 0.048, p = 0.650). Thus, the hypothesis is rejected.

H3: Iterative feedback have a significant and positive effect on innovation behavior.

The regression coefficient table 4.13 shows that iterative feedback have a positive effect on innovation behavior but it is not significant (Beta = 0.048, p = 0.571). Thus the hypothesis is rejected.

H4: Continuous learning have a significant and positive effect on innovation behavior.

Continuous learning have a positive and significant effect on innovation behavior (Beta = 0.495, p = 0.000). Therefore, the hypothesis is accepted.

H5: Transparency have a significant and positive effect on innovation behavior.

The regression coefficient table 4.13 shows that transparency have a slightly negative effect on innovation behavior but the effect is not significant (Beta = -0.078, p = 0.361). Thus the hypothesis is rejected.

H6: Change readiness significantly and positively moderates the relationship between team empowerment and innovation behavior.

Table 4.14 shows that change readiness significantly and positively moderates the relationship between team empowerment and innovation behavior (Beta = 0.157, p = 0.025). Thus the hypothesis is accepted.

H7: Change readiness positively moderates the relationship between collaboration and innovation behavior but the relationship is not significant.

Table 4.15 shows that change readiness non significantly and positively moderates the relationship between collaboration and innovation behavior (Beta = 0.114, p = 0.254). Thus the hypothesis is rejected.

H8: Change readiness significantly and positively moderates the relationship between iterative feedback and innovation behaviors.

Table 4.16 shows that change readiness significantly and positively moderates the relationship between iterative feedback and innovation behavior (Beta = 0.198, p = 0.001). Thus the hypothesis is accepted.

H9: Change readiness significantly and positively moderates the relationship between continuous learning and innovation behaviors.

Table 4.17 shows that change readiness significantly and positively moderates the relationship between continuous learning and innovation behavior (Beta = 0.18, p = 0.001). Thus the hypothesis is accepted.

H10: Change readiness significantly and positively moderates the relationship between transparency and innovation behaviors.

Table 4.18 shows that change readiness significantly and positively moderates the relationship between team empowerment and innovation behavior (Beta = 0.201, p = 0.000). Thus the hypothesis is accepted.

The results confirm that continuous learning is the strongest determinant of innovation behavior within MInT. Additionally, the presence of change readiness expands the influence of most of the agile leadership practices, especially team empowerment, iterative feedback, and transparency. However, the relationship between collaboration and innovation behavior appears to be crucial factor within the organization.

CHAPTER FIVE

DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

5.1. Introduction

This chapter discusses and summarizes the main findings of the study in the relation to the research objectives and hypothesis. It also presents the conclusion based on the empirical results, provides theoretical and practical implications and outlines recommendations for future research and policy.

5.2. Summary of Major Findings

The findings of this study provide an important implication regarding the effect of agile leadership practices on innovation behavior and the moderating role of change readiness within the Ministry of Innovation and Technology (MInT). The study found that among the five agile leadership practices (team empowerment, collaboration, iterative feedback, continuous learning, and transparency), only continuous learning had a significant and positive effect on innovation behavior ($B = 0.495$, $p < 0.001$). This indicates that when employees are supported in their efforts to acquire new knowledge, skills, and information, they are more likely to have better innovation behavior. This finding aligns well with past literature which emphasized the crucial role of continuous learning in dynamic and knowledge intensive organizations (Senge, 2006; Garvin, 1993)

The other agile leadership practices including team empowerment, collaboration, and iterative feedback, had a positive effect on innovation, but they did not had a significant effect and transparency showed negative but non-significant effect on innovation behavior. These findings suggest that the practices impact may depend on structural support within MInT. This aligns with Damanpour (1991), who emphasizes that bureaucratic structures in public organizations can hinder leadership practices effectiveness like empowerment and collaboration.

The moderating role of change readiness was significant in four out of the five leadership practices. These practices includes team empowerment ($p = 0.025$), iterative feedback ($p = 0.001$), continuous learning ($p = 0.001$), and transparency ($p = 0.000$). These finding provides insight that when employees are psychologically prepared to embrace change, the leadership practices will become more effective. This aligns with theories of organizational change and

adaptive leadership, which highlights the importance of readiness as a requirement for effective transformation (Armenkis et al., 1993). In addition Weiner's (2009) theory supports this by explaining how change readiness enhances the effectiveness of leadership driven change initiatives.

Interestingly, collaboration did not show a significant interaction with change readiness ($p = 0.254$), which shows that collaboration at MInT may not necessarily depend on whether employees are ready for change.

The finding partially supports the first hypothesis (H1), which indicates that agile leadership practices significantly and positively affect innovation behavior. The finding largely supports the second hypothesis (H2). This shows that agile leadership is a mixed construct that may not all operate with the same level of influence in every context. Among the agile leadership practices, continuous learning is the most effective practice for enhancing innovation behavior.

5.3. Conclusion

This study examined the effect of agile leadership practices on innovation behavior and the moderating role of change readiness at MInT. Based on the responses from the 105 employees, the below conclusion was given.

- Continuous learning was the only agile leadership practice that had a significant and positive effect on innovation behavior, which highlights its crucial role in driving innovation behavior.
- Team empowerment, collaboration, and iterative feedback showed positive effects and transparency showed negative effect on innovations behavior, however they did not had significant effects which suggests they may require stronger organizational support.
- Change readiness significantly moderated the effect of team empowerment, iterative feedback, continuous learning, and transparency on innovation behavior.
- Collaboration was not significantly moderated by change readiness, which could be due to cultural or structural reasons.

5.4. Recommendations

Based on the findings from the study the below recommendations are given for Ministry of Innovation and Technology (MInT).

- MInT is recommended to strengthen continuous learning by providing regular training, workshops, and access to learning resources to support employee growth and innovation behavior.
- To encourage change readiness, MInT should prioritize open communication, clear change strategies, and support various systems that help employees adapt to new ideas.
- To address the limited significance of collaboration, it is recommended that MInT to examine existing cultural and structural barriers that may limit their impact.
- Leaders at MInT should institutionalize a means for collecting, discussing, and acting on feedback from employees.

5.5. Suggestions for Future Research

Even though the study provides valuable insights, further research is need to expand the understanding of agile leadership practices and innovation behavior. For that purpose the below suggestions are given:

- Future researchers can conduct longitudinal studies to examine the causal relationship between agile leadership practices and innovation behavior through time and also use mixed-method approaches to capture both qualitative and quantitative insights for a more comprehensive understanding about the phenomena.
- The use of other mediating or moderating variables can provide a better understand the conditions under which agile leadership practices influence innovation behavior.
- Researchers can use the study in other public or private sector organizations to enhance the generalizability.

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APPENDICES

Appendix A: Consent Statement
Consent to Participate in Research

Dear Participant,

You are invited to participate in a research study titled **"The Effect of Agile Leadership Practices on Innovation Behaviors: The Moderating Role of Change Readiness at MInT."** The purpose of this study is to examine how agile leadership practices influence innovation behaviors within your organization.

Your Rights as a Participant:

- Your participation is voluntary.
- Your responses will be anonymous and confidential.
- You can withdraw at any time without consequences.
- The survey will take approximately **10–15 minutes** to complete.

By clicking "Agree" or proceeding with this survey, you consent to participate in this study.

☐ I agree to participate.

☐ I do not agree to participate.

Appendix B: Survey Questionnaire

Section 1: Demographic Information

1. **Gender**: ☐ Male ☐ Female
2. **Age Group**: ☐ 18–25 ☐ 26–35 ☐ 36–45 ☐ 46–55 ☐ 56+
3. **Educational Background**: ☐ Diploma ☐ Degree ☐ Masters☐ PhD
4. **Sector/Department**: _____
5. **Job Position**: ☐ Team Member ☐ Supervisor ☐ Manager ☐ Director ☐ Other:_____
6. **Years of Experience at MInT**: ☐ Less than 1 year ☐ 1–3 years ☐ 4–6 years ☐ 7+ years

Section 2: The score levels are described as:

1= Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

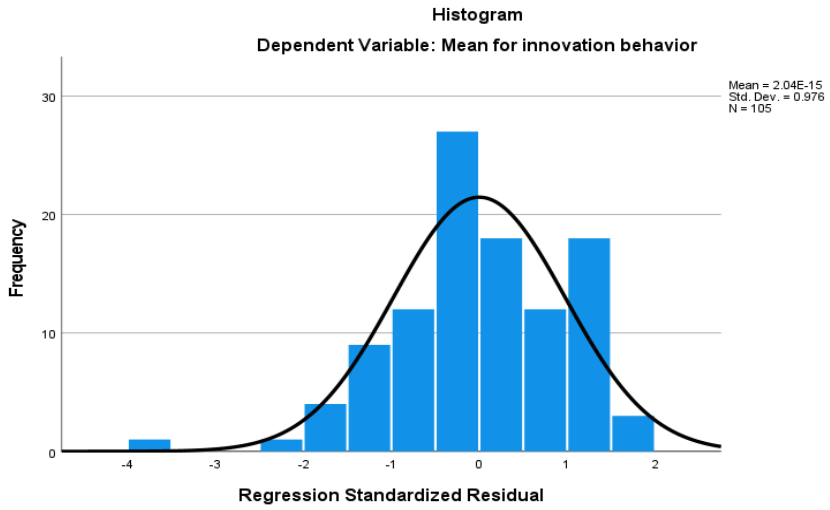
No.	**Agile Leadership Practices (Independent Variables)**					
	A. Team Empowerment (Kirkman & Rosen, 1999)	1	2	3	4	5
1	My team has the authority to make important decisions.					
2	Team members take ownership of their work without needing constant supervision.					
3	Our team is encouraged to find solutions independently.					
4	Leaders trust employees to make decisions in their areas of expertise.					
5	Our organization provides the necessary support for teams to operate autonomously.					
	B. Collaboration (Hoegl & Gemuenden, 2001)					

6	Team members actively share knowledge and expertise.					
7	We work together to find solutions to challenges.					
8	There is a high level of trust and cooperation within our team.					
9	Employees are encouraged to collaborate across departments.					
10	Team collaboration enhances overall organizational performance.					
	C. Iterative Feedback (London & Smither, 2002)					
11	Feedback is regularly provided to help improve our performance.					
12	Employees receive constructive feedback that helps them grow.					
13	We use feedback to refine and improve our processes.					
14	Our organization encourages open discussions about feedback.					
15	Leader's value and act on employee feedback.					
	D. Continuous Learning (Marsick & Watkins, 2003)					
16	Our organization encourages continuous learning and skill development.					
17	Employees are given opportunities to develop new skills.					
18	Learning is integrated into our daily work processes.					
19	We are encouraged to experiment with new ideas and approaches.					
20	Training and development programs are actively supported by leadership.					
	E. Transparency (Rawlins, 2008)					
21	Information is openly shared within the organization.					

22	Employees have access to important organizational decisions.					
23	Leaders communicate openly and honestly with employees.					
24	Our organization values transparency in decision-making.					
25	Employees are informed about key strategic initiatives.					
	Change Readiness (Moderating Variable) (Holt et al., 2007)					
26	Employees feel prepared for upcoming changes in our organization.					
27	There is strong support for new initiatives.					
28	People in this organization are adaptable to change.					
29	The organization effectively communicates why changes are necessary.					
30	Employees are confident in their ability to manage organizational change.					
	Innovation Behaviors (Dependent Variable) (Janssen, 2000)					
31	I actively seek out new ideas that can improve our work processes.					
32	I experiment with new methods to improve efficiency.					
33	I take the initiative to implement innovative solutions.					
34	I collaborate with others to generate creative solutions.					
35	My organization encourages and rewards innovative behavior.					

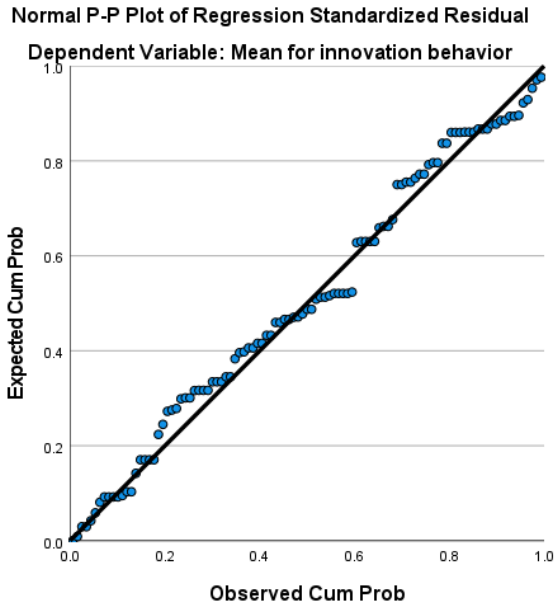
Appendix C: Diagnostic Plots

Figure 5.1: Residual Distribution Histogram



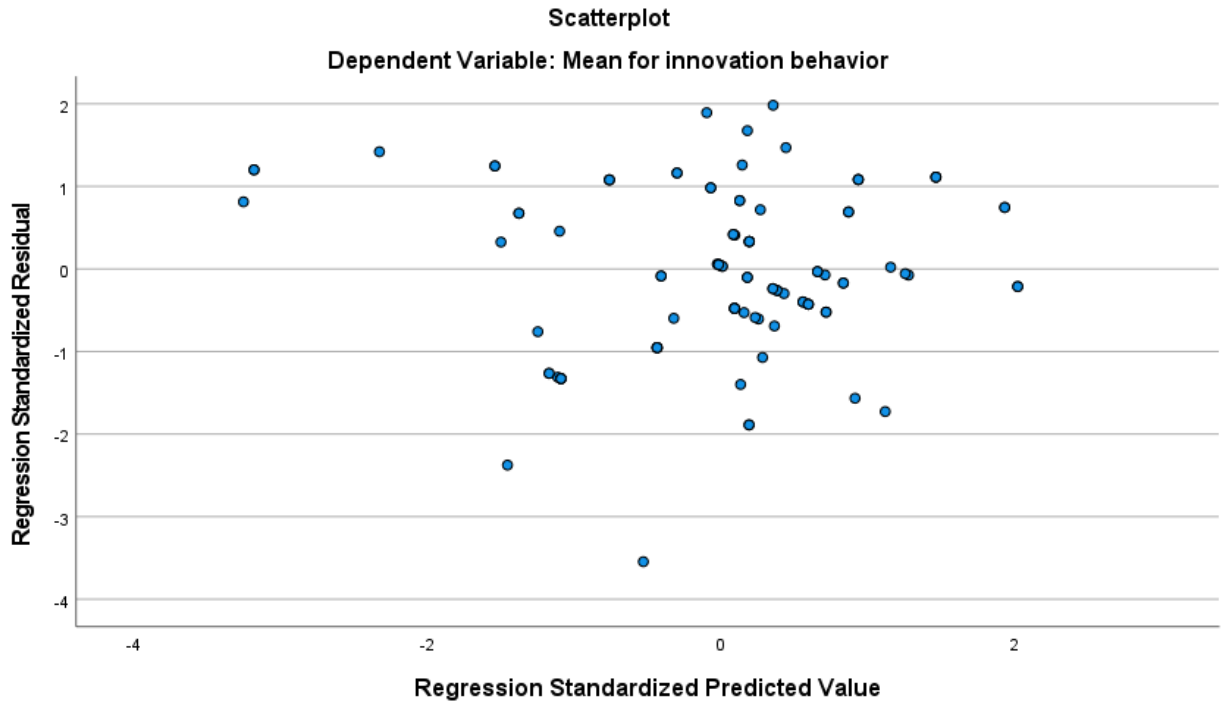
Source: SPSS data (2025)

Figure 5.2: Normality P-P Plot



Source: SPSS data (2025)

Figure 5.3: Residual-Predicted Value Scatterplot



Source: SPSS data (2025)

Appendix D: Regression Output

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.627[a]	.393	.363	.45009	2.120

a. Predictors: (Constant), Mean for transparency, Mean for collaboration, mean for continuous learning, Mean for iterative feedback, Mean for team empowerment

b. Dependent Variable: Mean for Innovation behavior

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.994	5	2.599	12.828	.000[b]
	Residual	20.055	99	.203		
	Total	33.049	104			

a. Dependent Variable: Mean for Innovation behavior

b. Predictors: (Constant), Mean for transparency, Mean for collaboration, mean for continuous learning, Mean for iterative feedback, Mean for team empowerment

Coefficients[a]								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.925	.297		6.483	.000		
	Mean for team empowerment	.035	.097	.047	.359	.720	.362	2.766
	Mean for collaboration	.048	.104	.053	.455	.650	.459	2.176
	Mean for iterative feedback	.048	.085	.071	.569	.571	.397	2.520
	mean for cotinious learning	.495	.089	.598	5.596	.000	.537	1.861
	Mean for transparency	-.078	.085	-.115	-.917	.361	.392	2.550
a. Dependent Variable: Mean for Innovation behaviour								

Correlations

		Mean for team empowerment	Mean for collaboration	Mean for iterative feedback	Mean for continuous learning	Mean for transparency
Mean for team empowerment	Pearson Correlation	1	.716**	.669**	.562**	.639**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	105	105	105	105	105
Mean for collaboration	Pearson Correlation	.716**	1	.578**	.517**	.520**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	105	105	105	105	105
Mean for iterative feedback	Pearson Correlation	.669**	.578**	1	.570**	.717**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	105	105	105	105	105
Mean for continuous learning	Pearson Correlation	.562**	.517**	.570**	1	.632**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	105	105	105	105	105
Mean for transparency	Pearson Correlation	.639**	.520**	.717**	.632**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	105	105	105	105	105

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