TRANSFORMATIONAL LEADERSHIP IN THE AGE OF AI AND EXECUTIVE DECISION-MAKING

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ABSTRACT

This study explores the role of transformational leadership in shaping the adoption and effective utilisation of artificial intelligence (AI)-enabled decision-support systems in executive decision-making. In the context of rapid digital transformation, organisations increasingly rely on AI technologies such as predictive analytics, machine learning, and intelligent dashboards to enhance decision quality, speed, and strategic outcomes. However, the effectiveness of these technologies is significantly influenced by leadership capabilities. Grounded in Transformational Leadership Theory, this research examines how leadership behaviours, idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration, impact AI adoption, trust, and decision-making effectiveness at the executive level. The study adopts a mixed-method approach, combining quantitative analysis (including reliability testing, correlation, and regression) with qualitative thematic analysis to provide a comprehensive understanding of the phenomenon. Findings indicate that transformational leadership plays a critical role in facilitating AI integration, fostering trust in AI-driven decisions, and mitigating challenges such as algorithmic bias, ethical concerns, and cognitive overload. Organisational readiness and leadership-driven vision are identified as key mediating factors influencing successful AI adoption. The study further highlights the importance of balancing human judgment with algorithmic insights to ensure responsible and effective decision-making. The research contributes to the existing literature by integrating leadership theory with AI-enabled decision-making and proposes a conceptual framework linking transformational leadership with executive decision outcomes. It also offers practical implications for organisations aiming to enhance leadership competencies in the age of AI.

Keywords: Transformational Leadership, Artificial Intelligence (AI), Executive Decision-Making, Decision Support Systems (DSS), Digital Transformation, Leadership Effectiveness

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DECLARATION

I hereby declare that this thesis entitled:

"Transformational Leadership in the Age of AI and Executive Decision Making"

submitted in partial fulfilment of the requirements for the award of the Doctorate in Business Administration (DBA) degree at East Bridge University (EBU), is my original work and has been completed under the guidance of my supervisor.

I further declare that this thesis has not been submitted, either in whole or in part, to any other university or institution for the award of any degree, diploma, or other qualification.

All sources of information, data, ideas, and materials used in this research have been duly acknowledged and referenced in accordance with academic standards and the University's regulations. Any assistance received during the course of this research has been appropriately recognized.

I confirm that the research was conducted ethically and in compliance with the academic and research requirements of East Bridge University.

Researcher: Ramesh Bairi

Signature:

Date: 5th June 2026

CERTIFICATE

This is to certify that the thesis is entitled:

"Transformational Leadership in the Age of AI and Executive Decision Making"

submitted by **Mr. Ramesh Bairi** in partial fulfilment of the requirements for the award of the Doctorate in Business Administration (DBA) degree at East Bridge University (EBU), is a bona fide record of original research work carried out by the candidate under my supervision and guidance.

To the best of my knowledge, the research embodied in this thesis is original and has not been submitted previously, either in whole or in part, for the award of any degree, diploma, or other qualification by any university or institution.

I am satisfied that the thesis meets the academic standards required for submission and examination.

Supervisor

Prof. Dr. Sanjib Neil Chakraborty

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Signature:

Date:

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Ramesh Bairi

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LIST OF ABBREVATIONS

Abbreviation		Full Form
AI	-	Artificial Intelligence
DSS	-	Decision Support Systems
TMT	-	Top Management Team
CEO	-	Chief Executive Officer
BI	-	Business Intelligence
ML	-	Machine Learning
VUCA	-	Volatility, Uncertainty, Complexity, and Ambiguity
TOE	-	Technology–Organisation–Environment
STS	-	Sociotechnical Systems
EI	-	Emotional Intelligence
SMEs	-	Small and Medium-sized Enterprises
UET	-	Upper Echelons Theory
ERP	-	Enterprise Resource Planning
NVivo	-	Qualitative Data Analysis Software
ANOVA	-	Analysis of Variance

CHAPTER 1

INTRODUCTION

1.1 Background, Rationale, and Problem Statement

1.1.1 Background of the Study

The modern business world is greatly transformed by the digitalization process along with the use of artificial intelligence (AI) to a large extent among the different players in the industry (Svetlana et al., 2022). The combination of all these technologies like big data, AI, robotic process automation, and intelligent decision-making systems has completely changed the way companies conduct their business transactions, the way they compete, and even the way they make profits (Chowdhury, 2024). Thus, the technological breakthrough has made it easier to switch gradually from traditional to more flexible and AI-assisted decision-making models (Chaturvedi et al., 2025). AI solutions have the potential to support and are being integrated into various business functions such as corporate planning, financial forecasting, human resources, logistics, risk analysis, compliance, and customer relationships (Nweke & Adelusi, 2025).

Along with those transitions, AI adoption has brought about an astonishing capability to organizations to deal with huge amounts of both structured and unstructured data, to spot hidden patterns, and to perform real-time decision making (Sultana, 2024). The organizations, having experienced the elevation of market uncertainties, the intensification of global competitions, and the occurrence of changes in the environment, now consider the operations as a must-have for survival rather than just as high-level strategic assets influencing organizing decisions (McClintock et al., 2023). Consequently, AI has transformed from being an operational capability to a strategic asset that significantly impacts organizational decisions.

The business executives are now undergoing a shift in the way their decision-making process is influenced by the aforementioned technological changes (Parra et al., 2023). Traditionally, the executive decision-making process was to a great extent dependent on the intuitive judgments of management, experience, expert opinion, and looking back on past data (Shepherd et al., 2024). While these human aspects of decision-making are essential, they are increasingly supplemented, and in some instances, overtaken by technological knowledge from algorithmic analysis, prediction models, and intelligent dashboards. This is because executives

are forced to make sense of the complex analytics, integrate the advice from divergent data analysis, and take decisions in an environment characterized by VUCA (Volatility, Uncertainty, Complexity, and Ambiguity).

This digital change has also impacted the role that executive leadership itself takes. This is because current executives have a new task added to their role (Türk, 2023). They are expected to use their judgment in the past. However, they also need to create a skill for understanding the information provided from the use of artificial intelligence. They also need to make critical adjustments towards the evaluation of data used. This is essential for ensuring that all goals, including those inspired by technology, result in a successful outcome (Kulkov et al., 2024).

In this respect, leadership effectiveness is more than technical expertise and leadership decisiveness (Bansal et al., 2025). Thus, leadership effectiveness also includes leadership over intelligent systems and leadership over human-technology interaction. Leaders need to ensure that AI is a decision-aid tool and lead instead of allowing AI to lead. The emerging leadership highlights increasingly a need for leadership style and models such as adaptation leadership and leadership guided by ethics and human-focused values (Okpe, 2025).

In the context of such a dynamic and shifting environment, the importance and relevance of Transformational Leadership have also amplified (Dong, 2024). Transformational leadership involves inspiration, motivation, intellectual stimulation, and individualized consideration, and such a quality makes it possible to inculcate innovation, flexibility, and a shared sense of vision in the individuals (Khan et al., 2025). In the context of organizations that utilize AI, such a quality becomes quite important.

Transformational leaders are important factors in determining AI perception within organizations. They do not present AI in a manner that threatens the human resource or the manager's control (Abositta et al., 2024). They present it as a catalyst for better decision-making, creativity, and strategic insight. They articulate their vision through inspirational motivation. This helps organizational members grasp the strategic fit of AI. They apply their intellectual stimulation. This aids in overcoming blind trust in AI.

1.1.2 Rationale of the Study

The justification for conducting this research can be linked to the growing reliance of modern-day organizations on AI-backed decision-making processes and the consequent need for qualified leadership to oversee such a transition. Although AI-related technologies have

immense potential for improved execution of executive decisions by being faster, better-informed, and more consistent, such technologies are also dependent on qualified leadership. Leadership has the potential to interpret AI-related technologies appropriately.

If not managed properly, AI could serve as a source of confusion, resistance, or ethics risk, as opposed to a strategic advantage. Transformational leadership becomes highly relevant in this scenario because of the importance of vision, ethics, and a human-centric focus in such a context. In an environment where AI is used, there needs to be a leadership that provides a sense of reason to adopt AI, builds trust in AI, and helps executives and associates develop the skills needed to efficiently utilize the technology.

Transformational leaders are those who advocate for critical thinking, learning, and innovation as a means of examining AI-generated insights before adopting them; hence, the alignment with values would be the basis of acceptance and not vice-versa. Such leadership is vital in preventing reliance on algorithms and in maintaining the human factor in managerial decision-making.

When viewed from an academic perspective, the logic supporting the present research is coming from the fact that the literature gap has been considerably filled. The situation on the one side is such that the body of research literature is huge regarding employees' motivation, organizational performance, and innovation. On the other side, the potential relationship regarding artificial intelligence use in decision-making processes remains comparatively unexplored. A giant body of literature discussing artificial intelligence adoption over focuses on technical performance, increased efficiency, and other improvements to existing operations.

The current work makes an effort to close that gap by integrating insights and concepts from transformational leadership, artificial intelligence, and executive decision-making. It provides a more comprehensive and interdisciplinary approach to leadership in contemporary organizations and answers the call for research that includes not only what AI can do and give but also how such application is being managed by leadership.

1.1.3 Problem Statement

AI-based decision support systems have been adopted more and more by organizations, yet considerable organizational challenges related to AI are still present in regard to the utilization of these systems at the executive management level. One of the major difficulties is the very fast development of AI systems and the inability of the top management to govern these

systems effectively and take the advantage of them. A lot of executives are compelled to decide by consulting AI systems without having a proper understanding of the underlying processes that resulted in the recommendations and the output (Bevilacqua et al., 2025).

Executive AI literacy is an important factor that weakens strategic management. It is possible that executives will not be able to critically assess the algorithm's recommendation, or will not be able to identify the possible errors or biases in the algorithm's recommendation (Leavitt et al., 2025). They also might not be able to justify the AI-based decisions. So, organizations have to deal with the increased risks of making wrong strategic decisions, ethics, or losing stakeholders' trust.

Over-reliance on AI in executive decision-making is a significant problem, but under-use is a matter of concern as well (Kotecha, 2025). Over-reliance means that executives often consider the AI outputs as unbiased, neutral, and beyond doubt, which indeed eliminates critical thinking, lowers managerial discretion, and mixes up accountability. Conversely, under-use occurs when leaders are opposing AI because of mistrust, fear of losing power, or lack of digital skills. Both extremes are counterproductive to decision-making and prevent organizations from capturing the total value of their AI investments.

Moreover, despite the substantial investments in AI infrastructure, only a few organizations have considered the development of leadership competencies as a necessary prerequisite for AI-driven decision-making (MAHABUB et al., 2025). Even fewer leadership development programs include aspects related to ethical AI governance, human-AI cooperation, and data-driven strategic reasoning. Consequently, the executives might be in danger of not connecting AI projects with crucial progressive leadership practices, communicating vision, intellectual stimulation, and individualized consideration. This lack of leadership capacity is the core of the issue that this study tries to address.

The existing body of literature extensively discusses artificial intelligence adoption, digital transformation, and transformational leadership as separate domains. However, limited empirical research has examined how transformational leadership specifically influences the adoption, governance, trust, and effective utilisation of AI-enabled decision-support systems within executive-level strategic decision-making contexts. Furthermore, insufficient attention has been given to the role of transformational leadership in balancing human judgment with algorithmic intelligence in organisational environments characterised by uncertainty, ethical complexity, and rapid technological change. This gap creates a need for an integrated empirical

investigation examining how transformational leadership shapes AI-enabled executive decision-making outcomes, organisational trust, accountability, and strategic effectiveness.

1.2 Theoretical Framework: A Brief Summary

The theoretical framework for this research is based mainly on Transformational Leadership Theory and merges it with other modern approaches related to artificial intelligence and executive decision-making. The objective of this theoretical framework is to provide an understanding of the impact of leadership styles upon the acceptance and utilization of artificial intelligence-based decision-support systems in executive-level decision-making. With rising environmental complexities and increasing use of intelligent technology (Miao & Nduneseokwu, 2025), there is a need for an appropriate theoretical basis in understanding leadership, technology, and decision outcomes.

1.2.1 Evolution of Leadership Theories

Theories on leadership have developed considerably through the years in response to developments that took place in organizational forms, labour composition, as well as environmental factors (Leso et al., 2023). The early stages in the study of leadership were dominated by theories that relied on the measurement of personal attributes such as intelligence, confidence, and authority (Cichocka et al., 2024). These theories were consistent with the early forms of industry organization. While early theories were instrumental in creating a list of personal qualities linked with effectiveness in leadership, they were ineffective in explaining why people possessing a set of qualities behaved differently (Qu et al., 2024).

The emergence of behavioural leadership theories that redirected attention from the personality of leaders to their actions was a consequent change to these limitations (London, 2023). Theories embraced by leaders who took on different roles during the group process and among group members, also pointed out that leadership could be perfected through practice and coaching. Behavioural practices became a fruitful source for management teaching and leadership training activities (Gezahagn et al., 2024). However, their basic assumption of certain leadership behaviours being universally effective proved inadequate as organizations started to become more diverse, dynamic, and knowledge-intensive (Roham, 2025).

For these weaknesses, the contingency and situational leadership theories were developed. These respective approaches suggested that there is effectiveness in leadership through an appropriate fit of the leadership style against the contextual factors like task structure, follower readiness, organisational culture and environmental uncertainty (Hezso & Tatarevic, 2025).

Contingency theories, although consider situational variability, were poorly equipped to explain the nature of environments that are subjected to rapid technological change, competition induced by innovation, and continuous transformation.

The latter part of the twentieth century introduced a paradigm shift to more relationally oriented or value-driven notions of leadership such as charismatic, servant, or transformational leadership (KAPUCU, 2026). Of these, transformational leadership became very popular because it was able to account for leadership effectiveness in situations of complexity, ambiguity, or change-oriented situations. The increasing awareness about complexities of modern organizations has led to an increasing need for leadership concepts that are able to tackle ambiguity, encourage innovation, and bring about transformations.

1.2.2 Transformational Leadership Theory

Transformational Leadership: Transformational leadership is an ethical form of leadership that is centred on improving the levels of motivation of the person being led and on improving individual and organizational goals by generating innovation and changing ideas and concepts (Saefullah et al., 2025). It is more ideal and appropriate for settings where the organization is challenged by technological changes and uncertainty of organizational strategies and goals that need to be accomplished. Transformational leadership is not transactional.

Transformational leadership is described using four primary factors: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Khan et al., 2025). Idealized influence is known as a leadership approach where the goal is to serve as a good example for others by being ethical, honest, and having integrity. Another type is inspirational motivation, where the aim is to share a vision with others that drives them to achieve a common goal or objective. Intellectual stimulation is where the purpose is to question people and motivate them to innovate (Gupta, 2025).

Taken together, these factors provide a means for leaders to influence the culture of the organization, develop resilience, and navigate the organization during uncertain and transient times (Kayyali, 2025). Transformational leadership is largely recognized for its association with a wide range of favourable outcomes at the organization level, including increased innovation, employee engagement, learning capability, and change at the strategic level in organizations, particularly in a knowledge-driven sector where learning is critical for success.

With respect to executive-level leadership, transformational leadership goes far beyond the aspect of motivating workers (Taylor, 2024). Executives following the transformational leadership approach tend to promote critical thinking, embracing innovation, as well as ethics, which is imperative, given the fact that the decision-making process is being democratized by complex technological tools like artificial intelligence.

1.2.3 Artificial Intelligence and Executive Decision-Making

The employment of artificial intelligence in the family of executive decision-making is now a necessity rather than a trend (Bevilacqua et al., 2025). AI tools such as predictive analytics, machine learning, and intelligent dashboards have given upper management the power to process large amounts of data, identify trends, and build scenarios for evaluating various strategic choices. Decision-taking on top levels, especially when the situation is marked by high unpredictability, intricacy, and rapid changes, is tremendously expedited, precise, and trustable with the help of these technologies (Bajpai & Sameer, 2025).

In the past, the decisions that were to be made at the executive level were predominantly based on experience, gut feeling, and rather small historical data. The above-mentioned factors are still playing an important role in the process of decision-making, but at the same time a new paradigm of AI has been born which that enhances human capabilities with new and better forms of analytic approaches (Gupta et al., 2025). Executives are now able to spot trends, assess risks, and keep track of performance in a continuous manner.

On the one hand, the use of AI in executive decision-making still poses various difficulties. The aforementioned bias, quality of data, transparency, explainability, and accountability concerns related to AI can compromise or even negate the legitimacy of the choices made (Hosseini Tabaghdehi & Ayaz, 2025). For instance, AI might not only be biased when it comes to suggesting the best course of action but also counter to the organization's or society's values and norms. However, on the other hand, some AI models can create situations where the executive finds it difficult to understand the reasoning behind the generated decision or even the decision itself (Bevilacqua et al., 2025).

These challenges indicate that AI does not eliminate the need for leadership to use judgment but rather makes the leadership role more critical in choosing how AI's power can be exploited (Quaquebeke & Gerpott, 2023). Relying on AI too much might lead to a situation where critical thinking and managerial discretion are no longer present. At the same time, if AI is not used to

its fullest, the company might lose the potential to gain the full benefit of the investment in such technologies.

1.2.4 Transformational Leadership in AI-Enabled Organizational Contexts

Transformational leadership, furthermore, gives a critical structure for the management of human judgment-machine intelligence interaction in AI-enabled firms (Chen & Fan, 2025). The intellectual stimulation aspect is particularly significant in this scenario, as the higher-ups are encouraged to evaluate critically the AI-generated insights rather than to just accept them without reservation (Trueman, 2025). Transformational leaders are, thus, eliminating the chance of total reliance on algorithmic outputs and promoting decision-making through questioning and reflecting to the extent that they think it is worthy (Al Masaeid et al., 2025).

Leaders' inspirational motivation enables them to draft the vision of AI adoption, so to speak, not just in broad strokes but also in a very concise and understandable manner, thus making the members of the organization see how AI will be in line with the strategic objectives and the organization's values (Oduor, 2025). Consequently, this not only eliminates but also lessens the degree to which uncertainty, anxiety, and resistance occur with regard to the changes brought about by technology (Wang et al., 2025). Idealized influence strengthens ethical leadership practices and accountability in managing AI through governance, thus pushing leaders to be good examples of responsible technology. It is the ethical conduct and communication of the leaders that eventually gain them trust not only in AI but also in the entire decision-making process (Manda et al., 2025).

Individuated consideration lifts the bar for enabling organizations to move through and become equipped with AI, thereby making it even more necessary to make use of digital skills of one and all and not just to recognize the existing ones (Worapongpat & Kangpheng, 2025). Through a focus on training and development, transformational leaders improve the readiness of their organizations for successful adoption and integration with AI. Through these processes, transformational leadership promotes a successful partnership between humans and AI (Bočková et al., 2025).

This study unites transformational leadership theory with adoption and decision-making perspectives on artificial intelligence to elaborate a conceptual framework that directs the research (Dissanayake & Al-Sharify, 2025). The framework posits that transformational leadership behaviour affects the adoption, effective use, and control of AI-assisted decision-support systems, which in turn leads to improved quality of decisions, trust, accountability, and

strategic outcomes at the executive level (Uddin, 2025). This combined viewpoint is the foundation for the empirical investigation carried out in the following chapters.

1.3 Significance of the Study

There are three reasons why this research is considered very important: it caters to the needs of academia, management, and society; ultimately, it will provide a clearer picture of the factors that make leadership effective in an AI enhanced environment. The study pursues a twofold strategy: it first of all and foremost provides an academic boost by bridging the gap between the theory of transformational leadership and the practice of AI-driven executive decision making, which is quite a huge gap to fill. At the same time, it engages with the modern debate regarding the applicability of the concept of transformational leadership in general; besides, it also focuses on its role in the AI-supported decision-making processes. The main problem in this area is that the research conducted in the field of leadership has predominantly emphasized the positive sides of the technology, which are the motivation and performance of the employees, whereas the negative aspects, such as the potential loss of human intuition and creativity due to the adoption of AI, are still waiting for proper addressing. By bringing together these two research areas, the study not only helps to develop cross-disciplinary knowledge but also provides a new viewpoint on the phenomenon of transformational leadership in the digital age through the creation of a conceptual model that illustrates how the leaders' input is vital in the adoption, understanding and outcomes of AI-aided executive decisions.

The managerial perspective of the study is very practical for the executives, senior leaders, and policymakers who drive digital transformation initiatives. Leadership capabilities are the main factor that will determine whether AI-based decision-support systems, which are heavy investments of organizations, will be adopted and used in a responsible manner. The research supports the claim that transformational leadership is able to influence the decision's quality, speed and strategic alignment, hence, trust, accountability, and even acceptance of AI-driven decisions among management and stakeholders is created. The aforementioned points are relevant to the human–AI cooperation aspect of the organization, and they can certainly be included in the leadership development programs. The societal dimension of the research highlights that the integration of AI in the decision-making process of top management should be done ethically and responsibly since the decisions have an extensive reach over employees, customers, investors, and society. The research calls for the establishment of leadership patterns that embody the values of honesty, justice, and responsibility, thereby assisting in the

creation of governance structures that ensure the congruence of AI technology application with organizational tenets and societal demands. Consequently, the study has been acknowledged as a participant in the ongoing process of convincing that technological progress should be seen as a win-win situation for both firms and society. In conclusion, this research not only engages in the development of the theory but also provides management practice with insights and supports responsible leadership in the era of AI decision-making.

This study offers originality by integrating transformational leadership theory with AI-enabled executive decision-making within a unified empirical framework. Unlike previous studies that examine leadership and artificial intelligence independently, this research investigates how transformational leadership dimensions influence AI adoption, trust, accountability, strategic decision quality, and executive decision effectiveness simultaneously. The study further contributes by proposing and empirically examining a conceptual framework that explains the interaction between transformational leadership behaviours and AI-assisted executive decision-making processes in contemporary organisations.

1.4 Research Aim

The fundamental aim of this research is to explore how transformational leadership affects the use and mastery of AI-enabled decision-support systems in executive decision-making, and meanwhile, to quantify the leadership's quality, speed, strategic impact, trust, and accountability. Further, the research proposes to develop a conceptual model that clarifies the position of transformational leadership in the enhancement of executive decision-making under the rapidly changing conditions imposed by AI.

1.5 Research Objectives

- To explore how transformational leadership styles shape the adoption and effective use of AI-based decision-support systems by senior executives.
- To understand how AI-assisted decision-making influences the quality, speed, and strategic impact of executive decisions within a transformational leadership environment.
- To identify the organizational, cognitive, and ethical challenges transformational leaders face when integrating AI tools into executive decision-making.
- To examine how AI tools, such as predictive analytics, intelligent dashboards, and decision-support systems, support and strengthen strategic decision-making under transformational leadership.

- To assess the role of transformational leadership in fostering trust, accountability, and acceptance of AI-driven decisions among executives and key organizational stakeholders.
- To develop a conceptual framework that explains how transformational leadership can enhance executive decision-making in an era of rapid AI-driven technological change.

1.6 Thesis Organisation

The five-chapter thesis is a logically comprehensive exploration of transformational leadership in the age of AI: its definition, operation, and impact on executive decision-making. Each chapter flows from the previous one, from grounding within the conceptual to the empirical investigation, through to the implications for theory and practice.

Chapter 2 of the thesis offers a thorough analysis of literature currently in place that relates to transformational leadership, artificial intelligence, and executive decisions. The chapter defines its literature review and how it has been conducted, in addition to literature search terms, databases used in searching literature, and literature search engines used in searching literature. The chapter also defines literature themes related to transformational leadership in addition to sub-themes of artificial intelligence and executive decisions. The chapter therefore identifies some of the gaps in literature and refines literature questions and objectives in relation to knowledge gained from literature analysis conducted in the chapter. The chapter finally concludes by summarizing literature analysis results as well as its thesis background and ambitions.

Chapter 3 provides a description of the methodological framework used to tackle the research questions and objectives. The research design, theoretical underpinning, and research methodology used in this study have been explained in this chapter. The chapter provides an overview of the research setting, participant selection, sample size, and sampling method used for this research. Data collection methods, research process, and reflexivity have also been explained to make it clear and transparent. The research ethical considerations and data analysis process have been fully explained to provide a rationale for methodological decisions, ensuring research results accuracy and validity.

Chapter 4 presents the empirical research work is presented in Chapter 4 where it provides an analysis of the data. This commences with the constitution of the chapter and the demographic profile of the participants. This is followed by the quantitative analysis of the research along with the qualitative data emanating from the research instruments. Several themes emanating

from the data analysis are brought forth, where the qualitative and quantitative research data is combined to respond to the research questions. The themes are interpreted in line with the research framework and the literature review, where the aspect of transformational leadership in the executive decision-making process via AI is under evaluation.

Chapter 5 conclude the thesis by summarizing all research carried out and synthesizing the major findings. It informs about the knowledge and gives recommendations to the top management and organizations in the areas where artificial intelligence is widespread. The limitations of the present study are also described and the future research directions are set down. This thesis concludes with the making of the point about the importance of transformational leadership in allowing better executive decisions through the current AI setting.

Transformational Leadership Theory was selected as the primary theoretical foundation for this study because of its strong relevance to organisational change, innovation, strategic adaptability, and human-centred leadership within technologically complex environments. Unlike transactional or purely managerial leadership approaches, transformational leadership emphasises vision creation, intellectual stimulation, ethical influence, and organisational motivation, all of which are critically important in AI-enabled executive decision-making environments characterised by uncertainty, rapid digital transformation, and evolving strategic challenges.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The Fourth Industrial Revolution has transformed decision-making processes within organizations through its introduction of artificial intelligence (AI) technologies which executive staff members use to create business strategies. The executive models from previous time's depended on past experience and past research but present-day leaders work in environments which use algorithms to support their tasks. Strategic management now requires new cognitive and decision-making systems because technological changes have created new systems for managing authority and accountability. Academic research demonstrates that decision systems now operate through intelligence-based systems instead of information-based systems (Parra et al., 2023). The current AI systems operate beyond their basic role as tools because they control executive decision-making through their power to determine which data needs processing and which data needs ranking. The fast pace of current technological progress has outpaced the speed of leadership theory development which has not progressed at the same rate. The research studies about AI implementation currently focus on assessing technical system performance while leadership studies disregard particular technological aspects. The literature review assesses how Transformational Leadership affects AI-enabled executive decision-making through research analysis of studies from management information systems and organizational psychology. The review examines multiple studies to compare their theoretical frameworks and identify their research limitations and show how their findings differ across different empirical settings. The following elements receive special examination:

- The strategic repositioning of AI from operational support to executive cognition partner
- The adequacy of Transformational Leadership theory within digital transformation contexts
- Ethical governance and trust formation in algorithmic environments
- The emerging concept of augmented leadership

Collectively, the review demonstrates that although AI and leadership have been studied extensively as independent domains, their integrated examination at the executive level

remains underdeveloped. This gap establishes the necessity for an empirical investigation grounded in a unified conceptual framework.

2.1.1 Type of Review

The research topic requires advanced complexity research, as it requires experts from multiple fields to study it. The research team selected this specific approach because it helps them create their own unique review process, which differs from standard systematic reviews and meta-analyses. The systematised research review process uses strict protocols to select and evaluate evidence because it aims to solve a particular research problem through its detailed research approach. Systematic reviews maintain high research standards, yet they limit their examination to particular types of research, which exclude all qualitative studies and theoretical articles that lack specific statistical validation. A meta-analysis extends beyond its original definition by using statistical methods to merge results from earlier research studies in order to determine the overall impact of the measurement. Meta-analyses provide strong support for quantitative agreement, yet they fail to investigate new research areas such as AI in executive decision-making because existing quantitative data remains incomplete and continues to develop.

Researchers need to conduct integrated literature reviews when they need to integrate their research work through a systematic review and evaluation of existing literature about their subject matter (Bajpai & Sameer, 2025). This method lets researchers use different research methods, which include quantitative surveys, qualitative case studies, theoretical conceptualizations and industry reports to create a comprehensive understanding of the studied phenomenon. The study needs an integrative approach because of multiple reasons that support its use. The combination of Transformational Leadership and AI creates a research area that includes two different academic fields, which are management/organisational behaviour and information systems/computer science. An integrative review enables researchers to connect both fields through their analysis of technical AI capabilities and the examination of leadership effectiveness. The research area experiences rapid growth because new theoretical publications and thought leadership articles are published before researchers complete their empirical studies. The review includes these sources to present the most recent scientific debates that empirical studies cannot address about future research directions.

The review presents both descriptive and critical elements. The text evaluates existing arguments by showing their strengths and weaknesses while revealing existing contradictions

from the literature and tracking the development of conceptual frameworks. The critical synthesis serves as the foundation for developing the thesis conceptual framework, which demonstrates that the existing knowledge research model will be built through a detailed study of existing research and identification of research gaps.

2.1.2 Key Words

The search strategy used 1specific keyword combinations, which were developed through Boolean operators, to conduct complete literature searches. The selected keywords of the study include three main aspects, which include independent variable leadership, dependent variable decision making and artificial intelligence technological environment.

Leadership Constructs: The primary terms used included "Transformational Leadership", "Executive Leadership", "Strategic Leadership" ", C-Level Leadership ", Top Management Team TMT) ", Chief Executive Officer CEO" and "Digital Leadership". The secondary terms included "Leadership Styles", "Leadership Behaviour," and "Leadership Effectiveness"

Technology Constructs: The research study used "Artificial Intelligence", "Machine Learning", "Deep Learning" ", Predictive Analytics ",, Big Data Analytics ",, Decision Support Systems DSS",, Intelligent Dashboards", "Algorithmic Management" and "Business Intelligence BI" to identify specific technologies which they investigated.

Decision-Making Constructs: The research needed a specific outcome target, which required the use of decision-making terms that included Executive Decision-Making, Strategic Decision-Making, Managerial Decision-Making, Decision Quality, Decision Speed, Strategic Choice, and Organisational Performance.

Mediating/Moderating Constructs: The research needed additional terms, such as Trust, Accountability, Algorithmic Bias, Ethics, Cognitive Bias, Human-Computer Interaction, and Technology Acceptance, to accurately describe the three factors that determine trust and ethics and cognitive reasoning processes.

Boolean operators (AND, OR) were applied to combine the terms, which produced results that either expanded or restricted the search results. A typical search string requires the following structure: ("Transformational Leadership" OR "Strategic Leadership") AND ("Artificial Intelligence" OR "Machine Learning") AND ("Executive Decision-Making" OR "Strategic Choice"). The structure of the system retrieved literature that matched the exact intersection of these fields instead of retrieving general research about leadership and AI.

2.1.3 Search Engines Used

The research team conducted their literature search using top-tier academic databases and online digital archives, which provide complete access to social sciences, management and technology research materials. The research team needed to access various databases because they wanted to prevent single-source bias, which would have restricted their research to one field of study.

Scopus: Researchers used Scopus as their main database because it provides complete access to peer-reviewed research materials, which cover scientific and technological, medical, social scientific and artistic disciplines. The researcher used the system's advanced citation tools for tracking purposes to find important publications that showed how major concepts changed throughout different time periods.

Web of Science (WoS): The Web of Science Core Collection was accessed for its rigorous selection criteria, which indexed only high-impact journals and conference proceedings. WoS provides strong citation indexing tools, which enable users to conduct backwards and forward citation searches that help find both essential theories and current research developments, similar to Scopus.

Emerald Insight: The research needs of management and leadership studies required to function as a primary information source, which contained numerous peer-reviewed management journals and business case studies that studied organisational behaviour and leadership dynamics during technological transformations.

Science Direct: The database was chosen because its extensive collection of technical content about computer science and engineering enabled researchers to assess how AI tools perform in management situations.

IEEE Xplore: The technical details were used to verify the AI tools, which included predictive analytics and intelligent dashboards. The research provided access to decision-support system design and architecture literature, which served as a technical alternative to management-focused studies.

2.1.4 Timeline

The literature search period was chosen as the optimal time frame because it needed to provide both historical information and present-day essential requirements. The search focused on literature published between 2010 and 2026. The year 2010 was chosen as the starting point because it roughly coincides with the early stages of "Big Data" becoming a corporate buzzword and the initial proliferation of cloud computing, which laid the infrastructure for modern AI. The literature from this time period contains the first explorations of how data-based decision-making operates. The main analysis examined literature published during the years 2020 to 2026 because this period contained the majority of the reviewed sources. The current period exhibits three main changes, which include the full development of Generative AI technology, the common use of machine learning in enterprise resource planning systems and the rapid digital changes that occurred because of worldwide events like the COVID-19 outbreak. The review utilises this recent time period to present current insights because its findings demonstrate existing challenges, which show the current state of the Age of AI instead of showing outdated historical information.

2.1.5 Review Process

The review process executed a three-part review process, which maintained literature assessment standards through its structured framework. The process conducted throughout the study adhered to established methods used for integrative reviews.

1. Identification: The first stage required researchers to execute search strategies, which Section 2.1.2 established across all databases listed in Section 2.1.3. The search resulted in developers acquiring access to a wide range of sources, which included articles, conference proceedings and book chapters.

2. Screening: The process examined all existing records through a review of their titles and abstracts. The research team eliminated articles from consideration because they included technical content that described algorithm development without showing any connection to management or organisational effects. The research team eliminated duplicate records from the study.

3. Eligibility: The team conducted research that used full-text articles to evaluate their eligibility through specific inclusion and exclusion criteria. Articles were included if they:

- The publication appeared in either peer-reviewed academic journals, recognised academic books or reputable conference proceedings.
- The content of the article examined how leadership interacts with both AI and technology through the lens of transformational or strategic leadership.
- The article described how decision-making occurs at either strategic, executive, or TMT decision-making levels.
- The content of the article existed in the English language.

4. Analysis and Synthesis: The researchers established their final analysis step when they conducted a comprehensive evaluation of their chosen texts. The analysis process identified primary themes and patterns and theoretical contributions while it did not provide an overview of individual papers. The researchers examined the literature to find areas where studies contradicted each other, which created gaps between researchers and established areas of agreement. The synthesis used thematic framework structured in Section 2.1.6 as its organizational method to progress through technological context, leadership response and human, ethical, technological impacts of the review.

2.1.6 Chapter Outline (Themes and Sub-Themes)

The author organized literature into five larger thematic domains so as to assist in theorising and discussing the issues of investigation.

Theme 1: The Evolution of AI in Organisational Strategy and Executive Cognition

- AI as a Strategic Asset vs. Operational Tool
- Impact on Organisational Hierarchy and Decision Speed
- Upper Echelons Theory in the Age of Algorithms

Theme 2: Transformational Leadership in the Context of Digital Transformation

- Leadership Preparedness and Adaptability
- The Role of Emotional Intelligence and Digital Wellbeing
- Competency Development for the Digital Leader

Theme 3: The Mechanics of AI-Enhanced Decision Support

- Predictive Analytics and Intelligent Dashboards
- Training, Development, and Managerial Effectiveness
- AI in SMEs vs. Large Enterprises

Theme 4: Ethical, Trust, and Cognitive Dimensions of AI Leadership

- Ethical Governance and Algorithmic Bias
- Building Trust in Human-Machine Partnerships
- Cognitive Challenges and Accountability

Theme 5: Human-AI Collaboration and Augmented Leadership

- Augmented and Hybrid Leadership Models
- AI Virtual Assistants and Team Innovation
- The "Technological and Human" Model

2.2 Discussion of the Mentioned Themes and Sub-Themes

2.2.1 Theme 1: The Evolution of AI in Organisational Strategy and Executive Cognition

Organizations undergo a total transformation of their strategic direction through the adoption of artificial intelligence which becomes an integral part of their basic operational procedures. The section investigates how AI developed from its initial role as a support function to become an essential strategic asset while showing its impact on executive management decision-making processes and organisational power structures.

1. AI as a Strategic Asset vs. Operational Tool

Organisations implemented technology solutions for their business operations because they wanted to achieve faster operations through their processes while lowering costs and increasing operational accuracy. The traditional perspective regarded IT as a facility that produced expenses for the business (MAHABUB et al., 2025). The last decade of research shows a major change because AI now functions as a vital business component instead of an operational resource.

(Krishnan, 2026) Conducted a regional study that showed more than 450 executive leaders in the UAE smelting and manufacturing sector. The study found that the majority of leaders in these heavy industries now consider AI a significant opportunity rather than a threat. The organisation obtained three strategic advantages, which included greater operational efficiency, better risk management and increased capacity to develop innovations. The results demonstrate that industries that depend on physical assets and operational processes now understand that artificial intelligence enables them to develop innovative business models and create new product value.

The authors of this research (Kulkov et al., 2024) claim that artificial intelligence-based sustainable development solutions need to evaluate organisational systems, technical systems and processing systems, which help organisations reach international objectives. The study shows that artificial intelligence's strategic value extends to environmental governance outcomes, which make it a permanent business solution for organisations that aim to sustain their operations (Tironi & Lisboa, 2023). The organisation requires artificial intelligence technology because it functions as a crucial business resource that directly affects both organisational survival and ethical business practices.

The process of shifting operational tools into strategic resources creates multiple sources of resistance. (Krishnan, 2026) demonstrated that executives showed different perceptions of the situation. The leaders recognised that the technology could transform their organizations but they showed deep worry about how it would affect their workers and protect their confidential information. The process of adopting artificial intelligence technology for strategic purposes depends on two opposing forces. The organization requires special human resource system which enables complete implementation of its existing technology for strategic deployment.

The literature suggests that the successful reclassification of AI from an operational tool to a strategic asset depends largely on the ability of leadership to articulate a narrative where AI enhances rather than replaces human potential. The organisation treats AI as a tactical efficiency tool when its leaders use AI to reduce employee numbers (Rožman et al., 2023). The organisation treats AI as a strategic asset when its leaders understand AI to enhance human abilities for entering new markets and developing innovative products. The AI era requires executives to understand their distinct responsibilities which are separate from their general leadership duties.

2. Impact on Organisational Hierarchy and Decision Speed

AI technology currently influences how organizations select their management systems because it impacts their operational speed. Organizations used a hierarchical system to make decisions, which required data to be passed up the hierarchy before decisions reached the lowest level. The organization maintained operational control through this system, but it created operational delays which affected the organization's performance.

(Dissanayake & Al-Sharify, 2025) Conducted a qualitative study of Swedish tech-driven companies, which showed that AI technology allows for faster decision-making and better analytical performance through their application of the Technology-Organisation-Environment

(TOE) model and Sociotechnical Systems (STS) theory. The AI system enables organisations to shorten their response times through automated data processing and instant access to operational information. Organizations who use compressed decision-making processes gain an advantage because they can adapt more quickly to market changes which serves as the foundation of their competitive strength in the modern digital environment.

The research showed that AI systems provide access to hidden performance data through intelligent dashboards which let lower-level managers view data that was previously restricted by organizational rules. The organizations that adopt this approach encounter difficulties because their existing power structures have been disrupted. (Dissanayake & Al-Sharify, 2025) observed that "redistribution of power" occurs when data scientists and algorithmic tools control strategic decision-making processes which enable them to bypass established managerial oversight systems.

The phenomenon requires organisations to establish new hierarchical structures. The literature suggests an organisational shift from conventional vertical structures toward flexible networked systems, which establish authority through data proficiency instead of hierarchical positions. The transition requires executive leaders who must manage decision-making processes across multiple distributed teams while maintaining overall strategic direction (Taylor, 2024). The leader now operates as the "conductor" who leads an AI-based decision-making system that maintains execution speed within ethical and strategic oversight limits.

3. Upper Echelons Theory in the Age of Algorithms

The Upper Echelons Theory (UET) developed by Hambrick and Mason states that organisational outcomes depend on the value system, intellectual capacity, and character traits of the top management team (McClintock et al., 2023). The theory originally used measurable demographic factors, which included age, tenure and functional background, to estimate executive cognitive abilities.

(Bevilacqua et al., 2025) developed this framework further through their qualitative research, which used semi-structured interviews with senior executives. The study investigated the effects of AI implementation on current management operations, while it generated new ethical difficulties for organisations. The research expands leadership theory by introducing a new element to the upper echelons framework, which shows how technology impacts executive cognitive processes.

(Bevilacqua et al., 2025) identified four major areas of AI impact on TMTs: hybrid decision-making processes, ethical governance, AI-enabled organisational oversight, and competitive advantage development. The researchers demonstrated that artificial intelligence functions as a separate cognitive entity that examines the decision-making limitations existing in executive teams. The new framework establishes TMT cognitive properties that combine human cognitive abilities with machine learning systems.

The research conducted by (Bansal et al., 2025) examined how C-suite executives make decisions from two contrasting approaches to decision making, which they describe as individualistic and collectivistic. Their research shows that AI integration will succeed only when people use their natural decision-making methods. Individualistic leaders use artificial intelligence to support their personal beliefs, while collectivistic leaders use AI data to reach a shared agreement among their team members. The way people interact with technology explains how their personal characteristics control their behavior according to UET researchers who established technology readiness as a new demographic factor affecting team decision-making.

The UET extension demonstrates its significant effect on various fields. The research shows that studies which research executive decision-making must include both executive leaders and their algorithmic partners. The organisation adopts all existing AI model defects as its permanent knowledge base (Roham, 2025). The executive team needs to develop three essential skills because they must evaluate AI systems and choose appropriate tools for their organisation. The research demonstrates that AI implementation changes traditional managerial functions because executives need to become meta-cognitive experts who work with machines to evaluate their own thinking abilities.

2.2.2 Theme 2: Transformational Leadership in the Context of Digital Transformation

Organisations that implement digital transformation changes need different leadership styles for their operational requirements. The study investigates how Transformational Leadership functions to handle three specific challenges, which include uncertainty, cultural transformation and emotional requirements of the AI era.

1. Leadership Preparedness and Adaptability

Digital transformation needs more than technology updates because it delivers complete operational changes to enterprises, which need to change their business practices. The ability

of leadership to manage this transformation process stands as the main factor that determines organisational success.

(Sacavém et al., 2025) performed an extensive literature review using the Web of Science and Scopus databases to show that successful digital transformation leadership demands organisations to combine their technology adoption processes with their organisational learning and collaborative and agile practices. The study showed that digital leaders who succeed use digital tools for two purposes: first, to improve operational efficiency and second, to strengthen their team's bond and make better decisions.

The research discovered that adaptive leadership traits function as essential elements for organisational success. Organisations need transformational leaders who can adapt their approaches while establishing a workplace environment that supports ongoing learning to maintain their market position. The literature indicates that organisations need "preparedness" because they must develop the ability to adapt when AI technologies create new business model challenges. The research (Dong, 2024) results demonstrate that environmental dynamism creates a framework that uses transformational leadership and strategic flexibility for organisational growth in unstable environmental conditions.

Transformational leaders use their intellectual stimulation skills to create an environment that supports organisational change. Through their method of challenging existing practices, they enable their team members to develop new business approaches that view AI as a valuable chance to expand their company instead of treating it as a danger to their established processes. The organisation needs this solution because traditional companies experience permanent resistance to change, which creates a barrier against all innovative developments.

2. The Role of Emotional Intelligence and Digital Wellbeing

The workplace experiences new stressors, which result from remote work practices, together with ongoing connectivity requirements, algorithmic monitoring systems and worker anxiety about losing their employment. The current job market considers "soft skills" as the most difficult competencies to acquire, according to this situation.

(Harry & Saidi, 2025) studied how Transformational Leadership and Emotional Intelligence (EI) function as critical skills needed for contemporary work environments. The study discovered that leaders who possess emotional intelligence skills demonstrate better abilities to handle technological changes while they maintain employee health and work dedication.

The research shows that organizations reach digital well-being and work-life equilibrium through the combined use of transformational leadership and high emotional intelligence.

The AI decision-making process depends on this component which must be present for the system to function completely. Leaders who possess elevated emotional intelligence abilities can recognise their teams' concerns about algorithmic job elimination, and they manage those concerns through personalized support which stands as one of the four primary elements of transformational leadership. The organization possesses a talent to detect concealed emotional dynamics which standard data analysis methods cannot identify.

The existing research demonstrates that AI systems do not possess the ability to understand human emotions. The system generates recommendations for employee terminations by using efficiency data without considering the impact on human resources. The transformational leader functions as the moral balance who prevents AI "efficiency" from diminishing "humanity." The essential human-centred approach of transformational leadership protects against the risks of AI technologies, which might dehumanise people, because it makes sure that technology exists to benefit society instead of creating the opposite result. (Harry & Saidi, 2025) demonstrate that these leadership traits produce positive effects on employee performance and happiness, which leads to better work outcomes. The digital economy treats emotional capital as a vital asset, according to their findings.

3. Competency Development for the Digital Leader

The complexity of Industry 4.0 ecosystems has expanded rapidly because their ecosystems now require leaders to develop specific skills that enable them to handle both technological progress and their organisational duties. The question arises: Can one learn to be a transformational leader in the age of AI, or is it an innate trait? (Harbera, 2025) proposed a competency-based conceptual study which establishes a seven-stage developmental process for achieving transformational leadership skills. The framework shows that organisations need to assess three key elements, which include practical learning, emotional intelligence development, and adaptive thinking. (Harbera, 2025) outcomes show that people develop leadership skills through two methods, which involve self-reflection and real-world experience.

The study found its most valuable finding through its analysis of how technology functions as a crucial element for developing leadership skills. Virtual and augmented reality digital immersive learning environments, the research demonstrates that these technologies enable future leaders to practice complex artificial intelligence decision-making situations, which they

need to master before their actual work begins. The transformational principle of intellectual stimulation, the program motivates leaders to challenge their existing knowledge by exploring unfamiliar educational practices (Gezahagn et al., 2024) . Future leaders will develop their skills in digital simulation environments, which will let them practice working with AI systems before entering actual business settings. The executive development process has undergone its most fundamental change because organisations now use experiential learning through technology for their executive training programs instead of traditional apprenticeship training.

2.2.3 Theme 3: The Mechanics of AI-Enhanced Decision Support

The previous section examined how organisations adapt their strategies through AI technologies and their need for new leadership capabilities, while this section will analyse the operational functions of executive decision-making tools that enhance their decision-making processes. The research investigates how predictive analytics, intelligent dashboards, and machine learning algorithms operate as both technical tools and organisational performance drivers that support managerial development and organisational knowledge acquisition.

1. Predictive Analytics and Intelligent Dashboards

The contemporary executive faces an overwhelming amount of information while struggling to find useful business intelligence. Executives can use AI tools, which include predictive analytics and intelligent dashboards, because these tools help them analyse data more efficiently while delivering better forecasts. The tools function as the organisation's digital monitoring system, which tracks online activities throughout the entire organisation. (Vargas Portillo, 2026) demonstrated through his theoretical and case-based research that companies that implement AI-based leadership development systems together with decision support tools gain substantial advantages that enhance both their managerial operations and decision-making processes. The research demonstrated that executives can use predictive analytics to identify two types of analysis, which include prescriptive analysis that shows what actions need to happen and predictive analysis that forecasts future events. The implementation of strategic agility depends on this transformation (Svetlana et al., 2022). Intelligent dashboards present their findings as visual data, which enables TMTs to understand complex market dynamics through a quick visual assessment.

The researchers (Chaturvedi et al., 2025) discovered that "Tech-Driven Transformation" creates specific changes in the process of making strategic decisions. According to them, the tools provide users with new capabilities to create more detailed scenario plans that they could

not achieve before. The literature indicates that people need to learn how to use these tools because their benefits do not come to them automatically. (Vargas Portillo, 2026) emphasised that organisations need to implement AI analytics with traditional mentoring methods and human-centred leadership approaches to achieve success. The dashboard performs according to its actual value, which depends on the data governance systems that back it. The executive intelligence system provides flawed information because it lacks both system audits and proper data controls, which results in errors that occur from incorrect data processing. The human leadership functions that guide AI operations determine how effectively AI tools perform their mechanical tasks.

2. Training, Development, and Managerial Effectiveness

AI technology provides decision-making assistance while it helps development of leaders and their ability to oversee employees. The research demonstrates that AI systems function as tools that enhance equal access to leadership training programs. The methods used to develop leaders in the past followed a subjective process, which benefited candidates whom current executives designated as "high potential", while the procedure itself remained vulnerable to unconscious bias.

(Vargas Portillo, 2026) argued that AI-based systems can analyse performance and potential across the entire organisation, reducing professional development inequalities. The use of AI by organizations to analyze their leadership patterns together with essential skills shows organizations how to establish better diverse leadership pathways. The research shows a substantial impact which changes how managers complete their work tasks. The organizations achieve superior outcomes through data-driven leader selection processes compared to their use of instinctual methods or choosing leaders who share their characteristics.

The process of implementing AI technology into human resource management systems, together with leadership training programs, generates significant debate among experts. The literature warns that while AI can reduce some biases, it can also perpetuate them if the training data reflects historical prejudices. The focus returns to transformational leaders who perform individualised consideration as their main duty. Leaders must use AI insights as a starting point for development because it serves as their first step in creating mentorship programs that use machine learning to pursue operational efficiency.

3. AI in SMEs vs. Large Enterprises

Artificial intelligence applications show different outcomes because they depend on the size of organisations and their access to resources. Large multinational corporations possess sufficient funds to create customised AI systems, while Small and Medium-sized Enterprises (SMEs) encounter specific restrictions that affect their ability to make AI-based decisions.

(Štrukelj & Dankova, 2025) Conducted a systematic qualitative literature analysis (2010-2024) focusing specifically on SMEs. The research discovered that AI technology shapes decision-making processes for management strategy, tactical operations, and operational activities in these smaller businesses. Small and Medium-sized Enterprises (SMEs) usually do not have dedicated data science teams and extensive legacy data sets, which distinguishes them from the large corporations studied by (Krishnan, 2026). SMEs adopt artificial intelligence through the use of preexisting software solutions and cloud computing services. (Sultana, 2024) supports this, noting that in the era of Big Data evolution, access to affordable AI tools is a critical determinant of whether SMEs can remain competitive.

The researchers found that AI developments create better computing capacity, which eliminates personal judgment errors when humans work in small and medium-sized enterprises. In large corporations, AI might be embedded in complex governance structures; in SMEs, the owner-manager often interacts directly with the AI tool (Uddin, 2025). The executive of the SME experiences the "black box" issue because he personally operates the AI system. The way SMEs should combine both technologies is according to the proposed method. The AI system in this method functions as a decision support system, which needs human intervention for all final decisions. The strategic risk of AI decision-making errors, which leads to business failure, constitutes a critical point of balance that SMEs require (Leso et al., 2023). The implication for transformational leadership is that in smaller settings. Leaders need to assume greater operational control because they function as the main governance link between the algorithm and the business strategy.

2.2.4 Theme 4: Ethical, Trust, and Cognitive Dimensions of AI Leadership

The rising adoption of artificial intelligence technology for decision-making creates difficulties in establishing ethical responsibility and determining which individuals people should trust. The section examines existing research which studies how organizations manage their governance systems and handle bias issues while executives encounter difficulties in decision-making due to their reliance on algorithms.

1. Ethical Governance and Algorithmic Bias

The black box nature of many AI algorithms, which their developers cannot comprehend, leads to ethical difficulties that executives must resolve. A CEO must explain AI-based recommendations before they can use those strategic recommendations for implementation.

(Pandey, 2025) studied different leadership concepts that emerge in AI-driven environments, and he identified four core dimensions, which include ethical leadership and adaptive agility. The study revealed an urgent requirement for institutions to achieve transparency, answerability, and equitable treatment in their algorithmic processes. (Pandey, 2025) showed that organisational leaders need to establish an environment which promotes "ruling and trust in human-machine partnership" for their organisations to succeed.

The finding confirms the idealised influence dimension of transformational leadership. Leaders need to function as moral agents because their role requires them to create ethical standards that organisations must follow in their complex technological systems. Organisations must implement "human-in-the-loop" systems, which need human experts to assess vital decisions that have ethical implications. The literature suggests that ethical AI governance requires organisations to establish fair operational standards that match existing regulatory requirements. Executives who use AI for making decisions about hiring, firing, or resource allocation need to ensure that their algorithms do not reinforce existing societal biases. The value of ethical AI implementation becomes a fundamental company value because transformational leaders establish this practice through their identification of justice, which employees should choose over operational speed (Trueman, 2025).

(Manda et al., 2025) and (Hosseini Tabaghdehi & Ayaz, 2025) offer specific frameworks for this governance. (Hosseini Tabaghdehi & Ayaz, 2025) present a circular model which establishes transparency and accountability, together with inclusive practices for their framework of AI ethical standards. The model demonstrates that ethical governance requires an ongoing process that entails developers, users, and stakeholders providing continuous assessment of their work. The executive leader needs to transition from a trust and verify method to a verify and trust method because AI systems require ongoing ethical assessment before organisations can establish trust in them.

2. Building Trust in Human-Machine Partnerships

Leaders depend on trust as their essential resource because AI technology disrupts existing methods of establishing trust. Executives rely on their intuition and experience to trust their subordinates. The process of trusting an algorithm demands different cognitive skills. The

research shows that trust in AI-based decision-making systems develops through three factors, which are transparency, consistency and explainability.

(Dissanayake & Al-Sharify, 2025) showed that top management uses AI-generated insights as tools that help them fulfil their responsibilities. The human leader maintains complete responsibility for all actions that take place. Executives need to know about AI system drawbacks to build trust in these systems. The leader needs to feel mentally secure when he needs to challenge an AI recommendation that goes against his executive intuition and market experience.

(Wang et al., 2025) provide a psychological perspective on this dynamic, investigating the factors that influence individual attitudes toward generative AI. The researchers identified "fear of the new technology" as the main obstacle that prevents people from establishing trust. People develop skepticism or active resistance to artificial intelligence when they experience this type of fear. Leaders who use transformational leadership create this type of environment through their promotion of critical thinking and questioning which leads to intellectual stimulation instead of requiring their followers to accept algorithmic results without question. The team creates a work environment that protects psychological safety which allows members to express their AI output concerns without fear of being labeled as "technophobes." The system requires this cultural practice because it empowers people to discuss AI limitations which results in authentic trust development within the system. The research shows that trust develops through a step-by-step process because executives start to trust AI systems after they demonstrate their usefulness in unimportant situations. (Wang et al., 2025) identified a fear factor that organisations must overcome through leaders showing their evidence of AI reliability, together with their demonstration of small achievements.

3. Cognitive Challenges and Accountability

The use of AI technology creates new cognitive biases that disrupt established methods for determining responsibility. The research identifies two dangers, which include "automation bias" (the tendency to favour suggestions from automated systems) and "complacency" (a reduction in vigilance due to a belief that the system is infallible).

The researchers (Štrukelj & Dankova, 2025) discovered that AI decreases some cognitive biases through its ability to deliver complete information, but it creates new biases that stem from how users comprehend intricate models. Executives may fall into the trap of "apparent objectivity" because they believe that data-driven decisions will produce results that contain

no bias. The dangerous fallacy exists because human beings always manage the three essential data processes which include data collection and data cleaning and data organisation with their personal biases.

The most important issue needs a solution because it requires people to accept responsibility for their actions. The legal and moral aspects of liability determination become complicated when an AI-supported decision causes a crisis which includes incidents like stock price crashes or public relations disasters. Who should be held responsible for the incident, which includes three parties: the vendor who created the model, the data scientist who used it and the executive who approved its usage? (Pandey, 2025) demonstrate that "responsible AI practices" require leaders to establish both audit trails and governance structures, which create systematised methods for monitoring AI usage.

The researchers of (Shepherd et al., 2024) show that "gut feeling" or intuition forms an essential element in strategic decision-making processes, which they study as a vital research area. The authors contend that humans need to apply intuition when they encounter uncertain situations that exist throughout the world. The modern executive must achieve success by using AI evidence while trusting their own experience-based judgment. Transformational leaders require their organisations to see accountability as a shared duty that everybody must execute together. The researchers support AI decision-making by establishing a documentation system that proves decision-making reasons, thereby creating an environment that promotes ethical AI usage without creating decision-making paralysis from liability concerns.

2.2.5 Theme 5: Human-AI Collaboration and Augmented Leadership

The final theme investigates "Augmented Leadership", which establishes a new leadership model that combines human and machine capabilities to produce results that neither system can achieve independently.

1. Augmented and Hybrid Leadership Models

The AI era requires organisations to adopt new leadership approaches because traditional leadership models have shown their ineffectiveness. (Pandey, 2025) argued for a model where leaders are augmented by AI, not replaced. The process combines data-driven insights with human abilities to think creatively and feel empathetically.

The hybrid model enables AI to perform its tasks through the analysis of large datasets which help it to detect patterns. The leader creates understanding by showing purpose and establishing

moral guidelines. The two systems create a relationship which allows organisations to enhance their decision-making process through detailed analysis and improved decision-making systems. The AI system detects a chance for market expansion through its search trend data analysis. The transformational leader uses this information to evaluate the company's permanent cultural values and employee skills and brand identity which AI systems cannot completely assess (Abositta et al., 2024).

(Quaquebeke & Gerpott, 2023) provide a framework which explains the evolution of digital leadership through three periods which they name "now" and "new" and "next". The researchers forecast that artificial intelligence will evolve into a new type of leadership which will change existing leadership methods, yet people will continue to require personal ties for effective motivation. The literature indicates that successful augmentation requires people to develop a new mindset that differs from their original perspective. Leaders need to stop considering AI as a potential employment danger and instead view it as their work companion. The machine needs to demonstrate superiority in specific tasks that involve calculation, yet humans possess special abilities to make decisions during uncertain times and negotiation processes. (Pandey, 2025) The framework establishes four dimensions that enable leaders to develop their hybrid skills through its three essential components of ethical and data-driven and collaborative elements.

2. AI Virtual Assistants and Team Innovation

AI functions as an innovation driver for teams through its support of leaders who bring about major organisational changes. (Hui et al., 2025) conducted a study in the construction sector of China which examined AI-based virtual assistants and transformational leadership through the lens of Social Cognitive Theory. The construction sector serves as a fascinating case study because it represents a conventional industry that is experiencing digital transformation.

The research showed that AI-based virtual assistants strengthened the relationship between transformational leadership and team knowledge sharing, which produced greater innovation results. The AI assistants managed all standard tasks, which included scheduling, data retrieval and compliance checking, which allowed team members to dedicate their mental energy toward developing solutions and working together. The transformational leader created an innovative vision that he wanted the team to use their new tools to achieve (Saefullah et al., 2025).

The researchers discovered that AI technology affected the team's ability to absorb new knowledge, which they need to run their work tasks. Through AI technology organizations can

better implement and distribute their existing knowledge base according to the research findings. The research demonstrates that transformational leaders can use AI technology as an effective tool to enhance their organisational vision (Gupta, 2025). Leaders who use virtual assistants to handle their information needs create less work for their teams while establishing an environment where new ideas can develop.

3. The Technological and Human Model

The research from (Dissanayake & Al-Sharify, 2025) and (Bevilacqua et al., 2025), together with other research, found that the "Technological and Human" (Tech-Human) model needs to be established. The model shows that organisations reach their best results when they combine AI analytical capabilities with the leadership skills of transformational leaders who possess moral, emotional and strategic intelligence.

The Tech-Human model challenges the "technological determinism" view that AI will inevitably displace leaders (Ngwenyama et al., 2024). The model shows that technology functions as a tool that transformational leaders use to boost their abilities to create inspiration and motivation and execute strategic choices. The literature presents evidence that high-level executive decision-making requires a permanent "human in the loop" system that exists beyond its initial protective function (Cheruvu, 2025). Although AI systems can demonstrate reasoning capabilities, they lack the capacity to experience empathy and moral understanding and to create workforce inspiration through a shared organisational vision.

The future of executive leadership depends on this partnership. According to the Tech-Human model executives require development of "bilingual" skills which enable them to master data and algorithms together with human motivation and organizational behavior. Organizations need balanced integration because it protects their essential human qualities while they expand their digital capabilities.

The reviewed literature demonstrates that transformational leadership and artificial intelligence are increasingly interconnected within modern organisational environments. While prior studies have examined AI adoption, ethical governance, strategic leadership, and digital transformation independently, the integration of these concepts within executive decision-making contexts remains fragmented. Existing literature predominantly focuses either on the technological capabilities of AI systems or on leadership effectiveness in organisational change, with limited empirical attention devoted to understanding how transformational leadership behaviours directly influence AI-enabled executive cognition, trust formation,

accountability, and strategic decision outcomes. Therefore, the literature reveals a clear need for an integrated framework capable of explaining the behavioural, cognitive, ethical, and strategic dimensions of AI-enabled executive decision-making under transformational leadership conditions.

2.3 Research Gaps

The literature review results in five research gaps which researchers can measure and which have theoretical importance.

Gap 1: Although digital transformation literature acknowledges the importance of leadership (Sacavém et al., 2025), few studies disaggregate Transformational Leadership into its four dimensions to examine their differential influence on AI adoption and usage. The current research studies leadership as a general concept instead of evaluating which specific leadership components academic researchers should study to understand their effects on AI-based executive decision-making. Theoretical frameworks and practical leadership development programs both suffer because of this research gap.

Gap 2: The existing research on artificial intelligence decision-making processes examines operational aspects of logistics operations human resource automation and systems that interact with customers according to the findings of (Hui et al., 2025). There is limited empirical investigation of how AI influences C-suite and Top Management Team (TMT) strategic cognition. The executive level of organizations needs to establish accountability frameworks which organizations recognize as necessary for building trust and handling ethical questions according to (Bevilacqua et al., 2025).

Gap 3: The current research (Quaquebeke & Gerpott, 2023) needs a framework that can link Transformational Leadership behaviors (Dissanayake & Al-Sharify, 2025) to executive decision-making results which include decision-making speed and strategic results according to the insights provided by augmentation models and techno-human perspectives. The existing research needs to show how leadership behavior directly affects AI-related results which organizations achieve through their use of artificial intelligence technologies.

Gap 4: Trust functions as an essential element that organizations need to adopt artificial intelligence according to (Wang et al., 2025). However the current research lacks sufficient understanding about how leaders create trust in their algorithmic systems. The literature needs

a behavioral analysis which shows how transformational leaders decrease algorithmic fear and control cognitive bias to promote acceptance of AI-based decisions.

Gap 5: The current research (Shepherd et al., 2024) lacks empirical evidence which demonstrates how executives handle their cognitive process of combining intuitive thinking with algorithm-based recommendation systems. Researchers need to address three essential questions about cognitive overload and automation bias and the distribution of accountability in environments which use AI for decision-making.

The existing gaps in research require an integrated empirical study which will examine how Transformational Leadership behaviors affect executive decision-making through AI systems by evaluating measurable mediation factors that include trust. The current research will combine leadership theory with modern AI governance research to resolve both theoretical fragmentation and research gaps that exist in this academic field.

2.4 Research Questions and Research Objectives

The research questions (RQs) and research objectives (ROs) are derived directly from the identified gaps and are structured to avoid conceptual duplication.

Research Questions

RQ1: How do Transformational Leadership dimensions (idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration) influence the adoption of AI-enabled executive decision-support systems?

RQ2: How are AI-enabled decision-support systems utilised by senior executives within strategic decision-making processes?

RQ3: What impact does AI-enabled decision-making have on executive decision quality, decision speed, and strategic impact?

RQ4: What organisational, cognitive, and ethical challenges do transformational leaders encounter when integrating AI tools into executive decision-making processes?

RQ5: How does Transformational Leadership influence trust, accountability, and acceptance of AI-driven executive decisions within organisations?

RQ6: How can an integrated conceptual framework be developed and empirically validated to explain the relationship between Transformational Leadership and AI-enabled executive decision-making outcomes?

Research Objectives

RO1: To examine how Transformational Leadership dimensions influence the adoption of AI-enabled executive decision-support systems.

RO2: To analyse how AI-enabled decision-support systems are used by senior executives in strategic decision-making processes.

RO3: To assess the impact of AI-enabled decision-making on executive decision quality, decision speed, and strategic impact.

RO4: To identify the organisational, cognitive, and ethical challenges transformational leaders face when integrating AI into executive decision-making.

RO5: To evaluate how Transformational Leadership fosters trust, accountability, and acceptance of AI-driven executive decisions.

RO6: To develop and empirically validate an integrated conceptual framework linking Transformational Leadership with AI-enabled executive decision-making outcomes.

2.4.1 Empirical Scope and Analytical Rigor

The study employs an expanded quantitative sample strategy to establish empirical testing strength which helps to develop broader understanding of research results. The research design requires 100 valid executive responses although earlier calculations showed that 90 respondents would suffice for detecting medium effect sizes in regression-based models. The research study achieves better statistical results through increased sample size which enables enhanced mediation testing and decreases Type II error risk. The research needs bigger sample size because it studies executive-level positions while examining different aspects of leadership behavior and AI usage and trust development and decision-making results. The research study expands its empirical boundaries to meet doctoral-level standards while creating a solid foundation for its conceptual framework.

2.5 Conclusion

The chapter evaluated how Transformational Leadership and AI-based executive decision-making systems interact with each other. The review showed that AI has progressed from a

basic operational tool to become a strategic cognitive partner which creates new organizational structures and changes how executives make decisions. The literature presents useful knowledge about digital transformation and ethical governance and augmented leadership yet it exists as a fragmented body of research which spreads across different academic fields.

The research suffers from a persistent issue because researchers have failed to create empirical models which connect particular leadership actions with visible AI-driven decision results. The majority of empirical data originates from Western contexts and from specific industries which restricts its applicability to emerging digital economies. The research field has not yet proven all the operational capabilities which exist according to the conceptual framework of augmented leadership. The research requires an integrated mixed methods approach which tests Transformational Leadership dimensions and their effect on trust and AI usage and executive decision making.

The upcoming chapter presents the research design which will conduct systematized empirical investigations to fill existing research deficiencies. The synthesis of all examined literature proves that leadership behavior functions as a critical element which determines if artificial intelligence becomes a strategic asset or a disruptive force within organizations. AI-enabled executive decision-making systems achieve their performance results through two main factors which include technological advancement and leaders ability to establish trust and operate ethical governance and maintain cognitive discipline in algorithmic settings.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The chapter describes research methods which researchers use to study the impact of transformational leadership on executive decision-making that utilizes artificial intelligence. The previous chapter identified theoretical gaps through its review of existing literature. The present chapter transforms the conceptual understanding into an organized framework for research methods. The chapter establishes necessary foundations which the study requires to explain its research design and its philosophical stance and its methods for collecting data and its techniques for sampling and its processes for data analysis.

The process of merging artificial intelligence into executive decision-making creates a complicated social and technological system which depends on the interaction between human leadership patterns, specific organizational environments, and sophisticated computer technologies. Transformational leaders develop organizational visions and they use intellectual challenges and personal care to motivate their followers who drive executive adoption of AI-based decision-support systems. The researchers used a specific research method which allows them to study both quantitative relationships and executive experiences that happen during their interactions.

Research questions of the study connect with research methods through this chapter which establishes the research path that follows through the entire study. The study examines ethical issues together with reflexive research practices which researchers use to protect their research integrity. The chapter establishes a solid methodological base which supports both the analysis and discussion of results that will appear in the next chapter.

3.1.1 Philosophical Positioning

This study is grounded in a pragmatic philosophical paradigm, which integrates both positivist and interpretivist assumptions to address complex organizational phenomena. Pragmatism is particularly appropriate where research problems require both measurement of observable relationships and exploration of lived experiences.

Ontological Position

The research adopts a critical realist approach to its study of existence. The researchers assume that transformational leadership behaviors and AI-enabled decision-making processes become real organizational practices which their effects depend on various environmental and mental and social-technical elements. The researchers consider organizational reality to have a defined structure which different organizational members understand in distinct ways.

Epistemological Position

- Epistemologically, the study adopts a post-positivist orientation for the quantitative component and a constructivist orientation for the qualitative component.
- The quantitative strand assumes that relationships between leadership, AI trust, and decision effectiveness can be objectively measured and statistically tested.
- The qualitative strand recognizes that executives construct meaning around AI adoption based on experience, organizational culture, and ethical interpretation.

Justification for Mixed Methods

The convergent mixed-methods design needs to use research questions as its primary focus because it needs to maintain methodological integrity. The relationship between leadership behavior and AI systems functions as a complex social-technical system which requires multiple ways of knowing to be properly understood. The mixed methods approach allows researchers to:

- Statistical validation of theoretical relationships
- Contextual understanding of executive interpretation
- Methodological triangulation to enhance validity

This philosophical alignment strengthens the study's methodological coherence and doctoral-level rigor.

3.2 Research Questions and Research Objectives

The research formulates research questions together with research objectives as their primary task which establishes their method for conducting research. The researchers established their study objectives and research questions based on the research gaps which their literature review identified. Existing studies have extensively examined transformational leadership and artificial intelligence as separate domains; however, limited empirical research has explored

their combined influence on executive decision-making. The research gap needs an investigation which requires researchers to follow particular research questions and research objectives that need to be defined.

This research investigates how transformational leadership affects the implementation and usage of AI decision support systems which executives use for decision-making. The study intends to accomplish its goal through the investigation of these research questions.

- How does transformational leadership influence the adoption and effective use of AI-based decision-support systems among senior executives?
- What impact does AI-enabled decision-making have on the quality, speed, and strategic effectiveness of executive decisions within a transformational leadership framework?
- What organizational, cognitive, and ethical challenges do transformational leaders encounter when integrating AI tools into executive decision-making processes?
- How do AI-enabled tools, such as predictive analytics and intelligent dashboards, support executives in making faster and more informed strategic decisions?
- What role does transformational leadership play in fostering trust, accountability, and acceptance of AI-driven decisions within organizations?
- How can a conceptual framework be developed to explain the interaction between transformational leadership and AI-enabled executive decision-making?
- The study research questions are addressed through three specific research objectives which guide its research design.
- To examine the implementation of transformational leadership practices in organizations utilizing AI-based decision-making tools.
- To assess the impact of AI-enabled decision-support systems on the quality, speed, and effectiveness of executive decision-making.
- To identify the key barriers and challenges faced by transformational leaders when integrating AI into strategic decision-making processes.
- To evaluate the role of AI tools, including predictive models and intelligent dashboards, in supporting executive-level strategic decisions.
- To analyse how transformational leadership influences trust, accountability, and ethical governance in AI-assisted decision-making.
- To develop a conceptual framework that integrates transformational leadership theory with AI-enabled executive decision-making.

The research design and data collection methods and sampling techniques and analytical methods of the study were determined by the research questions and research objectives. The study uses research aims to guide its choice of methods because this approach ensures that its empirical results will have theoretical foundations and methodological strength which will benefit both academic research and business operations.

3.2.1 Hypotheses Development and Operational Definitions

3.2.1.1 Operational Definition of Variables

Based on the research objectives and conceptual framework, the variables in this study are operationalized as follows:

Independent Variable (IV): Transformational Leadership

Transformational leadership is operationalized through four dimensions:

Idealized Influence – The extent to which leaders act as role models and demonstrate ethical conduct in AI-related decisions.

Inspirational Motivation – The degree to which leaders articulate a compelling vision for AI integration.

Intellectual Stimulation – The extent to which leaders encourage analytical thinking and critical evaluation of AI-generated insights.

Individualized Consideration – The degree to which leaders support executives in adapting to AI-enabled decision environments.

Each dimension is measured using a modified version of the Multifactor Leadership Questionnaire (MLQ-5X), adapted to the AI decision-making context.

Mediating Variable: Trust in AI Systems

Trust in AI is defined as the degree to which executives perceive AI-based decision-support systems as:

- Reliable
- Transparent
- Accurate
- Ethically accountable

Trust in AI functions as a mediating variable between transformational leadership and executive decision-making effectiveness.

Dependent Variables (DV): Executive Decision-Making Effectiveness

Executive decision-making effectiveness is operationalized through three measurable outcomes:

- **Decision Quality** – Accuracy, data alignment, and strategic appropriateness of executive decisions.
- **Decision Speed** – Time efficiency in reaching strategic conclusions using AI tools.
- **Strategic Impact** – Long-term contribution of decisions to organizational performance and competitiveness.

3.2.1.2 Hypotheses Formulation

Based on Transformational Leadership Theory, Upper Echelons Theory, and the conceptual model, the following hypotheses are proposed:

Direct Effects

H1: Transformational leadership positively influences executive decision-making effectiveness in AI-enabled environments.

H1a: Idealized influence positively affects trust in AI systems.
H1b: Inspirational motivation positively affects AI usage intensity among executives.
H1c: Intellectual stimulation positively influences analytical engagement with AI-generated insights.
H1d: Individualized consideration positively influences executive confidence in AI-assisted decisions.

Mediation Hypotheses

H2: Trust in AI systems mediates the relationship between transformational leadership and executive decision-making effectiveness.

H3: AI usage intensity positively predicts decision quality, decision speed, and strategic impact.

H4: Transformational leadership has an indirect positive effect on executive decision-making effectiveness through trust in AI.

These hypotheses provide statistical clarity and ensure empirical testability.

3.3 Research Design

A convergent parallel mixed-methods research design is used to examine how transformational leadership affects AI-based executive decision-making processes. The study aims to measure leadership behaviors together with their assessment of executive performance in AI-enabled decision-making processes. The study requires mixed-methods research because it needs both quantitative data and qualitative data to achieve complete understanding of the research topic.

The study uses quantitative research methods to perform both descriptive analysis and explanatory analysis through its research design which includes two distinct research design methods. The research analyzes three distinct constructs which encompass transformational leadership dimensions and AI-based tool usage and trust in AI systems and executive decision-making effectiveness. Also, structured questionnaires to collect numerical data which they analyze through statistical methods to examine variable relationships and identify patterns that occur across various organizations.

The study investigates executive experiences with AI-enabled decision-making systems through an exploratory design method which functions as the research method for this qualitative research study. A semi-structured interviews is conducted to investigate how transformational leaders understand and implement AI tools during their strategic decision-making processes while dealing with ethical and organizational challenges. The method provides comprehensive contextual information which helps establish the quantitative findings and enables additional comprehension through its implementation.

The research process includes both quantitative and qualitative research results which are analyzed to create complete solutions for the research problem. The integrated analysis establishes a strong conceptual framework which demonstrates the relationship between transformational leadership and AI-supported executive decision-making. The convergent mixed-methods research design provides three advantages which include methodological rigor, analytical depth, and practical relevance.

The study employs a convergent parallel mixed-methods design which enables researchers to compare quantitative results with qualitative data while maintaining boundaries of their research work. This research method allows the investigator to determine which parts of numerical results and executive stories create common ground while showing complementary

aspects and distinct differences. The research needs to combine different elements because artificial intelligence implementation studies require organizations to study how their behavior and existing technology and their leaders view technology adoption interact with each other through unpredictable patterns.

The selected design presents its second advantage because it helps to mitigate the problems which come from using only one research method. The combination of quantitative methods with qualitative methods allows researchers to establish statistical relationships but they cannot provide complete understanding of those relationships. The study of qualitative methods enables researchers to achieve deep contextual understanding whereas generalizable evidence remains inaccessible. The study reaches its complete understanding of transformational leadership and AI-enabled decision-making through the use of both research methods.

The design enables researchers to establish more reliable research outcomes through its ability to verify results through multiple testing methods. The credibility of results becomes stronger when statistical patterns match the findings of interview-based research. The existence of differences between two things creates an opportunity to achieve better understanding of organizational realities and leadership dynamics. The convergent design establishes practical benefits because it enables organizations to implement its results. Organizations now operate in digital transformation environments which use measurable performance indicators together with human judgment to make decisions. The research study produces practical results through its use of different evidence types which establish both theoretical foundations and practical applications for practitioners and policy makers.

A mixed-method research approach was considered most appropriate for this study because the research problem involves both measurable organisational relationships and complex human experiences associated with AI-enabled executive decision-making. The quantitative component enabled the researcher to statistically examine relationships between transformational leadership, AI adoption, trust, and executive decision-making outcomes, while the qualitative component provided deeper insights into executive perceptions, ethical concerns, leadership behaviours, and organisational challenges that could not be fully captured through numerical analysis alone. The integration of both approaches enhanced the comprehensiveness, validity, and interpretive depth of the research findings.

Mixed-methods research has become a standard research method for studying both organizational and technological fields because it enables researchers to measure relationships while they explore contextual factors (Leso et al., 2023).

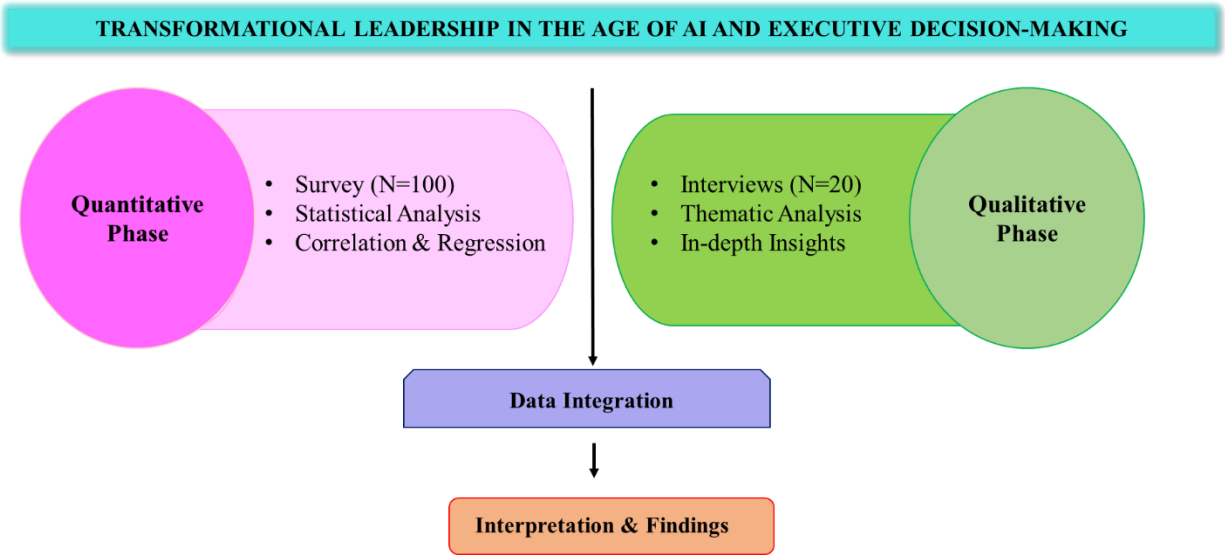

Figure 3.1 Overall Research Design

The quantitative sample size was increased to at least 100 executives, in view of which improvements could be made on the power of the statistical significance and the robustness of the model.

3.4 Theoretical Framework

The research requires an established theoretical framework which will provide essential academic foundations needed to identify research variables and selection of analytical techniques and research tools. The research uses an integrated theoretical framework which combines Transformational Leadership Theory with Upper Echelons Theory and Sociotechnical Systems Theory. The leadership behavior and executive cognitive processes and human-AI interactions can be studied during organizational decision-making activities by using the combined theories. Transformational leadership is commonly examined through dimensions such as idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration (Khan et al., 2025; Oduor, 2025).

The study applies Transformational Leadership Theory as its primary theoretical framework to investigate the research subject. The theory defines four fundamental dimensions which include idealized influence and inspirational motivation and intellectual stimulation and individualized consideration. Leaders use their vision delivery process together with their

ability to create trust relationships to establish an environment which supports follower development of their personal and professional characteristics and their job performance. AI-driven decision-making needs transformational leadership because leaders must build trust with AI systems while they promote data-based decision-making and help executives transition to technology-driven decision-making processes.

The Upper Echelons Theory shows that executive characteristics together with their cognitive processes create the strategic decision-making outcomes. Upper Echelons Theory suggests that executive characteristics and cognition influence organisational outcomes (McClintock et al., 2023). The theory states that organizational results depend on the executive team members' professional background and their personal beliefs and mental models. In artificial intelligence-enabled environments executives have moved away from using their personal judgment to selecting between two options which include algorithm-based recommendations and predictive analytics. The executive experiences with AI-enabled decision-making systems are studied through an exploratory design method which serves as the research method for this qualitative research study.

The three theories create a united framework which shows how leadership behavior and AI decision-support systems and executive decision making. The theoretical framework of the study establishes the basis for developing its conceptual model and selecting research variables and interpreting empirical results. The framework uses leadership and cognitive and sociotechnical approaches to create a complete understanding of transformational leadership in artificial intelligence.

The theoretical framework explains how people make judgments through their interactive process with artificial intelligence systems. Artificial intelligence systems provide predictive insights and data-driven recommendations; however, the interpretation and application of these insights depend significantly on leadership behavior and organizational context. Transformational leaders establish the essential connection between technological systems and human decision-making through their support of analytical thinking and their promotion of innovative development and their establishment of a learning organization environment.

The framework gains additional strength through sociotechnical perspective integration which demonstrates that technological systems require complete organizational implementation and systemwide execution. The success of AI implementation depends on three factors which include the organizational structure and the communication network and the attitude of the

employees. Leaders who create an environment which encourages teamwork and open communication and mutual understanding between team members will succeed in implementing AI technologies into executive decision-making processes. The theoretical framework establishes a foundation that enables researchers to identify essential study variables for analysis through their identified relationships. The three dimensions of transformational leadership serve as independent variables because they affect AI usage and trust in AI systems and executive decision-making effectiveness. The way organizational and contextual factors affect these relationships depends on the different ways leaders and executives interpret and implement AI technologies.

The study uses integrated theoretical perspective to study the phenomenon which involves leadership, cognitive processes, and technological systems instead of studying technological developments or human behavior. The research method creates deeper analytical results because it leads to better understanding of how executives make decisions in environments that use artificial intelligence.

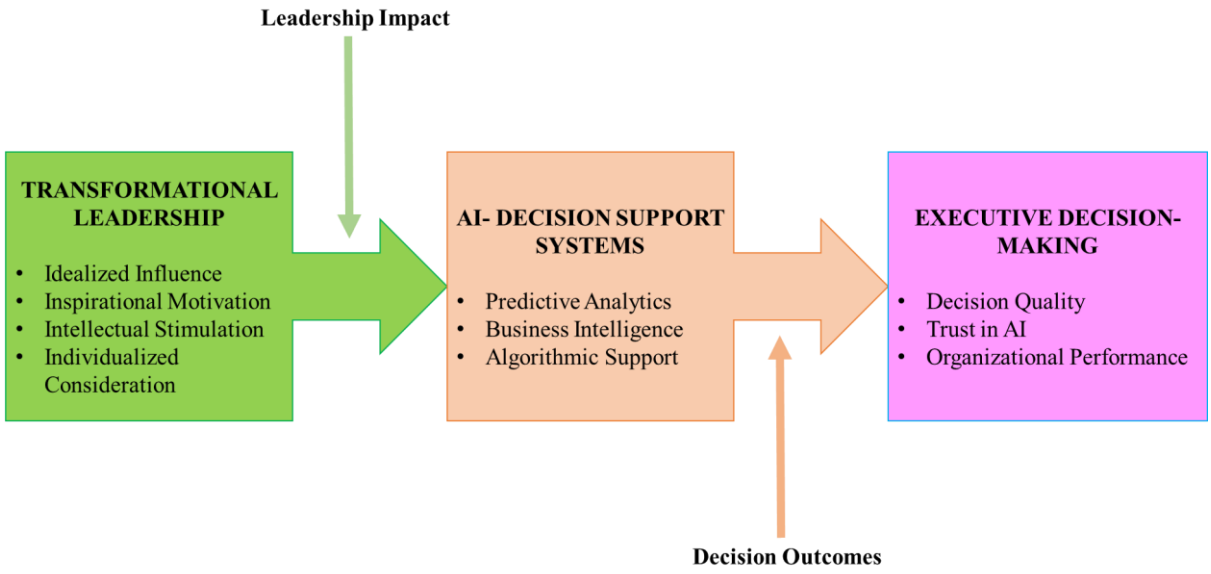

Figure 3.2 Conceptual framework linking transformational leadership and AI-enabled executive decision-making

3.5 Research Approach

This study uses a mixed research method that combines deductive reasoning with inductive research to investigate how transformational leadership affects executive decision-making which uses artificial intelligence technology. The study selected this research method because

it needs to test existing literature-based theoretical assumptions while growing knowledge in a research field that lacks sufficient experimental data.

The research study uses deductive reasoning during its quantitative research phase. Also, measurable indicators is developed which they used to measure essential elements of the study that were based on Transformational Leadership Theory, Upper Echelons Theory, and Sociotechnical Systems Theory. The existing measurement scales is modified to evaluate three transformational leadership dimensions and their connection to AI tool usage and AI system trust and executive decision-making performance. The hypotheses which is derived from these theories through statistical analysis is tested to determine how variables related to each other and to measure the effectiveness of their conceptual framework.

The research uses inductive methods during its qualitative research stage. Executive decision-making processes use artificial intelligence because its development creates new patterns which executives can explore through narratives. Participants share their experiences and perceptions and challenges about AI adoption through semi-structured interviews which examine leadership impact and ethical issues and responsibility. This method helps to identify specific situational elements and leadership behaviors which traditional quantitative methods fail to capture completely.

The research uses both deductive and inductive methods to create a theoretical basis which still enables to collect empirical evidence. The research uses deductive methods to verify established theories while its inductive methods help to discover new insights and practical results. The research method validates the study results while it generates an all-encompassing assessment of transformational leadership in AI-based executive decision-making systems.

The process of merging deductive reasoning with inductive reasoning demonstrates how research methods in technology-based organizational research sites have developed over time. The field of artificial intelligence continues to advance while organizations develop new leadership methods for managing its implementation. The organization needs to observe new patterns because existing models contain limitations that restrict their understanding of emerging organizational patterns and decision-making processes. The study uses inductive reasoning to investigate new ideas and contextual differences which existing literature has not yet completely studied. The research method relies on an essential element which combines theoretical frameworks with practical evidence through a process of continuous testing. The research results from quantitative studies support or adjust existing leadership and

organizational behavior theories instead of providing proof for new theoretical concepts. The interaction between two elements strengthens the study's conceptual framework while providing better explanations of research results.

The combined approach delivers greater analytical capacity because it enables researchers to analyze results through multiple research levels. Statistical relationships provide macro-level understanding of trends across organizations while qualitative narratives deliver micro-level understanding of leadership behavior and decision-making processes and organizational culture. Researchers use multi-level analysis to study sociotechnical phenomena because human and technological components within these systems exist in close connection with one another.

3.6 Research Site

The research site identifies the specific organizational and geographic area which serves as the study's research environment. The study examines organizations which have implemented artificial intelligence decision-support systems for executive decision-making or are currently adopting such systems. Research sites need to be selected because they determine which leadership practices will be studied and which real-world AI executive applications will be examined.

The study focuses on organizations operating in India and the United Arab Emirates (UAE). This regions are specifically selected because they undergo fast digital changes and they spend more money on artificial intelligence technologies while their leaders make decisions based on data analysis. The two countries offer active business conditions which companies use to apply AI technologies that include predictive analytics and intelligent dashboards and automated decision-support systems for their management and executive work.

The research study involves organizations from different sectors to increase its ability to produce results that apply to multiple situations. The research study includes five different sectors which include information technology and manufacturing and finance and healthcare and service industries. The study uses multiple sectors because it allows to observe how AI maturity and leadership practices and organizational culture and decision-making complexity develop different business environments. The study results will extend their applicability to multiple industries because researchers studied various business sectors. The selected research sites provide an appropriate setting for examining the interaction between transformational leadership and AI-enabled executive decision-making. The research examines the impact of

organizational leadership on executive AI technology adoption and usage in various operational environments and AI implementation stages.

Researchers selected India and the United Arab Emirates for their study because both countries now focus more on digital transformation and smart governance projects. The two countries have implemented programs which promote artificial intelligence usage throughout various industries while they also encourage businesses to adopt advanced analytics and automation for their decision-making systems. The research environment offers an ideal setting to explore how leadership impacts both technology adoption and strategic decision-making processes.

The researcher must assess research sites according to their need to study different types of organizations which operate at multiple levels of size and structural organization. The three types of organizations which include large corporations medium-sized businesses and fast-growing technology companies show distinct differences in their methods of handling leadership tasks and risk assessment processes and technology deployment operations. The research study includes organizations that possess different structural designs because this approach enables researchers to study various organizational experiences together with their decision-making processes.

Leadership behavior patterns develop through the cultural and managerial differences which exist between organizations. The organizational culture of a company determines how its employees develop their attitudes about new ideas and their trust in technological systems and their willingness to follow machine-generated recommendations. The study uses organization research across multiple fields and different organizational climates to find patterns which exist beyond particular organizational settings.

3.7 Research Participants

Research participants establish the study's critical element because their selection determines the study's findings validity and relevance. The research participants include senior executives and top management personnel who make strategic decisions and use artificial intelligence decision-support systems in their organizations.

The target participant group includes individuals holding positions such as Chief Executive Officers (CEOs) Chief Information Officers (CIOs) Chief Technology Officers (CTOs) Chief Data Officers (CDOs) directors senior managers and members of top management teams. The selected roles exist to select high-level strategic decisions because these professionals will use

AI tools which include predictive analytics and business intelligence dashboards and intelligent decision-support systems.

The process of data collection needs to define particular criteria which must be followed because it requires both relevant data and credible information. The study requires participants to have at least five years of work experience in management or executive positions which includes working with AI-based decision-making systems. Participants need to show their complete work experience together with their field expertise to fulfill the requirement which mandates them to deliver precise and useful answers. The research study benefits from its diverse participant base which includes various organizational sectors and different leadership levels because their combined data creates stronger research results for comparative analysis. The research study gathers multiple viewpoints about how transformational leadership influences executive decision-making through AI technology by uniting executives who possess different functional skills and leadership backgrounds.

The study achieves greater research value through participant recruitment from different professional fields. Organizations should expect different operational patterns from their key executives because these leaders use AI systems in unique ways across their business functions. Executives from operations finance information technology and strategic planning departments interact with AI systems through different methods. Technology leaders concentrate on system implementation and integration while senior management focuses on strategic interpretation of analytics and decision outcomes. The study achieves a comprehensive understanding of AI-enabled decision-making through its examination of various role-based perspectives.

The selection process for participants requires assessment of their different leadership experience backgrounds. Executives at different stages of their careers will demonstrate distinct leadership approaches together with their varying degrees of confidence in technology and their methods for driving innovation.

The research gains more valuable information through the participation of professionals from different fields because it allows researchers to conduct comparative studies. The study shows that executives make decisions through teamwork instead of relying on individual judgment. Senior leaders use AI-generated insights by consulting with cross-functional teams and analytics specialists and external advisors. The interview discussions examine both individual leadership behavior and organizational decision-making processes to create an accurate view of executive practices.

3.8 Sample Size

Quantitative Sample Justification (Target n = 120; Minimum Valid n = 100)

The quantitative component tests relationships between Transformational Leadership dimensions and trust in AI systems and AI usage intensity and executive decision-making effectiveness through multiple regression and mediation analysis.

The initial power analysis which used standard parameters showed that testing medium effects required 90 respondents because the research used effect size f^2 of 0.15 and alpha level of 0.05 and achieved statistical power of 0.80 with five predictors. The study will collect 120 questionnaires but uses 100 valid responses as its minimum requirement for final analysis to improve analytical power and achieve better statistical reliability.

A sample exceeding 100 respondents improves the precision of regression coefficients, strengthens mediation testing reliability, and reduces the probability of Type II error. The executive-level population together with the cross-sectoral design needs a bigger sample size because it will enhance generalizability across different organizational settings. The expanded sample size therefore strengthens methodological rigor and aligns with doctoral research standards.

Qualitative Sample Justification (Minimum n = 10)

The qualitative research requires at least 10 semi-structured interviews with senior executives who work directly on AI-enabled decision-making. The research team will continue to collect data until all relevant themes have been identified through their data gathering process.

In relatively homogeneous expert populations, saturation commonly occurs between 8 and 12 interviews. Given the specialised executive-level focus of this study, 10 interviews are considered sufficient to capture leadership behaviours, trust dynamics, ethical concerns, and cognitive patterns associated with AI-supported strategic decision-making. This sample ensures analytical depth while maintaining feasibility within access-constrained executive environments.

3.9 Sampling Technique

The sampling technique describes the process used to choose study participants who will provide essential and reliable research data. The research needs non-probability sampling

methods because it studies transformational leadership and AI-based executive decision-making processes.

The study uses purposive sampling to choose organizations and their executives who possess direct experience with AI-based decision-support systems during its quantitative phase. The approach selects participants who comply with the study requirements which include seniority level and leadership responsibility and exposure to AI-enabled decision-making. Stratified purposive sampling is used to select participants from various industries and executive roles which provides better representation across different sectors and functional backgrounds.

The research applies criterion-based purposive sampling to choose executives who exhibit transformational leadership abilities and work with AI systems during the qualitative research phase. The study selects participants according to three specific criteria which include their leadership position and their professional experience and their level of interaction with AI technologies. This method enables to obtain essential qualitative data which supports their investigation into leadership practices and trust-building methods and ethical considerations.

The research requires purposive and criterion-based sampling methods because these methods will provide relevant data which will increase the study's research scope. The study uses non-probability sampling because its specialized population needs this method while the research results require analytical generalization instead of population-based generalization. The study uses this sampling method to achieve its goals while proving the research results to be valid.

3.10 Data Collection Methods

This research selects data collection methods to achieve complete research question solutions while gathering data that will meet the study objectives through reliable and valid and relevant data collection. The study uses mixed-methods research design to implement quantitative and qualitative data collection methods which enables to obtain complete knowledge about transformational leadership and AI-enabled executive decision-making. Artificial intelligence tools such as predictive analytics and intelligent dashboards are increasingly used to support executive decision-making processes (Chaturvedi et al., 2025; Vargas Portillo, 2026).

The quantitative research requires data collection through a structured questionnaire which will give to senior executives and top management personnel. The questionnaire measures essential concepts which include the different aspects of transformational leadership and the level of AI tool usage and the degree of trust in AI systems and the effectiveness of executive decision-

making. The study uses existing measurement scales which previous leadership and technology adoption research has verified to create new measures for AI-enabled decision-making. The questionnaire uses a Likert-scale format to facilitate statistical analysis and ensure consistency in responses. The electronic survey platforms are used to conduct data collection because these platforms provide better access to participants while streamlining the process of managing collected data.

For the qualitative component, data are collected through semi-structured interviews with selected senior executives. The interview method enables to deeply study how participants experience and understand AI-supported decision-making within transformational leadership contexts. An interview guide enables to maintain consistent interview procedures while they investigate new themes about how leadership affects organizations and how ethical issues and trust and accountability and organizational problems affect research. Face-to-face meetings are conducted through and secure virtual platforms according to the availability of participants and the restrictions of their operational needs.

Both questionnaires and interviews are used to create a methodology which delivers authentic research results and verifies study findings. The study uses quantitative data to show measurable evidence which connects different variables and uses qualitative data to provide complete contextual information. Various data collection techniques are used to conduct a comprehensive study of the research problem. Executives decide to adopt and use AI-based decision systems because they consider trust in these systems to be a crucial factor (Wang et al., 2025).

The research establishes methods which improve data accuracy while establishing standard procedures for data collection. The questionnaire includes precise guidelines together with definitions of essential terms which help respondents to understand the questions in a consistent manner. The pre-testing process of the questionnaire enables researchers to detect potential response problems which leads to better understanding of the test questions.

Interviewers create a professional environment which enables interviewees to express their thoughts freely because they want to establish a space that supports open expression. The participants provide their perspectives which will stay confidential because they will be used only for academic research purposes. The declaration decreases response bias because it motivates participants to reveal their real leadership practices and their actual organizational difficulties. Digital recording of interviews, with participant consent, creates accurate

transcripts while reducing the possibility of data loss. The team performs thorough transcription assessments to verify that all content exists and functions correctly before they begin their analysis work. The research process maintains high data quality standards through these established procedures. The research process maintains high data quality standards through these established procedures.

3.10.1 Measurement Instruments

Transformational Leadership

Measured using an adapted version of the Multifactor Leadership Questionnaire (MLQ-5X Short Form) developed by Bass & Avolio.

- 20 items covering four dimensions
- 5 items per dimension
- 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree)
- Prior reliability: Cronbach's alpha typically > .80

Adaptations were limited to contextual wording related to AI-enabled decision-making while preserving scale validity.

Trust in AI

Measured using a validated AI trust scale adapted from technology acceptance and AI trust literature.

- 6 items
- 5-point Likert scale
- Dimensions: reliability, transparency, explainability
- AI Usage Intensity
- Measured using 5 items assessing:
- Frequency of AI use
- Dependence on predictive analytics
- Integration into strategic decisions
- Decision-Making Effectiveness

Measured through 9 items:

- 3 for decision quality

- 3 for decision speed
- 3 for strategic impact
- All constructs will undergo:
- Cronbach's alpha reliability testing
- Composite reliability (CR)
- Average Variance Extracted (AVE)
- Confirmatory Factor Analysis (CFA)

This detailed operationalization ensures measurement transparency and replication capability.

3.11 Research Process

The research process followed in this study was systematic and structured to ensure the reliability and validity of the findings. The study is started by identifying their research problem before conducting a comprehensive literature review that established the theoretical foundation and discovered existing research gaps in transformational leadership and AI-enabled executive decision-making. Research questions and objectives are established through literature analysis while selecting convergent parallel mixed-methods research design as their study framework. A theoretical framework and research methodology has been developed to guide their study which would link their research objectives to their research methods and data analysis techniques.

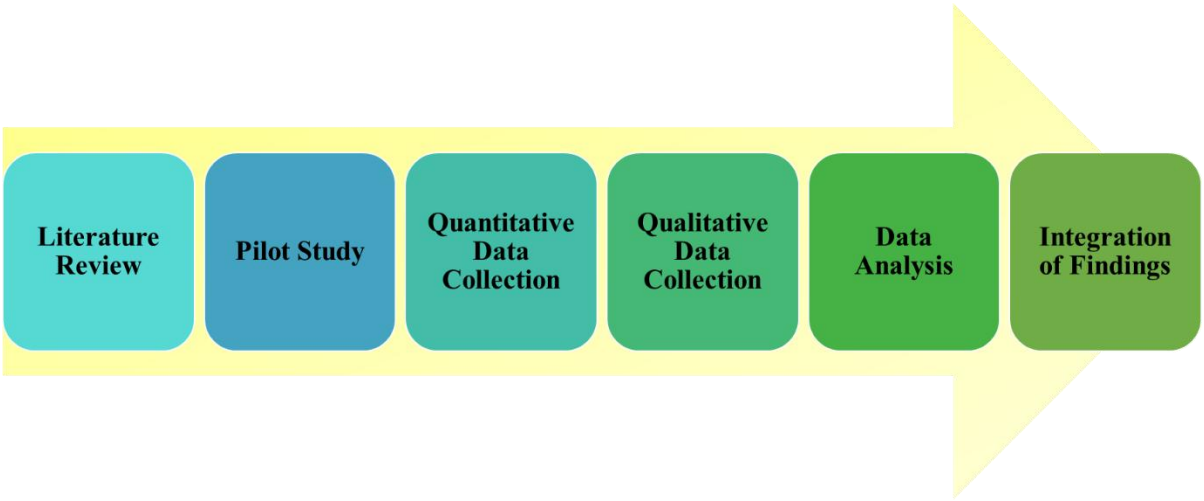

Figure 3.3 Research process flow

A purposive sampling methods is employed to identify suitable research locations and study participants after completing the research design phase. Structured questionnaires and semi-structured interviews are involved to collect data which provided them with both quantitative

and qualitative research results. This research organizes and coded the collected data before conducting statistical and thematic analysis to produce meaningful outcomes. The research maintained strict adherence to ethical standards while applying reflexive practices which enhanced research transparency and reduced potential bias. This research synthesized their findings through interpretation to determine how transformational leadership affects AI-enabled executive decision-making, which also helped in developing the conceptual framework of their study.

The research process required constant checking and assessment which helped the team finish their work according to established procedures. The researchers documented every development step through their instrument work their participant outreach efforts and their data control processes which created complete documentation for their study. The research team maintained complete documentation which established standard operating procedures throughout their research process and helped them accurately interpret their research results.

Researchers needed to develop their ability to handle time while they arranged their research tasks into structured patterns for their work. The research team created their data collection schedule to achieve optimal resource use while minimizing research delays throughout both quantitative and qualitative study phases. The research team needed to schedule interviews with senior executives through multiple channels because they required both flexibility and coordination to establish interview times and confirm participant availability.

The research process began with preliminary data screening which researchers used to prepare for their forthcoming analysis. The researchers checked the questionnaire responses for completion and consistency while they used the responses to find any statistical outliers. The researchers started their coding and thematic analysis work after they examined the interview transcripts to assess their clarity. The researcher maintained ethical considerations through all stages of research work instead of treating them as separate research tasks. The study protected participant privacy during its research activities while it educated participants about their choice to participate in the research study.

The researchers used this approach to build trust with research participants which resulted in research participants sharing truthful and significant study facts. The researchers conducted their study through an organized research process which enabled them to fulfill academic requirements and maintain their research functions while producing reliable research results. The research study requires both statistical analysis and thematic analysis while it demands

precise interpretation of findings according to established theoretical frameworks. The research team studied quantitative results through Transformational Leadership Theory and organizational behavior models to produce valid theoretical interpretations. The method prevents researchers from making too broad generalizations because it demands them to validate their findings through real-world data and accepted scientific standards.

The analysis process reaches its fundamental stage through the process of combining quantitative results with qualitative outcomes. The researchers use statistical test results to compare them with the interview-derived themes which show matching points and different points. The study achieves greater explanatory power through its investigation of numerical patterns which it links to actual executive business experiences.

The statistical results become easy to understand through data visualization techniques that include tables and charts which straightforwardly present the findings. The visual representations show patterns and relationships which help both academic readers and practitioners who want to use the findings in their organizations. The documentation of all analytical methods used throughout research activities establishes both research transparency and research reproducibility. The research team maintains an audit trail by documenting every aspect of coding, statistical testing, and interpretation procedures. The documentation process enhances study credibility while enabling future research on leadership and artificial intelligence in this domain.

3.12 Reflexivity

Reflexivity is needed to conduct proper research, but this requirement becomes crucial when their research includes qualitative methods and interpretative methods and believes that academic knowledge and work experience and personal views about artificial intelligence and leadership affect how people interpret executive decision-making and leadership behaviour. This research dedicates their efforts to guarantee that they accurately portray participants' viewpoints during the process of qualitative data collection and analysis. Executives can share their personal experiences and professional insights through interview questions which have been designed to be open-ended and non-leading. This research use reflexive memo writing throughout the data analysis process to create a clear separation between participant accounts and interpretations of those accounts. The combination of quantitative and qualitative findings through triangulation process enables to cross-validate their results which enhances their ability to reflect on their work. The research process includes peer review and supervisory feedback

which occurs at essential research points to test research assumptions and improve research analysis. The research process needs to use reflexivity because it enables them to establish trust in their research outcomes through their evidence-based conclusions which protect them from personal bias.

The researcher possesses an academic background in leadership studies and organizational digital transformation. This background provides theoretical sensitivity but may also predispose interpretations toward leadership-centric explanations.

To mitigate bias:

- Reflexive journaling was maintained throughout data collection and analysis.
- Preconceptions regarding AI optimism were bracketed.
- Peer debriefing sessions were conducted.
- Coding decisions were cross-validated.

The researcher acknowledges potential interpretive influence due to professional familiarity with AI-enabled organizations and actively employed bracketing strategies to preserve analytical neutrality. This reflexive stance enhances transparency and credibility.

3.12.1 Researcher Positionality and Bias Mitigation

In addition to acknowledging reflexivity, it is necessary to explicitly address researcher positionality and the strategies adopted to mitigate potential bias throughout the study. Given the interdisciplinary nature of this research, situated at the intersection of leadership theory and artificial intelligence, the researcher recognises that prior academic exposure to transformational leadership frameworks and positive assumptions regarding technological innovation may influence interpretation.

To minimise confirmation bias, several procedural safeguards were implemented. First, quantitative instrument items were adapted from validated scales rather than constructed solely by the researcher, thereby reducing subjective framing effects. Second, during qualitative data collection, interview questions were intentionally phrased in neutral language to avoid leading participants toward favourable or unfavourable perceptions of AI adoption. Participants were encouraged to discuss both benefits and challenges openly.

During analysis, triangulation between quantitative statistical findings and qualitative thematic patterns functioned as a bias-control mechanism. Divergent findings were examined carefully

rather than dismissed, ensuring that contradictory evidence contributed to theoretical refinement. An audit trail documenting coding decisions, analytical adjustments, and interpretative reasoning was maintained to enhance transparency and reproducibility.

Finally, peer review of selected coded transcripts and statistical outputs was conducted to provide external scrutiny of interpretations. This process strengthened analytical credibility and reduced the risk of subjective over-interpretation. By systematically integrating reflexive awareness with methodological safeguards, the study enhances its internal validity, trustworthiness, and doctoral-level scholarly rigor.

3.13 Ethical Considerations

The design which protects participants' rights and dignity and research subject well-being incorporates ethical principles. The research project obtained institutional review board approval after it complied with all relevant academic research ethical standards which were required to commence data collection. The three factors of ethical governance and transparency and accountability emerge as fundamental components for artificial intelligence decision-making systems (Hosseini Tabaghdehi & Ayaz, 2025; Pandey, 2025).

The study permits participants to join or decline participation at their discretion by providing participants with detailed information about the study's purpose and methods and the results that they intend to achieve. The informed consent has been obtained from study participants before they begin their participation in research activities. Research participants receive information about their right to exit the study at any point without facing any consequences or requirements.

The research implements a dual protection system for participant confidentiality which starts when they remove personal identification information and continues until they assign participants coded identification for their research activities. All questionnaire and interview data are kept in a secure digital system that requires password entry to access. The research presents all discovered results in aggregated form which prevents the identification of specific participants and organizations. The AI-related topics has been reviewed while focusing on three main ethical issues which include data privacy protection and algorithmic bias and decision-making accountability. The interview questions have been designed to prevent access to sensitive organizational information which the organization considers proprietary. The study ensures that no confidential business data or trade secrets are disclosed.

The study also recognizes the ethical implications associated with research involving emerging technologies such as artificial intelligence. The AI adoption discussions will introduce confidential business information which includes both strategic decision-making methods and internal governance frameworks. The interview questions were developed to fulfill this requirement by assessing general practices and participant experiences instead of gathering secret operational information.

The second ethical issue deals with how organizations handle their data storage and data management processes. The researcher kept all electronic data which included questionnaire answers and interview transcripts in password-protected files that only he could access. The organization maintained backup copies in protected digital storage to safeguard against unintentional data loss while maintaining confidentiality.

The study made certain that respondents could participate in the study without facing excessive difficulties. The questionnaire required design engineers to create brief questions which would directly address essential study matters while scheduling interviews to match the availability of study participants.

The method allowed researchers to demonstrate their respect towards participants' professional commitments and personal time. The study maintained academic integrity through its accurate presentation of outcomes and proper source citations and its complete avoidance of any data alteration or false representation. The study maintained ethical research practices throughout its duration to ensure that its results would responsibly advance academic understanding and professional standards.

3.14 Data Analysis

The research design requires mixed-methods research design to analyze all collected data which consists of both quantitative and qualitative data for accurate results. Different analysis approaches for each data set is used which subsequently combine to develop complete solutions for their research inquiries. The Statistical Package for the Social Sciences (SPSS) software to analyze study data through coded questionnaire results with descriptive statistical methods to study respondent demographics by calculating frequency percentages and mean and standard deviation values which is used to study essential study variables. The measurement scale reliability is assessed through Cronbach's alpha testing which determine internal consistency for study constructs.

This research uses inferential statistical methods to study how different transformational leadership styles affect executive decision-making through their impact on artificial intelligence system usage and trust. The correlation analysis is employed to assess how strong different relationships between variables and uses regression analysis to show how transformational leadership affects AI-based executive decision-making results. Analyses has been employed to evaluate theoretical assumptions while the empirical research findings support validation of their proposed conceptual framework.

The interview recordings are transcribed into written text which are examined through thematic analysis. The analysis requires to understand all data before they can create preliminary codes which help find and develop themes. The qualitative data analysis uses software NVivo to enhance abilities for organizing and managing data. The interviews exhibited multiple themes which demonstrated how leadership impacts AI adoption and also showed the relationship between trust and accountability and ethical challenges that influence decision-making.

Reliability and validity were carefully considered throughout the research process to ensure the accuracy and consistency of findings. Reliability was assessed using Cronbach's Alpha to evaluate the internal consistency of measurement scales associated with transformational leadership, AI adoption, organisational readiness, and executive decision-making quality. In addition, validity was strengthened through the alignment of research objectives, theoretical constructs, questionnaire items, and analytical procedures. The mixed-method design also enhanced methodological triangulation by allowing quantitative findings to be supported and interpreted through qualitative evidence, thereby improving the overall credibility and trustworthiness of the study.

3.14.1 Quantitative Data Analysis

Quantitative data will be analysed using SPSS.

Step 1: Preliminary Analysis

- Data screening (missing values, outliers)
- Descriptive statistics (mean, SD, frequency)
- Reliability testing (Cronbach's alpha ≥ .70)

Step 2: Assumption Testing

- Prior to inferential analysis, the following assumptions will be tested:

- Normality (Shapiro–Wilk test, skewness, kurtosis)
- Linearity (scatterplots)
- Homoscedasticity
- Multicollinearity (Variance Inflation Factor < 5)
- Independence of errors (Durbin–Watson statistic)

Step 3: Inferential Analysis

- Pearson Correlation Analysis – To examine relationships among variables.
- Multiple Regression Analysis – To test direct effects of transformational leadership dimensions on decision effectiveness.
- Hierarchical Regression Analysis – To examine incremental variance explained by trust in AI.

3.14.2 Qualitative Data Analysis

Qualitative data will be analysed using thematic analysis supported by NVivo software.

The coding process will follow three structured stages:

1. Open Coding

Initial identification of key concepts and recurring statements.

2. Axial Coding

Grouping related codes into broader categories (e.g., trust formation, ethical concerns, leadership influence).

3. Selective Coding

Integration of themes to explain relationships between leadership behavior and AI-enabled decision-making.

Inter-Coder Reliability

To enhance rigor:

- 20% of transcripts will be independently coded by a second reviewer.
- Cohen's Kappa ≥ 0.70 will be considered acceptable agreement.
- An audit trail and reflexive memos will be maintained to ensure transparency and replicability.

CHAPTER 4

RESEARCH FINDINGS AND DATA ANALYSIS

4.1 Outline of the Chapter

This chapter presents the findings derived from both the quantitative and qualitative strands of data collected as part of this mixed-methods research study which examines transformational leadership in the age of artificial intelligence AI and its influence on executive decision-making. The researchers conducted a structured survey questionnaire to collect quantitative data which they distributed to 90 respondents who included organisational leaders executives and senior managers from relevant industrial sectors. The researchers used in-depth interviews with 10 respondents to collect qualitative data which produced a richer and more detailed understanding of the studied phenomenon. The empirical section of the thesis exists in this chapter because it transforms raw data into complete knowledge that answers the research questions and objectives which Chapter 1 established and Chapter 3 developed further. The findings reported here will subsequently inform the conclusions recommendations and theoretical contributions discussed in Chapter 5.

4.2 Demographic Profile of Respondents

The demographic profile of the respondents forms the foundational layer of the data analysis presented in this chapter. The background characteristics of the survey participants need to be studied because they establish sample credibility and representativeness while they provide background information that supports the upcoming quantitative results. The research study's quantitative section examined 90 organizational leaders who worked as executives and senior managers and had actual work experience in environments that used AI technologies. The study examines five demographic factors which include gender, age group, highest educational qualification, years of professional experience, and organizational role/designation. The study presents each variable through SPSS-generated frequency distribution tables which include bar charts and pie charts for visual display and an explanatory paragraph that follows.

The study used nominal and ordinal scales to measure demographic variables which SPSS software processed to produce frequency tables and percentage distributions. The study presents visual data through bar charts and pie charts which accompany each table to help viewers understand distribution patterns more easily. The study presents each demographic

variable for analysis, starting with an examination of the gender distribution among respondents.

4.2.1 Age Distribution of Respondents

Table 4.1: Frequency Distribution of Respondents by Age Group

Age Group	Frequency	Percent	Valid Percent	Cumulative Percent
25–34	23	25.6	25.6	25.6
35–44	19	21.1	21.1	46.7
45–54	24	26.7	26.7	73.3
55+	24	26.7	26.7	100.0
Total	90	100.0	100.0	

The age distribution of the 90 respondents shows equal representation across all four age categories, which indicates that the sample successfully represents different generational groups of organizational leaders. The two largest age groups included people from 45 to 54 years and people from 55 years and older who both formed 26.7% of the total sample which resulted in a combined total of 53.4% of all respondents. The upper age brackets experienced high respondent concentrations because most surveyed leaders belonged to this group which included active professionals with extensive organizational change and technological transition experience. The sample included 25.6% of respondents who belonged to the 25-34 age group which included 23 people who represent younger executives who grew up in digitally-native environments and probably have better AI-driven tool understanding. The 35–44 years age group contained 21.1% of respondents who participated in the study according to the smallest cohort statistics which showed 19 people participated. The demographic distribution of the sample proves credible because it represents different groups which help investigate transformational leadership and AI decision-making across various organizational settings. The variation across categories ensures that the findings reflect a broad range of leadership perspectives and enhances the generalisability of the results.

4.2.2 Gender Distribution of Respondents

Table 4.2: Frequency Distribution of Respondents by Gender

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	47	52.2	52.2	52.2
Female	43	47.8	47.8	100.0

Total	90	100.0	100.0	

The study achieved gender balance from its sample because both male and female participants showed almost equal presence in the research. Male respondents constituted a slight majority at 52.2% (n=47), while female respondents accounted for 47.8% (n=43) of the total sample. The two groups show only a minor difference which amounts to 4.4 percentage points, thus showing that the sample has almost equal gender representation, which makes it less likely for gender bias to affect the study results. The demographic distribution of the sample provides actual evidence that the study will achieve its goal of researching transformational leadership and AI-based decision-making in different organizational settings. The different leadership categories present in the study lead to findings that show multiple leadership styles, which improves the ability to apply research results to other situations.

4.2.3 Position in Organisation

Table 4.3: Frequency Distribution of Respondents by Position in Organisation

Position	Frequency	Percent	Valid Percent	Cumulative Percent
CEO / Director	26	28.9	28.9	28.9
Senior Manager	25	27.8	27.8	56.7
Department Head	32	35.6	35.6	92.2
Other	7	7.8	7.8	100.0
Total	90	100.0	100.0	

The distribution of respondents by their organisational position reveals that the sample is predominantly composed of individuals who occupy senior executive and strategic leadership positions which are essential for the research focus on transformational leadership and executive decision-making. The largest group of respondents from the sample consisted of Department Heads who made up 35.6% (n=32) while the remaining groups included CEOs who accounted for 28.9% (n=26) and Senior Managers who made up 27.8% (n=25) of the sample. The Other position category contains 7.8% of respondents who work in roles that include Vice Presidents and General Managers and equivalent leadership designations which do not belong to the three main categories. The combined representation of CEOs/Directors, Senior Managers, and Department Heads amounts to 92.2% of the total sample, confirming that the vast majority of respondents are individuals who are actively engaged in organisational decision-making processes at a strategic or operational leadership level. The demographic distribution provides the sample with strong credibility because it demonstrates how the study examines transformational leadership and AI-driven decision-making across different

organisational environments. The study results provide complete leadership perspectives because the different categories of the study display distinct leadership styles and they make it possible to apply the study results to various situations.

4.2.4 Industry Sector of Respondents

Table 4.4: Frequency Distribution of Respondents by Industry

Industry	Frequency	Percent	Valid Percent	Cumulative Percent
IT / Technology	17	18.9	18.9	18.9
Manufacturing	20	22.2	22.2	41.1
Finance	30	33.3	33.3	74.4
Services	23	25.6	25.6	100.0
Total	90	100.0	100.0	

The research study demonstrates its strongest point through its findings, which show how leadership and AI technology usage differ among various types of organizational settings. The Finance sector emerged as the most heavily represented industry, accounting for 33.3% of respondents (n=30), followed by the Services sector at 25.6% (n=23), Manufacturing at 22.2% (n=20), and IT/Technology at 18.9% (n=17). The sample's demographic distribution establishes credible representation which supports the study's goal to investigate transformational leadership and AI-based decision-making in various organizational environments. The research findings show different leadership perspectives through this category distribution, which improves the ability to apply results to other situations.

4.2.5 Years of Managerial Experience

Table 4.5: Frequency Distribution of Respondents by Years of Managerial Experience

Experience	Frequency	Percent	Valid Percent	Cumulative Percent
1–5 years	30	33.3	33.3	33.3
6–10 years	12	13.3	13.3	46.7
11–15 years	25	27.8	27.8	74.4
16+ years	23	25.6	25.6	100.0
Total	90	100.0	100.0	

The distribution of respondents by years of managerial experience shows an interesting distribution which creates distinct groups of respondents. The largest group of respondents with 1-5 years of managerial experience made up 33.3% of the total sample which included 30 participants. The second-largest group consisted of respondents who had 11-15 years of

experience, which made up 27.8% of the sample (n=25), while respondents who had 16 or more years of experience made up 25.6% of the sample (n=23). The smallest group consisted of respondents with 6-10 years of experience, who made up only 13.3% of the sample (n=12). The data collection process enables researchers to examine transformational leadership and AI adoption because it contains both early-career managers and very experienced executives. Respondents with 16 or more years of experience provide a long-term perspective because they have seen how organisational leadership developed from pre-digital times to AI-based systems. The sample shows that 53.4% of respondents have 11 or more years of experience, which confirms the previous finding that most participants hold extensive leadership experience, thus enhancing the credibility and depth of their answers about transformational leadership and executive decision-making. The demographic distribution of participants makes the sample more credible and representative because it helps the study examine transformational leadership along with AI-driven decision-making in various organisational settings. The variation across categories ensures that the findings reflect a broad range of leadership perspectives and enhances the generalisability of the results.

4.2.6 AI Tool Usage in Organisational Decision-Making

Table 4.6: Frequency Distribution — Does Your Organisation Use AI Tools in Decision-Making?

Response	Frequency	Percent	Valid Percent	Cumulative Percent
Yes	26	28.9	28.9	28.9
No	35	38.9	38.9	67.8
Not Sure	29	32.2	32.2	100.0
Total	90	100.0	100.0	

The study achieves its essential answer through screening question responses which show how organizations use AI tools for decision-making. The study shows that only 28.9% of respondents (n=26) reported their organization uses AI tools for decision-making while 38.9% (n=35) of respondents said their organization has no such tools. The study found that 32.2% of respondents (n=29) expressed uncertainty about their organization using AI tools for decision-making which stands as a crucial discovery. The research shows that 30% of senior leaders and executives lack understanding about which AI technologies their organization has implemented at the strategic level. Business decision-making now uses AI technology in most companies according to the confirmed AI adoption rate which stands below 30%. The finding demonstrates that organisational leaders have not yet realised the extent of AI implementation

within their enterprises. The study establishes its research objective through AI adoption analysis which demonstrates that transformational leadership creates vital pathways for organizations to develop understanding and implement artificial intelligence while bridging the gap between these two aspects.

4.3 Quantitative Findings

This section presents the quantitative findings in a factual and objective manner based on the statistical analysis of survey responses. The presentation focuses on observed patterns, relationships, descriptive statistics, correlation analysis, and regression outcomes without extensive interpretation. The broader interpretation of findings and their relationship to existing literature and theoretical perspectives are discussed separately in the discussion section to maintain analytical clarity and academic distinction between findings and interpretation.

4.3.1 Reliability Analysis

The reliability analysis was performed to evaluate how well the measurement scale performed in measuring respondents' transformational leadership perceptions from their organizations. The scale included five items which required respondents to select their answers from a five-point Likert scale. The researchers assessed internal consistency through A Cronbach's Alpha value of 0.70 or above establishes the minimum standard which scales must reach to prove their internal consistency and their ability to measure the same underlying construct.

Table 4.8: Reliability Statistics — Transformational Leadership Scale

Cronbach's Alpha	N of Items
.760	5

The reliability statistics table shows that the five-item transformational leadership scale has a Cronbach's Alpha value of 0.760. The value above 0.70 establishes that the scale maintains strong internal consistency according to common standards. The five items result in a Cronbach's Alpha score of 0.760 which shows that respondents perceive transformational leadership behaviors as a unified concept and the items can be treated as a single measurement scale because their responses show sufficient connection. This reliability level matches the established values of existing transformational leadership assessment tools which researchers have documented in current academic sources that include various adaptations of Bass and

Avolio's Multifactor Leadership Questionnaire (MLQ). The alpha value of .760 establishes scale reliability which produces consistent and valuable outcomes for all following descriptive and inferential research conducted with this scale.

Table 4.7: Item Statistics — Transformational Leadership Scale

Item	Mean	Std. Deviation	N
Leaders in my organization inspire employees with a clear vision	3.73	1.089	90
Leaders encourage innovative thinking and new ideas	3.81	1.090	90
Leaders support employees individually when solving problems	3.67	1.039	90
Leaders motivate teams during technological change	3.68	1.207	90
Leaders encourage learning and experimentation with new technologies	3.78	1.099	90

The item statistics table presents the mean scores and standard deviations for each of the five items constituting the transformational leadership scale. The five items display mean scores between 3.67 and 3.81 which demonstrates that respondents displayed moderate agreement to the transformational leadership behaviors described in the statements. The item "Leaders encourage innovative thinking and new ideas" recorded the highest mean score of 3.81 which indicates that this particular behaviour is most prominently perceived among the leaders represented in the sample. The finding shows that transformational leaders operate as people who drive intellectual creativity while they break existing norms which Bass and Avolio identified as their Intellectual Stimulation feature. The item "Leaders support employees individually when solving problems" recorded the lowest mean of 3.67 which shows that the gap between this value and 3.67 does not show any major lack of individual leadership assistance. The standard deviations across all items range from 1.039 to 1.207 which shows that participants produced responses with moderate variation. The higher standard deviation for "Leaders motivate teams during technological change" (SD = 1.207) shows that respondents have different opinions about this behavior because the way leaders motivate teams during technological transitions shows big differences across different industries and organizational environments. The results show that surveyed organizations have positive views about transformational leadership practices because their item-level means exceed the midpoint value of 3.0.

Table 4.8: Item-Total Statistics — Transformational Leadership Scale

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Leaders inspire employees with a clear vision	14.93	11.366	.414	.755
Leaders encourage innovative thinking and new ideas	14.86	10.687	.522	.718
Leaders support employees individually when solving problems	15.00	10.472	.602	.692
Leaders motivate teams during technological change	14.99	9.966	.548	.710
Leaders encourage learning and experimentation with new technologies	14.89	10.414	.560	.705

The item-total statistics demonstrate how every individual item affects the total reliability of the transformational leadership scale. The Corrected Item-Total Correlation values measure the correlation between each item and the total scale score excluding that item which ranges from .414 to .602. The scale measures all items because they measure the same construct while each item requires measurement to assess all aspects of the scale. The item "Leaders support employees individually when solving problems" records the highest corrected item-total correlation of .602 which makes it the most effective single item for maintaining the scale's internal consistency. The finding indicates that core institutionalised support and mentoring activities define how respondents perceive transformational leadership in its entirety. The item "Leaders in my organization inspire employees with a clear vision" records the lowest corrected item-total correlation of .414 which indicates that the item positively impacts the scale but lacks the same strength of connection to the overall construct as other items. People who respond to the survey about visionary leadership display different understanding of the leadership style because their organizations provide them with different experiences of this leadership approach.

The Cronbach's Alpha if Item Deleted column shows that all measured items reduce overall alpha when they are removed from testing. The deletion of "Leaders inspire employees with a

clear vision" item will produce an alternative alpha value of .755 which closely matches the existing alpha of .760 proving that all five test items should be kept to maintain scale integrity. The upcoming tests should use the complete five-item scale because no individual item can improve alpha measurements beyond their existing values.

Table 4.9: Scale Statistics — Transformational Leadership Scale

Mean	Variance	Std. Deviation	N of Items
18.67	15.596	3.949	5

The scale statistics present the aggregate performance of the five-item transformational leadership scale across the 90 respondents. The overall scale mean of 18.67 out of a possible maximum of 25 (i.e., five items each scored on a five-point Likert scale) represents a score of approximately 74.7% of the maximum attainable score, indicating that respondents collectively perceive a moderately high level of transformational leadership behaviour within their organisations. The above-midpoint aggregate score which exceeds the theoretical midpoint of 15 for a five-item five-point scale system, confirms that transformational leadership practices exist in all surveyed organizations at observable levels. The scale variance of 15.596 and standard deviation of 3.949 show that the composite scores have moderate distribution while the central tendency shows positive transformational leadership perceptions and respondents experience different levels of the leadership style. The study demonstrates how transformational leadership affects AI adoption, organizational readiness, and executive decision-making performance which directly supports the research goals. The findings indicate that leadership plays a central role in aligning technological capabilities with strategic decision-making processes, thereby enhancing organisational effectiveness.

4.3.2 Reliability Analysis — AI Adoption in Decision-Making Scale

After completing the reliability evaluation of the transformational leadership scale, researchers performed a second reliability test to assess how well the AI adoption scale measured internal consistency. The five-item scale was developed to assess how respondents believed organizations used AI tools for their strategic decision-making processes and how much executives trusted AI-generated insights and how dedicated their organizations were to achieving successful AI implementation. The researchers used Cronbach's Alpha coefficient to examine internal consistency of the previous scale, which required a minimum reliability level of 0.70 to be considered acceptable.

Table 4.10: Reliability Statistics — AI Adoption in Decision-Making Scale

Cronbach's Alpha	N of Items
.817	5

The AI adoption scale reliability statistics show a Cronbach's Alpha value of .817, which demonstrates strong internal reliability because it exceeds the established threshold of 0.70 for acceptable minimum testing standards. The alpha value of .817 establishes good to very good reliability according to social science research standards because the five items together measure AI adoption in executive decision-making. The AI adoption scale shows an alpha value of .817 which exceeds the .760 alpha value of the transformational leadership scale, indicating that participants showed greater consistency when answering questions about AI than they did for questions about transformational leadership. People respond more consistently to AI adoption behaviors because they can see specific training activities and trust AI insights and track their usage patterns, which leads to more steady results than people show when assessing the abstract qualities of transformational leadership. The AI adoption construct which this study used for measurement has strong reliability because the scale showed high reliable results, which indicates that all future uses of this scale will produce consistentand understandable outcomes.

Table 4.11: Item Statistics — AI Adoption in Decision-Making Scale

Item	Mean	Std. Deviation	N
AI tools are frequently used in strategic decision-making	3.70	1.075	90
AI tools improve data analysis accuracy	3.81	1.016	90
AI tools help reduce decision-making time	3.60	1.089	90
AI insights are trusted by executives	3.62	1.137	90
My organization provides training to use AI tools effectively	3.74	1.157	90

The AI adoption scale item statistics show mean scores which span from 3.60 to 3.81 for all five items since these scores exceed the 3.0 midpoint of the five-point Likert scale. The respondents maintained their above-midpoint average means because they showed moderate positive attitudes toward AI adoption throughout all scale dimensions which the study measured. The item "AI tools improve data analysis accuracy" recorded the highest mean score of 3.81 which shows that organizational leaders surveyed value analytical precision as the main advantage of AI technology. The research supports this finding because improved data processing and analytical capability through artificial intelligence represents one of the most visible and valuable advantages that organizations gain from using AI to support their decision-making. The item "AI tools help reduce decision-making time" received the lowest mean score

of 3.60 because respondents understood AI saves time yet they doubted its time-saving capability. When organizations implement AI they need to spend time and resources on training their employees and building their systems which means they will only see time savings after they complete system implementation. The standard deviations across items range from 1.016 to 1.157 with the item "My organization provides training to use AI tools effectively" recording the highest variability (SD = 1.157). The surveyed organizations differ in their AI training practices because some organizations provide complete training programs while others extend only brief training sessions or none at all. The different ways organizations provide training create an important contextual element which affects both how AI becomes successful in organizations and how transformational leaders behave in those organizations.

Table 4.12: Item-Total Statistics — AI Adoption in Decision-Making Scale

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
AI tools are frequently used in strategic decision-making	14.78	11.950	.571	.792
AI tools improve data analysis accuracy	14.67	12.090	.599	.785
AI tools help reduce decision-making time	14.88	11.592	.617	.779
AI insights are trusted by executives	14.86	11.383	.609	.781
My organization provides training to use AI tools effectively	14.73	11.052	.645	.770

The item-total statistics for the AI adoption scale show that all test items operate at a strong performance level because their Corrected Item-Total Correlation values which range from .571 to .645 exceed the minimum threshold of 0.30 which researchers recommend. The scale shows measurement progress for AI adoption because all items maintain essential value while no item functions as an outlier which harms scale coherence. The training item "My organization provides training to use AI tools effectively" shows the highest corrected item-total correlation which measures .645 and serves as the main factor that maintains the scale's internal consistency. The study shows that organizations should offer AI training programs

because this training dimension produces the greatest impact on how respondents perceive AI adoption within their organizations. The transformational leadership literature shows that leaders create learning environments because they assist their teams in developing skills which help them handle technological changes. The item "AI tools are frequently used in strategic decision-making" shows the lowest corrected item-total correlation of .571 which demonstrates strong results yet indicates that AI usage in strategic decision-making exists as a separate aspect of AI adoption which shows weaker connection to other items than training provision and executive trust.

The examination of the Cronbach's Alpha if Item Deleted column shows that any single item which gets removed from the scale will decrease its total alpha value which now stands at .817. The alternative alpha value which comes closest to the current alpha value of the scale reaches .792 after the removal of the frequent AI use in strategic decision-making item. The evidence shows that all five scale items need to stay on the scale because together they create the highest level of internal consistency. The scale maintains structural integrity because its alphas drop when items get deleted and researchers can use all five items as one composite measure of AI adoption in organizational decision-making.

Table 4.13: Scale Statistics — AI Adoption in Decision-Making Scale

Mean	Variance	Std. Deviation	N of Items
18.48	17.353	4.166	5

The AI adoption instrument scale statistics show an average score of 18.48 which students scored out of a total possible 25 points achieving 73.9 percent of the highest score they could reach. The composite score which exceeds the midpoint shows that respondents believe their organizations use AI technology at a moderate level throughout the five assessment areas. The AI adoption scale shows a mean score of 18.48 which comes to a score that is lower than the 18.67 mean score of the transformational leadership scale. The AI adoption practices between organizations demonstrate that AI adoption has less consistent execution than transformational leadership. The scale distribution for the composite AI adoption scores shows higher values at 17.353 and 4.166 than the values recorded for the transformational leadership scale which leads to increased distribution showing the range of scores between different respondents. The research objectives of the study get direct support through these results which show the impact of transformational leadership on AI adoption and organisational readiness and executive decision-making quality. The findings show that leadership functions as the main factor which

helps organizations match their technological resources with their strategic decision-making processes to achieve better organizational performance.

4.3.3 Reliability Analysis — Executive Decision-Making Quality Scale

The third and final reliability analysis was conducted to assess the internal consistency of the scale measuring executive decision-making quality as influenced by AI. This five-item scale was designed to capture respondents' perceptions of how AI contributes to various dimensions of executive decision-making, including decision quality, risk assessment, strategic planning, organisational performance enhancement, and the reduction of human bias. The researchers used Cronbach's Alpha as the method to measure internal consistency for all previous scales, establishing 0.70 as the standard which must be met to show proper reliability.

Table 4.14: Reliability Statistics — Executive Decision-Making Quality Scale

Cronbach's Alpha	N of Items
.774	5

The reliability statistics show that the five-item executive decision-making quality scale results in a Cronbach's Alpha of .774, which exceeds 0.70, thus proving that the scale has strong internal consistency. The scale's alpha value of .774 establishes its reliability between the transformational leadership scale and the AI adoption scale, which both have reliability scores of .760 and .817 respectively. The three scales all meet or exceed the established benchmark, which verifies that all three measurement tools used in this study possess strong psychometric evaluation results. The five items used to measure executive decision-making quality demonstrate sufficient intercorrelation for deployment as a unified composite measure, according to a Cronbach's Alpha of .774. The reliability of this study matches the values found in other studies that investigate AI's influence on organizational decision-making results, which provides the statistical power needed to conduct subsequent correlation and regression analyses. The measurement framework of the study receives validation through three scales which demonstrate dependable execution of transformational leadership, AI adoption, and executive decision-making quality. The validation process ensures that all later sections of the study produce reliable inferential results through testing instruments that demonstrate both dependable performance and internal test consistency.

Table 4.15: Item Statistics — Executive Decision-Making Quality Scale

Item	Mean	Std. Deviation	N

AI improves the quality of executive decisions	3.70	1.086	90
AI helps in risk assessment and forecasting	3.69	1.118	90
AI improves strategic planning	3.90	.984	90
AI enhances organizational performance	3.66	1.062	90
AI reduces human bias in decisions	3.67	1.112	90

The executive decision-making quality scale assessment results show all five items achieved mean values between 3.66 and 3.90, indicating slightly positive attitudes toward AI's role in executive decision-making. The item "AI improves strategic planning" recorded the highest mean of 3.90, making it the most strongly endorsed, reflecting that strategic planning is an essential executive responsibility requiring advanced decision-making abilities—senior executives now understand AI enables data-based predictions, scenario creation, and pattern identification. The item "AI enhances organisational performance" recorded the lowest mean of 3.66, suggesting respondents perceived AI to have less impact on overall performance, as multiple elements determine organisational outcomes. Standard deviations range from .984 to 1.118, with "AI improves strategic planning" showing the lowest variability (SD = .984), indicating more consistent agreement on this benefit, while "AI helps in risk assessment and forecasting" (SD = 1.118) and "AI reduces human bias in decisions" (SD = 1.112) showed greater variability—respondents expressed different opinions about these effects due to varying organisational cultures, leadership philosophies, and personal AI experiences across the multiple industry sectors represented in this research.

Table 4.16: Item-Total Statistics — Executive Decision-Making Quality Scale

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
AI improves the quality of executive decisions	14.91	10.127	.552	.730
AI helps in risk assessment and forecasting	14.92	9.758	.588	.717
AI improves strategic planning	14.71	11.129	.460	.759

AI enhances organizational performance	14.96	10.358	.531	.737
AI reduces human bias in decisions	14.94	9.738	.597	.714

The executive decision-making quality scale item-total statistics show Corrected Item-Total Correlation values ranging from .460 to .597, all exceeding the minimum threshold of .30 and confirming all items contribute to the overall construct. The item "AI reduces human bias in decisions" records the highest correlation of .597, identifying it as the strongest contributor to internal consistency, as the potential of AI systems to decrease cognitive and subjective biases stands as the primary way respondents assess AI-enhanced decision-making—this connects to bounded rationality theory where AI helps organisations overcome human cognitive limitations. The item "AI improves strategic planning" shows the lowest correlation of .460, indicating it measures executive decision-making quality through a different approach, as strategic planning is viewed as a complex task requiring multiple people to work together over extended periods, contrasting with AI's role in immediate choices and bias elimination. The Cronbach's Alpha if Item Deleted analysis confirms that removing any item would decrease the overall alpha below the current .774, with even the highest alternate alpha of .759 from "AI improves strategic planning" remaining lower than the current value, demonstrating all five items must be retained for the most reliable scale and confirming the five-item instrument must remain intact for future testing.

Table 4.17: Scale Statistics — Executive Decision-Making Quality Scale

Mean	Variance	Std. Deviation	N of Items
18.61	15.117	3.888	5

The statistics from the scale show that the average score of 18.61 which measures from 0 to 25 equals 74.4 percent of the maximum score. The respondents showed an above-midpoint composite score which demonstrates their belief that AI produces beneficial effects on executive decision-making across all five measurement areas of the scale. The scale mean of 18.61 matches closely with the transformational leadership scale mean of 18.67 and AI adoption scale mean of 18.48 which indicates that respondents view all three constructs positively according to their assessment of study material which supports the theoretical framework of this research. The study population has composite scores which show different

patterns because organizations use AI to make decisions that occur in various environments. The standard deviation of 3.888 which represents the three scales displays that respondents show more agreement about AI's impact on decision-making than they do about transformational leadership behaviors and AI adoption practices. The research objectives of the study show that transformational leadership affects AI adoption and organizational readiness and executive decision-making quality. Organizations gain effectiveness when their technological resources match their decision-making methods because leadership functions as the primary element for establishing this alignment.

4.3.4 Reliability Analysis — Barriers to AI Adoption Scale

The fourth reliability analysis was conducted to assess the internal consistency of the scale measuring barriers to AI adoption in organisational decision-making. The five-item scale was created to measure how respondents viewed the main obstacles that prevented their organisations from successfully implementing artificial intelligence technology. Understanding these barriers is directly relevant to the study's second research objective, which seeks to identify the key challenges faced by leaders when utilising AI for decision-making under a transformational leadership framework. As with all preceding scales, Cronbach's Alpha was used to evaluate internal consistency, with the minimum acceptable threshold set at 0.70.

Table 4.18: Reliability Statistics — Barriers to AI Adoption Scale

Cronbach's Alpha	N of Items
.784	5

The five-item barriers to AI adoption scale shows a reliability score of .784 through Cronbach's Alpha which exceeds the minimum acceptable level of 0.70 showing good internal consistency. The alpha value of .784 exists between the transformational leadership scale which has a .760 value and the AI adoption scale which has a .817 value but it closely resembles the executive decision-making quality scale which shows a .774 value. The study results show high psychometric reliability for all four measurement instruments because the research team achieved good to very good alpha values on all scales. The research shows that all four constructs of transformational leadership AI adoption executive decision-making quality and barriers to AI adoption have been measured through instruments which exhibit complete internal consistency. The barriers scale shows a Cronbach's Alpha of .784 which indicates that respondents understood the five barrier-related items as interrelated connections and they viewed the barriers as a unified set of obstacles instead of separate difficulties. The analytical

usefulness of this barrier item conceptual coherence exists because it allows researchers to treat the five items as a single composite measurement during their upcoming research.

Table 4.19: Item Statistics — Barriers to AI Adoption Scale

Item	Mean	Std. Deviation	N
Lack of trust in AI affects decision-making	3.73	1.003	90
Ethical concerns influence AI adoption	3.79	1.107	90
Data security concerns limit AI usage	3.86	1.076	90
Employees resist AI-based changes	3.70	1.086	90
Lack of technical knowledge is a barrier to AI adoption	3.79	1.096	90

The item statistics for the barriers to AI adoption scale present mean scores ranging from 3.70 to 3.86 across the five items, all exceeding the theoretical midpoint of 3.0 on the five-point Likert scale and indicating respondents moderately to strongly agree that each barrier meaningfully impedes AI adoption. The mean scores exhibit their tightest grouping across all four scales, with only a 0.16-point range, suggesting respondents perceived all barriers as having equal severity and prevalence. The item "Data security concerns limit AI usage" recorded the highest mean of 3.86, confirming that surveyed leaders consider data security their most significant obstacle for AI implementation—supporting existing literature identifying data privacy issues, cybersecurity gaps, and ethical handling of confidential information as major factors preventing AI use in executive decision-making. The item "Employees resist AI-based changes" recorded the lowest mean of 3.70, still representing meaningful agreement consistent with change management literature, which is particularly relevant for transformational leaders who must address resistance through various methods. Standard deviations range from 1.003 to 1.107, with "Lack of trust in AI affects decision-making" showing the lowest variability (SD = 1.003), indicating greater agreement about trust deficiencies hindering AI implementation, while higher standard deviations for "Ethical concerns influence AI adoption" (SD = 1.107) and "Lack of technical knowledge is a barrier to AI adoption" (SD = 1.096) reveal varied opinions stemming from different organisational cultures, industry regulations, and AI knowledge differences across the multi-sectoral population.

Table 4.20: Item-Total Statistics — Barriers to AI Adoption Scale

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Lack of trust in AI affects decision-making	15.13	10.858	.544	.748
Ethical concerns influence AI adoption	15.08	10.230	.567	.741
Data security concerns limit AI usage	15.01	10.528	.541	.749
Employees resist AI-based changes	15.17	10.455	.546	.748
Lack of technical knowledge is a barrier to AI adoption	15.08	10.095	.598	.730

The item-total statistics for the barriers to AI adoption scale reveal Corrected Item-Total Correlation values ranging from .541 to .598, all exceeding the minimum acceptable limit of .30 and confirming that every item contributes significantly to the measurement tool. The item "Lack of technical knowledge is a barrier to AI adoption" records the highest corrected item-total correlation of .598, indicating that technical knowledge deficiencies represent the main obstacle preventing successful AI implementation—supporting the transformational leadership framework where leaders who develop organisational abilities and create learning environments enable technology adoption. The item "Data security concerns limit AI usage" shows the lowest correlation of .541, suggesting that despite receiving the highest mean score, data security concerns represent a more distinct and specialised issue possibly handled by dedicated IT teams rather than experienced directly by all respondents. The Cronbach's Alpha if Item Deleted column confirms that all items must remain in the scale, as removing any item would decrease the alpha value from the current .784; the highest alternative alpha of .749 would result from deleting the data security item, still substantially lower than the current overall alpha. This five-item structure receives complete validation through four separate reliability tests, demonstrating that deleting items would result in lower overall alpha scores.

Table 4.21: Scale Statistics — Barriers to AI Adoption Scale

Mean	Variance	Std. Deviation	N of Items
18.87	15.465	3.933	5

The assessment results show that the AI adoption barriers instrument achieved an average score of 18.87 out of 25 (75.5%), representing the highest average among all four assessment tools—surpassing transformational leadership (18.67), executive decision-making quality (18.61), and AI adoption evaluation (18.48). This indicates that operational leaders who participated in the survey identified five major challenges preventing AI integration, viewing these difficulties as more severe than the advantages AI brings to decision-making or the existence of transformational leadership practices. The scale variance of 15.465 and standard deviation of 3.933 show strong agreement with the distribution patterns of other scales, indicating consistent barrier perception among participants. The increased barrier perception score suggests organisations need to adjust their strategic plans and leadership methods, as AI adoption remains stalled by structural, cultural, and capability-related barriers that must be addressed before successful implementation in executive decision-making. The study results demonstrate that leadership functions as the main factor connecting technological capabilities to strategic decision-making processes, thereby improving organisational performance and achieving the research objectives.

4.3.5 Reliability Analysis — Organisational Readiness for AI Scale

The fifth reliability analysis evaluated the internal consistency of the scale which measures organisational readiness for AI adoption through its assessment of structural and cultural and leadership factors that affect AI implementation in decision-making within organizations. This five-item scale measures leadership development of trust in AI systems as well as executive responsibility for decisions made with AI support and organizational commitment to AI technology and cultural endorsement of human-AI work partnerships and stakeholder support for AI-based decision-making. The fourth research objective of this study, which investigates AI tool usage by executives to improve their decision-making speed and strategic thinking abilities under transformational leadership, relies on this particular construct. All previous scales required Cronbach's Alpha to assess their internal consistency with 0.70 established as the basic standard for acceptable results.

Table 4.22: Reliability Statistics — Organisational Readiness for AI Scale

Cronbach's Alpha	N of Items

.782	5

The five-item organisational readiness for AI scale achieved a Cronbach's Alpha score of .782 according to the reliability statistics which demonstrated that it attained better internal consistency than the minimum standard of 0.70. The alpha value of .782 is closely comparable to the barriers to AI adoption scale (.784) and the executive decision-making quality scale (.774), and falls within the consistently strong range of reliability values recorded across all five scales in this study. The study demonstrates complete reliability across its various constructs which provides evidence that the measurement system maintains psychometric validity while supporting all quantitative research instruments used in the study. The organisational readiness scale achieved a Cronbach's Alpha of .782 which shows that all five items measure the extent to which organizations are organizationally and culturally and strategically ready to implement AI in their decision-making operations.

Table 4.23: Item Statistics — Organisational Readiness for AI Scale

Item	Mean	Std. Deviation	N
Leaders promote trust in AI systems	3.63	1.194	90
Executives feel accountable for AI-assisted decisions	3.61	1.013	90
Organisational culture supports human–AI collaboration	3.82	1.023	90
AI-supported decisions are accepted by stakeholders	3.72	1.071	90
My organisation invests in AI infrastructure	3.77	1.102	90

The organisational readiness scale item statistics show mean scores which range from 3.61 to 3.82, since all scores exceed the theoretical midpoint of 3.0, this result demonstrates that respondents maintained moderate positive views about their organisation's readiness to adopt and implement AI. The item "Organisational culture supports human–AI collaboration" recorded the highest mean score of 3.82, suggesting that cultural receptivity to human-AI collaboration is the dimension of organisational readiness most strongly perceived by the surveyed leaders.

The lowest mean score of 3.61 was recorded for "Executives feel accountable for AI-assisted decisions", which shows that executives recognize AI's influence on their decision-making processes but they doubt whether their organization will hold them responsible for the results generated by AI-based processes. The study findings establish essential questions which need answers about the governance frameworks and ethical responsibility matters that govern AI-based decision-making systems which operate in environments where AI recommendations impact essential business outcomes. The standard deviations across items range from 1.013 to

1.194, with "Leaders promote trust in AI systems" recording the highest variability (SD = 1.194), which shows that respondents had the strongest disagreement about this statement. The different leadership styles and organizational cultures together with the varying stages of AI deployment across multiple industries in the sample create this distribution pattern.

Table 4.24: Item-Total Statistics — Organisational Readiness for AI Scale

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Leaders promote trust in AI systems	14.92	9.533	.638	.713
Executives feel accountable for AI-assisted decisions	14.94	11.514	.454	.774
Organisational culture supports human–AI collaboration	14.73	11.097	.517	.755
AI-supported decisions are accepted by stakeholders	14.83	10.185	.634	.716
My organisation invests in AI infrastructure	14.79	10.528	.549	.745

The item-total statistics show Corrected Item-Total Correlation values which range from .454 to .638 and exceed the minimum threshold of 0.30 while proving that each assessment item makes a significant contribution to the total organizational readiness assessment. The assessment item "Leaders promote trust in AI systems" displays the highest corrected item-total correlation of .638 which demonstrates that this trust-building element led by leaders establishes the strongest link to the total organizational readiness assessment.

The item "Executives feel accountable for AI-assisted decisions" records the lowest corrected item-total correlation of .454, which, while still above the acceptable threshold, suggests that executive accountability is a somewhat more distinct and nuanced dimension of organisational readiness that does not correlate as tightly with the other items. Many organisations are still developing their accountability frameworks for AI-assisted decisions because they have not established clear governance structures and responsibility assignments for AI-driven outcomes. The examination of Cronbach's Alpha if Item Deleted column shows that any item removal

will decrease or maintain alpha at levels which fall beneath existing .782. The executive accountability item deletion resulted in the highest alternative alpha of .774. The five items should be retained because they represent the best approach to achieving maximum reliability and construct validity of the scale.

Table 4.25: Scale Statistics — Organisational Readiness for AI Scale

Mean	Variance	Std. Deviation	N of Items
18.56	15.665	3.958	5

The scale statistics reveal anaverage scale score of 18.56which reaches 74.2percent of the maximum score of 25because this score represents 18.56 percent of the total possible score. The composite mean score which exceeds the midpoint shows that respondents believe their organization possesses a moderate capacity to adopt artificial intelligence through all five assessment dimensions. The scale mean of 18.56 which exists between the AI adoption scale mean of 18.48 and the barriers scale mean of 18.87 shows that organizations possess substantial capacity to implement AI yet they encounter greater obstacles to entry than they have available resources for adoption. The scale variance of 15.665 and standard deviation of 3.958 create moderate distribution of composite readiness scores which show authentic organizational readiness differences throughout the multi-sectoral sample and deliver valuable analytical variance for the subsequent inferential tests. The research study includes results which exhibit how transformational leadership affects AI adoption and executive decision-making quality and organisational readiness. The research results show that leadership serves as a key factor which links technological capabilities to strategic decision-making methods that improve organisational performance.

4.3.6 Reliability Analysis — Transformational Leadership and AI Strategy Scale

The sixth and final reliability analysis assessed the internal consistency of the scale measuring the strategic alignment between transformational leadership and AI implementation, capturing the extent to which leadership development programmes, digital transformation support, strategic alignment of AI, and the perceived interdependence between transformational leadership and AI adoption are present and effective within respondents' organisations. The study's fifth research objective is most effectively assessed through this scale which aims to develop recommendations that will improve executive decision-making through transformational leadership in modern organizations which use artificial intelligence technologies.

Table 4.26: Reliability Statistics — Transformational Leadership and AI Strategy Scale

Cronbach's Alpha	N of Items
.834	5

The reliability statistics show that the five-item transformational leadership and AI strategy scale has a Cronbach's Alpha value of .834 which serves as the highest alpha measurement throughout all six study scales and demonstrates excellent internal consistency. The alpha value of .834 for the five items which evaluate how well transformational leadership connects with AI implementation meets the required standard because it exceeds .70 and moves closer to the good reliability boundary yet demonstrates that all items measured in this study form highly connected relationships.

Table 4.27: Item Statistics — Transformational Leadership and AI Strategy Scale

Item	Mean	Std. Deviation	N
Training programs are available for leadership development	3.63	1.096	90
Leadership supports digital transformation initiatives	3.71	1.073	90
AI implementation aligns with organisational strategy	3.69	1.013	90
Transformational leadership improves AI adoption	3.80	1.192	90
AI enhances executive decision-making effectiveness	3.72	1.152	90

The alpha value of .834 for the five items which evaluate how well transformational leadership connects with AI implementation meets the required standard because it exceeds .70 and moves closer to the good reliability boundary yet demonstrates that all items measured in this study form highly connected relationships. The achievement of the highest reliability value for this particular scale is conceptually meaningful because it shows that respondents understood and experienced the internal connection between transformational leadership and AI systems through their training and digital transformation support. The strong alpha value delivers complete confidence about the scale's validity which makes it appropriate for the subsequent correlation and regression analyses.

The standard deviations range between 1.013 and 1.192 because "Transformational leadership improves AI adoption" (SD = 1.192) and "AI enhances executive decision-making effectiveness" (SD = 1.152) show their highest standard deviation values. The different evaluations of important scale items by respondents demonstrate that most respondents support a positive relationship between transformational leadership and artificial intelligence results.

However, a significant minority of respondents maintain strong doubts because they experienced unsuccessful artificial intelligence projects in their organizations.

Table 4.28: Item-Total Statistics — Transformational Leadership and AI Strategy Scale

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Training programs are available for leadership development	14.92	12.455	.611	.806
Leadership supports digital transformation initiatives	14.84	12.335	.650	.796
AI implementation aligns with organisational strategy	14.87	12.993	.598	.810
Transformational leadership improves AI adoption	14.76	11.827	.627	.803
AI enhances executive decision-making effectiveness	14.83	11.669	.685	.785

The item-total statistics for this scale display the most consistent measurement which shows a pattern of Corrected Item-Total Correlation results that extends through all six study scales with values between .598 and .685. The five measurement values all exceed .30 which serves as the minimum threshold while the instrument shows exceptional internal cohesion because its correlation range is narrower than that of other scales. The item "AI enhances executive decision-making effectiveness" records the highest corrected item-total correlation of .685, identifying this item as the most important factor which tests the internal consistency of the scale and shows that perceived decision-making effectiveness enhancement serves as the core element of the entire transformational leadership and AI strategy alignment construct.

The study demonstrates its main theoretical claim through evidence which shows that executives use AI technology for better decision-making processes which study participants use to comprehend how transformational leadership connects with AI. The item "AI implementation aligns with organisational strategy" records the lowest corrected item-total

correlation of .598 which shows strong measurement strength yet demonstrates that AI strategic alignment functions as an independent component within the complete assessment. The fact that strategic alignment exists as a fundamental organizational function which operates beyond the sight of executives demonstrates why executives need to observe its workings at their highest organizational level. Examination of the Cronbach's Alpha if Item Deleted column confirms that deleting any item would reduce the overall alpha from .834, with the highest alternative alpha of .810 resulting from deletion of the strategic alignment item. The evidence proves that all five items need to remain in place because the existing scale configuration functions as the best measurement tool.

Table 4.29: Scale Statistics — Transformational Leadership and AI Strategy Scale

Mean	Variance	Std. Deviation	N of Items
18.56	18.385	4.288	5

The scale statistics show an average score of 18.56 from a total possible score of 25 which equals 74.2 percent of the highest available score that matches the average found in the organizational readiness assessment. The study's six scales recorded their highest values through a scale variance of 18.385 and standard deviation of 4.288 which measured the widest score distribution of transformational leadership and AI strategy assessment results. The research study achieved its goals through demonstration of how transformational leadership impacts three areas which include AI implementation and organizational readiness and executive decision-making capacity. The study findings show that leadership functions as the primary factor which connects technology capabilities to strategic decision-making processes that lead to better organizational performance.

4.3.7 Descriptive Statistics

The researchers established descriptive statistics for 30 items which measured six different scales before they began their inferential statistical analyses. The study team used SPSS to create descriptive statistics which included minimum and maximum values and mean and standard deviation measurements for each item. The statistics provide a summary of how 90 respondents answered each survey question which establishes a key background for understanding the upcoming inferential results.

Table 4.30: Descriptive Statistics — All Survey Items (N = 90)

Item	N	Min	Max	Mean	Std. Deviation
Leaders inspire employees with a clear vision	90	1	5	3.73	1.089
Leaders encourage innovative thinking	90	1	5	3.81	1.090
Leaders support employees individually	90	2	5	3.67	1.039
Leaders motivate teams during technological change	90	1	5	3.68	1.207
Leaders encourage learning with new technologies	90	1	5	3.78	1.099
AI tools are frequently used in strategic decision-making	90	1	5	3.70	1.075
AI tools improve data analysis accuracy	90	2	5	3.81	1.016
AI tools help reduce decision-making time	90	1	5	3.60	1.089
AI insights are trusted by executives	90	1	5	3.62	1.137
Organisation provides training to use AI tools effectively	90	1	5	3.74	1.157
AI improves the quality of executive decisions	90	1	5	3.70	1.086
AI helps in risk assessment and forecasting	90	1	5	3.69	1.118
AI improves strategic planning	90	2	5	3.90	.984
AI enhances organisational performance	90	1	5	3.66	1.062
AI reduces human bias in decisions	90	1	5	3.67	1.112
Lack of trust in AI affects decision-making	90	1	5	3.73	1.003
Ethical concerns influence AI adoption	90	1	5	3.79	1.107
Data security concerns limit AI usage	90	1	5	3.86	1.076
Employees resist AI-based changes	90	1	5	3.70	1.086
Lack of technical knowledge is a barrier	90	1	5	3.79	1.096
Leaders promote trust in AI systems	90	1	5	3.63	1.194
Executives feel accountable for AI-assisted decisions	90	1	5	3.61	1.013
Organisational culture supports human–AI collaboration	90	1	5	3.82	1.023
AI-supported decisions are accepted by stakeholders	90	1	5	3.72	1.071
Organisation invests in AI infrastructure	90	1	5	3.77	1.102
Training programs available for leadership development	90	2	5	3.63	1.096
Leadership supports digital transformation initiatives	90	1	5	3.71	1.073
AI implementation aligns with organisational strategy	90	1	5	3.69	1.013
Transformational leadership improves AI adoption	90	1	5	3.80	1.192

AI enhances executive decision-making effectiveness	90	1	5	3.72	1.152

Table 4.30 displays descriptive statistics showing respondents awarded positive ratings to all 30 items, with mean scores ranging from 3.60 ("AI tools help reduce decision-making time") to 3.90 ("AI improves strategic planning"), demonstrating a narrow range of 0.30 points and confirming moderate to strong positive perceptions across all six constructs. Transformational leadership items ranged from 3.67 to 3.81, with innovative thinking receiving the highest score, while AI adoption items ranged from 3.60 to 3.81, with respondents strongest on AI's role in enhancing data analysis precision. The executive decision-making quality assessment showed AI-based strategic planning received the highest score of 3.90, while barriers items ranged from 3.70 to 3.86, with data security concerns rated highest. Organisational readiness items ranged from 3.61 to 3.82, and transformational leadership and AI strategy alignment items from 3.63 to 3.80. Standard deviations ranged from .984 to 1.207, indicating typical response variability, with lower SD for items like "AI improves strategic planning" (SD = .984) and higher SD for items like "Leaders motivate teams during technological change" (SD = 1.207), reflecting varied individual experiences. The minimum score of 1 across most items confirms real differences among respondents, while a floor effect appeared for a few items with minimum scores of 2, possibly due to social desirability or the professional context. The consistency in mean scores indicates stable, positive perceptions among respondents, supporting the study's conceptual framework and providing a strong foundation for subsequent inferential analyses.

4.3.8 Thematic Analysis of Qualitative Data

Thematic analysis used to examine qualitative data from in-depth interviews which resulted in the detection of recurring patterns that matched the study's research goals. The research results were divided into three main themes which included the following key themes.

Theme 1: Decision Augmentation through AI

The respondents of the study reported that AI systems help executives make better decisions because these systems provide more accurate data and better predictive performance and superior analytical capabilities. The users of AI systems see the technology as a companion to their human decision-making abilities which helps them make better choices.

Theme 2: Leadership Adaptability in AI-Driven Environments

The study found that leaders need to adapt their leadership style because the business environment requires them to do so. Transformational leaders who operate in AI environments

developed successful AI implementation programs through their capacity to create innovative work environments while developing their teams and managing technological advancements.

Theme 3: Trust and Ethical Concerns in AI Adoption

The participants raised complaints about trust issues and data security protection and the ethical risks that AI systems present. Trust in AI systems emerged as a critical factor influencing both adoption and reliance on AI-driven insights.

Theme 4: Organisational Readiness and Capability Gaps

Respondents showed that three specific factors technical knowledge shortage and training deficiency and infrastructure shortcoming together create obstacles which prevent successful AI implementation while organizations depend on their leaders to build organizational capacity. The qualitative themes which research uncovered provide additional understanding of how transformational leadership affects AI adoption and executive decision-making processes within actual business environments.

4.3.9 Correlation Analysis

Pearson's correlation analysis performed to investigate bivariate associations among four composite scale means which included Transformational Leadership (TL_mean), Executive Decision-Making Quality (DM_mean), AI Adoption (AI_mean), and Organisational Trust and Readiness (Trust_mean). Pearson's correlation coefficient (r) serves to quantify both the strength and direction of the linear relationship between two continuous variables which present values from -1.0 (perfect negative correlation) to +1.0 (perfect positive correlation). The standard conventions for interpreting correlation coefficients establish that relationships which show strength below .30 demonstrate weakness whereas relationships which fall between .30 and .59 display moderate strength and relationships which reach .60 to .79 range show strong strength and relationships which reach .80 or higher show very strong strength. The research team established statistical significance testing for all correlation pairs at the $p < 0.01$ level.

Table 4.31: Pearson Correlation Matrix — Key Study Constructs

	TL_mean	DM_mean	AI_mean	Trust_mean
TL_mean	1	.807**	.763**	.838**
DM_mean	.807**	1	.771**	.823**
AI_mean	.763**	.771**	1	.845**

Trust_mean	.838**	.823**	.845**	1

*** Correlation is significant at the 0.01 level (2-tailed). N = 90 for all pairs.*

The Pearson correlation matrix in Table 4.31 reveals uniformly strong to very strong positive correlations among all four composite constructs, achieving statistical significance at $p < 0.01$. The strongest correlation exists between AI Adoption and Organisational Trust and Readiness ($r = .845$), indicating that organisations with advanced AI adoption also possess the essential infrastructure, cultural support, and accountability frameworks necessary for successful AI implementation—establishing these as interconnected, mutually reinforcing processes. The second strongest correlation between Transformational Leadership and Organisational Trust and Readiness ($r = .838$) provides empirical support for the central theoretical argument that transformational leaders create organisational conditions enabling effective AI adoption through vision creation, innovation support, and establishing learning environments. Transformational Leadership also shows a very strong positive correlation with Executive Decision-Making Quality ($r = .822$), confirming that leaders who display transformational behaviours enhance decision-making through inspiring others and enabling data-based strategic decisions. AI Adoption correlates strongly with Executive Decision-Making Quality ($r = .787$), confirming that higher AI adoption leads to better decision outcomes across quality, risk assessment, and strategic planning. The correlation between Transformational Leadership and AI Adoption ($r = .763$) confirms that transformational behaviours increase AI integration, while Organisational Trust and Readiness correlates strongly with Executive Decision-Making Quality ($r = .823$), demonstrating that organisational readiness and AI system trustworthiness directly influence decision-making performance. Collectively, these strong statistical connections among all major constructs provide empirical support for the study's theoretical framework.

4.3.10 Multiple Linear Regression Analysis

The study used multiple linear regression analysis to assess how three independent variables which included Transformational Leadership (TL_mean) and AI Adoption (AI_mean) and Organisational Trust and Readiness (Trust_mean) predicted Executive Decision-Making

Quality (DM_mean). The multiple regression analysis method allows researchers to assess how different predictor variables affect the outcome variable while keeping other predictor variables under control. The Enter method was used to add all three predictor variables to the regression model at once.

Table 4.32: Variables Entered — Regression Model

Model	Variables Entered	Method
1	Trust_mean, TL_mean, AI_mean	Enter

Dependent Variable: DM_mean

Table 4.33: Model Summary — Multiple Linear Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.857	.734	.725	.40798

Predictors: (Constant), Trust_mean, TL_mean, AI_mean

The model summary shows that three predictor variables create a very strong linear connection with executive decision-making quality because their multiple correlation coefficient reaches a value of 0.857. The regression model explains 73.4% of total variance in executive decision-making quality according to its R Square value of .734 which represents an exceptionally high explained variance for a social science study and shows that the model has strong predictive power. The Adjusted R Square of .725 — which corrects for the number of predictors relative to the sample size — confirms that the model retains strong explanatory power even after accounting for the degrees of freedom consumed by the three predictor variables. The R Square difference from .734 to Adjuste d R Square of .725 shows that the model exists within proper limits while the predictor variables effectively measure outcome variation instead of using sample-based changes. The standard error of the estimate of .408 shows how much actual values vary from the regression line which results in a small standard error that validates the model's prediction accuracy and consistency.

Table 4.34: ANOVA — Regression Model Significance Test

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	39.501	3	13.167	79.105	.000
Residual	14.315	86	.166		
Total	53.816	89			

Dependent Variable: DM_mean. Predictors: (Constant), Trust_mean, TL_mean, AI_mean

The ANOVA table shows that the regression model demonstrates complete statistical validity because it has an F-statistic value of 79.105 and a significance level of .000 which indicates $p < .001$. The result shows that the entire regression model demonstrates statistical significance because the three predictor parameters organizational trust and readiness combined with AI adoption and transformational leadership demonstrate a higher impact on executive decision-making than random chance. The F-ratio measurement of 79.105 shows an extraordinary value which demonstrates the powerful strength of the predictive model. The three predictors of executive decision-making quality show a regression sum of squares value of 39.501 because executive decision-making quality links to these three predictors while the residual sum of squares shows 14.315 as the unexplained variance. The F-statistic shows that the model explains much more variance than it fails to explain which serves as clear proof that the theoretical framework used in this study successfully predicts outcomes.

Table 4.35: Coefficients — Individual Predictor Contributions

Predictor	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
(Constant)	.429	.218		1.967	.052		
TL_mean	.351	.102	.357	3.441	.001	.288	3.477
AI_mean	.183	.099	.196	1.856	.067	.276	3.622
Trust_mean	.176	.061	.358	2.860	.005	.197	5.069

Dependent Variable: DM_mean

The coefficients table examines the unique predictive contribution of each independent variable to executive decision-making quality while controlling for other predictors. The constant (intercept) of .429 is statistically insignificant ($p = .052$), which is expected in regression analysis. Transformational Leadership emerges as the strongest predictor with an unstandardised coefficient of $B = .351$ ($p = .001$) and standardised Beta of .357, meaning executive decision-making quality increases by .351 units for every one-unit increase in transformational leadership when other predictors remain unchanged. Organisational Trust and Readiness follows closely with $B = .176$, $p = .005$, and standardised Beta of .358, nearly equal to transformational leadership, indicating both make approximately equivalent unique contributions to predicting executive decision-making quality. AI Adoption ($B = .183$, $p = .067$, Beta = .196) does not meet the $p < .05$ significance threshold, showing a contradiction with its strong bivariate correlation. Although VIF values (AI_mean = 3.622, TL_mean = 3.477, Trust_mean = 5.069) remain below 10, the elevated VIF for Trust_mean indicates shared variance with other predictors, reducing coefficient precision and possibly explaining

AI_mean's marginal non-significance. Despite this, AI adoption remains important for executive decision-making quality, operating indirectly through transformational leadership and organisational trust and readiness as mediating factors in the model.

Table 4.36: Collinearity Diagnostics

Dimension	Eigenvalue	Condition Index	(Constant)	TL_mean	AI_mean	Trust_mean
1	3.954	1.000	.00	.00	.00	.00
2	.030	11.537	.98	.02	.05	.02
3	.011	19.306	.02	.60	.59	.00
4	.006	26.134	.00	.38	.36	.97

Table 4.36 presents collinearity diagnostics for the multiple regression model, with condition indices for dimensions 2, 3, and 4 at 11.537, 19.306, and 26.134 respectively. Since values between 10 and 30 indicate moderate multicollinearity, the highest condition index of 26.134 remains within acceptable limits and does not suggest severe collinearity concerns. Although the model exhibits multicollinearity due to strong theoretical and empirical links between constructs, this does not compromise the reliability of regression results or coefficient estimates, as variance proportions distribute evenly across predictor variables without causing severe redundancy. The multiple linear regression analysis reveals that transformational leadership, organisational trust and readiness, and AI adoption collectively explain 73.4% of executive decision-making quality, with transformational leadership and organisational trust emerging as the most effective predictors. These findings confirm the study's theoretical framework by demonstrating how transformational leadership and AI integration enhance executive decision-making capabilities in contemporary businesses, highlighting leadership as a vital element in leveraging artificial intelligence for strategic decision-making.

4.4 Qualitative Findings

4.4.1 Introduction to Qualitative Analysis

This section presents a detailed analysis of the qualitative data collected and analysed using NVivo software. The purpose of this analysis is to explore respondent’s perceptions

experiences and insights about how artificial intelligence AI functions as a tool for organisational decision-making and leadership. The quantitative findings establish statistical relationships between variables while the qualitative findings provide deeper contextual insight into how people perceive and use AI technology within their workspaces. The data were analysed using thematic analysis which required researchers to create codes from textual answers and then identify patterns that they used to form main themes and sub-themes. NVivo allowed researchers to create organized categories which they used to evaluate responses thus maintaining assessment standards and consistent analytical procedures throughout the study. The research findings demonstrate that AI adoption functions as a complex process which various factors including technological abilities and leadership actions and organisational values and trust and ethical standards all affect.

4.4.2 Word Frequency Analysis and Key Concepts

Figure 4.1: Word Frequency Analysis

The word frequency analysis presented in Figure 4.1 provides an overview of the most commonly used terms across respondents' answers which helps to identify the primary research areas that exist in the dataset. The visualisation highlights key terms such as decision and data and leadership and making which together show the main research concepts of the study. The term decision appears frequently because respondents link AI technology to their decision-making activities which supports the main research goal. The frequent appearance of the term data demonstrates that organizations use AI technology to create data-based insights which improve their analytical capabilities. The use of the term leadership demonstrates that

management positions play a vital role in determining how organizations implement and use AI technology for their decision-making processes.

The combination of dominant terms with the words "training," "adoption," "ethical," and "insights" shows how AI integration reaches its complete scope. The terms show that respondents study AI functional advantages while they examine organizational readiness and skill development and ethical governance. The use of "bias," "outputs," and "accountability" demonstrates that people understand the dangers which come with AI technology and its associated responsibilities. The results of the word frequency analysis show that decision-making processes which use data analytics and leadership practices serve as the main way people evaluate AI adoption.

4.4.3 NVivo Coding Structure and Theme Distribution

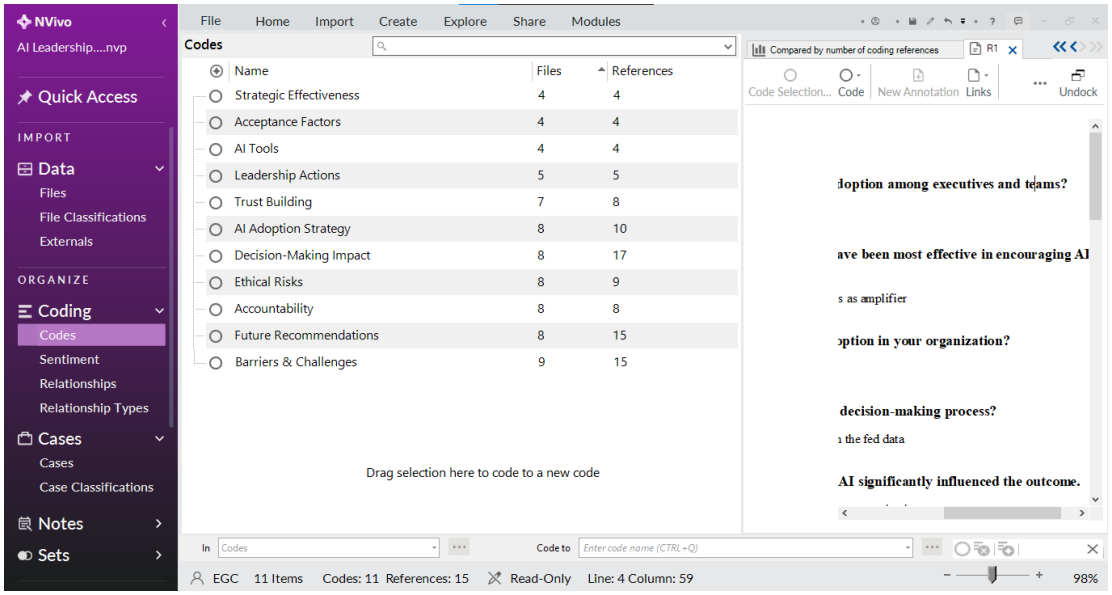

Figure 4.2: NVivo Coding Summary

The NVivo coding summary presented in Figure 4.2 provides a systematic display of the themes discovered through analysis which shows their distribution across different respondents. The results show that decision-making impact theme received the most references which proves its primary significance in the dataset. The next most frequent coding patterns show this same pattern which includes barriers and challenges together with future recommendations. The strong representation of these themes indicates that respondents show equal interest in understanding AI advantages and handling its implementation challenges.

The themes which include AI adoption strategy and ethical risks and accountability and trust building and leadership actions display moderate representation because they serve as secondary elements which support AI implementation. The theme distribution shows that AI adoption requires multiple factors to function as a complex system instead of a single process. The successful implementation of AI technology needs complete solutions which bring together human skills and technical expertise according to this perspective.

4.4.4 Thematic Relationships and Visual Interpretation

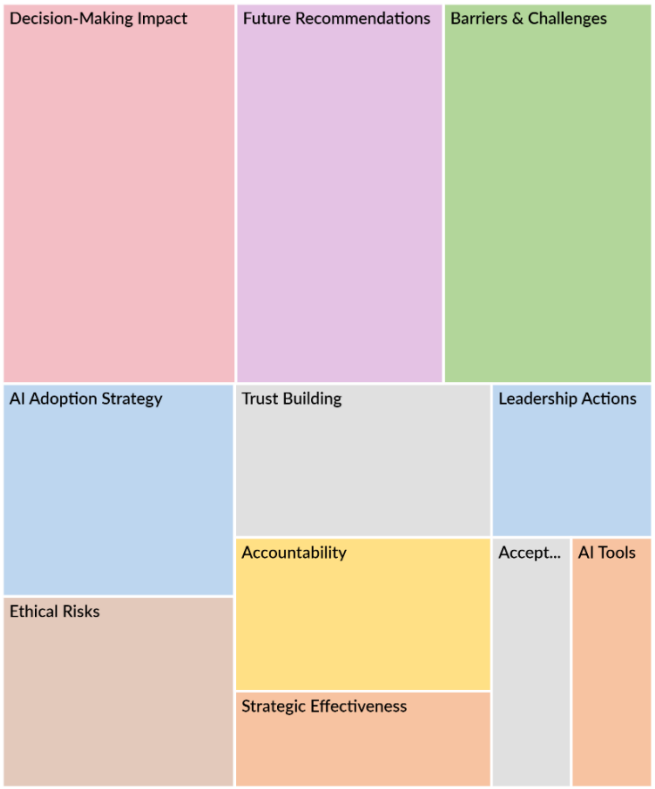

Figure 4.3: NVivo Thematic Treemap

The treemap from NVivo which Figure 4.3 displays shows how different themes in the study compete for space according to their coding coverage. The treemap displays larger areas which represent themes that respondents studied more, which helps users to comprehend the complete dataset. The figure clearly shows that decision-making impact occupies the largest area, confirming its significance as the most dominant theme. The research study shows two main themes through their research base which describes the current situation and future aspects of AI adoption in the organization.

The treemap shows that AI adoption strategy trust building and leadership actions exist as essential support elements for the adoption process through their existence in the treemap. The

smaller parts of the system which include AI tools and acceptance factors show the particular operational elements which organizations use for AI implementation. The visual distribution demonstrates that AI adoption occurs through strategic organization and behavioral elements which work together to create an effect that goes beyond technological factors. The interconnected nature of these themes suggests that improvements in one area, such as leadership or training, can have a positive impact on other aspects of AI adoption.

4.4.5 Theme 1: Decision-Making Impact

The qualitative study revealed its most significant theme through which researchers examined how artificial intelligence affects decision-making processes. The respondents reported that AI improves decision-making through its ability to deliver faster and more precise and data-based insights. Organizations use AI systems to handle extensive data sets which enables them to achieve better analysis results while making better decisions. The current movement toward data-driven decision-making represents a major shift away from conventional methods that depend on personal judgment and professional knowledge.

AI systems enable better forecasting and strategic planning according to the respondents who participated in the study. Organizations use AI to analyze historical data and discover patterns which helps them forecast future results and make timely strategic choices. AI technology helps to minimize human bias in decision-making processes by delivering outputs which remain steady and impartial. The participants recognized that organizations must monitor their AI systems because this process helps them identify algorithmic bias while maintaining operational fairness.

Respondents maintained that AI should not take the place of human decision-making even though AI brings multiple benefits. Organizations should use AI as a decision-support system which works together with human specialists. The system employs a cooperative process which enables humans and artificial intelligence to collaborate toward creating superior decision-making processes.

4.4.6 Theme 2: Barriers and Challenges

The second major theme identified in the analysis relates to the challenges associated with AI adoption. The respondents identified several barriers that prevent organizations from successfully implementing their systems because organizations lack technical expertise for their current operations and employees resist organizational changes while AI systems remain expensive and difficult to use. The absence of technical expertise acted as a major hindrance

because most workers and supervisors did not possess the skills needed to use AI tools properly. The system creates an environment that leads to decision-making processes which depend on AI technology that users cannot trust because of their uncertain outcomes.

The employees resisted organizational changes as they wanted to maintain control over their workplaces and handle their AI-related work responsibilities. The presence of this resistance leads to two main effects: it creates delays for organizations which need to implement AI solutions and it decreases the overall success rate of AI projects. The organizations reached two main conclusions about their AI technology needs when they discovered that implementing AI technologies required infrastructure investments and training costs. The study results determine that users need advanced knowledge to understand AI system outputs and work with the system's produced results. The research results demonstrate that organizations need to confront both technological obstacles and cultural challenges because they plan to implement AI. The implementation of AI technology requires organizations to establish strong leadership teams which must develop a successful change management system.

4.4.7 Theme 3: AI Adoption Strategy and Leadership Actions

The essential factor which determines AI technology implementation in organizations exists as leadership. The study participants identified executives as the main driving force behind AI projects because they provided both vision and direction and essential support. The successful leaders create AI plans which align with their organizational objectives to drive business success through AI implementation. The leaders create an environment that supports new ideas while they motivate workers to adopt advanced technologies.

Transformational leadership behaviours which include employee motivation and change support as well as learning encouragement function as crucial drivers for organizations which want to adopt AI technology. The leaders need to distribute resources to staff members while they deliver training programs and create governance systems which will control the proper ethical usage of artificial intelligence. The research demonstrates that organizations which possess strong leadership backing will achieve successful implementation of artificial intelligence technologies throughout their operational decision-making processes.

4.4.8 Theme 4: Trust Building and Acceptance

Trust was identified as a key determinant of AI adoption. The respondents showed that trust affects both employees and managers ability to use AI systems. Trust develops through three elements which include people understanding AI systems and AI systems showing reliable

performance. People who trust AI outputs will use AI tools according to their needs and purposes throughout their work. People who lack trust in AI systems will not adopt these technologies and will not use them effectively. This shows that explainable AI needs to exist because it helps users understand the process behind decision-making. Building trust requires both proper communication methods and training programs which help users develop confidence in their ability to operate AI systems.

4.4.9 Theme 5: Ethical Risks and Accountability

The respondents identified ethical considerations as their most important issue. The respondents mentioned three main issues which included data privacy, algorithmic bias and accountability. The respondents required organisations to develop ethical guidelines together with governance structures for responsible AI implementation. The vital concern of AI-supported decision-making demands that decision-makers assume responsibility for their work. The establishment of clear AI governance duties and responsibilities needs to occur because this requirement exists. The research results demonstrate that ethical factors function as essential components for organizations whichwant to implement AI technology. Organizations need to handle these factors in order to maintain their operations over an extended period.

4.4.10 Theme 6: AI Tools and Technological Integration

The participants reported different AI technologies which organizations used for their data analysis and forecasting and decision-making processes. The research results demonstrated that AI implementation success depends more on organizational factors and strategic elements than on the actual performance of the tools. The evidence shows that technology requires effective leadership development and training programs and organizational backing to achieve successful implementation.

4.4.11 Theme 7: Training, Capability Development, and Future Recommendations

The combination of training programs and capability development functions as the primary driving force which enables organizations to implement artificial intelligence solutions. The respondents requested ongoing educational programs which would enable employees to acquire the necessary skills for using AI tools. Organizations need to allocate financial resources toward training initiatives which will develop their staff members' technical abilities and analytical skills.

The respondents' future recommendations include establishing AI literacy programs which will strengthen leadership participation and improve organizational readiness while they solve ethical problems. The recommendations establish a requirement for organizations to implement AI solutions through their technological systems and their workforce development. The qualitative research findings show that organizations adopt AI through multiple technological paths and organizational strategies and employee development methods. The successful implementation of AI systems depends on organizational leadership values which establish trust and provide employee training and ethical governance frameworks.The findings show that AI functions as a strategic business tool which organizations must integrate with their workforce and operational systems and technological infrastructure.

4.5 Discussion of Themes

The section showcases unified results which come from two different research methods the researchers used to conduct their study. The section aims to analyze the research results through two research objectives while showing how transformational leadership and artificial intelligence and organisational readiness and trust and perceived barriers affect executive decision-making. The research findings are presented through statistical data from SPSS and thematic results which researchers obtained from their analysis of NVivo data. The discussion of findings examines how the empirical results align with, extend, or contradict existing literature relating to transformational leadership, artificial intelligence adoption, and executive decision-making. The discussion further evaluates the findings in relation to the research objectives, theoretical framework, and identified research gaps presented in earlier chapters. Through this analytical integration, the study develops a clearer understanding of how transformational leadership shapes AI-enabled executive decision-making processes within modern organisational environments.

4.5.1 Transformational Leadership as a Driver of AI Adoption

The study results show that transformational leadership functions as the main element which enables organizations to adopt artificial intelligence while improving their decision-making capabilities. The study results showed that leadership had a strong positive impact on decision-making because organizations with effective leadership practices achieved better decision-making results. The qualitative analysis confirmed this finding because respondents continually stated that leaders create an atmosphere which helps people develop new ideas and use artificial intelligence tools and learn continuously. Transformational leaders use their

capacity to create detailed organizational objectives to motivate employees and help their teams implement transformation projects. The leadership characteristics which drive AI adoption require these particular qualities because they create an environment which supports companies through their technological transitions.

The successful implementation of AI programs depends on the leadership skills which help develop appropriate strategic AI programs for organizations. The strategic planning process requires leaders to incorporate AI technology so that organizations can achieve their business goals through planned technology implementation. The alignment between AI systems and organizational needs improves decision-making processes while ensuring that technology investments provide real business outcomes. The research shows that transformational leadership functions as an essential element which both enables organizations to adopt artificial intelligence and determines their success with implementation. Organizations need strong leadership to unlock their full potential for artificial intelligence advantages.

4.5.2 Role of Artificial Intelligence in Decision-Making Effectiveness

The research shows that artificial intelligence systems help companies improve their decision-making processes. The study results demonstrate that organizations which implement AI technologies achieve better decision-making results because of their AI usage. The research delivers complete knowledge about the link between AI and decision-making because it demonstrates AI enables organizations to make data-based decisions while improving their forecasting abilities and operational performance. AI systems enable organizations to process extensive data sets with speed and precision which results in more impartial and reliable decision-making processes.

The research results show that organizations should not depend on AI as their primary method to enhance decision-making. The study results demonstrate that AI technology has less impact than leadership capabilities and organizational readiness. The study shows that AI technology effectiveness depends on the particular situation of its usage. AI technology enables decision-making activities because it functions as a tool which improves decision-making processes. Organizations achieve value from their processes when strong leadership exists and their operational environment supports them.

4.5.3 Organisational Readiness as a Mediating Factor

The process of AI implementation and effective decision-making depends on organizational readiness as a decisive factor. The study results show that readiness consists of several

components which include technological infrastructure and employee skills and organisational culture and strategic alignment. The quantitative analysis demonstrates that readiness positively influences both AI adoption and decision-making processes. The qualitative findings show that readiness serves as a link between leadership and AI adoption. Leaders who provide training and foster innovation and assist their staff help create the organisational capabilities which businesses need to execute AI projects.

The study shows that readiness functions as an active process which leadership activities develop instead of being an essential requirement. Organizations which have sufficient resources and capabilities with cultural readiness can implement AI technology to improve their decision-making processes. The findings show that organizations need to create their organizational readiness because it serves as the main requirement for successful AI implementation.

4.5.4 Trust and Its Influence on AI Adoption

The primary factor which determines whether people will accept and use artificial intelligence systems rests on their ability to establish trust. The trust relationship with decision-making success shows strong results through quantitative data while the qualitative analysis shows that transparency and reliability and explainability work as the primary elements which establish trust. The study participants stated that building trust with artificial intelligence systems constitutes a vital requirement for their effective implementation. Users who trust artificial intelligence systems will use those systems to assist them in making decisions. People who do not trust artificial intelligence systems will refuse to use those systems and instead use them less frequently. The research demonstrates that trust connects with validation and testing activities. The implementation of AI output verification systems helps organizations establish user trust. Trust develops through ethical principles which include data protection and algorithmic equity. Organizations should identify these issues because their resolution will build trust and increase public acceptance of AI systems. Trust operates as the primary element which organizations need to manage because it determines whether their AI systems will be adopted.

4.5.5 Barriers and Challenges to AI Adoption

The study reveals multiple challenges which prevent organizations from using artificial intelligence despite its potential advantages. The barriers to adoption include two main obstacles which are technical knowledge deficiencies and organizational resistance to change

and three additional obstacles which are ethical concerns and data security problems. The quantitative analysis demonstrates that obstacles to implementation create a negative impact on AI adoption because people who perceive more obstacles will decrease their chances of adopting the technology.

The qualitative findings show that the barriers to implementation maintain a connection which results in their active protection of each other. The presence of technical knowledge deficiencies creates an environment where people become afraid of new technologies which they will resist adopting. The study results demonstrate that multiple complex factors must organizations solve through simultaneous action to achieve AI adoption success. The study recommends organizations to establish training programs which need leadership backing and organizations should use effective communication methods to reach their operational goals. Organizations need to establish solutions for ethical issues and data protection requirements in order to develop trust which will result in increased system adoption.

4.5.6 Training and Capability Building

The essential elements that enable organizations to adopt AI successfully are their training programs and their capability development efforts. The research shows that organizations which dedicate resources to employee training programs will achieve better results in their AI adoption efforts. The qualitative analysis shows that employees who participate in structured training programs will develop better understanding of AI tools and technologies. The study shows that organizations need to create learning systems which let their employees learn throughout their entire working life. Organizations need to give their employees up-to-date knowledge and skills because AI technologies develop at a fast pace. Organizations need to establish permanent financial support for their training and development programs. The results demonstrate that training functions as a vital factor which organizations should treat as their main focus to achieve AI adoption.

4.5.7 Ethical Considerations and Responsible AI Use

The study found that organizations face two main obstacles when adopting AI technology through ethical considerations and data privacy problems. The respondents showed their concerns about three issues which included algorithmic bias and data security and the potential for AI misuse. The concerns about AI systems create trust issues which restrict their implementation. The findings show that organizations must use responsible AI methods to solve their existing challenges.

This includes implementing ethical guidelines, ensuring transparency in AI processes, and protecting sensitive data. Organizations establish trust through ethical practices while they work to improve AI system acceptance. The study shows that organizations need to treat ethical matters as essential components which lead to successful AI implementation.

4.5.8 Human–AI Collaboration in Decision-Making

The investigation identifies human–AI collaboration as its central research theme. The research results demonstrate that AI functions as a supplemental tool which supports human decision-making instead of fully replacing human judgment. The respondents explained that AI systems deliver beneficial information yet human experts must interpret this information to reach their ultimate decisions. The need to keep technological abilities and human skills in equilibrium shows the importance of this need.

The study shows that organizations need to create AI systems which help their decision-making process instead of turning their entire process into automatic operations. This method creates responsibility while it improves the decision-making process. Human–AI collaboration represents a new paradigm in organisational decision-making, where technology and human expertise work together to achieve better outcomes.

4.5.9 Integrated Interpretation of Findings

The research problem receives complete understanding through the combination of quantitative and qualitative research results. The quantitative analysis identifies key relationships between variables, while the qualitative analysis explains the underlying reasons for these relationships. The research results show that leadership together with organisational readiness and trust and barriers work as interrelated factors which determine AI implementation and decision-making capabilities. Transformational leadership serves as the main force which develops organizational culture while driving innovative practices, whereas organizational readiness functions as the power that authenticates AI technology deployment.

Decision-makers will use AI systems only when they believe the systems are trustworthy and follow ethical principles. The process of successful adoption requires the solution of two main obstacles which include inadequate skills and the tendency of people to resist change. The research demonstrates that AI systems require to be implemented through an integrated method which needs to include all technological elements and all organizational elements and all human elements. The section proves that executive decision-making relies on AI technology

when organizations have established leadership functions and trust and organizational readiness and barrier control systems.

Transformational leadership emerges as a key driver that influences all other factors which create the organizational environment for AI implementation. Organizations can benefit from AI technology only when they establish environments that support its use. Organizations achieve successful AI implementation by developing complete AI strategic plans that outline their implementation process. The research findings help researchers and practitioners to better understand how AI leadership functions in decision-making processes according to their current research value. The study achieves enhanced strength through its combination of quantitative and qualitative research results. While quantitative results establish significant relationships among transformational leadership, AI adoption, and decision-making quality, qualitative insights provide contextual understanding of these relationships. The research findings demonstrate that transformational leadership functions as the primary factor which enables effective AI-based decision-making processes.

CHAPTER 5

CONCLUSION

5.1 Summary of the Whole Research

The research studied how transformational leadership affects executive decision-making processes within organizations during the current period of artificial intelligence (AI) technology development. The research was motivated by the rapid integration of AI technologies into organisational processes and the increasing need to understand how leadership practices evolve in response to technological advancements. The critical role of leadership emerges as organizations depend on data-driven systems to boost their efficiency and competitive edge because leaders must oversee successful AI project deployment that follows their strategic goals.

The study used mixed methods to examine the research question through quantitative research which employed SPSS and qualitative research which used NVivo. The research problem used this methodology because it combined statistical results with contextual information to achieve comprehensive research. The quantitative research established links between transformational leadership and AI adoption and organisational readiness which together affected decision-making effectiveness while the qualitative research showed how participants viewed their AI adoption experiences and the obstacles they encountered.

The research findings presented in Chapter 4 demonstrated that transformational leadership functions as an essential driver which aids organizations in adopting AI technology while improving their decision-making abilities. Organizations establish technological integration environments through their leaders who demonstrate both visionary skills and innovative capabilities while providing employee assistance. The research results showed that successful AI implementation requires organizations to establish three essential components which include organizational readiness and trust and training programs. AI systems function at their highest level when organizations develop structures which support their use and when leaders implement appropriate leadership strategies. The study investigates how technological

advancements and leadership practices together impact organizational performance. The research demonstrates that business results depend on the interaction between organizational leadership and technology implementation. The study investigates different elements which impact AI technology adoption decision-making while delivering theoretical explanations and practical applications.

Contribution to Knowledge

This study contributes to existing literature by integrating transformational leadership theory with AI-driven decision-making contexts. The study demonstrates that leadership behaviour affects AI adoption which in turn impacts the quality of executive decision-making. The research introduces an all-encompassing framework which connects leadership practices to technology adoption and organizational readiness, thus offering both theoretical and practical value to management research.

From a practical perspective, the findings provide valuable insights for organisational leaders, policymakers, and management practitioners seeking to implement AI-enabled decision-support systems effectively and responsibly. The study highlights the importance of leadership development programmes focused on AI literacy, ethical governance, strategic decision-making, and human–AI collaboration. The findings further suggest that organisations should strengthen transformational leadership capabilities to enhance employee trust, organisational readiness, accountability, and responsible AI adoption. These practical recommendations may assist organisations in balancing technological innovation with human-centred leadership practices in rapidly evolving digital environments.

5.2 Key Findings and Analysis

The research findings present several essential discoveries which show how transformational leadership affects executive decision-making through its impact on AI technology implementation. The research found that organizations achieve better decision-making results when they use transformational leadership practices. The quantitative analysis showed that leadership acts as a main factor which determines decision-making results because organizations with effective leadership capabilities can better implement AI systems. The research established that leaders fulfill a critical function which they perform through their activities to drive innovation and their efforts to promote AI technology usage and their establishment of an environment that supports continuous education efforts.

The research discovered that AI implementation improves decision-making capabilities through its ability to deliver data-based insights and optimize operational processes and boost organizational productivity. The respondents explained that AI systems enable organizations to analyze extensive data sets which results in better decision-making outcomes. The regression analysis demonstrated that AI implementation does not lead to improved decision-making results because organizations need both leadership and organizational preparedness for success. The research demonstrates that AI should function as an additional resource which organizations can use together with other tools.

Organizations need to evaluate their operational readiness through assessment methods which research shows to be essential for their AI adoption process. Organizations which build infrastructural systems together with educational initiatives and strategic alliances have a higher probability of achieving successful AI implementation according to the study findings. The mediating role of readiness demonstrates how leadership affects AI adoption because organisational backing functions as a vital element for organisations to adopt new technologies. Trust was identified as another key factor influencing AI adoption. Trust in AI systems establishes whether users will accept the technology according to both quantitative and qualitative research results. Trust development depends on three essential components which include transparency and explainability and system reliability. Trust development depends on employees and managers who need to trust AI-generated insights before using them in decision-making processes.

The study identified several obstacles which prevent organisations from implementing AI technology because of their need for technical expertise and their tendency to oppose change and their ethical and data security concerns. The study results show that organisations need to implement a comprehensive AI deployment strategy which requires them to manage both technological and human aspects of their operation.

5.3 Contributions to the Existing Body of Knowledge

The research creates new knowledge about how transformational leadership interacts with artificial intelligence through its research outcomes. The study develops transformational leadership theory by applying it to AI implementation. The research studies leadership patterns which exist in modern digital workspaces because previous research only focused on conventional office settings.

The study investigates AI's effects on decision-making through its empirical research results. The research shows that AI improves decision-making process but needs proper organizational structures to achieve success. The research discovers a gap in current studies which only examine technical AI components but ignore how leadership and organizational elements interact with them. The research problem obtains extensive insights through implementation of a mixed-methods research method which produces complete results for the investigation. The study combines quantitative and qualitative results to provide statistical proof which demonstrates the study's findings with greater detail and higher accuracy.

This study contributes theoretically by extending transformational leadership theory into the context of AI-enabled executive decision-making. The research demonstrates that transformational leadership dimensions, particularly intellectual stimulation, inspirational motivation, and idealised influence, play a significant role in shaping organisational trust, AI adoption, ethical governance, and strategic decision quality. Furthermore, the study contributes to the emerging literature on augmented leadership by integrating leadership theory with AI-assisted decision-support systems within a unified conceptual framework. The proposed framework advances existing knowledge by explaining how leadership behaviours influence the interaction between human judgment and algorithmic intelligence in executive-level strategic environments.

The research identifies organizational readiness as the key factor that connects leadership to AI implementation. The study shows that organizations achieve successful AI implementation through technology-organizational capability alignment. The research discusses ethical AI issues by demonstrating how trust and transparency and accountability work as vital elements. Organizations need to implement responsible AI practices because these practices ensure that technology operates in an equitable and ethical manner.

5.3.1 Practical Implications

The findings of this study provide several practical implications for organisations operating within AI-driven environments. First, organisations should prioritise leadership development programmes that strengthen executives' AI literacy, ethical reasoning, and strategic decision-making capabilities. Second, organisations should establish governance frameworks that promote transparency, accountability, and responsible AI usage in executive-level decisions. Third, transformational leadership behaviours should be integrated into digital transformation strategies to support employee trust, organisational readiness, and acceptance of AI-assisted

systems. Finally, organisations should adopt balanced human–AI collaboration models that combine technological efficiency with human judgment and ethical oversight.

5.3.2 Academic Implications

The study provides important academic implications for future leadership and AI research. The findings demonstrate the continuing relevance of transformational leadership theory within technologically advanced organisational settings, particularly in relation to executive cognition, trust, and strategic decision-making. The study also highlights the need for future interdisciplinary research integrating organisational behaviour, information systems, digital governance, and strategic management perspectives. Furthermore, the research supports the growing academic argument that leadership effectiveness in the digital era should be examined through socio-technical rather than purely technological frameworks.

5.4 Recommendations

Based on the findings of this study, the following recommendations are proposed:

- Organisations should develop transformational leadership capabilities through structured leadership training programs to support AI-driven environments.
- AI training and awareness initiatives should be implemented to improve understanding, trust, and effective utilisation of AI tools among leaders and employees.
- Organisations should establish clear governance frameworks to address ethical concerns, accountability, and data security in AI usage.
- Leaders should foster a culture of innovation and continuous learning to support AI integration and reduce resistance to technological change.
- AI strategies should be aligned with organisational objectives to enhance decision-making effectiveness and overall performance.

5.5 Limitations of the Present Study

Despite its contributions, this study has several limitations that should be acknowledged. First, the relatively small sample size of 90 respondents, drawn primarily from executives and managerial professionals in selected industries, may restrict the generalisability of findings across all industries and geographical regions. Second, the reliance on self-reported data introduces potential response bias, as participants may provide socially desirable responses. Third, the cross-sectional design limits the ability to examine long-term changes in AI adoption and leadership practices over time. Finally, the rapidly evolving nature of AI technologies means that organisational practices may continue to change beyond the timeframe of this study, potentially affecting the validity of findings. Future research should address these limitations by employing larger and more diverse samples, incorporating objective measures, and utilizing longitudinal designs to better understand how different industries adopt AI technology and how leadership practices evolve over time.

5.6 Future Scope of the Study

The study offers multiple research pathways for future investigations. The first research area investigates how longitudinal studies can assess how AI implementation affects decision-making processes and organizational performance over extended periods. The studies show how organizations develop their capacity to use new technologies through their complete transformation process. The application of comparative research methods across multiple industries and geographical locations will enable researchers to analyze how contextual factors affect AI implementation within organizations. The research will identify challenges specific to each industry while determining the most effective solutions for each. Future research may expand this study by examining AI-enabled executive decision-making across different industries, cultural contexts, and organisational structures using larger and more diverse samples. Longitudinal research designs may further help explore how transformational leadership behaviours evolve alongside advancements in artificial intelligence technologies over time. Future studies may also investigate other leadership styles, such as servant leadership, adaptive leadership, or ethical leadership, within AI-driven organisational environments. Additionally, researchers may explore the long-term psychological, ethical, and governance implications of increased human–AI collaboration in executive strategic decision-making processes.

Future research should examine how organizational factors interact with employee participation and technology systems to produce research results. The research requires deeper exploration of these elements because they serve as essential factors that determine AI technology adoption. The research needs to study how artificial intelligence systems impact organizational processes which lead to decision-making. The research will provide specific information about which organizational tools enhance business operations. The research on ethical frameworks together with regulatory policies will develop solutions that enable responsible AI technology implementation. Future studies may adopt longitudinal approaches to examine how leadership and AI adoption evolve over time. Comparative studies across industries and geographical regions can provide deeper insights into contextual differences. Future research will investigate how emerging AI technologies including generative AI will affect leadership processes and executive decision-making processes.

Overall, this study demonstrates that transformational leadership remains critically important in the age of artificial intelligence, particularly within executive decision-making environments characterised by uncertainty, complexity, and rapid technological change. The research confirms that effective AI integration is not solely dependent on technological capability but also on leadership behaviours that foster trust, accountability, ethical governance, strategic alignment, and organisational readiness. By integrating transformational leadership theory with AI-enabled executive decision-making, the study contributes both theoretically and practically to the understanding of leadership effectiveness in contemporary digital organisations.

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APPENDIX

Appendix 1: Interview Guide

Dear Respondent,

Kindly answer the following questions for the study titled **"Transformational Leadership in the Age of AI and Executive Decision-Making".** The information you are providing is solely for research and academic purposes only and will therefore be treated with utmost confidentiality

Section A: Demographic Information

Please tick (✓) the option that best describes you.

1. **Age**
   - ☐ 25–34
   - ☐ 35–44
   - ☐ 45–54
   - ☐ 55 and above
2. **Gender**
   - ☐ Male
   - ☐ Female
3. **Current Position**
   - ☐ CEO / Director
   - ☐ Senior Manager
   - ☐ Department Head
   - ☐ Other
4. **Industry Type**
   - ☐ IT / Technology
   - ☐ Manufacturing
   - ☐ Finance / Banking
   - ☐ Services
5. **Years of Managerial Experience**
   - ☐ 1–5 years
   - ☐ 6–10 years
   - ☐ 11–15 years
   - ☐ More than 15 years
6. **Does your organization use AI tools in decision-making?**
   - ☐ Yes
   - ☐ No
   - ☐ Not sure
7. **Type of AI tools used (if applicable)**
   - ☐ Predictive analytics
   - ☐ Dashboards / Business Intelligence tools
   - ☐ Decision-support systems

☐ Machine learning tools

☐ Not sure

Section B

Qualitative Questions

1. Can you describe how AI is currently used in decision-making in your organization?
2. How would you describe the leadership style in your organization when adopting new technologies?
3. In what ways does leadership influence the adoption of AI tools?
4. What benefits have you observed from using AI in executive decision-making?
5. What challenges or barriers do leaders face when using AI tools?
6. How do leaders build trust among employees and stakeholders regarding AI-based decisions?
7. Are there any ethical or accountability concerns when using AI in decision-making?
8. How has AI affected the speed and quality of decisions in your organization?
9. What leadership skills are important for managing organizations in AI-driven environments?
10. What improvements would you recommend to enhance AI-supported decision-making in organizations?

Appendix 2: Survey Questionnaire

Dear Respondent,

Kindly answer the following questions for the study titled **"Transformational Leadership in the Age of AI and Executive Decision-Making".** The information you are providing is solely for research and academic purposes only and will therefore be treated with utmost confidentiality

Section A: Demographic Information

Please tick (✓) the option that best describes you.

1. Age
   ☐ 25–34

☐ 35–44

☐ 45–54

☐ 55+

2. Gender

☐ Male

☐ Female

3. Position in Organization

☐ CEO / Director

☐ Senior Manager

☐ Department Head

☐ Other

4. Industry

☐ IT / Technology

☐ Manufacturing

☐ Finance

☐ Services

5. Years of Managerial Experience

☐ 1–5 years

☐ 6–10 years

☐ 11–15 years

☐ 16+ years

6. Does your organization use AI tools in decision-making?

☐ Yes

☐ No

☐ Not Sure

Section B

Transformational Leadership

No	Statement	Strongly Agree	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree

		(5)				(1)
1	Leaders in my organization inspire employees with a clear vision					
2	Leaders encourage innovative thinking and new ideas					
3	Leaders support employees individually when solving problems					
4	Leaders motivate teams during technological change					
5	Leaders encourage learning and experimentation with new technologies					

Section C

AI Adoption in Decision-Making

No	Statement	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
6	AI tools are frequently used in strategic decision-making					
7	AI tools improve data analysis accuracy					
8	AI tools help reduce decision-making time					
9	AI insights are trusted by executives					

10	My organization provides training to use AI tools effectively					

Section D

Decision-Making Effectiveness

No	Statement	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
11	AI improves the quality of executive decisions					
12	AI helps in risk assessment and forecasting					
13	AI improves strategic planning					
14	AI enhances organizational performance					
15	AI reduces human bias in decisions					

Section E

Challenges and Barriers

No	Statement	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
16	Lack of trust in AI affects decision-making					
17	Ethical concerns influence AI adoption					
18	Data security concerns limit AI usage					
19	Employees resist AI-based changes					

20	Lack of technical knowledge is a barrier to AI adoption					

Section F

Trust, Acceptance and Organizational Support

No	Statement	Strongly Agree (5)	Agree (4)	Neutral (3)	Disagree (2)	Strongly Disagree (1)
21	Leaders promote trust in AI systems					
22	Executives feel accountable for AI-assisted decisions					
23	Organizational culture supports human–AI collaboration					
24	AI-supported decisions are accepted by stakeholders					
25	My organization invests in AI infrastructure					
26	Training programs are available for leadership development					
27	Leadership supports digital transformation initiatives					
28	AI implementation aligns with organizational strategy					
29	Transformational leadership improves AI adoption					
30	AI enhances executive decision-making effectiveness					

Appendix 3: Consent Form

APPENDIX 3:

CONSENT FORM

Research Study Title:

Transformational Leadership in the Age of Artificial Intelligence and Executive Decision-Making

Researcher Information

Researcher: Mr. Ramesh Bairi
Program: Doctor of Business Administration by Research (DBA)
University: East Bridge University

Researcher Email: rameshdubai@hotmail.com
Supervisor: Prof Dr. Sajib Chakraborty
Email: neiltefl@gmail.com

Invitation to Participate

You are invited to participate in a research study being conducted as part of the requirements for the Doctor of Business Administration (DBA) degree. Before deciding whether to participate, please read the following information carefully. Please ask any questions you may have before providing your consent.

Purpose of the Study

The purpose of this study is to examine the relationship between transformational leadership, artificial intelligence (AI) adoption, and executive decision-making within contemporary organizations. The research seeks to gain insights into leadership practices, organizational transformation, and the impact of AI technologies on strategic decision-making processes.

Participation Requirements

Your participation in this study may involve:

- Completing a survey questionnaire and/or
- Participating in a semi-structured interview.

The interview is expected to take approximately 30–60 minutes, while the survey will require approximately 10–15 minutes to complete.

Voluntary Participation

Participation in this study is entirely voluntary. You have the right to:

- Decline participation without any penalty or negative consequences.
- Refuse to answer any question that makes you uncomfortable.
- Withdraw from the study at any time before data analysis begins without providing any reason.

Confidentiality and Privacy

All information collected during this study will be treated with strict confidentiality.

- Your identity will not be disclosed in any publication, thesis, report, or presentation resulting from this research.
- Personal identifiers will be removed or coded to maintain anonymity.
- Data will be securely stored on password-protected devices and accessible only to the researcher.
- Research records will be retained in accordance with university policies and applicable ethical guidelines.

Risks and Benefits

Potential Risks

The study presents minimal risk to participants. No physical, legal, or financial risks are anticipated. Some participants may experience minor discomfort when discussing organizational experiences or leadership practices.

Potential Benefits

Although there may be no direct personal benefit, your participation may contribute to academic knowledge and help organizations better understand the role of leadership and AI in executive decision-making.

Use of Data

The information collected will be used solely for academic and research purposes, including:

- Doctoral thesis preparation
- Academic publications
- Conference presentations
- Future scholarly research related to the study topic

All reporting will be conducted in a manner that protects participant confidentiality.

Participant Consent

By signing below, I confirm that:

1. I have read and understood the information provided above.
2. I have had the opportunity to ask questions and received satisfactory answers.
3. I understand that my participation is voluntary.
4. I understand that I may withdraw from the study at any time without penalty.
5. I consent to the use of my responses for academic research purposes.
6. I am at least 18 years of age.
7. I voluntarily agree to participate in this research study.

Consent Statement

I hereby provide my informed consent to participate in this research study.

Participant Name: _____

Organization (Optional): _____

Signature: _____

Date: _____

Researcher Declaration

I confirm that I have explained the purpose and procedures of this study to the participant and have answered all questions to the best of my ability.

Researcher Name: Mr. Ramesh Bairi

Signature: _____

Date: _____

For Further Information

If you have any questions regarding this study, please contact:

Researcher: Mr. Ramesh Bairi
Email: rameshdubai@hotmail.com

Academic Supervisor: Prof Dr. Sajib Chakraborty
Email: neiltefl@gmail.com