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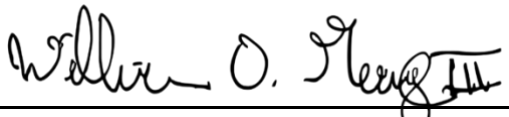
An Examination of Superintendent Engagement with Generative Artificial Intelligence in Strategic Planning

by

Heather L. Daniel

Submitted to the faculty of Monmouth University as partial fulfillment of the requirements for the Doctor of Education Degree in Educational Leadership



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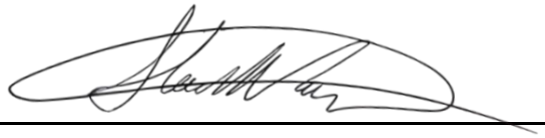

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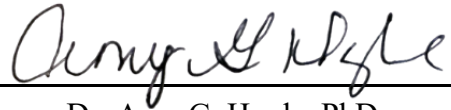

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ABSTRACT

Superintendents lead in conditions of growing complexity, balancing daily operational demands with long-term strategic vision, equity goals, and community trust. Strategic planning is widely used to provide coherence and direction, yet many districts struggle with implementation. Fragmented systems, leadership turnover, and limited stakeholder engagement often undermine progress. Generative artificial intelligence (AI) has emerged as a potential support for leadership by enhancing access to real-time data, automating communication, and expanding engagement. At the same time, the use of AI raises concerns related to bias, privacy, and democratic stewardship. Despite its growing presence in education, little scholarship explores how superintendents engage with generative AI in their strategic planning and operational leadership.

The purpose of this qualitative, constructivist study was to examine how New Jersey superintendents interpret and use generative AI in district leadership. Using a maximum-variation purposive sample of twenty New Jersey superintendents, data were collected through semi-structured interviews and a brief demographic/context survey designed to contextualize district and leadership characteristics. Reflexive thematic analysis was used to explore conditions shaping adoption, reported influence on decision routines and communication workflows, and the resources, organizational supports, and ethical commitments leaders consider essential for responsible use. Findings highlight how superintendents use AI to manage information overload and improve operational efficiency in ways that support strategic planning and the broader work of district leadership, while also navigating concerns related to data privacy, authentic leadership voice, and the preservation of human judgment.

Keywords: superintendent leadership, strategic planning, generative artificial intelligence, equity, governance, educational leadership, qualitative research

DEDICATION

I dedicate this work to my family, whose love, patience, and belief carried me through every step of this journey.

To Scott, my dear husband, thank you for standing beside me through it all. Your steady support, your belief in me, and the way you never let me lose sight of what I was working toward made this possible in ways I will always carry with me.

To Sydney, my cherished daughter, you have been watching, learning, and growing alongside me, and helping me grow through your eyes. I hope this shows you that even when the path is not straight, you can continue to choose, evolve, and define your own path with determination, curiosity, and courage.

To my friends and cohort and committee members who supported me along the way, thank you for your encouragement and patience during the most demanding phases of this process.

To those who are still finding their way, know that the path does not need to be perfect to be meaningful.

Finally, to my twelve-year-old self, who quietly believed there was something more and held onto that belief even when life took unexpected turns. This work is the fulfillment of that promise. It did not happen in the way I once imagined, but it happened in the way it unfolded, with the right people beside me.

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TABLE OF CONTENTS

LIST OF TABLES 9

CHAPTER 1: INTRODUCTION 10

Strategic Planning and Artificial Intelligence 11

Purpose and Rationale for the Study 14

Research Questions 16

Brief Description of Methods 16

Significance of the Study 17

Definitions of Key Terms 18

Assumptions 21

Scope, Delimitations, and Limitations 21

Summary 23

CHAPTER 2: REVIEW OF LITERATURE 24

The Importance of Superintendents in Public Education 24

Challenges of the Superintendent Role 29

Strategic Planning as a Framework for Superintendent Leadership 35

Looking to Industry: Generative AI in Executive Leadership 39

Looking to Education: Generative AI in Superintendent Leadership 41

Literature Limitations: Superintendent Leadership, AI, and Strategic Planning 49

CHAPTER 3: METHODOLOGY 52

Participants 52

Setting 56

Data 58

Data Collection 59
Data Analysis 63
Reflexivity 67
Positionality 67
Trustworthiness and Validity of the Data 68
Risk and Ethics 68
Summary 69
CHAPTER 4: RESULTS AND ANALYSIS 71
Setting and Demographics 72
Data Analysis 83
Overview of Themes by Research Question 84
Research Question 1 85
Research Question 2 88
Research Question 3 94
Chapter Summary 99
CHAPTER 5: DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS 101
Summary of Findings 102
Interpretation of Findings 104
Limitations of the Study 111
Recommendations for Leadership Practice 112
Recommendations for Future Research 115
Conclusion 116
REFERENCES 118

APPENDIX A: Superintendent Demographic and Context Survey 132

Appendix B Interview Protocol: Superintendent Participants 139

Appendix C: Recruitment Materials 142

Appendix D: Electronic Informed Consent Form 145

Appendix E: Coding Framework and Theme Development 148

LIST OF TABLES

Table 1: Research Questions, Data Sources, and Analytic Alignment 61

Table 2: Demographic and Professional Characteristics of Participating Superintendents 74

Table 3: District Student Demographics 76

Table 4: District Administrative Capacity and Strategic Planning Involvement 77

Table 5: District Governance, Infrastructure, and AI-Related Characteristics 79

Table 6: Generative AI Tools Personally Explored by Superintendents 80

Table 7: Perceived Barriers to Superintendent Engagement with Generative 81

Table 8: Resources and Professional Learning Supports Valued for AI Use 82

Table 9: Overview of Themes 84

Table E1: Representative Codes and Theme Development 148

CHAPTER 1:

INTRODUCTION

Superintendents occupy one of the most pivotal roles in public education. Serving as both executive leaders and systems-level strategists, the decisions they make extend far beyond the walls of classrooms. They shape the opportunities available to students, the trust communities place in their schools, and the values a district models for future generations. In this way, superintendents do not simply run school systems. They help define the world students inherit and the society those students will one day lead.

This role unfolds in an environment marked by increasing complexity. Superintendents must balance urgent daily demands such as staffing shortages, transportation challenges, and crisis response with the longer-term work of sustaining strategic vision and advancing equity goals. Demographic change, shifting policy, and heightened community expectations add further layers of pressure. At the same time, leaders are expected to act transparently, respond in real time, and maintain public trust. How superintendents navigate these competing forces matters not only for their districts but also for the strength of public education as a democratic institution. Studying superintendent leadership offers critical insight into how systems adapt, how equity is advanced or eroded, and how the next generation's opportunities are safeguarded.

The challenge of superintendent leadership is intensified by instability in the role itself. Superintendents often serve in positions with short average tenure, creating fragile conditions for sustaining long-range initiatives. Frequent turnover, shifting board dynamics, and competing political pressures can disrupt district momentum and weaken strategic coherence. Leadership transitions also require communities, staff, and boards to recalibrate to new expectations, sometimes before prior initiatives have had time to take root. Even highly capable leaders must

continually adapt to rapidly changing demands, often in politically charged environments that complicate decision-making. Research underscores how instability and political pressures strain superintendent leadership, reducing the space for reflection and long-term planning that system change requires (Werden, 2024). Recent perspectives on the superintendent mindset emphasize that leaders are expected to maintain trust, coherence, and vision in spite of these disruptions, highlighting the ongoing tension between external instability and the stability communities expect from their schools (Patterson, 2023). Instability at this level not only undermines district operations but also weakens public confidence, making the superintendent's ability to navigate uncertainty a central determinant of system success.

Strategic Planning and Artificial Intelligence

To manage these fragile conditions, districts often turn to strategic planning as a stabilizing framework. Strategic planning is widely adopted to provide coherence and direction, yet districts frequently struggle with implementation. Limited stakeholder engagement and fragmented systems often undermine progress. Even well-designed plans can falter without the leadership capacity, communication structures, and adaptive practices necessary for sustained execution (Bryson & George, 2024; Fullan, 2019). These limitations reveal the gap between the aspiration of planning and the realities of sustaining change in dynamic environments.

Static, document-driven planning approaches add further difficulty, as rigid and detached processes often fail to align with the uncertainties of school district leadership (Gurr et al., 2021; Mintzberg, 2013;). Scholars emphasize that effective planning depends on leadership capacity, since it is leaders who must translate written goals into actionable strategies and craft coherence between external demands and local priorities (Bryson & George, 2024; Park et al., 2023). Leadership capacity, however, is only effective when supported by timely data and robust

accountability structures. Without these, superintendents often struggle to translate strategic vision into coordinated daily action, weakening coherence and credibility. Senge (2006) and Kaufman (2018) stress the importance of accountability structures and continuous feedback loops, yet many districts lack the infrastructure needed to connect long-term goals with immediate decisions. Bryk et al. (2015) describe this breakdown as an "implementation gap," noting that education has historically "implemented fast and learned slow," abandoning promising reforms before they take root. Their framework of improvement science emphasizes the disciplined use of feedback and networked learning to close this gap. These conditions underscore the need for leadership approaches that align strategic planning with operational execution, supported by real-time data and adaptive systems capable of responding to complexity.

The successful execution of strategic planning depends on a superintendent's ability to synthesize large volumes of information, communicate with diverse stakeholders, and coordinate action across complex systems. Generative artificial intelligence (AI) intersects directly with these leadership functions. It can accelerate environmental scanning, summarize complex reports, draft stakeholder communications, and support plan monitoring, yet it also introduces ethical risks, new accountability demands, and questions about how human judgment should guide or constrain its use. Understanding how superintendents make sense of these possibilities is essential, because AI is not merely a technical tool but a force reshaping the routines, workflows, and expectations that define modern strategic planning and district leadership.

Building on these emerging intersections, recent scholarship has positioned generative AI as a potential support for district leadership. Early studies suggest AI may enhance access to real-time data, automate communication tasks, and expand stakeholder engagement (Baek & Wilson,

2024; Duran & Ermiş, 2025). District leaders already report using AI to draft communications, summarize reports, and generate stakeholder materials, suggesting its potential to reduce administrative workload and free time for strategic priorities (Banerji, 2025). Organizational research reinforces these possibilities, demonstrating how AI improves process management, reduces inefficiencies, and strengthens decision-making in complex systems (Davenport & Redman, 2025; Florea & Croitoru, 2025). These findings suggest parallel opportunities in K–12 education, where superintendents manage similarly complex, data-heavy, and communication-driven environments.

At the same time, adoption is complicated by legitimate concerns about bias, privacy, ethics, and transparency (Nguyen et al., 2023). These risks highlight that while AI can accelerate data use, streamline workflows, and support timely decision-making (Baek & Wilson, 2024; Duran & Ermiş, 2025), its application in education must be guided by governance structures that ensure equity, transparency, and community trust.

Decisions about AI integration are not neutral technical choices; they carry implications for equity, public trust, and democratic stewardship. National organizations have underscored this responsibility. The International Society for Technology in Education (ISTE, 2023) calls on leaders to align AI use with district vision, ensure transparency, and establish safeguards for ethical implementation. These competing pressures of promise, risk, and public expectation make it essential to understand how superintendents interpret, adopt, or resist AI within the complex realities of strategic and operational leadership.

Despite the centrality of strategic planning to district coherence and improvement, superintendents continue to struggle with sustaining plans in real-world conditions marked by instability, political pressures, fragmented systems, and rising expectations for equity and

responsiveness. At the same time, generative artificial intelligence has rapidly entered K–12 systems without corresponding research or guidance for district leaders. Although early evidence suggests AI may strengthen communication, accelerate data use, and support decision-making, superintendents are being asked to make high-stakes judgments about AI with little empirical insight into how it fits into the daily work of planning and system leadership.

What is not working in the field is clear: district strategic planning processes remain too static, too slow, and too disconnected from the real-time decision environments superintendents face, while AI offers potential support that leaders do not yet know how to use, evaluate, or govern. The absence of research on superintendent meaning-making, adoption, and responsible integration of generative AI represents a critical gap. This study directly addresses that gap by examining how superintendents interpret and apply generative AI within strategic planning and leadership practice.

Purpose and Rationale for the Study

The purpose of this qualitative, constructivist study is to examine how K–12 New Jersey superintendents engage with generative AI in strategic planning and day-to-day operational leadership. Using a maximum-variation purposive sample and semi-structured interviews (with a brief demographic/context survey for description only), the study explores (a) conditions that shape adoption/implementation; (b) reported influence on decision routines, communication workflows, and plan monitoring; and (c) resources, organizational supports, and ethical commitments superintendents deem essential. Analysis used reflexive thematic analysis, supported by memoing and an audit trail, to generate context-sensitive insights for leadership practice.

The rationale for this study is grounded in the intersection of three persistent challenges.

First, district leaders must execute strategic plans in the face of governance instability, leadership turnover, fragmented systems, and competing short-term demands. Second, they face rising expectations for equity, transparency, and responsiveness in increasingly diverse communities. Third, generative AI has emerged as a new force in educational leadership, offering potential efficiencies and insights while also raising concerns about bias, privacy, and democratic stewardship. While most scholarship on AI in education has focused on classroom applications, little is known about its influence on executive leadership practice. This gap is especially consequential because generative AI alters the core leadership tasks that underpin strategic planning, such as data use, communication, coordination, and monitoring, while superintendents have little guidance on how to integrate or evaluate these tools in practice.

The analysis was informed by transformational, distributed, and complex adaptive systems theories, which together illuminate how leaders articulate vision, enact shared practices, and adapt in dynamic environments. Adult learning theory further guides the study by recognizing that superintendents engage with innovation through reflection, experience, and contextual relevance.

By examining superintendent experiences through these lenses, the study contributes to both scholarship and practice. It provides timely insight for educational leaders navigating technological change, for researchers addressing an underexplored dimension of AI in education, and for policymakers and communities seeking to understand how system-level decisions about AI shape trust, coherence, and equity in public schools. At the same time, the study highlights the intersection of vision, equity, and operational leadership. While strategic planning has historically served as a central framework for district direction and accountability, its success depends on leadership's ability to translate vision into action across diverse and unpredictable

contexts (Fullan, 2019; Kaufman, 2018). Superintendents must balance immediate problem-solving with long-term priorities, while also closing opportunity gaps, expanding access to high-quality programs, and responding to diverse student needs with fairness and transparency. Meeting these challenges calls for adaptive and ethical leadership capable of sustaining public trust in a rapidly changing environment. These purposes and theoretical perspectives guide the research questions that follow.

Research Questions

This qualitative study was guided by three exploratory research questions:

RQ1. How do superintendents perceive the barriers, opportunities, and district conditions (e.g., size, board dynamics, data infrastructure) that shape their ability to adopt and implement generative AI in K–12 leadership practice?

RQ2. How do superintendents report generative AI's influence on decision routines, communication workflows, and the monitoring of strategic plans and operational priorities?

RQ3. What resources, organizational supports, and ethical commitments (equity, democracy, policy) do superintendents consider essential for the effective and responsible use of generative AI in leadership?

Brief Description of Methods

This study employed a qualitative research design grounded in a constructivist paradigm, which emphasizes context, interpretation, and meaning-making rather than prediction or generalization (Creswell & Poth, 2017). This study sought to generate context-sensitive insights into how leaders make meaning of AI in the complexity of district leadership. Data were collected through semi-structured interviews with superintendents currently serving, or recently

having served, in New Jersey public school districts. The interview format was designed to capture rich descriptions of how leaders define challenges, make decisions, and interpret the role of AI in their practice. Data analysis followed an iterative coding process to identify patterns, themes, and variations across superintendent experiences. The study's theoretical perspectives served as interpretive lenses, while analysis remained open to emergent insights from participant narratives.

Significance of the Study

This study addresses a timely gap in both scholarship and practice. Most research on artificial intelligence in education has focused on classroom applications, leaving district-level leadership largely unexplored. By examining superintendent perspectives, this study highlights an underexamined dimension of leadership at the executive level.

For practitioners, the findings provide insight into how AI can support superintendents in balancing daily operational demands with long-term strategic goals. Leaders face rising expectations for equity, transparency, and responsiveness while managing complex systems. Understanding how AI is interpreted and applied helps districts make more informed decisions about professional development, communication systems, and strategic planning.

For researchers, the study contributes to the growing body of work on leadership and technology integration. It elevates superintendent voice as a source of knowledge about how emerging tools are understood, adopted, or resisted in practice. By framing the analysis within transformational, distributed, and complex adaptive systems perspectives, the study also advances theoretical dialogue about leadership in rapidly changing environments.

For policymakers and communities, this study underscores the importance of equity and democratic stewardship in decisions about AI. Superintendent engagement with AI shapes not

only internal operations but also public trust, stakeholder relationships, and system coherence. The findings help inform guidelines, policies, and ethical frameworks for the responsible use of AI in public education. Together, these contributions position the study as significant for advancing understanding of leadership in a time of rapid technological and social change.

Additionally, decisions about adopting and governing generative AI intersect with issues of equity, transparency, and access, particularly as superintendents consider how communication systems and leadership workflows serve diverse communities. Understanding how leaders interpret these responsibilities contributes to the field's knowledge of ethical and inclusive leadership practice.

Definitions of Key Terms

Administrative Efficiency: The effectiveness with which school administrators use time, personnel, and technology to manage strategic and operational responsibilities. In this study, it relates to reducing the leadership burden through supportive systems and streamlined processes (Spillane, 2006).

Adult Learning Theory: A framework that emphasizes self-direction, reflection, relevance, and experience in adult learning. This theory supports understanding how superintendents adapt to new technologies through ongoing professional growth (Knowles, 1984; Merriam & Bierema, 2014).

Artificial Intelligence (AI): Technology capable of performing tasks that typically require human intelligence, such as decision-making, language processing, and pattern recognition. In this study, AI refers to generative tools that support educational leadership through planning, communication, and engagement (Baek & Wilson, 2024; IBM, n.d.).

AI Sovereignty: The ability of an organization or governing body to maintain control over artificial intelligence systems, data governance, and technological infrastructure within its own jurisdiction rather than relying entirely on externally managed platforms or foreign-controlled systems. In the context of this study, the concept is applied to school districts that seek to maintain control over AI tools, data, and decision-support systems through locally governed or district-managed environments (Susnjara & Smalley, 2026).

Chatbot: An AI-driven tool designed to simulate human conversation and provide real-time, automated responses. Chatbots can assist with stakeholder communication, data gathering, and service delivery in educational leadership (Baek & Wilson, 2024).

Complex Adaptive Systems (CAS): A theoretical framework that views school districts as dynamic, interconnected systems where outcomes emerge from relationships among stakeholders, tools, and structures. CAS helps explain how superintendents navigate change in unpredictable environments (Holland, 1995).

Constructivist Paradigm: A research worldview that assumes knowledge is co-constructed through experience, context, and interpretation. This paradigm informs the qualitative design of the study and center superintendent voice and meaning-making (Ravitch & Carl, 2021).

Data-Informed Decision-Making: The practice of using evidence from both quantitative and qualitative sources to guide strategic and operational choices. This study explores how AI supports timely, context-sensitive decisions in leadership (Senge, 2006).

Distributed Leadership: A leadership model in which authority and responsibility are shared across roles, teams, and systems. In this study, it helps explain how AI adoption is supported through collaboration among district leaders (Spillane, 2006).

District Leadership: The senior leadership team in a school district, including the superintendent and cabinet-level administrators, responsible for setting and executing strategic and operational direction (Bryson & George, 2024).

Ethics in AI Use: The principles that ensure AI is implemented responsibly in education, including respect for privacy, avoidance of bias, transparency, and alignment with community values (Nguyen et al., 2023).

Generative AI: A type of artificial intelligence capable of producing original content or insights in response to prompts. In this study, generative AI refers to tools that support educational leadership by enhancing planning, communication, and operational workflows (Baek & Wilson, 2024; Duran & Ermiş, 2025).

Leadership Adaptability: The capacity of educational leaders to adjust strategies and practices in response to new data, community input, or emergent challenges. This is a central skill for leading in complex and evolving systems (Fullan, 2019).

Stakeholder Engagement: The involvement of community members, staff, students, and families in district planning and decision-making. This engagement builds trust, increases transparency, and improves implementation success (Gurr et al., 2021).

Strategic Plan: A guiding framework that articulates a district's mission, vision, goals, and priority actions. It serves as a tool for aligning people, resources, and systems toward shared outcomes (Bryson & George, 2024).

Superintendent: The chief executive of a public school district, responsible for system-level leadership across strategic direction, instructional priorities, operational management, and community engagement. In this study, the superintendent is examined as a leader navigating

complex governance, political pressures, and organizational demands (Patterson, 2023; Werden, 2024).

Transformational Leadership: A leadership theory emphasizing the power of vision, motivation, and values-based influence to inspire collective change. This framework supports the study's exploration of how superintendents lead through technological innovation (Bass, 1985; Mulvaney et al., 2024).

Assumptions

This study was guided by several assumptions relevant to its design and interpretation. It assumes that participating superintendents are currently serving, or have recently served, in public school districts with active strategic plans or related leadership initiatives. It also assumes that participants voluntarily provide candid and detailed accounts of their experiences with AI, offering authentic insights into both challenges and opportunities.

As a constructivist practitioner-researcher, I also assumed that my professional background provides both perspective and interpretive insight into the analysis of superintendent narratives. Reflexivity and transparency were used to manage bias and strengthen trustworthiness. Finally, it was assumed that participants have at least a general working understanding of generative AI, though variation in experience and interpretation is expected and welcomed as part of the analysis.

Scope, Delimitations, and Limitations

This study focused on K–12 superintendents serving in New Jersey public school districts. It was delimited to system-level leadership and did not include principals, teachers, or other administrators. Private, charter, and higher education settings were excluded. The study did not attempt to measure student outcomes or evaluate the technical performance of AI tools;

instead, it investigated leadership practices, interpretations, and decision-making. These delimitations reflect the purpose of the study, which is to understand how superintendents engage with generative AI in strategic and operational leadership. While findings are not intended to be generalizable in a statistical sense, they will provide context-rich insights that may be transferable to other educational settings.

As a qualitative study, this research was limited by its reliance on self-reported experiences gathered through semi-structured interviews. Participant responses may be influenced by memory, positionality, or social desirability. Efforts such as confidentiality assurances, open-ended questioning, and reflexive memoing helped mitigate these effects. As a practitioner-researcher, my background in educational leadership may also influence interpretation. While reflexivity and transparency were maintained, meaning was recognized as co-constructed between researcher and participant, which both enriches and complicates interpretation.

The findings were shaped by the unique contexts in which participating superintendents lead. While the study aims to include a diverse range of New Jersey districts, including variation in size, demographics, and infrastructure, the results are not intended to be generalizable in a statistical sense. Instead, the study used thick description to support transferability, enabling readers to assess relevance to their own settings (Lincoln & Guba, 1985). In addition, the rapidly evolving nature of generative AI means that participant perceptions may capture a moment in time rather than a stable understanding of the technology's role. While equity and ethics are relevant considerations in leadership decisions about AI, this study examines these issues only through superintendent perspectives and does not evaluate impacts at the student or community level.

Summary

This study establishes its importance within the field of educational leadership by addressing the growing complexity of the superintendent's role, which requires balancing daily operations, long-term strategic vision, and equity demands in a context shaped by demographic change, policy shifts, and emerging technologies. It is framed around the challenges of sustaining strategic planning, maintaining continuity of leadership, and addressing equity in diverse districts, while also confronting persistent barriers such as fragmented systems, limited tools for data-informed decision-making, and the underexplored role of generative AI in leadership practice.

The research examined how superintendents engage with generative AI in operational and strategic leadership, using three research questions to guide the inquiry. Employing a qualitative, constructivist design, the study used semi-structured interviews to capture superintendent perspectives on decision-making, plan execution, and leadership capacity. The scope of the inquiry was defined by its focus on superintendent experiences within K–12 public education, while its boundaries acknowledged the contextual nature of leadership practice and the evolving applications of generative AI. These parameters established the foundation for the literature review in Chapter 2, which considers leadership, strategic planning, equity, and generative AI. The findings presented in later chapters provide insight into how superintendents interpret generative AI within the realities of district leadership, strategic planning, and governance.

CHAPTER 2:

REVIEW OF LITERATURE

The literature on superintendent leadership sits at the intersection of strategy, theory, and practice. Scholars emphasize the superintendent's role in advancing equity, trust, and system coherence, even as research highlights persistent challenges such as turnover, burnout, political pressures, and the difficulty of balancing daily operations with long-term vision. Within this context, strategic planning emerges as a stabilizing framework that enables districts to navigate complexity and sustain improvement.

This chapter reviews the importance of the superintendency in American public education, including the role's evolution, tensions, and influence on equity and trust. It then examines core challenges such as turnover, political volatility, stakeholder engagement, and their impact on student outcomes. Strategic planning is analyzed as the leadership framework that connects vision to practice and balances immediate demands with long-term goals. Theoretical perspectives are integrated throughout: transformational leadership shapes understanding of the superintendent's role; complex adaptive systems theory frames the analysis of challenges; distributed leadership highlights how planning is enacted; and adult learning theory informs how leaders adapt to generative artificial intelligence (AI). The chapter concludes by reviewing emerging literature on AI's opportunities and risks for district leadership and synthesizing gaps that underscore the significance of the present study.

The Importance of Superintendents in Public Education

Superintendents must balance immediate operational demands with long-term strategic vision. They address pressing issues such as staffing, transportation, and facilities while also advancing goals for achievement, equity, and innovation. Fullan (2019) emphasizes that district

leaders act as “system players” who translate vision into coherent practice, while Patterson (2023) describes the “superintendent mindset” as blending resilience, coherence, and vision in the face of disruption. The superintendent's skill in balancing immediate operations and long-term strategy often determines whether a district sustains momentum or loses direction.

These responsibilities can also be interpreted through transformational leadership theory, which emphasizes how leaders inspire collective action and coherence. Transformational leadership is one of the most widely studied and applied frameworks in education. Burns (1978) distinguished transactional leadership, grounded in exchange, from transformational leadership, which elevates leaders and followers by connecting practice to shared values and moral purpose. Bass (1985) extended this work into a model with four dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Bass and Riggio (2006) demonstrated the model’s relevance across organizations, while Northouse (2018) synthesized its continued influence as a driver of improvement and adaptive change.

Educational researchers have consistently applied these ideas to superintendent practice. Fullan (2019) argued that system leaders must function as “change agents” who inspire coherence and collective action. Gabrielow (2022) showed how transformational leadership fosters purpose-driven cultures. Brown (2024) found that long-serving superintendents who embody transformational traits such as resilience, vision, and relational trust are more likely to sustain reforms. Aldarelli (2017) similarly documented that transformational practices foster motivation and coherence in high-pressure environments. Together, these studies emphasize that transformational leadership aligns vision and strategy with trust and system change, making it especially relevant as districts confront disruption and innovation. In this study, transformational

leadership guided coding of how superintendents frame AI adoption in ways that connect vision and values, and how they inspire collective action around innovation

Evolution of the Superintendent Role

Superintendents hold one of the most pivotal positions in American education, serving as both executive leaders and public stewards of their districts. They align vision and resources, shape instructional priorities, and ensure that policies advance equity and access for all students. Their influence extends beyond classrooms to the broader systems of trust and accountability that connect schools to their communities (AASA, 2023).

The role was originally shaped by business-oriented models of efficiency, with leaders cast primarily as managers of operations rather than instructional or equity-focused leaders (Callahan, 1964). While these expectations reflected the industrial context of the time, they continue to influence perceptions of district leadership. By the late twentieth century, responsibilities had expanded to include instructional leadership and system-level strategy (Glass et al., 2000). Today, superintendents function simultaneously as chief executives, instructional leaders, political actors, and community conveners (Kowalski, 2013). This evolution reflects broader changes in standards-based reform, accountability, and transparency, positioning superintendents as central agents of system-level change. This trajectory also highlights the paradox of the modern superintendency: leaders are now expected to serve as managers, instructional leaders, political actors, and equity advocates simultaneously, a convergence that intensifies the fragility of the role and sets the stage for the challenges discussed in the following section.

Leadership Stability and Continuity

Leadership stability is critical to coherence and improvement. Studies show that short tenure and political pressures disrupt continuity, weaken the implementation of strategic plans, and erode public confidence (Pauly, 2021; Werden, 2024). Frequent turnover requires districts to recalibrate before initiatives mature, creating unstable conditions for progress (Glass & Franceschini, 2007). Even capable leaders operate in politically charged contexts where decision-making is compressed, making stability essential to organizational performance and student outcomes. To combat the disruption of leadership transitions, superintendents frequently rely on structured entry plans to systematically gather stakeholder feedback, assess organizational capacity, and establish a coherent vision (DeMatthews et al., 2025; Pauly, 2021). These entry plans act as a bridge between immediate operational learning and long-term strategic planning, providing a sequenced roadmap that prevents leaders from being overwhelmed by early crises. As emerging technologies increasingly disrupt educational norms, there is a growing need for similar phased implementation playbooks to guide leaders through complex technological adoptions without losing strategic focus.

Equity, Access, and Policy Translation

Superintendents act as key advocates for equity, working to close opportunity gaps and ensure fair resource distribution. The American Association of School Administrators (AASA, 2023) identifies advancing equity and democratic stewardship as central to the role. Smith and Benavot (2019) demonstrate that districts thrive when leadership integrates stakeholder voice and transparency, while Gurr et al. (2021) show that inclusive, context-sensitive leadership strengthens legitimacy and implementation. Casto et al. (2024) argue that equity is inseparable from community-anchored leadership, positioning schools as social and economic anchors

whose legitimacy depends on surfacing marginalized voices and aligning policy with local context. Equity is therefore both a moral imperative and a structural necessity for coherence and trust, yet it is vulnerable to turnover, political polarization, and inconsistent leadership.

Superintendents also serve as the link between state or federal mandates and local policy implementation. ESSA and other accountability policies place responsibility for outcomes at the district level, requiring leaders to translate directives into actionable, community-anchored strategies. Bryson and George (2024) and Kaufman (2018) stress the importance of aligning goals, resources, and implementation, while cautioning that compliance without coherence can weaken reforms. In this way, the superintendent's pursuit of equity is inseparable from their role in policy translation: how leaders interpret mandates, balance competing pressures, and ensure equitable access ultimately determines whether reforms build public trust or reinforce fragmentation.

Public Communication and Trust

Superintendents also function as chief communicators, articulating vision, addressing crises, and sustaining public trust. Credibility and coherence in communication shape how communities respond to disruption. This communicative work is a core role of the superintendency, with leaders functioning as boundary spanners who build legitimacy with boards and communities (Björk et al., 2014; Kowalski, 2013). Professional associations likewise emphasize public stewardship and transparency as central to effective district leadership (AASA, 2023).

The literature further underscores the superintendent's communicative role as essential to district legitimacy. Casto et al. (2024) describe communication as inseparable from equity and community vitality, noting that leaders who adopt "community-aware" approaches surface

silenced voices and strengthen democratic trust. Torres et al. (2023) extend this perspective, showing how superintendents craft coherence through communication when navigating complex policy environments, using framing and message discipline to maintain legitimacy with diverse stakeholders. Recent work also highlights the superintendent's role in upward communication: while most district leaders believe their voices are valuable in shaping state policy, actual engagement remains limited due to capacity, proximity, and political vulnerability, which can undermine local trust if left unaddressed (White, 2025). Together, this body of research positions communication as infrastructure: the mechanism through which superintendents build relationships, sustain transparency, and align diverse stakeholders to shared priorities. In this way, communication is not merely a leadership skill but a governance responsibility that directly influences community trust, equity, and system coherence. The efficacy of this communication, however, relies heavily on the perceived authenticity of the superintendent. Contemporary leadership frameworks posit that community trust is directly tied to the leader's transparency, self-awareness, and relational genuineness (Brown, 2024; Northouse, 2018; Shapiro & Stefkovich, 2021). When superintendents communicate with an authentic, human-centered voice, they foster the psychological safety necessary for communities to navigate disruptive changes. Consequently, as leaders consider adopting automated communication technologies, they must balance the efficiency of generated text against the risk of eroding relational trust through perceived inauthenticity (Torres et al., 2023).

Challenges of the Superintendent Role

While the superintendent role carries profound importance, fulfilling its responsibilities is constrained by competing expectations, political volatility, and heightened accountability. Superintendents operate at the nexus of governance and practice, where shifting policy mandates,

community pressures, and board dynamics complicate even routine decision-making. These tensions often undermine the stability needed to pursue long-term goals, leaving districts vulnerable to fragmented initiatives and eroded public confidence. Research highlights four interrelated challenges that define the fragility of the role: high rates of turnover and burnout, the difficulty of balancing operational demands with strategic vision, the vulnerability of stakeholder trust in polarized contexts, and the impact of leadership instability on student outcomes.

Viewed through the lens of complex adaptive systems, school districts function as dynamic ecosystems rather than linear organizations. Holland (1995) described these systems as networks of interacting agents that evolve in response to one another and to their environment. In education, Davis and Sumara (2006) emphasized that coherence must be cultivated, while Marion and Uhl-Bien (2001) described leadership as an emergent property of interactions. Morrison (2002) further argued that leaders must balance stability with flexibility. Patterson (2023) described the "superintendent mindset" as resilient and adaptive in volatile contexts. Fullan (2019) stressed that coherence in such contexts depends on leadership capacity to align innovations with shared goals. Complex adaptive systems (CAS) theory therefore provides a useful frame for understanding how superintendents navigate uncertainty, foster adaptability, and sustain coherence when confronted with change and innovation. For this study, CAS concepts shaped analytic codes for adaptive responses, feedback loops, and emergent practices in district leadership.

Retention, Burnout, and Political Pressures

Turnover and burnout persist as major threats to district stability. Superintendents are expected to navigate workload intensification, community pressures, and board demands in ways that require agility, transparent communication, and collaboration to sustain trust (Hanover

Research, 2023). Leadership transitions are increasingly expected, with frequent turnover disrupting continuity and weakening strategic plan implementation (Pauly, 2021). These transitions can destabilize districts and require recalibration before initiatives mature, with turnover interrupting initiatives and eroding system capacity (DeMatthews et al., 2025).

Brown (2024) found that transformational resilience, defined as the ability to adapt to pressure without losing direction, enables superintendents to sustain progress through reform cycles. Yet the superintendent role remains uniquely vulnerable to stress. In a national study, Robinson and Shakeshaft (2016) found that nearly 95% of superintendents reported feeling nervous or stressed during the previous month, with many citing workload and policy changes as persistent stressors. More recent national survey data reinforce this picture: Schwartz and Diliberti (2024) reported that almost 90% of superintendents identified political intrusions as a leading source of stress, above staffing shortages, student needs, or budgetary constraints. These studies show that superintendent well-being and stability are critical to district performance but remain fragile in today's climate. Stress and burnout not only jeopardize the longevity of district leaders but also threaten organizational coherence, reform sustainability, and community trust. Salvatore (2023) reinforces this perspective, emphasizing that self-awareness, self-management, and self-regulation serve as protective competencies that strengthen leader resilience and help mitigate the effects of stress and role overload. He further illustrates that leaders who cultivate emotional regulation and self-efficacy are better able to sustain composure and trust in high-pressure environments, underscoring the connection between social emotional leadership and superintendent well-being. Recent national data underscores the severity of this operational overload and the critical nature of executive communication. The American Association of School Administrators' recent mid-decade studies on the state of the superintendency highlight

that leaders are facing unprecedented levels of stress, driven heavily by compounding daily communication demands, political polarization, and shrinking district budgets (AASA, 2025). As these public-facing pressures intensify, the role of the superintendent frequently shifts from strategic oversight to constant crisis management, accelerating executive burnout. Consequently, there is an urgent need for modern operational efficiencies and cognitive supports that can relieve this administrative burden, enabling leaders to reclaim the mental bandwidth necessary to sustain long-term systemic improvement.

Balancing Operational Demands with Strategic Vision

Daily operational pressures often threaten to consume the superintendent's capacity for strategy. Leaders must respond to urgent crises while sustaining long-term coherence (Spillane, 2006). Transformational leadership practices can help leaders navigate these competing priorities by fostering resilience, vision, and collective purpose (Leithwood & Sun, 2012). Yet shifting political landscapes and resource pressures frequently derail even carefully constructed plans, requiring adaptation and continuous learning (O'Day & Marsden, 2022).

Strategic frameworks such as Bryson and George's (2024) strategic planning cycle and Kaufman's (2018) alignment model emphasize the importance of preserving long-term focus while adapting to evolving conditions. However, without protected time for planning and reflection, many superintendents are forced into crisis management modes that undermine their ability to lead strategically. Honig et al. (2017) further demonstrate that sustaining systemic coherence requires district leaders to position central office staff as learning partners, using research as a tool for adaptation rather than compliance. This perspective underscores the superintendent's role in ensuring that daily management supports, rather than replaces, strategic work.

Evidence also links operational overload to superintendent instability. Grissom and Mitani (2016) show that contextual pressures such as resource scarcity and board conflict increase the likelihood of early superintendent exits, interrupting reform cycles before they mature. Similarly, Zuckerman et al. (2023) highlight how superintendents in rural and high-need districts experience intensified overload due to limited staffing, forcing them into reactive rather than strategic leadership modes. Harvey (2019) asserts that superintendents must actively reframe public narratives and defend the mission of public schools to sustain coherence amidst political turbulence. Together, this literature suggests that without structures to safeguard strategic focus, superintendents risk being consumed by the immediacy of operational demands. This imbalance not only accelerates turnover but also erodes the district's long-term capacity for improvement, undermining staff trust and community confidence in leadership.

Stakeholder Engagement and Trust

Building and sustaining trust with diverse stakeholders is one of the most fragile areas of superintendent practice. Smith and Benavot (2019) argue that democratic governance requires integrating community voice, yet polarized environments often breed conflict. Gurr et al. (2021) show that inclusive planning legitimizes initiatives, while exclusion fosters resistance.

Authentic engagement is a structural necessity rather than a public relations exercise (Poynton et al., 2018). Leithwood et al. (2009) demonstrate that distributed and trust-centered leadership practices strengthen legitimacy and resilience, while Gurr et al. (2021) show that these capacities remain essential for leaders navigating today's politically volatile climates. Research also demonstrates that when communities perceive their voices are ignored, board turnover and superintendent attrition accelerate, creating cycles of instability that undercut district goals (Zuckerman et al., 2023).

Practitioner perspectives reinforce these dynamics. Harvey (2019) argues that superintendents must actively reframe narratives and advocate for public education as part of sustaining trust. Similarly, NSPRA and AASA guidance stress that communication and engagement function as leadership infrastructure, shaping not only district reputation but also the superintendent's ability to advance reform.

These findings reveal the centrality and vulnerability of stakeholder trust in sustaining reform. When trust erodes, leaders lose the social capital necessary to mobilize resources, enact policies, and sustain coherence. When trust is cultivated, districts are more likely to weather political disruption and sustain improvement. This link between engagement and stability lays the groundwork for understanding how leadership conditions ultimately influence student outcomes.

Impact on Student Outcomes

Challenges at the leadership level reverberate into classrooms. Superintendent turnover disrupts reforms and weakens implementation, slowing progress in student achievement (Glass & Franceschini, 2007). Leadership capacity and coherence are critical predictors of whether planning translates into measurable gains (Park et al., 2023). Coherent district leadership enables systems to sustain instructional improvement (Fullan, 2019), while poorly managed change efforts fail to yield results (Hall & Hord, 2019).

Evidence underscores these connections. Grissom and Mitani (2016) found that superintendent instability is linked to diminished district performance, particularly in contexts marked by resource scarcity or conflict. Zuckerman et al. (2023) similarly highlight how leadership churn in rural districts disrupts instructional coherence and equity efforts, intensifying the challenge of sustaining reform. More recent studies by DeMatthews et al. (2025) extend this

evidence, showing that turnover not only interrupts district initiatives but also erodes the trust and capacity needed to improve outcomes over time. In a two-state analysis, Redding and Carlo (2025) found that superintendent turnover was associated with declines in student achievement, with the negative impact most pronounced in large, urban, and high-poverty districts. These findings highlight how leadership churn compounds inequities and undermines continuity in district improvement efforts.

Stability also affects teacher confidence and school culture. Brown (2024) notes that long-serving superintendents provide the consistency needed for reforms to mature, allowing iterative refinement rather than repeated restarts. Alignment between leadership actions and system-level goals strengthens teacher morale and fosters a culture of continuous improvement (Krstevska & Bajrami, 2023). These findings suggest that superintendent consistency serves as an indirect but powerful driver of student outcomes, with leadership coherence functioning as an essential condition for instructional success.

Strategic Planning as a Framework for Superintendent Leadership

Given the challenges of superintendent leadership, the necessity of strategic planning becomes clear. Political pressures, resource constraints, and heightened accountability cannot be managed through reactive responses alone. They require structured processes that connect vision to practice in ways that sustain coherence over time. Strategic planning has therefore emerged as a central leadership function, equipping superintendents with a framework to align goals with resources, manage complexity, and balance immediate demands with long-term priorities. When effectively employed, it enables districts to remain adaptive while pursuing stability and improvement.

Distributed leadership theory further illuminates how strategic planning functions in

practice. Spillane (2006) emphasized that leadership is enacted through the interactions of people, tools, and situations, while Harris (2004) reinforced that distributed leadership challenges traditional hierarchies by recognizing expertise across the system. Leithwood et al. (2009) provided empirical evidence that distributed leadership enhances organizational effectiveness when intentionally structured, showing that shared decision-making increases stakeholder ownership and commitment to change. In superintendent practice, this framework is particularly important given the scope of responsibilities. Honig et al. (2017) observed that balancing strategic vision with operational demands requires strong leadership teams, while Gurr et al. (2021) found that distributed leadership capacity enables reform to outlast individual tenures. Applied to strategic planning, distributed leadership highlights that successful adoption depends on systemwide collaboration across instructional, operational, and community teams, rather than centralized control. In analysis, distributed leadership guided coding of how responsibility for AI adoption is shared across administrators, staff, and community stakeholders.

Effective strategic planning is therefore more than a technical exercise. Bryson and George (2024) define it as a systematic process of clarifying organizational goals, aligning resources, and monitoring progress to sustain achievement. Kaufman (2018) similarly emphasizes that effective planning depends on aligning people, performance, and payoffs so that strategy functions as an actionable framework embedded in daily operations. Within the educational context, Park et al. (2023) highlight that superintendents must ensure planning connects directly to instruction, resource allocation, and community priorities. Carpenter (2019) argues that executive leadership in higher education determines whether plans remain symbolic or become catalysts for change. Grey (2019) adds that strategic planning requires leaders to foster cultures of innovation that enable adaptability and trust. Without cultivating these

conditions, even technically sound plans risk stagnation, and plans untethered from leadership practice quickly lose legitimacy.

Evolving Approaches in Education

The use of strategic planning in education has shifted over time. Early approaches mirrored corporate models, stressing efficiency, measurable outputs, and top-down accountability (Callahan, 1964). While these models introduced useful tools for oversight, they often failed to capture the complexity of schools or the diversity of local communities. More recent research stresses participatory and adaptive approaches. Hall and Hord (2019) argue that sustainable change requires coherence between vision and practice and that plans must adapt to shifting conditions. Saygin (2019) adds that continuous improvement frameworks help districts remain responsive to evolving student needs, policy mandates, and resource constraints. Hoogland et al. (2016) demonstrate how effective data use and performance indicators can provide benchmarks for monitoring progress, while emphasizing that successful implementation depends on organizational clarity, teacher collaboration, and leadership support.

Contemporary scholarship also warns against rigid compliance. Krstevska and Bajrami (2023) note that document-centered approaches often fail in dynamic environments. Instead, effective plans operate as living frameworks that blend clarity with flexibility, allowing districts to course-correct while maintaining long-term direction. Brown (2024) demonstrates that districts with adaptive planning cultures are better positioned to integrate reforms and sustain progress during periods of volatility.

The Superintendent's Role in Planning

Superintendents are central to moving planning from paper to practice. Boden et al. (2023) observe that plans succeed when leaders intentionally connect development,

implementation, and monitoring, ensuring that the plan guides continuous improvement rather than compliance. Honig and Hatch (2004) add that a superintendent's ability to balance operational duties with strategic vision determines whether planning stabilizes the system or remains symbolic. This balancing act requires clear communication of priorities, delegated responsibility, and accountability structures that do not overwhelm staff.

Brown (2024) underscores the superintendent's role in cultivating ownership, framing strategic planning as a collective process that unites central office staff, principals, and teachers. Park et al. (2023) echo this finding, emphasizing that without superintendent modeling and support, planning efforts rarely translate into meaningful classroom change. Together, these studies affirm that the superintendent is both the architect of district strategy and the interpreter of how plans align with vision, instruction, and community expectations.

Challenges and Equity in Planning

Despite its promise, strategic planning is vulnerable to disruption. Leadership turnover intensifies this risk. For example, Grissom and Mitani (2016) show that superintendent turnover often interrupts ongoing improvement initiatives and undermines sustained progress. These dynamics reinforce the importance of superintendent stability in sustaining direction across electoral and policy cycles. Equity is increasingly central to planning. Gurr et al. (2021) and Smith and Benavot (2019) argue that plans that fail to address diverse voices risk eroding legitimacy. Strategic planning provides a venue to embed equity commitments into resource allocation, program design, and accountability systems. Poynton et al. (2018) found that active stakeholder engagement strengthens trust and alignment with community values. Rossi et al. (2019) further show that evaluation mechanisms are essential for linking planning to measurable outcomes. Sagor (2000) affirms that action research enhances planning by embedding inquiry

and reflection into improvement cycles.

Scholars also caution against treating planning as a panacea. Krstevska and Bajrami (2023) warn that districts often overestimate the power of written plans, neglecting the adaptive leadership required for implementation. Mintzberg (2013) critiqued technocratic planning models that create an illusion of control while limiting adaptability. Fullan (2019) underscores that strategy cannot substitute for leadership. Coherence and capacity-building remain essential for implementation.

Looking to Industry: Generative AI in Executive Leadership

A new leadership tool has emerged that promises to change the role of the superintendent significantly: generative artificial intelligence. While still in its infancy in education, AI is already transforming leadership in business, government, and nonprofit organizations. Its potential to reshape planning, communication, and decision-making makes it the central focus of this study. While the educational literature on generative artificial intelligence is still developing, research in business and organizational leadership provides early and more comprehensive insights into how AI reshapes executive practices. This work demonstrates both the opportunities and risks of AI integration, offering lessons that can inform superintendent leadership in public education.

Generative AI is altering how executives plan, decide, and communicate across industries. Madanchian et al. (2024) show that AI supports more adaptive, data-driven, and customized approaches to leading organizations by enabling real-time analytics, anticipating workforce needs, and personalizing development. Farid (2024) reinforces these insights, emphasizing AI's capacity to drive innovation in product development, operations, and business models while requiring leaders to cultivate collaboration, ethical decision-making, and

continuous learning. Together, these studies suggest that AI not only streamlines management but also demands a redefinition of leadership itself.

Planning and decision-making are particular areas of transformation. Davenport and Ronanki (2018) observed that executives use AI to automate repetitive processes and generate predictive insights, freeing leaders to focus on strategic priorities. Kober (2025) extends this discussion by framing AI-first leadership as a model in which human creativity and AI capabilities are fully integrated into strategy and operations. Within this model, midlevel leaders emerge as critical actors in embedding AI into workflows and ensuring that high-level goals translate into practice, highlighting the importance of distributed responsibility in organizational change.

Recent practitioner scholarship also highlights the potential of generative AI to transform planning into a continuous and collaborative process. AI-enabled feedback loops, sentiment analysis, and real-time dashboards allow executives to align strategies more closely with shifting organizational priorities (Davenport & Redman, 2025). Instead of treating planning as a fixed document, leaders can use AI tools to update and adapt goals responsively, sustaining coherence in dynamic contexts.

At the same time, scholars and practitioners caution that without governance and preparation, AI integration risks exacerbating inequities. Farid (2024) and Madanchian et al. (2024) identify concerns related to data privacy, algorithmic bias, and workforce displacement, while Kober (2025) warns that many organizations under-invest in developing leaders' AI fluency. Addressing these risks requires framing AI as a complement rather than a replacement for human judgment, building governance systems for transparency and accountability, and investing in leadership development that equips individuals at all levels to use AI responsibly.

Looking to Education: Generative AI in Superintendent Leadership

While AI research in industry provides important insights, the superintendent role presents a unique context where strategic planning, equity, and democratic accountability converge. Here, emerging educational scholarship begins to explore how generative AI may reshape leadership practice. Like executives, superintendents must align vision with operations, manage complexity, and maintain legitimacy in rapidly changing environments. Unlike corporate leaders, however, they also carry the responsibility of democratic stewardship and equity for our students, ensuring that innovation aligns with public values and the mission of education. These parallels provide a useful foundation for understanding how generative AI might support or complicate superintendent leadership in education.

Emerging work in educational leadership reinforces these possibilities. Sposato et al. (2024) propose that AI can support school leaders in fostering continuous improvement by integrating feedback loops and adaptive planning processes into district operations. Their findings suggest that superintendents, like executives, can use AI not only for efficiency but also to sustain collaboration and coherence across diverse stakeholders.

Superintendent engagement with generative AI is both a technical and strategic challenge grounded in the process of professional learning. Adult learning theory underscores that leaders adapt through reflection, dialogue, and context-driven practice. Knowles (1984) emphasized self-directed learning, while Mezirow (1991) showed how critical reflection shifts frames of reference. Cranton (2023) elaborated that cycles of practice and inquiry enable leaders to reframe assumptions, and Merriam and Bierema (2014) stressed that professional growth is socially embedded. More recent work connects these ideas directly to technology adoption: Long and Magerko (2020) argued that AI literacy requires experiential engagement, while Deci and Ryan

(2000) demonstrated that professional learning environments grounded in autonomy, competence, and relatedness foster intrinsic motivation to adopt new practices. For superintendents, these insights suggest that adopting generative AI depends on their willingness to engage in continuous learning, test assumptions, and align new tools with district values. Storey and Wagner (2025) reinforce this perspective, extending Knowles' andragogy into the age of AI. They argue that without self-directed, iterative learning opportunities, leaders risk adopting AI in ways that outpace their professional capacity, weakening both equity and coherence. Leaders who approach AI as a reflective learning process are better equipped to sustain coherence and equity in their districts while guiding adaptive change. For this study, adult learning theory informs interpretation of how superintendents engage with AI as a reflective, contextualized learning process, emphasizing experience, autonomy, and relevance in adoption.

Synthesis across these subsections highlights three superintendent workstreams where generative AI intersects most directly: decision support (data analysis, forecasting, and scenario planning), communication infrastructure (drafting, translation, stakeholder engagement), and plan monitoring (dashboards, feedback loops, implementation tracking). Parallel to these opportunities, the literature identifies a triad of risks: bias and privacy, transparency and traceability, and workforce capacity. These paired domains provide analytic code families for this study's research questions, particularly in examining the reported influence of AI on superintendent decision routines, communication workflows, and equity-centered governance.

Applications of Generative AI in Education

Generative AI has emerged as a significant technological development in education, offering both opportunities for efficiency and challenges for equity and ethics. While AI in

education is not new, the rapid growth of generative models has expanded applications in leadership, teaching, and system design. For superintendents, whose responsibilities span strategy, operations, instruction, and community engagement, all directed toward sustaining student achievement, the adoption of generative AI raises pressing questions about how leadership adapts to technological disruption and harnesses innovation. Much of the existing literature on AI in education, however, focuses on higher education settings or broad policy and infrastructure questions, with relatively little attention to the day-to-day work of K–12 district leaders and almost none centered explicitly on superintendents.

Early scholarship highlights the promise of generative AI for decision-making and organizational efficiency. Wang (2021) argued that AI can serve as a symbiotic partner in leadership by processing data and providing real-time insights for strategic decisions. Davenport and Ronanki (2018) similarly described how AI enhances decision-making by automating routine tasks and freeing leaders to focus on higher-order priorities. In education, this potential includes streamlining communication, monitoring implementation of strategic plans, and analyzing stakeholder feedback. Duran and Ermiş (2025) noted that AI offers superintendents opportunities to increase efficiency, foster engagement, and strengthen communication, while also requiring ethical guardrails. Williams (2023) demonstrated that AI-enabled analytics can support program evaluation and evidence-based decision-making, offering models from higher education that provide important implications for K–12 leadership. Nguyen et al. (2020) added that data analytics in higher education demonstrate how leaders can integrate insights across systems, offering parallels for K–12 contexts where superintendents must navigate significant complexity. Consistent with andragogical principles, Storey and Wagner (2025) emphasize that AI-supported professional learning should be grounded in relevance, autonomy, and experiential

practice. For district leaders, this means PD must move beyond tool training toward reflective, iterative engagement with AI.

Generative AI also strengthens communication as a leadership infrastructure rather than simply a delivery channel. Florea and Croitoru (2025) and Holmes et al. (2022) found that AI expands inclusivity through multilingual engagement, real-time tone calibration, and interactive dialogue. This aligns with research framing superintendents as boundary spanners whose legitimacy depends on coherent communication with diverse stakeholders (Björk et al., 2014; Kowalski, 2013). Integrating AI into this communicative work positions it as a structural support for trust and equity rather than an ancillary tool.

Baek and Wilson (2024) further extend the research and show that generative AI can enhance data processing, engagement, and personalized support in adult education. Chiu (2023) examined how tools like ChatGPT disrupt governance structures while introducing opportunities for innovation. Langeveldt (2024) proposed an AI-driven leadership framework emphasizing adaptability, iterative planning, and feedback loops aligned with school system dynamics. UNESCO (2019) stressed that AI integration must remain human-centered and equity-driven, with leaders prepared through training and professional development. Bisri et al. (2023) reinforced this through a systematic review, identifying leadership, culture, and professional development as critical factors in digital transformation. Butt (2024) added that while AI improves efficiency in administrative decision-making, it raises ethical and legal concerns that parallel challenges already facing K–12 systems. Together, these studies suggest that generative AI is not only a technical tool but also a potential enabler of strategic and instructional coherence when aligned with equity and access.

Risks and Limitations of Generative AI

Despite its potential, the literature warns against uncritical adoption of generative AI in education. Nguyen et al. (2022) proposed a framework of ethical principles, including transparency, accountability, and fairness, that must guide adoption. Similarly, García-López and Trujillo-Liñán (2025), in a systematic review, emphasized that while generative AI offers opportunities for personalization and accessibility, it simultaneously introduces risks such as algorithmic bias, misuse of student data, and lack of regulatory oversight. Furthermore, as school districts have digitized their operations, they have become historically dependent on costly, third-party educational technology vendors for data analytics, student information systems, and legal compliance (Williamson & Hogan, 2020). This reliance not only strains limited district budgets but also elevates data privacy concerns, as student personally identifiable information (PII) is frequently shared across external servers. Generative AI presents a potential disruption to this model, offering districts the technical capacity to build localized, closed-system analytical tools that reduce vendor dependency while keeping sensitive data securely in-house (Kober, 2025; Zawacki-Richter et al., 2019).

Zawacki-Richter et al. (2019) cautioned that educators are often sidelined in AI research and implementation, leading to limited ownership and potential misalignment with instructional priorities. Khosravi et al. (2024) further stressed the difficulty of ensuring accountability when algorithms influence decision-making processes in education. Kanayas et al. (2024) extended this concern by situating AI adoption within a broader philosophical framework and underscored the need for coherent principles that balance innovation with responsibility.

Beyond technical risks, capacity and trust present significant challenges. Fullan et al. (2023) warned that while AI may enhance efficiency, it simultaneously raises concerns about

leader preparedness and stakeholder confidence. The U.S. Department of Education (USDOE, 2023) reinforced this concern, reporting that most districts lack the training, policy frameworks, and professional development necessary for responsible AI use. Pietsch et al. (2024) added that a leader's digital mindset, including proactivity, empathy, and agility, plays a decisive role in whether AI is implemented effectively. Kim et al. (2024) similarly argued that governance challenges extend beyond abstract ethics and require policy approaches that translate principles into operational realities, embedding compliance, safety, and transparency into practice. Storey and Wagner (2025) caution that poorly aligned AI systems may inadvertently accelerate inequities in adult learning, such as when adaptive models speed or slow pacing based on biased assumptions. They contend that andragogical design is essential for mitigating these risks in leadership and professional development contexts. Spehar (2025), writing for Forbes, highlighted how these challenges are not limited to education and noted that fragmented regulations, low public trust, and the rise of agentic AI systems make governance a moving target. In a recent study on the emerging intersection of AI and legal literacy, Thomas, McElhattan, and Carlo (2024) compared practicing educators' knowledge of education law with the performance of large language models and found that AI tools frequently exceeded professional benchmarks. These findings suggest important implications for district leadership: AI may supplement leader capacity in navigating legal and policy obligations. At the same time, the authors caution that educational leaders must maintain both legal and technological fluency to critically evaluate outputs and avoid overreliance on flawed responses.

For superintendents, these risks are particularly acute because they intersect with core commitments to equity, community trust, and student learning. Poorly designed or inadequately governed AI systems risk exacerbating achievement gaps, misdirecting resources, and weakening

public confidence in schools as democratic institutions (Holmes et al., 2021; USDOE, 2023). International frameworks, such as UNESCO's (2019) human-centered AI principles and the European Union's proposed AI Act, underscore that governance is both a global and a local challenge. Without robust structures for oversight, training, and ethical stewardship, districts risk deploying advanced tools in ways that are socially misaligned, ethically problematic, and ultimately counterproductive to their mission of preparing students for the future.

Ethical Leadership and Governance

Scholars and practitioners caution that ethical stewardship must anchor AI integration. Without clear governance, transparency, and human oversight, AI risks perpetuating inequities or eroding trust (Chen, 2024; Popenici & Kerr, 2017). District leaders are therefore called to embed ethical reasoning into adoption processes, ensuring alignment with community values, privacy protections, and fairness (Holmes et al., 2021). As Daugherty and Wilson (2022) argue, AI-driven redesign succeeds only when paired with human judgment and collaborative processes. For superintendents, this ethical responsibility is inseparable from their democratic stewardship role, which requires accountability to students, families, and the broader public.

Leadership literature emphasizes that ethical governance involves more than compliance. It requires cultivating a culture of responsibility, inclusion, and shared decision-making. Transformative leadership highlights moral courage to confront inequities and enact systemic change (Shields, 2017). From this perspective, ethical AI adoption becomes part of a broader duty to advance social justice and equity within school systems.

The ethical dimension of governance also intersects with distributed leadership. Research shows that leadership is stretched across networks of actors, so responsibility for AI adoption cannot rest solely with superintendents or technology officers (Harris, 2004; Spillane, 2006).

Participatory structures that empower educators, families, and students to contribute to decisions serve to strengthen transparency and build legitimacy and trust, especially in diverse districts where equity concerns are paramount. Chen (2024) reinforces this point by linking ethics to concrete policy pathways and capacity building, including the need for literacy, standards, and institutional oversight.

International frameworks underscore these expectations. UNESCO's human-centered AI principles stress human agency, inclusivity, and accountability, reminding educational leaders that governance must extend beyond technical functionality to questions of human dignity and democratic participation (UNESCO, 2019). For superintendents, this translates into building governance systems that are technically sound and ethically coherent, ensuring that generative AI tools enhance, rather than erode, the public's trust in schools and the superintendent's role in democratic stewardship.

Conceptual and Theoretical Lens

Before moving to the limitations in the literature, it is important to clarify the lens that organizes the perspectives presented in this chapter. The theories embedded throughout the review form a unified framework for examining superintendent engagement with generative artificial intelligence. Transformational leadership explains how superintendents connect strategy to vision, values, and equity while motivating collective action. Distributed leadership shows that strategic planning and AI adoption develop through collaborative interactions among administrative teams, instructional staff, and community stakeholders. Complex adaptive systems theory positions districts as dynamic environments shaped by feedback loops, shifting conditions, and interdependent roles, emphasizing the adaptive nature of leadership. Adult learning theory highlights how superintendents engage with innovation through reflection,

experience, and context-driven professional learning. Taken together, these perspectives guide the study's analytic focus on how superintendents interpret and integrate generative AI within the practical and political realities of district leadership.

Literature Limitations: Superintendent Leadership, AI, and Strategic Planning

Although the body of literature on AI in education is expanding, major gaps remain. Most studies focus on higher education (Zawacki-Richter et al., 2019) or on broad policy and practice implications (Chiu, 2023; Nguyen et al., 2023), but with limited attention to K–12 superintendents. Leadership is often treated abstractly, without examining how district executives integrate AI under conditions of governance, equity, and community accountability. While international and federal organizations (UNESCO, 2019; USDOE, 2023) have offered high-level principles, little empirical research addresses how district leaders interpret and apply them in local contexts.

This gap underscores the need for research that centers superintendent practice. Superintendents work at the intersection of strategy, operations, and community trust, making their perspectives essential to understanding both the promise and risks of generative AI. Exploring how they interpret these tools can provide critical insight into the conditions, supports, and ethical frameworks needed for responsible adoption in public education.

The literature has yet to examine how district leaders integrate generative AI into the strategic planning processes that sustain coherence across systems. Strategic planning has long served as a stabilizing mechanism for navigating complexity, aligning vision with resources, and supporting long-term improvement. Yet little is known about how this framework adapts when emerging technologies reshape conditions of practice. The absence of superintendent-centered studies leaves unanswered how leaders connect innovation in AI with the strategic structures that

uphold equity and trust at the district level. While Storey and Wagner (2025) provide an emerging framework for integrating AI with adult learning theory, little research examines how superintendents translate such principles into districtwide planning and leadership practice. This absence reinforces the importance of centering superintendent perspectives in AI adoption.

Conclusion

This review of literature establishes that superintendent leadership is central to the coherence, equity, and trust that sustain public education. Research highlights both the promise and the fragility of the role, shaped by political pressures, turnover, and the constant balancing of operational demands with long-term vision. Strategic planning has emerged as a critical stabilizing framework, while transformational, distributed, complex adaptive systems, and adult learning theories provide complementary lenses for interpreting how superintendents lead within dynamic and uncertain environments.

Generative artificial intelligence extends these conditions of practice, introducing opportunities for efficiency alongside new risks for equity and accountability. While scholarship on AI is growing, most studies emphasize higher education or policy contexts, leaving superintendent perspectives in K–12 districts largely absent. There is a pressing need to understand how district leaders interpret and apply generative AI within strategic planning, governance, and community trust.

Ultimately, centering strategic planning as the anchor for superintendent decision-making offers a pathway to align innovation with equity and sustain public trust in education. Despite growing discourse on AI in education, little empirical research captures how superintendents interpret and integrate generative AI into district planning and operations. This study directly addresses that gap by using equity, ethical stewardship, and responsible governance as

interpretive lenses for understanding superintendent perspectives. Chapter 3 outlines the methodology used to explore these perspectives.

CHAPTER 3:

METHODOLOGY

This study employed a qualitative research design to explore how K–12 superintendents engage with generative artificial intelligence (AI) in their operational and strategic leadership, with particular attention to its role in strategic planning. Data were collected through a short demographic survey and semi-structured interviews, which together provided contextual background and detailed accounts of superintendent perspectives. The constructivist orientation of the study emphasized the co-construction of meaning between researcher and participants, allowing superintendent voices to shape the findings (Ravitch & Carl, 2021). The study followed an interpretive qualitative design using reflexive thematic analysis to examine cross-case patterns in superintendent meaning-making.

This study was designed to understand how superintendents integrate generative AI into their decision-making, planning, and leadership practices. To do so, the methodology was organized into five sections: participants, setting, data, data collection, and data analysis. The participants section describes who was included in the study and how they were recruited. The setting section provides contextual background for the study environment. The data section identifies the forms of collected data. The data collection section outlines the procedures for administering the demographic survey and conducting the interviews. The data analysis section explains the steps used to code and interpret the data. The chapter concludes with a summary of the methodology.

Participants

The final analytic sample consisted of 20 currently serving New Jersey public school superintendents with at least one year of superintendent experience. Recruitment yielded 34

respondents, and 21 interviews were conducted. One interview was excluded from analysis because the participant had served as superintendent for fewer than 12 months and therefore did not meet the minimum experience requirement established in the inclusion criteria. The remaining 20 participants met all eligibility criteria and were included in the final analysis. This sample size is consistent with qualitative norms for in-depth interviewing (Creswell & Poth, 2017) and was sufficient to achieve thematic saturation. Saturation was determined when successive interviews yielded repetition of existing codes and no new conceptual categories relevant to the research questions.

Participants represented variation across district size and community context. The demographic survey provided descriptive context regarding superintendent tenure, district type, enrollment, and broad socioeconomic indicators to support sample characterization and maximum-variation sampling.

Participant selection followed a maximum-variation purposive logic to capture differences in district size, locale (urban, suburban, rural), and socioeconomic and demographic composition. Maximum-variation sampling guided recruitment to support representation across district size, locale, and broad demographic context, including approximate percentages of multilingual learners and students qualifying for free or reduced lunch. These variations provided contextual diversity that strengthened cross-case analysis. The sampling plan aimed to include representation from small districts (fewer than 3,000 students), mid-size districts (approximately 3,000 to 10,000 students), and large districts (more than 10,000 students). To achieve this variation, the researcher monitored participant characteristics throughout recruitment and prioritized districts that expanded contextual diversity. This approach supported analytic depth by illuminating both shared patterns and context-specific differences in how superintendents

approached generative AI adoption.

Although participants represented variation across district size and socioeconomic context, the sample included a higher proportion of suburban districts, reflecting the broader distribution of district types in New Jersey.

Inclusion Criteria

Inclusion criteria required that participants:

- Currently serve as superintendents in New Jersey public school districts, with at least one year of superintendent experience;
- Have engaged in district-level strategic planning processes (for example, development, implementation, or monitoring of a strategic plan); and
- Have some awareness of or exposure to generative AI in their leadership practice.

Exclusion criteria included interim appointments shorter than three months, individuals serving in consultant or non-superintendent roles, and superintendents with fewer than twelve months of experience in the role.

Requiring experience with strategic planning was intentional to ensure alignment between participant expertise and the purpose of this study. As established in Chapter 2, strategic planning functions as a stabilizing framework for superintendents, connecting vision to practice while balancing immediate demands with long-term goals (Bryson & George, 2024; Fullan, 2019; Kaufman, 2018). Because this research explores how superintendents interpret and integrate generative AI within strategic and operational leadership, participants were required to have direct experience engaging in planning processes. Without this experience, participants would have been unable to fully address the research questions, which center on the intersection of strategic planning, leadership practice, and AI adoption. This criterion strengthened the

relevance and rigor of the study while ensuring that findings were grounded in authentic superintendent practice.

Recruitment Procedures

Participants were recruited through direct email outreach to New Jersey superintendents. Invitations were sent using superintendent contact information available through the researcher's NJASA online membership directory access. Only direct superintendent contact information was used to ensure private and confidential communication channels. To reduce identifiability risk and avoid board-member gatekeeping, no recruitment occurred through the New Jersey School Boards Association (NJSBA) or via school board channels. All invitations emphasized that participation was voluntary, confidential, and independent of any district or board influence.

Each invitation included:

- A description of the study purpose and scope;
- A copy of the informed consent form;
- A statement emphasizing that participation was voluntary and confidential;
- A link to the demographic survey to be completed prior to the interview; and
- Contact information for the researcher in case of questions or concerns.

Two reminder emails were sent at one-week intervals to maximize response rates. Only superintendents who opted in by responding directly were contacted further. Interviews were scheduled in the order in which eligible participants responded, while the researcher monitored variation in district characteristics throughout the recruitment period to support maximum-variation sampling. Recruitment continued until eligibility criteria were met and thematic saturation was achieved.

All communications emphasized that participation was voluntary, confidential, and

unrelated to any organizational or professional evaluation. Participation or non-participation had no bearing on participants' standing within their professional associations or districts.

To protect confidentiality during recruitment, a log of outreach was maintained in a secure, password-protected file. This log included the date of contact, method of contact, and participant response. Identifiable details such as names and email addresses were not linked to survey or interview data. Instead, a de-identified code was assigned to each participant at the point of consent.

All procedures complied with Monmouth University Institutional Review Board (IRB) requirements. Participants received an informed consent form describing the purpose of the study, the voluntary nature of participation, and the measures in place to protect confidentiality. Consent was collected electronically or in writing prior to participation. Participants were reminded verbally and in writing that they could withdraw at any point without penalty. Copies of the recruitment email, follow-up reminder, and related communication materials are included in Appendix C.

Setting

This study was conducted in the context of New Jersey public school districts, a state system that represents one of the most diverse educational landscapes in the United States. New Jersey enrolls more than 1.3 million students across over 600 school districts, which vary widely in size, demographics, and resources (New Jersey Department of Education, 2025). Districts range from small rural systems with fewer than 1,000 students to large urban districts serving more than 30,000 students. This diversity provides a rich setting in which to examine superintendent leadership, as conditions of practice differ significantly across communities.

New Jersey districts also differ in socioeconomic composition, student demographics,

and community expectations. Some districts are majority high-income and predominantly English-speaking, while others serve highly multilingual student populations, with families speaking dozens of home languages and experiencing wide economic disparities. These differences influence how superintendents frame and enact strategic planning processes, as leaders must balance state mandates with the unique needs of their local communities. The state's funding formula and accountability system add additional complexity, requiring superintendents to align district priorities with state standards while responding to local governance structures through elected boards of education.

Technology readiness further varies across districts. Some have invested heavily in digital infrastructure, providing one-to-one devices and advanced learning management systems, while others face challenges related to bandwidth, hardware, or staffing capacity. This variation is especially relevant for a study of generative AI, as superintendent perspectives on adoption are likely to be shaped by the availability of resources and the readiness of both staff and community stakeholders.

Professional expectations in New Jersey also emphasized strategic planning as a central leadership responsibility. The New Jersey Department of Education requires districts to maintain comprehensive planning documents that align with state and federal reporting requirements, while local boards of education and community stakeholders expect superintendents to lead inclusive processes that connect district vision to measurable outcomes. Many districts employ structured strategic planning cycles of three to five years, which involve community input, board approval, and continuous monitoring. These cycles create a consistent context for studying how generative AI may influence the development, implementation, and communication of district strategy.

The New Jersey Association of School Administrators (NJASA) and the New Jersey School Boards Association (NJSBA) also provide ongoing professional learning opportunities for superintendents, often highlighting emerging technologies and system leadership. This professional network fosters a shared awareness of innovations such as generative AI, while also reflecting the pressures of rapid policy shifts and heightened community expectations. By recruiting participants from across this state context, the study captured a range of perspectives that reflect both common leadership responsibilities and local variations in practice.

While this study is situated in New Jersey, its findings may be instructive for superintendents nationally. New Jersey's demographic, socioeconomic, and technological diversity mirrors many of the conditions faced by districts across the United States, making it a useful context for exploring superintendent engagement with generative AI. As Glass and Franceschini (2007) and AASA (2023) have documented, superintendents nationwide contend with similar challenges of equity, strategic planning, and technological change. Positioning New Jersey as a case site therefore allows the study to generate insights with relevance beyond the state level.

Data

This study drew on three complementary forms of data: a demographic survey, semi-structured interviews, and researcher field notes. Together, these sources provided both descriptive context and in-depth insight into superintendent perspectives on generative AI in leadership practice. The demographic survey captured participant and district characteristics to contextualize findings, the interviews provided the primary narrative data, and the field notes offered an additional layer of reflexive and observational interpretation. The use of multiple data sources also supports triangulation, a strategy that strengthens trustworthiness in qualitative research (Merriam & Tisdell, 2016).

Data Collection

Data were collected in two phases: the administration of the demographic survey and the completion of semi-structured interviews. The demographic survey was distributed electronically prior to scheduling interviews, and responses were stored in encrypted files accessible only to the researcher. Semi-structured interviews were then conducted virtually via a secure platform such as Zoom. This format ensured accessibility for participants across the state and minimized scheduling burdens.

Each participant was asked a consistent set of core questions aligned with the study's research questions. Probing questions were used as needed to clarify responses or to invite elaboration, depending on the direction of the interview. Interview prompts also included items that allowed superintendents to reflect on ethical considerations, equity implications, and transparency in communication as they related to leadership decisions about AI. All interviews were audio-recorded with participant consent, transcribed verbatim, and cross-checked for accuracy. Researcher field notes were completed immediately following each interview to capture contextual detail and reflexive insights not available in the transcript.

Confidentiality remained a priority throughout the study. All transcripts, survey responses, and field notes were stored on a password-protected computer with encrypted file storage accessible only to the researcher. Consent forms remained separate from all study data. Each participant received a de-identified code, and a separate encrypted file with restricted access housed the linking key. The study used pseudonyms in all reporting and masked potentially identifying district or community details.

Audio recordings were saved locally, used only for transcription, and securely deleted after the accuracy of transcripts was verified. Transcripts, survey files, field notes, and the

codebook were secured and will be retained for a minimum of three years following study closure in compliance with institutional requirements. After the required retention period has elapsed, all digital files will be permanently deleted using secure erasure software, and any paper materials will be shredded. These procedures were designed to ensure that participant confidentiality was protected not only during data collection and analysis but also throughout the storage and disposal lifecycle.

Demographic Survey

The first source of data was a structured demographic and context survey administered prior to the interviews. The survey was designed to capture a comprehensive range of information to contextualize superintendent perspectives and decision-making. Items included superintendent background (years of experience, years in the current district, gender identity, and whether they have served in states other than New Jersey) and district characteristics (urban, suburban, or rural type; student enrollment bands in 5,000-student increments; number of staff; and approximate annual district budget). Equity-related context was collected through approximate percentages of students qualifying for free or reduced lunch and of multilingual learners in the district. Several demographic items (e.g., multilingual learner enrollment, free/reduced lunch percentage) were included solely to contextualize leadership perspectives and were not analyzed at the student level.

Leadership context was documented through cabinet structure (assistant superintendents, directors, equity and HR officers, community engagement officers, and other key roles) and through superintendent perceptions of board support for strategic planning and innovation. Technology and AI readiness were assessed by asking whether the district has a 1:1 student device program, whether the district or board has adopted a policy related to AI, and whether the

superintendent or district staff have participated in professional development specific to AI.

To further align with the study's focus, participants were asked to indicate which generative AI tools they have personally explored (e.g., ChatGPT, Microsoft Copilot, Google Gemini, Jasper, Claude, Perplexity, Otter.ai, AI dashboards, or others). Because strategic planning was central to the research questions, the survey also asked about superintendent involvement in planning processes (development, implementation, monitoring, and communication of strategic plans) as well as whether district budgets allocate funds for AI-related initiatives. Additional items captured perceived barriers to AI adoption (such as infrastructure, cost, professional development gaps, ethical concerns, or community skepticism) and resources or supports considered most valuable (such as peer networks, exemplars, toolkits, or professional association guidance).

These 22 items provided contextual data that complemented the interviews by situating superintendent perspectives within their district characteristics, equity conditions, governance environments, and readiness for AI adoption. Although some questions were categorical or numerical, the data were used solely for descriptive and contextual purposes (e.g., sample characterization and variation). They were not used for statistical inference, ensuring that the study remains qualitative in design (Creswell & Poth, 2017). The full demographic survey instrument is included in Appendix A.

Semi-Structured Interviews

The second and primary source of data was semi-structured interview transcripts. These interviews captured superintendent perspectives on the opportunities, challenges, and leadership decisions related to generative AI in K–12 districts. Semi-structured interviewing allowed for consistency across participants while also providing flexibility to probe for elaboration and

nuance, generating the narrative detail needed for qualitative analysis (Ravitch & Carl, 2021).

The interview protocol (see Appendix B) was developed to align directly with the study's three guiding research questions and with the theoretical frameworks of transformational leadership, distributed leadership, and complex adaptive systems theory. In addition to the structured protocol, several sample stems illustrate the type of prompts that were used to elicit reflection and depth from participants:

- Walk me through a recent strategic-planning task where you used, or decided not to use, an AI tool. What decision steps did you take? What changed, if anything?
- When AI outputs help versus hurt, what patterns have you noticed? What governance or checks do you rely on?
- How do community trust and transparency shape your decisions about if or when to use AI for communication?
- What supports would have made responsible use easier this year (PD, policy, data access, staffing)?

These stems were used flexibly to deepen responses, while the structured protocol ensures consistency across participants. The full protocol, including all core questions and optional probes, is included in Appendix B.

Each interview lasted approximately 45 minutes and was conducted virtually through a secure video-conferencing platform. With informed consent, interviews were audio-recorded and subsequently transcribed verbatim. Transcripts included verbal content as well as meaningful pauses or emphases in speech to preserve nuance (Saldaña, 2021). Transcriptions were cross-checked against the recordings for accuracy. A pilot interview was conducted with one superintendent not included in the main study to refine the clarity, pacing, and sequencing of the

questions. The pilot also allowed the researcher to evaluate whether the probes elicited sufficiently rich responses, and no adjustments were made.

Field Notes

The third source was structured researcher field notes, recorded immediately after each interview. These notes were organized to capture observations about participant tone, pacing, and body language, as well as contextual factors such as setting, interruptions, or technical issues that may have shaped the interview. In addition, the field notes included researcher reflections on emerging ideas, assumptions, and potential biases. These reflexive notes supported analytic rigor by documenting interpretive decisions, enhancing transparency, and helping to triangulate findings across data sources (Ravitch & Carl, 2021; Saldaña, 2021).

Field notes were structured in two sections: descriptive notes, focusing on observable detail, and reflective notes, focused on the researcher's interpretations, questions, and insights. This organization helped separate raw observation from interpretation while still preserving both for use during coding and analysis. Field notes were revisited during analysis to triangulate with interview data, strengthen theme development, and document the evolution of researcher thinking across the study (Miles, Huberman, & Saldaña, 2019).

Data Analysis

The analysis of data in this study followed an interpretive, qualitative approach grounded in the constructivist paradigm. The goal was to develop a deep understanding of how superintendents in New Jersey K–12 public school districts make sense of and engage with generative AI in both operational and strategic leadership contexts. Analysis emphasized participant meaning-making, contextual interpretation, and the identification of themes that illuminate leadership practice rather than generalizable outcomes (Ravitch & Carl, 2021).

All interview recordings were transcribed verbatim and cross-checked against the audio to ensure accuracy. The transcripts and researcher field notes formed the primary dataset for qualitative analysis, while the demographic survey responses were used to contextualize the sample. Coding was conducted by the researcher using a structured coding spreadsheet in Google Sheets to support the systematic organization of transcripts, code development, and memoing across the dataset. The spreadsheet functioned as an organizational tool, while analytic interpretation and theme development remained the sole responsibility of the researcher using Reflexive Thematic Analysis (Braun & Clarke, 2006, 2021), following six recursive phases:

1. Familiarization with the data
2. Generating initial codes
3. Searching for candidate themes
4. Reviewing themes
5. Defining and naming themes
6. Producing the report

Initial codes were generated at the semantic level to capture participant language and key ideas directly from the transcripts. Codes were then clustered into broader categories based on conceptual similarity across participants, allowing cross-case patterns to emerge.

Candidate themes were developed by examining how these categories relate to one another in ways that answer the study's research questions. Decisions about theme boundaries were guided by coherence, distinctiveness, and analytic sufficiency, ensuring that each theme represents a meaningful pattern rather than a summary or topic (Braun & Clarke, 2006). Theme refinement occurred through iterative memoing, constant comparison, and repeated review of coded excerpts to confirm that themes were grounded in the data.

The analytic process was structured to ensure direct alignment between the research questions, the interview protocol, and emerging themes. Each section of the interview protocol was designed to elicit responses tied to the core constructs of the study: conditions shaping adoption (RQ1); influence on decision routines and strategic planning workflows (RQ2); and resources and ethical commitments guiding responsible use (RQ3). During coding, excerpts were tagged with their associated research question to support analytic coherence and to ensure that final themes explicitly address each question. Deductive codes related to ethics, transparency, equity references, and responsible governance were applied when relevant to superintendent meaning-making about AI and supported interpretation without shifting the study toward student-level or community-level analysis.

Reflexive memoing occurred throughout the process to document interpretive decisions, track evolving insights, and enhance transparency. Subcodes were explicitly aligned with the study's three research question families: (a) conditions shaping adoption and implementation (RQ1); (b) reported influence on decision routines, communication workflows, and plan monitoring (RQ2); and (c) resources, organizational supports, and ethical commitments (RQ3). This approach ensured systematic organization, comparison, and theme development (Creswell & Poth, 2017; Miles, Huberman, & Saldaña, 2019). To make the analytic process transparent, Table 1 summarizes the alignment of the study's research questions with their primary data sources, example codes, and analytic strategies.

Table 1

Research Questions, Data Sources, and Analytic Alignment

Research Question	Primary Data	Example Codes → Themes	Analytic Notes
RQ1: Conditions shaping adoption and implementation	Interviews; field notes; (survey = context only)	policy climate; board dynamics; data infrastructure; capacity; risk posture → conditions / barriers / opportunities	Contrasted by district size and locale; memoed complex adaptive systems dynamics; identified cross-case patterns and exceptions
RQ2: Influence on decision routines, communication workflows, and plan monitoring	Interviews; field notes	decision support; drafting/summarization; stakeholder engagement; dashboarding; traceability → leadership routines / workflow change	Coded by workstream; linked patterns to distributed leadership constructs; mapped influence on communication and monitoring practices
RQ3: Resources, organizational supports, and ethical commitments	Interviews; field notes	PD/AI fluency; governance; privacy/bias mitigation; transparency; equity commitments → supports / ethics / governance	Examined implications for district policy; memoed ethical tensions; analyzed equity references across cases

Coding Process

Data were analyzed through a two-cycle coding process following the framework outlined by Saldaña (2021) and supported by Reflexive Thematic Analysis (Braun & Clarke, 2006). The first cycle applied structural and descriptive codes aligned with the research questions and theoretical lenses, while the second cycle employed pattern coding to identify cross-case themes (Saldaña, 2021). Thematic development followed Braun and Clarke's (2006) reflexive approach, ensuring that identified themes remain grounded in participant meaning rather than researcher assumptions. Throughout the analytic process, the researcher maintained reflexive memos, a versioned codebook, and an audit trail to document analytic decisions, support dependability, and enhance the overall trustworthiness of the study. The evolving codebook

documented code definitions, exemplar excerpts, and analytic notes, allowing codes to be refined across transcripts while maintaining analytic consistency.

The coding process occurred in multiple stages. The first cycle involved open coding, during which key phrases, participant language, and emergent concepts were identified directly from the data (Saldaña, 2021). The first coding cycle generated approximately 30 initial codes, which were iteratively refined and consolidated during the second cycle of focused and pattern coding. The second cycle applied focused and pattern coding to cluster related codes into higher-order conceptual categories and identify cross-case patterns in superintendent perspectives (Saldaña, 2021). This iterative process allowed for both inductive discovery and deductive refinement of patterns across cases. Inductive coding ensured that themes remain grounded in participant perspectives, while deductive coding guided by the study's theoretical frameworks allowed patterns to be interpreted in relation to leadership concepts established in Chapter 2. Particular attention was given to how superintendents describe the intersection of generative AI with strategic planning, as this is a central focus of the study.

Reflexivity

The researcher acknowledges her professional role in educational leadership and used reflexive memoing throughout the study to monitor assumptions and maintain transparency during analysis. Reflexive memos captured interpretive decisions, evolving insights, and questions, supporting analytic rigor by documenting how meaning was co-constructed with participants (Saldaña, 2021).

Positionality

As a practitioner-researcher working in K–12 district leadership, I bring professional experience that informs my understanding of superintendent roles and the contexts in which they

make decisions. This proximity offers insight but also requires deliberate reflexivity, which I maintain through memoing, an audit trail, and a focus on participant meaning rather than my own assumptions. My role in this study is to interpret superintendent perspectives while remaining aware of how my professional background shapes, but does not determine, my analysis.

Trustworthiness and Validity of the Data

Trustworthiness was supported through credibility, transferability, dependability, and confirmability strategies, as outlined by Lincoln & Guba (1985). Credibility was enhanced through triangulation of multiple data sources and peer debriefing with a methods mentor. Transferability was supported through thick description of participant experiences and contexts, while ensuring that no raw excerpts included uniquely identifying events, titles, or district characteristics. Dependability was addressed by maintaining an audit trail of analytic decisions and coding processes, and confirmability was strengthened through reflexive memoing and the use of a reflexive journal to monitor assumptions and evolving insights. These strategies collectively addressed the validity of the data in qualitative terms, ensuring that the study's findings were both rigorous and trustworthy. In addition to these strategies, the study also required explicit attention to risk and ethics given the nature of superintendent participants. These safeguards are described in the following section.

Risk and Ethics

Because this study involves participants whose roles are highly visible, additional safeguards were taken to protect confidentiality and minimize identifiability. No district names were reported, and participants were referenced only by pseudonyms. Interview transcripts, demographic surveys, and field notes were stored in encrypted, password-protected files with

role-based access limited to the researcher. Direct excerpts were paraphrased when necessary or lightly composited to prevent jigsaw identification, where unique events or phrasing could inadvertently reveal participant identity. Consent forms were stored separately from research data, and pseudonyms were used in all reporting. These measures ensured that participants could share perspectives openly while maintaining confidentiality and compliance with Institutional Review Board requirements. Any equity or ethics comments offered by participants were interpreted at the leadership level, not as impacts on students or families.

Summary

The qualitative methodology provided a framework for understanding how New Jersey superintendents engage with generative AI in their operational and strategic leadership. Through a demographic/context survey, semi-structured interviews, and reflective field notes, the study generated both descriptive background and in-depth narratives of superintendent perspectives. The interpretive design, grounded in a constructivist paradigm, allowed meaning to be co-constructed between researcher and participants while preserving the complexity of leadership practice.

Data were analyzed through Reflexive Thematic Analysis (Braun & Clarke, 2006), following six iterative steps and supported by memoing and an audit trail. Subcodes were aligned with the study's research questions, focusing on conditions of adoption, reported influence on decision routines, communication workflows, and plan monitoring, as well as resources, supports, and ethical commitments. Trustworthiness was addressed through credibility (peer mentor debrief), dependability/confirmability (audit trail, reflexive journal), and transferability (thick description). Risk and ethics safeguards further protected participants in high-visibility roles through masking, secure storage, and quote compositing to prevent identification. These

procedures established a rigorous foundation for the inquiry. The next chapter presents the findings, organized into themes that illustrate superintendent perspectives on the barriers, opportunities, and leadership implications of generative AI.

CHAPTER 4:

RESULTS AND ANALYSIS

The purpose of this qualitative study was to examine how New Jersey K–12 public school superintendents engage with generative artificial intelligence (AI) in strategic planning and operational leadership. Situated within a constructivist paradigm, the study explored how superintendents interpret the opportunities, constraints, and ethical considerations associated with AI integration within district-level strategic leadership processes.

Three research questions guided this inquiry:

RQ1. How do superintendents perceive the barriers, opportunities, and district conditions (e.g., size, board dynamics, data infrastructure) that shape their ability to adopt and implement generative AI in K–12 leadership practice?

RQ2. How do superintendents report generative AI's influence on decision routines, communication workflows, and the monitoring of strategic plans and operational priorities?

RQ3. What resources, organizational supports, and ethical commitments (equity, democracy, policy) do superintendents consider essential for the effective and responsible use of generative AI in leadership?

This chapter presents the findings of the study. It begins with a description of data collection procedures and characteristics of the analytic sample. Descriptive findings from the demographic and contextual survey are presented first to situate superintendent perspectives within their professional and district contexts. These survey data are presented descriptively to provide contextual background for the interview sample rather than as an independent source of thematic analysis.

The chapter then presents thematic findings derived from the semi-structured interviews. Interview findings are organized in alignment with the three research questions and reflect patterned meanings identified through an iterative qualitative analytic process informed by reflexive thematic analysis. Although descriptive survey findings are included to contextualize the sample, the semi-structured interviews served as the primary data source for qualitative analysis in this chapter.

Setting and Demographics

Data Collection

Data were collected through two primary sources: a structured demographic survey and semi-structured interviews. Recruitment for the survey occurred through an initial email invitation followed by two reminder messages sent to eligible New Jersey superintendents, consistent with institutional review board recruitment procedures. A total of 34 New Jersey superintendents completed the demographic survey.

Survey responses were used to identify participants who met the study's inclusion criteria and to support maximum-variation purposive sampling across district contexts. From this group, 20 currently serving New Jersey public school superintendents participated in interviews and met the inclusion criteria described in Chapter 3, which required that individuals be currently serving as superintendents in New Jersey public school districts, possess at least one year of superintendent experience, and have direct involvement in district-level strategic planning processes.

Selection of the analytic sample was guided by the maximum-variation purposive sampling strategy described in Chapter 3, which sought representation across district size, geographic context, and student demographic characteristics.

Despite efforts to recruit participants representing a range of district contexts, the final interview sample reflects a predominantly suburban context (n = 17, 85%), with smaller representation from rural districts (n = 2, 10%) and urban districts (n = 1, 5%). All descriptive findings presented in this chapter reflect the characteristics of these 20 interview participants only.

Interviews were conducted virtually, audio-recorded with participant consent, and transcribed using Zoom's automated transcription feature. Transcripts were reviewed for accuracy and de-identified through the removal of names of individuals, districts, and other contextual markers that could compromise participant confidentiality. No substantive changes were made to participant responses. Field notes were recorded following each interview to document contextual observations and preliminary analytic reflections. Survey data were used solely for descriptive and contextual purposes to characterize the sample and support interpretation of the interview findings.

Participant and District Characteristics

Table 2 presents the demographic and professional characteristics of the 20 participating superintendents and provides contextual background for interpreting the interview findings.

Table 2

Demographic and Professional Characteristics of Participating Superintendents (N = 20)

Characteristic	n	%
Gender Identity		
Male	13	65%
Female	7	35%
Years as Superintendent		
0–3 years	1	5%
4–7 years	9	45%
8–12 years	5	25%
13–20 years	5	25%
Years in Current District		
0–3 years	3	15%
4–7 years	9	45%
8–12 years	3	15%
13–20 years	2	10%
More than 20 years	3	15%
District Type		
Suburban	17	85%
Rural	2	10%
Urban	1	5%
Student Enrollment		
Fewer than 1,000	7	35%
1,000–4,999	7	35%
5,000–9,999	4	20%
10,000–14,999	2	10%
Annual Budget		
Less than $25 million	7	35%
$25–49 million	1	5%
$50–99 million	6	30%
$100–249 million	4	20%
$250–499 million	2	10%

Participants represented a range of professional tenure levels. One participant (5%) reported between 0 and 3 years of superintendent experience, while 45% reported 4 to 7 years. An additional 25% reported 8 to 12 years of experience, and 25% reported 13 to 20 years. Overall, the majority of participants had moderate to extensive experience in the superintendent role.

Years in the current district also varied across participants. Nearly half (45%) had served between four and seven years in their present district, while the remaining participants were distributed across shorter and longer tenures. The majority of participants (85%) served suburban districts, with smaller representation from rural (10%) and urban (5%) contexts. Student enrollment varied across district size categories, including districts enrolling fewer than 1,000 students (35%) and districts enrolling between 10,000 and 14,999 students (10%). Annual district budgets ranged from under $25 million (35%) to between $250 million and $499 million (10%). Collectively, these characteristics reflect variation in district scale, leadership tenure, and fiscal capacity, while also demonstrating a predominance of suburban contexts within the analytic sample.

Table 3 details the socioeconomic, linguistic, and racial diversity of the districts led by the participating superintendents, providing important context for understanding leadership priorities related to equity and access.

Table 3

District Student Demographics (N = 20)

Characteristic	n	%
Qualifying for Free/Reduced Lunch		
0–10%	6	30%
11–25%	10	50%
26–50%	2	10%
51–75%	1	5%
76–100%	1	5%
Multilingual Learners		
0–5%	12	60%
6–15%	5	25%
16–30%	2	10%
31–50%	0	0%
More than 50%	1	5%
Racially/Ethnically Diverse		
0–10%	3	15%
11–25%	8	40%
26–50%	3	15%
51–75%	4	20%
76–100%	2	10%

Table 4 outlines the administrative capacity of the participating districts, along with the superintendents' specific areas of involvement in strategic planning.

Table 4

District Administrative Capacity and Strategic Planning Involvement (N = 20)

Characteristic	n	%
Cabinet Structure: Existing District Positions (multi-select)		
Director of Facilities	15	75%
Assistant Superintendent for Curriculum & Instruction	11	55%
Director of Human Resources	10	50%
Assistant Superintendent for Special Services	4	20%
Assistant Superintendent for Operations/Business	4	20%
Director of Communications / Public Information Officer	4	20%
Director of Security/Safety	5	25%
Equity or Diversity Officer	1	5%
Superintendent Involvement in Strategic Planning (multi-select)		
Development of a strategic plan	19	95%
Monitoring/evaluation of a strategic plan	18	90%
Implementation of a strategic plan	18	90%
Communication of strategic priorities	16	80%

As shown in Table 4, district administrative capacity varied, with the most frequently reported cabinet-level positions being the Director of Facilities (75%), Assistant Superintendent for Curriculum & Instruction (55%), and Director of Human Resources (50%). In contrast, dedicated roles for public information and equity were less common, with only 20% of districts employing a Director of Communications and 5% employing an Equity or Diversity Officer. Furthermore, the data illustrate that the participating superintendents are highly engaged across all phases of the strategic planning lifecycle. Nearly all participants (95%) reported direct involvement in the development of their district's strategic plan. This high level of executive engagement continues through the plan's lifecycle, with 90% of superintendents actively

involved in the implementation and monitoring/evaluation phases, and 80% directly responsible for the communication of strategic priorities.

District Governance and AI Infrastructure Characteristics

District-level governance dynamics and AI-related infrastructure characteristics are summarized in Table 5.

Most participants (70%) reported that their boards of education provide strong support for long-term planning and innovation. A smaller proportion described moderate support with greater emphasis on short-term priorities. Formal planning documents explicitly incorporating generative artificial intelligence were less common. A minority of participants reported having an existing innovation or technology plan that included AI-related goals, while others indicated that such plans were in development. A majority reported that their districts did not yet have a formal planning document explicitly addressing AI.

Digital infrastructure capacity was widely reported. Most districts indicated full implementation of 1:1 a student device program across grade levels, while a smaller number reported partial implementation. Policy adoption specific to generative AI was evenly divided. Approximately half of participants reported formal district or board-level policy adoption related to AI, while the remaining participants indicated that no formal policy had yet been adopted at the time of data collection. Participation in AI-related professional development varied. Superintendents reported engagement in district-based training, attendance at external workshops or conferences, and self-directed exploration of AI tools.

Table 5

District Governance, Infrastructure, and AI-Related Characteristics (N = 20)

Characteristic	n	%
Board Support for Strategic Planning & Innovation		
Provides strong support for long-term planning and innovation	14	70%
Provides moderate support, prioritizes short-term demands	5	25%
Primarily reactive to community or political pressures	1	5%
Innovation/Technology Plan Including AI Goals		
Yes	3	15%
In Development	5	25%
No	12	60%
1:1 Student Device Program		
Yes, full 1:1 across all grades	17	85%
Partial (some grade levels)	3	15%
AI-Specific Professional Development		
Yes, district-provided	11	55%
Yes, external workshops/conferences	8	40%
Yes, self-directed learning	1	5%
AI Policy Adoption		
Yes	10	50%
No	10	50%
Budget Allocation for AI Initiatives (multi-select)		
Any AI-related allocation	17	85%
Professional development on AI	13	65%
Instructional/classroom AI tools	8	40%
Operational/administrative AI tools	7	35%
Communication/engagement tools	4	20%
No allocation	3	15%

Superintendent AI Tool Engagement

Table 6 presents the generative AI tools participants reported personally exploring or using in their leadership practice.

Table 6

Generative AI Tools Personally Explored by Superintendents (N = 20)

AI Tool	n	%
ChatGPT	20	100%
Google Gemini	20	100%
Canva (AI features)	17	85%
Notebook LM	15	75%
Claude	6	30%
Microsoft Copilot	6	30%
Otter.ai or other transcription assistants	5	25%
Perplexity	3	15%
AI-driven dashboards/ analytics platforms	2	10%
Other	2	10%

All participants reported engagement with widely accessible generative AI platforms. Many also indicated experimenting with additional tools that supported drafting, summarization, meeting transcription, document analysis, and design functions. Tool usage patterns reflect broad individual-level exploration. These findings indicate that while awareness of generative AI tools is widespread among superintendents, the depth and consistency of use varied across contexts, including differences in exposure, depth, and specialization.

Perceived Barriers to AI Engagement

Table 7 summarizes survey responses regarding perceived barriers to superintendent engagement with generative AI.

Table 7

Perceived Barriers to Superintendent Engagement with Generative AI (N = 20)

Barrier	n	%
Ethical/privacy concerns	12	60%
Competing priorities (time, crises, mandates)	11	55%
Cost or funding constraints	8	40%
Lack of professional development	8	40%
Community or board skepticism	5	25%
Technical infrastructure limitations	2	10%
Other	1	5%

Participants most frequently identified ethical and privacy considerations and competing leadership demands as barriers to broader AI integration. These concerns were also evident in the survey findings, in which 60% of participants identified ethical considerations and data privacy as primary barriers to AI use. This pattern indicates that hesitation surrounding AI is shaped not only by practical constraints, but also by concerns related to trust, responsibility, and professional norms. Similar patterns appeared in participant interview accounts, where concerns about privacy and professional responsibility frequently shaped how and whether AI tools were used. Cost constraints and gaps in professional development were also reported. These responses highlight structural and organizational pressures that may shape how superintendents approach AI integration within strategic planning contexts. Several participants also suggested that existing state-level guidance was not only limited but also frequently perceived as too slow or abstract to support real-time decision-making in district contexts.

Valued Resources and Professional Learning Supports

Table 8 summarizes resources and professional learning supports participants identified as important for responsible AI integration.

Table 8

Resources and Professional Learning Supports Valued for AI Use (N = 20)

Resource	n	%
Formal training sessions or workshops	16	80%
Ongoing district-provided professional development	13	65%
Peer networks / superintendent cohorts	13	65%
Toolkits or implementation guides	12	60%
Exemplars or case studies from other districts	9	45%
Access to AI coaches or technical experts	7	35%
State or professional association guidance (e.g., AASA, NJASA, NJSBA, ISTE)	4	20%
Other	2	10%

Superintendents most frequently identified formal training sessions, ongoing district-provided professional development, and peer collaboration networks as valuable supports. Implementation guides and exemplars from other districts were also frequently selected. These responses suggest strong interest in structured learning environments and collaborative frameworks to guide AI integration efforts.

Collectively, the descriptive survey data provide important context for understanding the environments in which the participating superintendents work. The survey results suggest that while AI exploration was common among participants (100% reported use of ChatGPT), engagement occurred alongside competing operational demands, ethical considerations, and varying levels of formal policy or planning. These descriptive findings, including the predominance of suburban districts and the expressed need for structured professional learning, provide contextual background for the interview findings that follow. They also suggest that superintendent engagement with AI is occurring within district contexts marked by differences in size, governance support, administrative capacity, and formal readiness for implementation. The

remainder of this chapter shifts from these descriptive survey results to the thematic findings derived from the semi-structured interviews.

Data Analysis

Interview data were analyzed using reflexive thematic analysis (Braun & Clarke, 2006, 2021). Analysis proceeded iteratively and inductively, while remaining sensitized to the study's research questions and theoretical framing. Following transcription and de-identification, transcripts were read in full multiple times to support familiarization with the dataset. During this phase, analytic and reflexive memos were recorded to document preliminary observations, recurring patterns, and evolving interpretations.

Initial coding was then conducted across the full dataset to identify meaningful units of text related to superintendent perspectives on generative AI in strategic planning and operational leadership. Early coding of the initial transcripts helped identify recurring patterns in the data, which informed the development of a provisional coding framework used to organize subsequent analysis. This framework remained flexible and was refined as additional transcripts were reviewed. Coding focused primarily on semantic content while also attending to patterned meanings across participant accounts. Codes were reviewed and grouped into broader categories based on conceptual similarity. Through recursive engagement with coded extracts and the dataset as a whole, candidate themes were developed, reviewed for internal coherence and distinction, and refined to ensure alignment with the research questions. A summary of the coding framework and theme development process is presented in Appendix E.

Although descriptive survey findings provide important contextual information about district characteristics, governance conditions, and superintendent exposure to generative AI

tools, the semi-structured interviews served as the primary analytic source for understanding how participants interpreted and enacted generative AI in their leadership practice.

Overview of Themes by Research Question

Based on the coding and theme development process, Table 9 provides an overview of the major themes identified across the three research questions.

Table 9

Overview of Themes

Research Question	Themes
RQ1	• Leadership Curiosity and Opportunity Recognition • Structural and Capacity Constraints • Ethical Concerns, Data Privacy, and Policy Ambiguity
RQ2	• Operational Efficiency and Administrative Relief • AI-Supported Workload Management and Cognitive Relief • Analog-to-AI Translation Workflows • Reduced Reliance on External Vendors and Consultants • Strategic Planning, Thought Partnership, and Data Synthesis
RQ3	• Professional Learning, Leadership Capacity, and Strategic Implementation • AI, Access, and Perceived Equity Supports • Preserving Human-Centered Leadership and Authentic Voice • Concerns About Learning, Critical Thinking, and Socialization

The following sections present the thematic findings in greater detail, organized by research question and supported by representative participant excerpts.

Research Question 1

How do superintendents perceive the barriers, opportunities, and district conditions that shape their ability to adopt and implement generative artificial intelligence in K–12 leadership practice?

Interview findings indicated that participants perceived generative artificial intelligence as a promising but still emerging leadership tool, with adoption shaped by district context, leadership capacity, and ethical considerations. Participants described both opportunities and constraints associated with AI adoption. Across the interviews, three themes captured how participants described the conditions influencing adoption: leadership curiosity and opportunity recognition; structural and capacity constraints; and ethical concerns, data privacy, and policy ambiguity. These themes describe how participants understood the conditions shaping whether and how AI was adopted within district leadership practice.

Leadership Curiosity and Opportunity Recognition

Many participants expressed a sense of curiosity and professional interest in exploring generative AI tools, framing adoption as an emerging leadership competency. Participant E, leading a diverse K–8 district of under 500 students, described AI as an early-stage strategic aid, noting it "basically skips the brainstorming part" and "offers me several ideas." Participant E also framed AI adoption as a necessity, warning that leaders who do not use AI "will be kind of left in the dust."

Participant K, leading a diverse 2,000-student district, demonstrated a proactive mindset. Participant K stated, "if something is going to impact children, I need to explore it." Similarly, Participant D, leading a small P–8 district facing state aid cuts, noted that familiarity with AI is

essential, warning that if a leader is not using it, it could be "penalizing my district for my lack of growth."

Structural and Capacity Constraints

While participants recognized potential benefits, many described significant structural capacity constraints. Participant D, operating with a one-person tech department and managing unique municipal responsibilities, highlighted the labor required to build secure AI databases. "Capacity is a major issue," Participant D explained, noting the time it takes to manually upload and manage policy files. Participant K echoed this sentiment, stating, "The biggest barrier... is time. I hear about tools like Brisk that my teachers love, but I don't have the time to sit there and explore them."

Ethical Concerns, Data Privacy, and Policy Ambiguity

Ethical considerations, specifically data privacy and information security, emerged as a primary factor shaping how superintendents engage with AI. Concern surrounding student data privacy was prominent among leaders. Participant I, leading a small suburban district, explained that she sets a hard rule that "no identifying information is put into artificial intelligence platforms unless they are district owned." Participant G, the superintendent of a diverse suburban district, described herself as "petrified" of the risks of open-source platforms, stating, "Before I use Claude, I have to clean my data set so that I'm not putting a kid's name in there. I'm petrified that if I put a kid's name in Claude, it goes into the universe."

While navigating these ethical risks, several leaders resisted the creation of restrictive, top-down AI policies. Facing a lack of state-level guidance, some superintendents questioned traditional regulatory approaches. Participant K expressed frustration, stating, "I'm tired of state guidelines that give 'guidance' but leave all the responsibility on the district." Instead of waiting

for rules, these leaders opted for fluidity. Other participants echoed this sharp critique, viewing state-level output not just as restrictive, but as fundamentally too slow and abstract to be useful in real-time district operations. Participant R dismissed state agency output on AI as "regurgitated nonsense" and "abstract and theoretical." Participant H noted a strong reluctance to look to the state for guidance altogether, observing that artificial intelligence is changing "so much more rapidly than the state legislature or the DOE could ever keep up."

Participant P, leading a suburban P–12 district of roughly 600 students, designed their district's AI policy to be "very permissive and open," explaining that a restrictive template is "completely antithetical" to encouraging early adoption and exploration. Participant F, a superintendent for a small K–8 district, refused to write a standalone AI policy and instead integrated it loosely into their Acceptable Use Policy, viewing AI experimentation as necessary "workforce training."

Summary of Research Question 1 Findings

Findings related to Research Question 1 indicated that superintendent engagement with generative artificial intelligence is influenced by professional curiosity, organizational capacity, and ethical considerations. While participants frequently described AI as a necessary and promising leadership competency, their actual adoption is often hindered by time constraints, limited technical staffing, and a resistance to restrictive, top-down policy mandates. Overall, early engagement appeared to be driven largely by personal initiative, while broader adoption was constrained by the practical realities of managing district operations and protecting student data privacy. In this way, adoption appeared to depend less on simple access to AI tools and more on the organizational and ethical conditions under which superintendents were expected to lead.

While the first research question explored the barriers, opportunities, and district conditions shaping superintendent engagement with generative AI, the second research question shifts attention to how these tools are influencing leadership practice. Specifically, the findings examine how superintendents describe AI affecting decision routines, communication workflows, and the monitoring of strategic plans and operational priorities.

Research Question 2

How do superintendents report generative artificial intelligence's influence on decision routines, communication workflows, and the monitoring of strategic plans and operational priorities?

Interview findings indicated that participants were using generative artificial intelligence in multiple ways to support the daily operational and cognitive demands of district leadership, often in ways that shaped the implementation, communication, and monitoring of strategic priorities. Although many participants described AI as a tool for drafting and summarizing, several also described using it to manage information flow, support aspects of decision-making, and assist with strategic planning tasks. In these accounts, AI was described not only as a productivity tool, but also as a cognitive support for navigating the breadth and pace of superintendent leadership. Five themes were identified in relation to this research question: operational efficiency and administrative relief; AI-supported workload management and cognitive relief; analog-to-AI translation workflows; reduced reliance on external vendors and consultants; and strategic planning, thought partnership, and data synthesis.

Operational Efficiency and Administrative Relief

Across interviews, participants most commonly described using generative AI to streamline routine administrative tasks. Participant E explained that AI helps with "letters,

emails, tone and sentence structure," noting that he adjusts them to make sure they are personal. Participant E also utilized NotebookLM to generate podcasts so he can listen and learn "when I'm doing dishes." Similarly, Participant L, who personally conducts over 40 teacher observations a year in his P–8 district, uses AI to process his observation notes into "granular" coaching feedback rather than generic praise. These forms of administrative relief were significant not only for efficiency, but because they allowed superintendents to communicate priorities more quickly and devote greater attention to the implementation of district goals and strategic initiatives.

AI-Supported Workload Management and Cognitive Relief

Beyond basic productivity, several participants described using AI to manage executive fatigue, role overload, and information saturation. Participant Q, leading a suburban district of 6,000 students, explicitly linked AI to mental health and career longevity, noting, "Burnout is real, and if you aren't finding ways to reclaim time for your own health and well-being, you're going to burn out before the finish line." To address this, Participant Q utilized a digital assistant during his 45-minute commute to automatically summarize his calendar, weather, and unread emails. By relying on generative AI to triage these daily operational demands, these superintendents reported reclaiming the time and cognitive bandwidth necessary to sustain their focus on high-level strategic planning and systemic coherence.

Participant S, managing a large district of approximately 12,000 students, used Gemini every morning to prioritize over 530 unread emails, allowing the AI to define "urgent action items" and reduce the cognitive weight of his inbox. Similarly, Participant O used AI as an emotional buffer. When he receives a long, emotionally charged parent email, he feeds it into ChatGPT to generate a "softer" response, avoiding lengthy email exchanges. By reducing

information overload and routine cognitive burden, these uses of AI appeared to help superintendents preserve the time and mental bandwidth necessary for strategic planning, plan implementation, and system-level decision-making.

Analog-to-AI Translation Workflows

Participants described workflows in which AI was used to transform unstructured, analog, or verbal information into polished written text. Participant M, leading a high-performing district of 3,000 students, noted, “I do almost no writing from scratch anymore.” Instead, Participant M dictates thoughts via speech-to-text and used AI to clean up punctuation and capitalization without altering his authentic voice. Participant T, leading an urban district of approximately 14,000 students, utilized a similar analog-to-digital bridge for principal evaluations. Participant T takes observation notes in handwriting; his communications officer then feeds the handwritten notes into ChatGPT, telling the system to maintain the authentic language, turning a two-week typing and drafting process into a task completed “in a day.” In this way, analog-to-AI translation workflows supported not only efficiency, but also the documentation, communication, and execution work through which strategic priorities are operationalized across district systems.

Reduced Reliance on External Vendors and Consultants

A notable finding was that several participants, particularly those in more technologically developed district contexts, described using AI to reduce preliminary reliance on certain external vendors, consultants, and routine legal or analytical supports. These participants emphasized cost savings, increased responsiveness, and greater control over internal information processes. To navigate the student privacy stumbling block, Participant N’s district purchased a dedicated AI server and built an internal open-source Large Language Model. Because of this localized

infrastructure, Participant N noted, “We have essentially replaced applications like Brisk and LinkIt” because teachers can query standards mastery internally. This approach reflects what is increasingly described as AI sovereignty, or the ability of organizations to maintain control over artificial intelligence infrastructure, data governance, and system deployment within locally governed environments rather than relying entirely on externally hosted platforms.

Leaders of smaller districts are using similar cost-substitution strategies for legal and human resources analysis, though they maintain careful boundaries around complex legal advice. Participant D uploaded Family and Medical Leave Act statutes and bargaining agreements into NotebookLM's closed system to answer routine HR questions. After testing the system and finding the AI’s answers closely matched prior attorney advice, Participant D concluded, “we no longer give them to our attorney. Notebook [LM] has now given us that pathway to reducing those expenses,” while noting they still rely on human counsel for highly complex issues.

Participant C, leading a high-performing affluent district, utilized a parallel approach by programming a customized Google Gem linked directly to state statutes and district policies to function as an internal legal assistant. He instructed his staff to query the bot for preliminary research before consulting an attorney, though he cautioned, “It's still not 100%, you always have to vet it.” Participant R, leading a high-performing suburban district of 9,000 students, applied this efficiency to demographic forecasting, noting that instead of “paying $40,000 for a 6-month study,” he can use AI to geocode birth rates and predict kindergarten enrollment. These internally controlled uses of AI also appeared to strengthen district responsiveness by allowing leaders to access planning-related analysis, policy interpretation, and forecasting support more quickly in service of strategic decision-making.

Strategic Planning, Thought Partnership, and Data Synthesis

Several participants described using AI as a thought partner during the development, action planning, and communication phases of district strategic planning. In these contexts, AI was used to synthesize complex inputs, organize information, and support planning-related tasks.

During the *development phase* of strategic planning, Participant D described taking community input and leveraging AI to find cohesive patterns. Following a community SWOT analysis, Participant D noted he took pictures of handwritten Post-it notes, uploaded them into a notebook system, and asked the AI, "What do you see from here? What are the commonalities?" to identify the goals for their 18-month strategic plan blocks.

During the *execution and action planning phase*, Participant L noted that AI helped translate broad vision into measurable steps. Participant L stated, "I use AI more for the action plans. Once we establish the goals, then I use those goals to help support... the action plans... putting in ideas that I felt were necessary to us to make sure we're hitting our goals, and providing timelines, and resources." Participant M similarly used AI to organize complex scenarios, noting that during a stagnant board meeting concerning budget cuts and outsourcing, he leveraged AI to instantly model various budgetary iterations and organize them into a "board-friendly table."

During the *communication and monitoring phase*, Participant T utilized AI to structure outreach for their new five-year strategic plan. Participant T noted, "We just created our marketing plan using generative AI. I said I wanted it to look nice, and we were able to send that out to the board president in a very short time." Participant K also used AI as a strategic partner to monitor messaging, noting he asks the AI, "If I were a teacher, how would I react to this?" to simulate stakeholder perspectives. Data synthesis further supports this alignment. Participant B

described using AI to digest a dense 25-page special education audit, asking the tool to generate potential questions the Board of Education might ask him to prepare for public inquiries.

Summary of Research Question 2 Findings

Findings related to Research Question 2 indicated that generative artificial intelligence is shaping superintendents' operational workflows and decision routines. Notably, the scale and nature of these AI workflows were frequently shaped by district context; leaders of larger districts often utilized AI to manage massive information saturation, while leaders of smaller districts leveraged it as a cost-substitution strategy for routine legal and analytical tasks. These differences suggest that AI is being adapted to meet distinct leadership demands based on district size and organizational complexity. Participants described using AI to support administrative efficiency, manage information demands, translate analog material into usable digital formats, reduce reliance on some external supports, and assist with strategic planning and communication. Across these uses, AI appeared to function not only as a productivity tool, but also as a support for the implementation, communication, and monitoring of district priorities within the broader strategic planning cycle.

Having examined how generative AI is shaping operational leadership practices, the final research question considers the ethical commitments and organizational supports that superintendents believe are necessary for responsible implementation. Participants frequently emphasized the importance of data governance, professional judgment, and safeguards that ensure AI tools support rather than replace human leadership.

Research Question 3

What resources, organizational supports, and ethical commitments do superintendents consider essential for the effective and responsible use of generative artificial intelligence in leadership?

Interview findings indicated that participants viewed the responsible integration of generative artificial intelligence as dependent on targeted professional learning and sustained attention to human-centered leadership. Participants described navigating both the perceived potential of AI to expand access and their concerns about its implications for communication, learning, and educational values. Four themes were identified in relation to this research question: professional learning, leadership capacity, and strategic implementation; AI, access, and perceived equity supports; preserving human-centered leadership and authentic voice; and concerns about learning, critical thinking, and socialization.

Professional Learning, Leadership Capacity, and Strategic Implementation

Participants consistently identified targeted professional learning as a critical factor for AI integration, rejecting traditional generalized professional development. Participant J, a veteran leader, advocated for highly personalized training, stating, “I don't want to sit in a large lecture hall. I need a 360 coach model. Someone should come into my office, look at my to-do list, and show me how AI can change my life on those specific projects.” Participant S noted that currently, AI integration feels like the “Wild West” because there are no clear guardrails in the profession.

To address this lack of direction, some leaders are approaching AI integration as a formal strategic endeavor. Participant M noted that districts often approach game-changing phenomena with a reactive posture. To prevent this, Participant M is proactively developing an artificial

intelligence “mini-strategic plan” for their district. By gathering stakeholder feedback, the district aims to define clear paths for AI in teaching and learning, communication, and data privacy, noting that “when you do that, it clarifies decision-making for the board and staff.”

AI, Access, and Perceived Equity Supports

Participants described several ways in which AI may support more equitable access within district systems. These possibilities were especially visible in accounts from leaders serving more demographically diverse districts, where language access, communication, and responsiveness to varied student needs were more prominent features of leadership practice.

First, many pointed to the potential of translation tools to improve communication with multilingual families. For example, Participant Q noted that AI-assisted translation reduces a longstanding administrative barrier by making it easier to communicate across languages, emphasizing that it takes “the excuses” off the table for administrators who previously claimed they could not talk to families due to language differences. Participant T similarly described interest in live translation tools like Translate Live that could make public meetings more accessible, allowing individuals who speak multiple different languages to hear and respond in their native language in real-time.

Second, some participants described AI as a tool that may help students and families access information that might otherwise depend on social capital or specialized knowledge. Participant E, for example, explicitly described AI as an “equalizer” that could help under-resourced students generate actionable college or career pathways that their families may not otherwise know how to navigate. He noted that students who do not have access to money for private SAT tutors or whose parents do not understand the U.S. college system can use AI to outline steps to earn an engineering degree within a specific budget.

Third, a smaller number of participants described AI as a support for democratizing access to data analysis across districts of varying wealth. Participant R suggested that AI can reduce technical barriers to identifying patterns in student data, allowing leaders to use information more quickly in support of student intervention and planning. Expanding on this systemic equity, Participant N highlighted that AI allows districts to bypass expensive "$50,000" software packages; by building internal AI systems, his teachers can instantly query how their students compare to specific learning standards without relying on prohibitive commercial budgets.

Fourth, participants provided concrete examples of how these data capabilities directly translate into more equitable student services, rapid response, and targeted interventions. By removing the technical hurdles of complex spreadsheets, leaders are using AI to proactively identify struggling or marginalized students. For instance, Participant R explicitly described AI as an "agent for equity" that eliminates the need to learn pivot tables, empowering leaders to instantly ask the system to identify students who need intervention based on predictive data. Building on this, Participant G explained how she feeds student information system reports into AI to rapidly map Advanced Placement (AP) participation and discipline rates against district diversity metrics, instantly revealing where specific student groups are over or underrepresented. Furthermore, leaders noted AI's potential to actively design support structures. Participant B is exploring AI platforms to analyze student data and automatically recommend specific interventions for students.

Highlighting the urgency of this rapid response, Participant T envisioned using generative AI to combat systemic issues like chronic absenteeism, asking: "We struggle with chronic absenteeism for students and, in some respects, for adults. How can I use generative AI to assist

with improving that or getting the information sooner? Maybe a next move is how we can do that sooner, quicker, and better. If there's a struggle, we can know it before we have to get you off the couch and into the building. What can we do with generative AI to help with that?"

Collectively, these perspectives illustrate that superintendents do not view AI merely as an administrative shortcut, but as a potential catalyst for systemic equity. By removing language barriers, unlocking specialized knowledge, and democratizing complex data analysis, leaders are beginning to leverage AI to identify and support their most vulnerable students more proactively. At the same time, these examples were described more often as emerging areas of promise than as fully institutionalized district practices across the sample.

Preserving Human-Centered Leadership and Authentic Voice

For many participants, the preservation of an authentic, human voice was essential. Participant I, a superintendent with an English major background, pays out-of-pocket for a personal AI subscription just to train the module to avoid specific punctuation marks and mimic her precise tone. "Inauthenticity is a death knell for a superintendent with their community and with public trust," Participant I explained. She added, "I never start with a prompt to AI about what I would like to say, I always start with my words."

Participant A, a superintendent nearing retirement with a background in English literature, echoed this sentiment, noting she used AI strictly to organize her stream-of-consciousness thoughts rather than generate them. "I don't want to put my thoughts in there and then have AI give me back someone else's," she explained. Participant J, with an expertise in literature, warned against the "cold pompousness" of AI-generated text, asserting, "My district hired me to be my authentic self. I am obligated to communicate as my authentic self." Similarly,

Participant H, serving a rural district, enforced strict boundaries around authorship, noting, “I do not think I have once taken something from AI and used it 100 percent as it is.”

Concerns About Learning, Critical Thinking, and Socialization

While participants acknowledged the efficiencies of generative AI, several also expressed concern about its long-term implications for student learning, critical thinking, and human interaction. These concerns centered on the possibility that growing dependence on AI could weaken habits of independent thought, reduce authentic communication, and diminish important forms of social and intellectual development.

Participant G feared that modeling AI dependency would exacerbate the crises schools are currently facing, stating that AI is “not going to solve emotional regulation issues or school refusal” and cautioning leaders against choosing “sizzle over substance” because society cannot “take less socialization at this point.” Participant J similarly lamented the potential loss of “magnum opus” critical thinking, fearing AI will lead to “generic leadership and less creativity” and a standard of “mediocrity.” Illustrating this concern, Participant O referenced the sci-fi film *2001: A Space Odyssey* to summarize the ultimate concern of executive leaders staring down advanced automation, stating that his greatest fear is that “we become irrelevant, and that's frightening.”

Summary of Research Question 3 Findings

Findings addressing Research Question 3 indicated that superintendents viewed the ethical and resource-based implications of AI integration in both promising and cautionary ways. On one hand, participants described AI as having the potential to expand access through translation, information support, and data use for students and families. On the other hand, they expressed ethical concerns and remained highly protective of authentic leadership voice while

also warning about the possible erosion of critical thinking, socialization, and human judgment. Consequently, participants emphasized that responsible AI use requires personalized, executive-level learning supports and intentional planning structures to help keep human judgment at the center of educational leadership.

Chapter Summary

This chapter presented the findings of the study examining how New Jersey K–12 public school superintendents engage with generative artificial intelligence in strategic planning and operational leadership. Descriptive survey data were first presented to contextualize the professional, organizational, and district characteristics of the 20 interview participants. The chapter then reported thematic findings derived from the semi-structured interviews, organized in alignment with the study's three research questions. Across these findings, a consistent pattern emerged in which generative AI enhanced operational efficiency while simultaneously reinforcing the importance of human judgment, relational leadership, and contextual awareness.

Findings related to Research Question 1 indicated that superintendent engagement with generative artificial intelligence is influenced by professional curiosity, organizational capacity, and ethical considerations. Findings related to Research Question 2 showed that participants are using AI to support administrative efficiency, manage workload demands, translate analog information into usable digital formats, reduce reliance on some external supports, and assist with strategic planning and communication. Findings related to Research Question 3 highlighted the importance of targeted professional learning, the perceived potential of AI to expand access and equity, the need to preserve authentic human-centered leadership, and ongoing concerns about the implications of AI for learning, critical thinking, and socialization.

The following chapter interprets these findings in relation to the literature and theoretical

frameworks, and considers their implications for leadership practice, limitations of the study, and directions for future research.

CHAPTER 5:

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

Superintendents lead public school districts in an environment marked by increasing complexity. They must continually balance urgent daily operational demands, such as staffing shortages, facilities crises, and community relations, with the longer-term work of sustaining strategic vision, advancing equity goals, and maintaining public trust. To manage these fragile conditions, districts frequently turn to strategic planning as a stabilizing framework. However, as established in Chapter 1, district strategic planning processes often remain too static, too slow, and disconnected from the real-time decision environments superintendents face. Furthermore, short superintendent tenure, political volatility, and fragmented systems often undermine the successful implementation of these plans, leaving leaders struggling to translate written vision into coordinated, daily action.

Theoretically, the operational and strategic duties of a superintendent are not separate domains; rather, daily operational actions are the real-time execution of the district's strategic plan. As Kaufman (2018) notes, effective strategy must function as an actionable framework embedded within daily operations. Therefore, when superintendents are consumed by operational overload, strategic implementation stalls. In this context, generative AI's ability to provide operational and administrative relief is not merely a matter of workplace productivity, it is a strategic necessity. By streamlining the daily operational workflows that theoretically fall under the umbrella of the strategic plan, generative AI enables superintendents to reclaim the cognitive capacity and time required to sustain high-level system coherence.

Generative artificial intelligence has rapidly emerged as a significant force in executive leadership, offering the potential to accelerate data use, automate communication, and expand

stakeholder engagement. Yet, its use in education also introduces ethical risks, concerns over data privacy, and important questions regarding how human judgment should guide or constrain technological reliance. Despite its growing presence, limited empirical research has examined how district-level educational leaders interpret and apply generative AI within the complex realities of school system leadership. The purpose of this qualitative, constructivist study was to examine how K–12 New Jersey superintendents engage with generative AI in strategic planning and day-to-day operational leadership. Through semi-structured interviews and a demographic survey, this study explored the conditions shaping AI adoption, its influence on decision routines and strategic workflows, and the ethical commitments required for its responsible use.

The findings presented in Chapter 4 revealed patterns in how superintendents are navigating generative artificial intelligence within the complex realities of district leadership. This chapter interprets those findings through the study's theoretical frameworks and examines their implications for leadership practice and future research.

Summary of Findings

Across these findings, a consistent pattern emerged in which generative AI enhanced operational efficiency while simultaneously reinforcing the importance of human judgment, relational leadership, and contextual awareness. Building on these patterns, it appears that generative AI may be reshaping aspects of superintendent leadership, particularly where operational workflows intersect with the implementation and communication of strategic priorities, though its adoption remains a careful balancing act between operational need and ethical caution. Regarding the conditions shaping adoption (Research Question 1), participants were often driven by personal curiosity and by the perception that AI represents an emerging leadership competency. At the same time, their exploration was constrained by limited time,

uneven technical capacity, and the absence of clear policy guidance. Rather than waiting for top-down mandates, several participants described adopting flexible local approaches while remaining attentive to student data privacy and responsible use. These patterns also appeared to be shaped by district conditions such as staffing capacity, governance context, and local infrastructure for technology adoption.

Regarding the influence of AI on decision routines and strategic monitoring (Research Question 2), findings indicated that participants were using the technology in ways that extended beyond basic administrative efficiency. For some leaders, AI appeared to function as a support for managing overload by helping them process large volumes of email, summarize lengthy documents, and organize information more efficiently. In addition, some participants described using internal or closed-system AI tools to reduce preliminary reliance on certain external vendors, consultants, and routine legal or analytical supports. Within strategic planning, participants also described using AI as a thought partner to synthesize community feedback, organize planning materials, model scenarios, and draft communication products.

Finally, regarding resources and ethical commitments (Research Question 3), the study revealed both promise and caution. On one hand, some participants described AI as having the potential to expand access by reducing language barriers, improving access to information, and supporting more efficient use of data. On the other hand, participants expressed concern about maintaining authentic leadership voice and about the possible effects of AI on critical thinking, learning, and human interaction. Many also rejected generalized professional development models and instead emphasized the importance of targeted, executive-level learning supports that are practical, contextualized, and relevant to their daily work. These findings also suggest that responsible AI use is not only a technical or ethical issue, but a governance issue, requiring

supports and safeguards that protect transparency, trust, and equitable participation within public school systems.

Interpretation of Findings

The interpretation of findings was guided by the study's theoretical frameworks. Examining the data through these lenses provides insight into how generative AI intersects with leadership practice, organizational structures, and professional learning within the superintendency. Collectively, these frameworks suggest that AI may be understood not simply as a technical tool, but as a development with implications for strategy, equity, workload, and human judgment. The findings also suggest that generative artificial intelligence is not displacing superintendent leadership, but rather reconfiguring how leadership work is supported, while reinforcing the central importance of human judgment, trust, and contextual decision-making.

Transformational Leadership: Advancing Equity and Guarding Authentic Voice

Transformational leadership emphasizes how leaders connect strategy to shared values, moral purpose, and collective action (Bass & Riggio, 2006; Fullan, 2019). The findings of this study may be interpreted through this lens in ways that extend transformational leadership into the context of generative AI. In the literature, Casto et al. (2024) argued that equity is inseparable from community-anchored leadership and that leaders must surface marginalized voices. The findings align with this perspective insofar as some participants described generative AI as having the potential to reduce barriers related to language access and social capital. For example, participants discussed the possibility of using AI to translate communications, improve accessibility for multilingual families, and generate information pathways that might otherwise be difficult for under-resourced students and families to access. Collectively, these perspectives suggest that generative AI is not viewed solely as an administrative support, but as a potential

mechanism for advancing more equitable access within district systems. By reducing language barriers, expanding access to specialized knowledge, and making complex data analysis more accessible, AI may enable leaders to identify and respond to student needs more proactively. At the same time, these practices were described as emerging rather than fully institutionalized, indicating variation in how districts are able to translate these possibilities into sustained systems of practice.

However, these equity-driven applications must be considered within the demographic limitations of this study. With 85% of participating superintendents serving suburban districts, the ability to realize some of these equity-related benefits, particularly through the development of secure, localized infrastructure such as Participant N's dedicated AI server, may depend on significant financial and technical resources. Consequently, while generative AI holds theoretical potential to advance equity, these findings also raise the possibility that the resource-intensive nature of developing localized AI systems may create uneven opportunities for implementation across districts. In this sense, the benefits of internally controlled AI systems may be more accessible to districts with greater technical and financial capacity, potentially enabling them to pursue forms of localized AI development sometimes described in this study as AI sovereignty.

At the same time, transformational leadership relies heavily on trust, authenticity, and the moral dimensions of communication (Brown, 2024). Here, the findings also revealed a significant tension. Participants drew a firm boundary around authorship and authentic voice, expressing concern that AI-generated language could weaken trust if it replaced the superintendent's own words or tone. This interpretation aligns with Holmes et al.'s (2021) argument that ethical AI integration requires human oversight and value-based judgment. In this sense, superintendents in the study appeared to position themselves as moral gatekeepers who

may use AI to support communication, but not to replace the human responsibility of leading with authenticity and relational trust.

While transformational and distributed leadership are often presented as complementary perspectives, the findings of this study suggest that generative AI introduces new dynamics into how these frameworks operate together in practice. Transformational leadership emphasizes moral purpose, trust, and authentic communication, while distributed leadership focuses on how leadership work is shared across actors, structures, and resources within an organization. The findings suggest that superintendents may be navigating a balance between these orientations: preserving authentic leadership voice and ethical responsibility while simultaneously delegating certain analytic, organizational, and informational tasks to AI-supported systems. In this sense, generative AI may extend the mechanisms through which leadership work is distributed while simultaneously heightening the importance of transformational leadership in safeguarding trust, authenticity, and moral judgment.

Distributed Leadership: Reduced Reliance on External Supports and AI Sovereignty

Distributed leadership theory suggests that leadership is stretched across people, tools, and situations, and that organizational capacity is strengthened when work is shared across a broader system of actors and resources (Leithwood et al., 2009; Spillane, 2006). The findings of this study may be interpreted as extending this framework into the digital context, as some participants described distributing certain forms of cognitive, analytic, and organizational labor to AI-supported tools.

While traditional distributed leadership theory focuses on stretching leadership tasks across human actors, such as cabinet structures and professional networks (Leithwood et al., 2009; Spillane, 2006), the findings of this study suggest that generative AI may introduce new

dynamics into how leadership work is supported. By delegating tasks such as document analysis, policy review, and scenario planning to AI systems, some superintendents described using digital tools as cognitive supports for analytic and organizational work. In addition, the findings suggest that distributed leadership related to AI adoption was not exclusively top-down. Several participants described relying on the technical fluency of administrative staff, such as secretaries and technology directors, to introduce, model, or validate AI use in their own leadership practice. In these cases, AI adoption functioned as a form of upward mentorship, in which executive leaders depended on the expertise of support staff to guide their engagement with emerging tools. This pattern extends traditional interpretations of distributed leadership by illustrating how influence and expertise related to technological innovation may flow from non-executive roles to system-level leaders. In this sense, leadership capacity may be understood as distributed not only among human personnel and professional networks, but also across localized AI-supported tools that assist leaders in processing information and generating strategic insights.

In earlier literature, strategic planning and district leadership were often understood as work distributed across human relationships, cabinet structures, and professional networks (Honig & Rainey, 2019). The present findings suggest that some superintendents are also beginning to distribute selected tasks to AI-supported systems, especially in areas such as document analysis, policy review, communication drafting, and scenario planning. Some participants described using internal or closed-system AI tools to reduce preliminary reliance on certain vendors, consultants, and routine legal or analytical supports.

Within this discussion, the concept of AI sovereignty may be useful as an interpretive lens. In this study, AI sovereignty may be understood as district efforts to develop more localized, internally controlled AI-supported workflows that reduce dependence on outside

providers while preserving greater control over privacy, cost, and decision support. This interpretation aligns with Williamson and Hogan's (2020) critique of financial dependence on third-party education technology vendors and with Kober's (2025) discussion of AI-first leadership in the business sector. Importantly, however, this appeared to be a context-dependent pattern rather than a universal one. The findings suggest that only some districts had the infrastructure, technical capacity, or leadership orientation necessary to pursue these kinds of internally controlled models.

Complex Adaptive Systems: Workload, Overload, and Leadership Stability

Complex adaptive systems (CAS) theory frames school districts as dynamic, unpredictable environments in which leaders must continually balance flexibility, responsiveness, and stability (Holland, 1995; Morrison, 2002). This lens is useful for interpreting findings related to superintendent workload, overload, and the operational pressures of the role. The literature consistently highlights that the modern superintendency is marked by political volatility, competing demands, and persistent stress, all of which contribute to burnout and turnover (Grissom & Mitani, 2016; Schwartz & Diliberti, 2024). The American Association of School Administrators' (2025) mid-decade study similarly suggested that the role has become increasingly demanding across areas such as communication, finance, safety, and politics.

The findings of this study align with that broader literature. For many participants, generative AI appeared to function as a support within an already overloaded leadership environment. Participants described using AI to process high volumes of email, summarize lengthy reports, organize planning information, and prepare for communications or board interactions. In this sense, AI may be interpreted not only as a productivity tool, but as a mechanism that helps leaders manage complexity and preserve cognitive bandwidth for higher-

order work. This interpretation aligns with Davenport and Ronanki's (2018) argument that AI can support decision-making by automating or accelerating routine tasks. In district settings characterized by unpredictability and overload, such support may help superintendents maintain greater responsiveness and organizational stability. From a complex adaptive systems perspective, this operational relief matters because it may help leaders maintain the adaptive capacity required to keep strategic plans active, responsive, and connected to daily district decision-making. Furthermore, within this complex adaptive system, the analog-to-AI translation workflows identified in Chapter 4 demonstrate how adult learners navigate overwhelming operational demands. When leaders like Participant M utilize speech-to-text dictation or Participant T processes handwritten observation notes through an AI module, they are bridging traditional, comfortable leadership behaviors with new technological efficiencies. Rather than abandoning their established routines, these superintendents anchor AI to their existing manual tasks, managing the unpredictability and overload of their systems by streamlining processes that would otherwise consume critical cognitive bandwidth. These adaptation patterns also highlight the learning processes through which leaders integrate new technologies into their professional practice, a dynamic that aligns closely with principles of adult learning theory.

Adult Learning Theory: The Shift Toward Contextualized Professional Learning

Adult learning theory emphasizes that professionals engage new learning most effectively when it is self-directed, contextually relevant, problem-centered, and grounded in practice (Cranton, 2023; Knowles, 1984). The findings of this study align closely with this perspective. Participants generally did not describe generalized, one-size-fits-all AI professional development as sufficient. Instead, many emphasized the need for targeted, job-embedded, and highly practical forms of support tied directly to their day-to-day leadership responsibilities.

This interpretation also aligns with Storey and Wagner's (2025) warning that leaders may adopt AI faster than they are able to understand or govern it if professional learning remains too abstract or disconnected from context. Participants in this study frequently described wanting coaching, examples, peer dialogue, and opportunities to experiment in practical ways. Some also emphasized the importance of learning alongside trusted colleagues. Together, these findings suggest that effective AI-related professional learning for superintendents may need to move beyond broad technology orientation sessions and toward more contextualized, executive-level support models grounded in adult learning principles.

Theoretical Integration of the Frameworks

These four theoretical frameworks provide a layered interpretation of how generative AI is beginning to intersect with superintendent leadership practice. Complex adaptive systems theory explains the broader environment in which district leaders operate, characterized by unpredictability, information overload, and competing demands that place significant cognitive pressure on superintendents. Within this environment, generative AI appears to function as a mechanism for redistributing certain forms of analytic and organizational work, extending the concept of distributed leadership beyond human actors to include AI-supported tools that assist leaders in processing information and supporting decision-making.

At the same time, the findings highlight that not all aspects of leadership can be delegated to technological systems. Transformational leadership remains essential for safeguarding the relational and ethical dimensions of the superintendent role, particularly in areas involving authentic communication, trust-building, and moral judgment. Adult learning theory further explains how superintendents are navigating this emerging landscape. Rather than relying on formal training programs, participants described adopting AI through self-directed

experimentation, peer dialogue, and practical problem solving grounded in their daily leadership responsibilities. These frameworks collectively suggest that generative AI does not replace leadership but instead reshapes how leadership work is supported within complex educational systems while reinforcing the continued importance of human judgment, relational trust, and contextual learning.

Limitations of the Study

While this study provides timely and in-depth insights, several limitations must be acknowledged. First, the qualitative design and sample size of 20 New Jersey superintendents limit statistical generalizability. However, qualitative research does not seek statistical generalization; rather, the goal is analytic insight that readers may determine to be transferable to similar leadership contexts. Although maximum-variation sampling was used to include diverse district sizes and demographics, the perspectives remain bound to the political, financial, and policy context of New Jersey public schools. In addition, because most participants served suburban districts (85%), the findings may be less transferable to urban or rural contexts with different governance, resource, and demographic conditions.

Second, the study was bounded by its scope and delimitations. The research focused exclusively on the perspectives of system-level superintendents and did not include the viewpoints of principals, teachers, school board members, or families. Furthermore, the study examined leadership practices, interpretations, and decision-making; it did not attempt to measure quantitative student outcomes, nor did it evaluate the technical accuracy or performance of the generative AI tools discussed.

Third, the study relied on self-reported interview data, which introduces potential limitations related to subjectivity and may not fully capture real-time leadership decision

processes. Although the constructivist paradigm values participant meaning-making, self-reported practices regarding ethical compliance and data privacy may be influenced by social desirability, particularly given the public-facing nature of the superintendent role.

Additionally, the researcher's positionality shaped the study. My background as a practitioner-researcher in K–12 educational leadership and technology informed how I interpreted the data. Although reflective memoing and peer debriefing were used to support analytic rigor, meaning in this study was co-constructed between the researcher and the participants.

Finally, generative artificial intelligence is evolving rapidly. The tools, capabilities, and governance concerns discussed by participants represent a specific moment in time (2024–2025). As both the technology and the legal landscape continue to change, the barriers and opportunities identified in this study may also shift.

Recommendations for Leadership Practice

Implement Targeted Executive Professional Learning and Individualized Coaching Models

Because superintendents operate under time constraints, professional learning may need to shift toward more targeted executive models. The findings of this study align with adult learning theory and support Storey and Wagner's (2025) argument that professional development should move beyond generic tool training toward reflective, iterative, and contextually relevant engagement. Based on these findings, the field should consider moving away from generalized technology training for executive leaders and instead develop short, curated, practical modules designed specifically for the superintendency. Districts and leadership organizations may also consider investing in individualized coaching models in which practitioner-experts work one-on-

one with superintendents to apply AI directly to their daily workflows, such as budget modeling, community communication, and document analysis.

Develop Phased AI Implementation Playbooks

The qualitative findings suggest that while many superintendents recognize the significance of AI, they often lack a sequenced roadmap for implementation, operating instead in what Participant S described as the "Wild West". This structural deficit is strongly supported by the descriptive survey data: 60% of participating districts do not yet have an innovation or technology plan that includes AI goals, 50% have no formal AI policy, and 55% of leaders cite competing priorities, such as time, crises, and mandates, as primary barriers to engagement. This quantifiable uncertainty about how to move from early exploration to coherent district-level planning aligns with literature emphasizing that structured entry plans and transition frameworks are required to help leaders establish clarity amidst complex change processes (DeMatthews et al., 2025; Pauly, 2021). This need for structured guidance was also reflected in participant perspectives. One superintendent noted, "Something like a 180-day entry plan would be cool . . . we do that for everything else, but with AI we're all kind of stuck." To meet this demand, these phased roadmaps should be paired with curated digital toolboxes. As indicated by the survey data, 60% of participants identified toolkits and implementation guides as highly valuable resources for AI adoption. Equipping leaders with a vetted digital toolbox alongside a 180-day entry plan would bridge the gap between abstract policy and daily execution, providing superintendents with the exact applications needed to operationalize AI safely and effectively.

Explore Context-Dependent AI Sovereignty

The findings suggest that some districts are beginning to reconceptualize how they use external services by exploring more internally controlled AI-supported systems. As discussed

earlier, this study introduces AI sovereignty as an interpretive concept that may help describe this pattern. In some districts, closed-system AI tools were described as a way to analyze policy, contracts, and local data while reducing preliminary reliance on external vendors, consultants, or routine legal supports. This interpretation extends Kober's (2025) concept of AI-first leadership and connects with distributed leadership theory.

At the same time, the findings also suggest that such efforts are highly context-dependent. Many districts may lack the staffing, technical capacity, or financial resources required to develop localized systems. Therefore, districts with sufficient infrastructure may wish to audit current vendor expenditures and explore whether some internal AI-supported workflows are feasible. Smaller districts facing capacity constraints may be better served by regional or shared-service models, such as county consortiums, that allow them to pool technical expertise and reduce costs more safely.

Support Workload Management and Cognitive Relief

The literature identifies turnover, political pressure, and role overload as significant threats to superintendent stability (AASA, 2025; Schwartz & Diliberti, 2024). The findings of this study suggest that generative AI may serve as one support for managing these pressures. Participants described using AI to handle information overload, organize communication, summarize materials, and reduce cognitive strain. This aligns with Davenport and Ronanki's (2018) argument that AI can support decision-making by automating or accelerating routine tasks.

Leadership development programs should consider incorporating AI-supported workload management strategies for executive leaders. Examples might include email triage supports, meeting transcription tools, document summarization, and audio-based briefing tools. Used

carefully, these types of supports may help superintendents reclaim mental space for high-level strategic leadership and relational work. Such supports should be framed not merely as efficiency measures, but as mechanisms for protecting superintendent capacity to sustain strategic planning, communicate priorities, and monitor implementation across complex district systems.

Recommendations for Future Research

Examine Reduced Reliance on External Supports Through AI Integration

Future research should examine the financial and operational implications of districts using generative AI to reduce preliminary reliance on external consultants, routine legal supports, and educational technology vendors. Quantitative or mixed-methods studies could help determine whether these reported efficiencies lead to measurable cost savings, improved responsiveness, or different patterns of organizational capacity within school district leadership systems.

Conduct Longitudinal Studies on Localized AI Infrastructure and District AI Sovereignty

Future research should examine the long-term implications of districts developing AI sovereignty involving localized artificial intelligence infrastructure, customized tools, district-controlled AI servers or locally hosted systems. Longitudinal studies could track the impact of districts building their own AI infrastructure compared with districts relying primarily on externally hosted or open-source platforms. Such work could explore differences in data governance, privacy protections, operational flexibility, and district autonomy in AI integration.

Conduct Longitudinal Studies on Workload, Stress, and Turnover

Because participants described AI as a support for managing overload, longitudinal studies should examine whether sustained AI adoption is associated with differences in

superintendent stress, burnout, or turnover over time. Such work could help determine whether AI-related efficiencies meaningfully affect leadership sustainability.

Expand the Sample to Include Cabinet and Board Perspectives

Future qualitative studies should triangulate the superintendent perspective by including school board presidents, union leaders, principals, and central office cabinet members. These perspectives could provide insight into how AI alters broader district governance dynamics, communication practices, and trust relationships.

Evaluate AI-Specific Professional Learning Models

Because participants in this study expressed a strong preference for contextualized, job-embedded learning over generalized guidance, future research should investigate which forms of AI-related professional learning are most effective for superintendents. Quantitative or mixed-methods studies could compare individualized executive coaching, peer-learning networks, and job-embedded modules with more traditional technology training models.

Integrate AI Usage Analytics

Future research may also benefit from mixed-methods designs that combine interview data with platform usage analytics. Doing so could help researchers better understand how leaders operationalize AI in daily practice and whether reported uses align with actual patterns of tool engagement.

Conclusion

Generative artificial intelligence has entered K–12 education not merely as a novelty, but as a significant shift in how leadership work may be supported. For some superintendents, AI appeared to function as an important support for managing administrative overload and as a tool with the potential to reduce barriers related to communication, access, and data use. In some

contexts, it also appeared to open possibilities for more internally controlled and strategically embedded district workflows.

At the same time, the findings of this study suggest that the core essence of the superintendency remains deeply human. Participants consistently emphasized that while AI may help organize information, support planning, and improve efficiency, it cannot replace the relational, ethical, and judgment-based dimensions of leadership. A machine may help draft a message or organize a strategic plan, but it cannot lead a grieving community, build trust in times of uncertainty, or make the moral decisions required to steward public education.

Ultimately, this study suggests that generative AI may become an increasingly valuable tool for supporting the systems of education, but the soul of educational leadership, relational trust, authentic voice, human judgment, and responsibility to community, must remain firmly in human hands.

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APPENDIX A:

Superintendent Demographic and Context Survey

This survey is designed to gather descriptive information to contextualize superintendent perspectives on generative artificial intelligence (AI) in district leadership. Responses will remain confidential and will only be used to interpret interview data. Please complete prior to your scheduled interview.

Section 1: Superintendent Background

Years of experience as a superintendent:

□ 0–3 years

□ 4–7 years

□ 8–12 years

□ 13–20 years

□ More than 20 years

Years in current district:

□ 0–3 years

□ 4–7 years

□ 8–12 years

□ 13–20 years

□ More than 20 years

Gender identity:

□ Female

□ Male

□ Non-binary / third gender

□ Prefer not to say

□ Other (please specify) _____

Have you served as a superintendent in states other than New Jersey?

□ Yes (please specify which state[s]) _____

□ No

Section 2: District Characteristics

District type:

□ Urban

□ Suburban

□ Rural

Student enrollment:

□ Fewer than 1,000

□ 1,000–4,999

□ 5,000–9,999

□ 10,000–14,999

□ 15,000–19,999

□ 20,000–24,999

□ 25,000–29,999

□ 30,000+

Number of staff (all employees):

□ Fewer than 500

□ 500–999

□ 1,000–2,499

□ 2,500–4,999

□ 5,000–7,499

□ 7,500–9,999

□ 10,000+

Approximate annual district budget:

□ Less than $25 million

□ $25–49 million

□ $50–99 million

□ $100–249 million

□ $250–499 million

□ $500–749 million

□ $750 million–$1 billion

□ More than $1 billion

Percentage of students qualifying for free/reduced lunch (approximate):

□ 0–10%

□ 11–25%

□ 26–50%

□ 51–75%

□ 76–100%

Percentage of multilingual learners in your district (approximate):

□ 0–5%

□ 6–15%

□ 16–30%

□ 31–50%

□ More than 50%

Percentage of students identifying as racially/ethnically diverse (approximate):

□ 0–10%

□ 11–25%

□ 26–50%

□ 51–75%

□ 76–100%

Section 3: Leadership Context

Cabinet structure: Which positions exist in your district? (check all that apply)

□ Assistant Superintendent for Curriculum & Instruction

□ Assistant Superintendent for Operations/Business

□ Assistant Superintendent for Special Services

□ Director of Communications

□ Director of Facilities

□ Director of Security/Safety

□ Director of Technology/Innovation

□ Equity or Diversity Officer

□ Human Resources Officer

□ Community Engagement Officer

□ Other (please specify) _____

How would you describe your board's role in supporting strategic planning and innovation?

□ Provides strong support for long-term planning and innovation

□ Provides moderate support, but prioritizes short-term issues

□ Is cautious or resistant to innovation and change

□ Primarily reactive to community or political pressures

□ Other (please specify) _____

Does your district have a current Innovation or Technology Plan that includes AI-related goals?

□ Yes

□ No

□ In development

□ Unsure

Section 4: Technology and AI Readiness

Does your district currently have a 1:1 student device program?

□ Yes, full 1:1 across all grades

□ Partial (e.g., some grade levels)

□ No

Have you or your district participated in professional development specific to AI?

□ Yes, district-provided

□ Yes, external workshops or conferences

□ Yes, self-directed learning

□ No

Has your district or board adopted a policy related to generative AI?

□ Yes

□ No

□ Unsure

Which generative AI tools have you personally explored or used in your leadership practice? (check all that apply)

□ ChatGPT

□ Microsoft Copilot

□ Google Gemini (formerly Bard)

□ Jasper

□ Perplexity

□ Claude

□ Otter.ai or other transcription/meeting assistants

□ AI-driven dashboards or analytics platforms (please specify) _____

□ Other (please specify) _____

Section 5: Strategic Planning and AI Engagement

Please indicate your involvement with district strategic planning processes: (check all that apply)

□ Development of a strategic plan

□ Implementation of a strategic plan

□ Monitoring/evaluation of a strategic plan

□ Communication of strategic priorities

□ Other (please specify) _____

Has your district budget allocated funds for AI-related initiatives? (check all that apply)

□ Yes, instructional/classroom AI tools

□ Yes, operational/administrative AI tools

□ Yes, communication/engagement tools

□ Yes, professional development on AI

□ No

□ Unsure

In your experience, what are the most significant barriers to superintendent engagement with generative AI? (check all that apply)

□ Technical infrastructure limitations

□ Lack of professional development

□ Community or board skepticism

□ Ethical/privacy concerns

□ Cost or funding constraints

□ Competing priorities (time, mandates, crises)

□ Other (please specify) _____

What resources or professional learning would you consider most valuable in supporting AI use in district leadership? (check all that apply)

□ Formal training sessions or workshops

□ Peer networks / superintendent cohorts

□ Exemplars or case studies from other districts

□ Toolkits or implementation guides

□ State or professional association guidance (e.g., AASA, NJASA, NJSBA, ISTE)

□ Access to AI coaches or technical experts

□ Graduate-level or university-based coursework

□ Ongoing district-provided PD sessions

□ Other (please specify) _____

Appendix B

Interview Protocol: Superintendent Participants

Overview

This semi-structured interview protocol was developed to explore how K–12 public school superintendents engage with generative artificial intelligence (AI) in strategic and operational leadership. The questions were designed to address the three guiding research questions restated in Chapter 3 and are informed by the theoretical frameworks of Transformational Leadership, Distributed Leadership, and Complex Adaptive Systems Theory.

Purpose

The purpose of this interview is to elicit superintendent perspectives on the opportunities, challenges, and leadership decisions related to the use of generative AI in district operations and strategic planning. Responses will provide insight into current practices, barriers, and supports necessary for effective implementation.

Instructions to Participants

Participants will be informed that the interview will last approximately 45 minutes. They will be reminded that their participation is voluntary, that they may skip any question, and that they may end the interview at any time without penalty. Informed consent will be obtained prior to recording.

Introduction Script

Thank you for agreeing to participate in this study. The purpose of this interview is to explore superintendent perspectives on the use of generative artificial intelligence (AI) in educational leadership. With your permission, I will be recording this session to ensure accuracy. All responses will remain confidential, and your name will not be used in any reporting of results. You may decline to answer any question or stop the interview at any time.

Do you have any questions before we begin?

Opening / Context

1. Can you describe your current (or most recent) role as superintendent, including your district context (size, demographics, major priorities, board dynamics, data infrastructure)?
   Probe: How would you describe the biggest leadership challenges you face day to day? (All)

Barriers, Opportunities, and Conditions for AI Adoption

2. What experiences, if any, have you had with generative AI tools in your leadership work? Probe: Were these formal (district initiatives) or informal (personal exploration)? (RQ1)

3. What do you see as the main barriers to using generative AI in your district leadership practice? Probe: Are these barriers technical, cultural, ethical, or related to capacity? (RQ1)

4. What conditions would make it easier for you, or other superintendents, to adopt and use generative AI responsibly? Probe: Policy guidance, board support, professional learning, infrastructure, etc. (RQ1)

AI and Leadership Decision-Making, Strategy, and Operations

5. How, if at all, have you used generative AI to support decision-making or problem-solving in your role?
   Probe: Walk me through a recent strategic-planning task where you used, or decided not to use, an AI tool. What decision steps did you take? What changed, if anything? (RQ2)

6. Strategic planning is often a stabilizing framework for districts. How might generative AI support or complicate your ability to develop, monitor, or communicate a strategic plan?
   Probe: When AI outputs help versus hurt, what patterns have you noticed? What governance or checks do you rely on? (RQ2)

7. In your view, how could generative AI impact communication and stakeholder engagement with your community, board, or staff? Probe: Benefits? Risks? Equity concerns?
   Probe: How do community trust and transparency shape your decisions about if or when to use AI for communication? (RQ2)

8. Have you practiced, observed, or imagined ways generative AI could help with daily operational tasks (reports, scheduling, communications, or specific tools)?
   Probe: What supports would have made responsible use easier this year (PD, policy, data access, staffing)? (RQ2)

Resources, Supports, and Ethical Commitments

9. What resources or professional learning would you need to feel confident in using generative AI as a superintendent? Probe: Training, peer networks, exemplars, toolkits? (RQ3)

10. What ethical concerns do you associate with AI in district leadership (e.g., bias, privacy, transparency/traceability, workforce/capacity)? Probe: How do you see your role in safeguarding equity and democratic trust while using these tools? (RQ3)

11. How do state or district policies, regulations, or board expectations shape your ability to explore or adopt generative AI? (RQ3)

12. Professional organizations (such as AASA, NJASA, or ISTE) have begun releasing guidance on AI. How do you interpret these recommendations for your own practice? Probe: Do they feel actionable, or too abstract? (RQ3)

Closing / Reflection

13. Looking ahead, what role do you think generative AI will play in the future of superintendent leadership? Probe: Do you see it as essential, optional, or potentially harmful if not managed carefully, and how might this connect to strategic planning, communication, or ethics? (RQ1)

14. What advice would you give to a new superintendent who is just beginning to consider how AI might be used in their district? (All)

15. Is there anything else you would like to add about your experiences, perspectives, or concerns with AI in district leadership? (All)

Appendix C:

Recruitment Materials

The following materials were used to recruit participants for this study. Recruitment occurred via email using publicly available superintendent contact information and professional networks (NJASA, NJSBA). All emails emphasized that participation is voluntary, confidential, and unrelated to professional evaluation. If no response was received, up to two reminder emails were sent at one-week intervals.

Initial Recruitment Email

Subject: Invitation to Participate in Research Study on Superintendent Leadership and Generative AI

Dear Superintendent,

I am conducting a research study as part of my doctoral dissertation at Monmouth University on how superintendents engage with generative artificial intelligence (AI) in strategic planning and related operational leadership. I am inviting you to participate because of your role and experience as a New Jersey superintendent.

Participation would involve completing a short demographic survey and a 45-minute (approximately) virtual interview at a time convenient for you. Your perspectives will help provide valuable insight into the opportunities, challenges, and leadership conditions shaping the future of AI in education.

Participation is entirely voluntary, confidential, and unrelated to any professional evaluation. All identifying information will be removed, and pseudonyms will be used in reporting. You may decline to answer any question or withdraw at any time without penalty.

If you are willing to participate, please complete this short demographic survey and I will contact you to schedule your interview: [Insert Survey Link].

Attached you will find the informed consent form with further details. Please feel free to contact me with any questions.

Thank you for considering this opportunity.

Sincerely,
Heather Daniel

Doctoral Candidate, Monmouth University
s0504400@monmouth.edu

Reminder Recruitment Email (Week 1)

Subject: Reminder – Invitation to Participate in Superintendent Leadership Study

Dear Superintendent,

Last week, I sent you an invitation to participate in a doctoral research study at Monmouth University on how superintendents engage with generative artificial intelligence (AI) in strategic and operational leadership.

Participation involves a brief demographic survey and a 45-minute virtual interview scheduled at your convenience. As a superintendent, your perspective is highly valuable and will help inform understanding of the opportunities, barriers, and leadership supports related to AI adoption in district practice.

Participation remains voluntary and confidential. If you are interested, please complete the short demographic survey at the following link: [Insert Survey Link].

If you have already responded, please disregard this message. Thank you again for considering this opportunity.

Sincerely,
Heather Daniel
Doctoral Candidate, Monmouth University
s0504400@monmouth.edu

Second Reminder Recruitment Email (Week 2)

Subject: Final Reminder – Invitation to Participate in Superintendent Leadership Study

Dear Superintendent,

Two weeks ago, I sent you an invitation to participate in a doctoral research study at Monmouth University on how superintendents engage with generative artificial intelligence (AI) in strategic and operational leadership.

This is a final reminder in case the earlier messages did not reach you. Participation involves a brief demographic survey and a 45-minute virtual interview scheduled at your convenience. As a superintendent, your perspective is highly valuable and will contribute to understanding the opportunities, barriers, and leadership supports related to AI adoption in district practice.

Participation is entirely voluntary and confidential. If you are interested, please complete the short demographic survey at the following link: [Insert Survey Link].

If you have already responded, please disregard this message. Thank you again for considering this opportunity.

Sincerely,
Heather Daniel
Doctoral Candidate, Monmouth University
s0504400@monmouth.edu

Appendix D:

Electronic Informed Consent Form

Monmouth University
INFORMED CONSENT FORM:
An Examination of Superintendent Engagement with Generative AI in Strategic Planning

Principal Investigator: William O. George III, Ed.D.
Phone: 732-571-3437
Email: wgeorge@monmouth.edu

Co-Investigator: Heather Daniel
Phone: 732-245-7629
Email: s0504400@monmouth.edu

You are being asked to be a participant in a research study.

What is the purpose of this study?

The purpose of this study is to explore how K–12 public school superintendents engage with generative artificial intelligence (AI) in their strategic planning and operational leadership. The study aims to understand superintendent perspectives on opportunities, challenges, decision-making influences, and the resources and ethical commitments needed for effective and responsible use of AI in leadership.

What will you have to do, if you agree to be in the study?

If you agree to be in this study, your participation will involve the following:

- Review and electronically complete an informed consent form (~10 minutes).
- Complete a short online demographic survey (~10 minutes).
- Participate in one semi-structured interview (~45–60 minutes) conducted virtually through Zoom at a time convenient for you.
- With your permission, the interview will be audio-recorded (no video will be retained) to ensure accurate transcription.
- After the interview, you may be invited to review your transcript to confirm accuracy (~15 minutes).
- Your name and district will not appear in any reports or publications. Instead, de-identified transcripts will be used, and direct quotes may be included in publications or presentations but without identifying information.

Your total time commitment for the study will be approximately **70–90 minutes**.

Are there any possible risks to being in this study?

There are no foreseeable risks to you beyond those you might experience in your daily professional life. Some participants may experience minor discomfort when reflecting on leadership decisions or discussing the role of artificial intelligence in educational practice. You may choose not to answer any question or withdraw from the study at any time without penalty.

Are there any possible benefits to being in this study?

There are no direct benefits to you by participating in this study. However, you may benefit indirectly by having the opportunity to reflect on your professional experiences with generative artificial intelligence (AI) in educational leadership. The results of this study will also benefit the field of education by adding new knowledge about how superintendents engage with AI in strategic planning and leadership practice.

Will you be paid as a research participant?

You will not receive payment for participating in this study.

How will your study information be protected?

We will make every effort to protect the confidentiality of study information that identifies you, but we cannot guarantee total confidentiality.

- Study records will be stored in a secured, limited-access location within Monmouth University's password-protected system.
- Only the Principal Investigator and Co-Investigator will have access to identifiable information.
- Each participant will be assigned a unique code (e.g., P01, P02). A separate linking file connecting names to codes will be stored securely and permanently deleted once transcripts are finalized.
- Signed consent forms will be stored separately from all other research data.
- Data will be collected using the Internet; while confidentiality will be maintained to the degree permitted by the technology used, no guarantees can be made regarding the interception of data sent via the Internet by any third party.
- Audio recordings of interviews will be used only for transcription purposes. Recordings will be permanently deleted once accuracy has been verified. Transcripts will be de-identified, with names, district identifiers, and other potentially identifying details removed. Direct quotations may be used in publications or presentations but will be reported without identifying information.

Important Contact Information

Please contact **Dr. William O. George III, Ed.D., Principal Investigator**, at (**732) 571–3437** or via e-mail at **wgeorge@monmouth.edu** if you have any questions about the study, or if you believe you have experienced harm or injury as a result of being in this study.

You may also contact **Heather Daniel, Co-Investigator**, at (**732) 245–7629** or via e-mail at **s0504400@monmouth.edu** with questions related to your participation.

In addition, for any questions about your rights as a research participant, please contact the Monmouth University Institutional Review Board via e-mail at **IRB@monmouth.edu**.

Your participation is voluntary!

Your participation in this study is voluntary. You may decide not to participate at all or, if you start the study, you may withdraw at any time without any penalty. Withdrawal or refusing to participate will not affect your relationship with Monmouth University in any way.
If you click the 'I accept' button below, it means that you have (a) read this consent form, (b) you agree to be a participant in this study, and (c) you are over 18 years old.

Appendix E:

Coding Framework and Theme Development

Table E1

Representative Codes and Theme Development

Research Question	Initial Codes	Description	Final Theme
RQ1: How do superintendents perceive the barriers, opportunities, and district conditions (e.g., size, board dynamics, data infrastructure) that shape their ability to adopt and implement generative AI in K–12 leadership practice?	Curiosity about AI tools; early adopter enthusiasm; brainstorming potential	Participants expressed proactive interest in exploring emerging AI tools and building their own leadership fluency.	Leadership Curiosity and Opportunity Recognition
	Lack of time; limited tech staffing; competing daily priorities	Participants described constraints related to time, staffing, and competing operational demands that limited deeper exploration or implementation of AI.	Structural and Capacity Constraints
	Data privacy concerns; fear of open-source models; lack of clear state guidance	Participants emphasized protecting student and personnel data while navigating uncertainty related to policy and regulatory expectations.	Ethical Concerns, Data Privacy, and Policy Ambiguity
RQ2: How do superintendents report generative AI's influence on decision routines, communication workflows, and the monitoring of strategic plans and operational priorities?	Drafting communication; editing grammar and tone; summarizing long documents	Participants described using AI to support routine administrative tasks such as drafting, revising, and condensing written materials.	Operational Efficiency and Administrative Relief
	Email triage; commute audio summaries; emotional buffering for correspondence	Participants described using AI to manage information load, reduce overload, and support daily workflow demands.	AI-Supported Workload Management and Cognitive Relief
	Speech-to-text refinement; processing handwritten observation notes; converting rough ideas into polished text	Participants described using AI to transform unstructured, analog, or verbal material into usable written text.	Analog-to-AI Translation Workflows

Research Question	Initial Codes	Description	Final Theme
	Internal legal review; reduced vendor dependence; cost substitution; closed-system tools	Some participants described using internal or closed-system AI tools to reduce preliminary reliance on certain external vendors, consultants, and routine legal or analytical supports.	Reduced Reliance on External Vendors and Consultants
	Synthesizing SWOT data; budget iterations; action-plan generation; organizing planning information	Participants described using AI as a thought partner to help synthesize input, organize ideas, and support aspects of strategic planning.	Strategic Planning, Thought Partnership, and Data Synthesis
RQ3: What resources, organizational supports, and ethical commitments (equity, democracy, policy) do superintendents consider essential for the effective and responsible use of generative AI in leadership?	Rejection of generalized professional development; 360-degree coaching; peer learning; job-embedded support	Participants emphasized the importance of targeted, contextualized professional learning and leadership supports for AI integration.	Professional Learning, Leadership Capacity, and Strategic Implementation
	Translation support; reducing language barriers; expanding access to information; supporting data use	Participants described AI as having the potential to support more equitable access to communication, information, and data use within district contexts.	AI, Access, and Perceived Equity Supports
	Fear of inauthentic tone; editing for personal voice; protecting trust and authorship	Participants emphasized preserving authentic communication and ensuring that AI-supported outputs did not replace human judgment or voice.	Preserving Human-Centered Leadership and Authentic Voice
	Concerns about loss of critical thought; weakened socialization; fear of overdependence	Participants expressed concerns about the possible long-term effects of AI on learning, critical thinking, and human interaction.	Concerns About Learning, Critical Thinking, and Socialization