

Short Communication

Tech Transformation at the Helm: Exploring the Intersection of Technology and Administrative Leadership

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Received: 05 March 2025

Revised: 22 May 2025

Accepted: 04 July 2025

Published: 30 July 2025

Abstract - Digital technologies have significantly transformed the landscape of organizational leadership, particularly in administrative leadership. This study was to determine the intersection of technology and administrative leadership, investigating how technological tools influence leadership strategies, decision-making processes, and organizational efficiency. The findings reveal that incorporating technology into administrative leaders has fundamentally transformed the decision-making process by providing real-time and advanced analytics. Technologies focused on employee engagement and development, such as adaptive learning platforms and feedback tools, play an important role in maintaining a positive organizational culture.

Keywords - Technology, Transformation, Administrative Leadership, Decision making, Microsoft teams.

1. Introduction

The role of technology in educational leadership has evolved from being a mere administrative tool to becoming an integral part of decision-making and strategy development. A systematic review by Luo et al. (2024) explored evaluation and program planning strategies for technology integration in educational leadership, emphasizing the role of administrators in shaping tech-driven environments. The review synthesized findings from 124 studies and highlighted models such as ADDIE, SAMR, and backwards design as frameworks for strategic implementation. It underscored how leadership decisions, informed by data and continuous evaluation, directly influence the success of technology integration. Organizational and pedagogical factors were found to be deeply intertwined with administrative leadership, suggesting that effective tech transformation requires leaders to be both visionary and methodical in their approach. The study advocates for evidence-based practices and iterative planning to ensure sustainable tech adoption in educational institutions. In another systematic literature review, Mustafa et al. (2024) examined the challenges and solutions of technology integration in rural schools, with a focus on leadership roles in under-resourced contexts.

Using the PRISMA 2020 framework, the review identified 29 challenges across macro, meso, and micro levels, including infrastructural limitations, digital literacy gaps, and

policy constraints. Administrative leaders were shown to play a pivotal role in navigating these barriers by fostering inclusive digital strategies and leveraging low-cost technologies like mobile-accessible LMS platforms. The review emphasized that leadership in such settings must be adaptive and context-sensitive, striking a balance between innovation and equity. It concluded that empowering school leaders with targeted training and support is essential for bridging the digital divide and achieving meaningful tech transformation.

Despite growing interest in technology integration within leadership roles, there remains a notable lack of empirical studies focused on Southeast Asia, particularly in the context of public sector organizations. Madakiet al. (2024) conducted a systematic review on IT integration in public institutions and highlighted that while global trends are well-documented, developing countries-including those in Southeast Asia-face unique challenges such as inadequate infrastructure, limited policy support, and fragmented implementation strategies. The study emphasized that most frameworks and models are derived from Western contexts, leaving a gap in region-specific research that considers cultural, economic, and institutional nuances. This underrepresentation limits the applicability of global best practices and calls for localized studies that address the realities of Southeast Asian administrative environments. Another critical gap is the



limited focus on administrators themselves, as much of the existing literature centers on teachers' technology proficiency. Mendoza and Catiis (2022) explored the influence of administrators' technological leadership on teachers in Bulacan, Philippines, but found that while administrators were technologically competent, their leadership had minimal impact on teachers' proficiency. This suggests a disconnect between leadership capacity and its practical influence, pointing to a need for deeper investigation into how administrative decisions, policies, and support systems shape technology adoption.

Furthermore, the study underscores the scarcity of longitudinal and intervention-based research that tracks the evolution of administrative leadership in tech integration over time. Addressing this gap could lead to more effective leadership models tailored to the demands of digital transformation in education and governance. The study was to determine the tech transformation at the helm, exploring the intersection of technology and administrative leaders.

The study sought to answer the following questions:

- 1) How do administrative leaders integrate technology into their decision-making process?
- 2) What are the types of technology tools used and experienced by administrative leaders?
- 3) How do technological innovations influence administrative leaders' strategies?

2. Materials and Methods

The study used the sequential explanatory approach to determine the intersection of technology and administrative leadership. Both quantitative and qualitative data were collected to gain an understanding of how technology impacts educational settings. The researchers used a self-made instrument and validated it by a pool of experts. A structured questionnaire was distributed to gather quantitative data on the types of technologies used by administrative leaders. The semi-structured interviews were conducted with 10

participants to explore their personal experiences with integrating technology into their leadership practices. The study included 24 administrative leaders in a private university. Participants were selected through purposive sampling, ensuring that technological proficiencies and leadership experiences were represented. Descriptive statistics were used to analyze survey data, focusing on the frequency and type of technologies leaders utilize. Thematic analysis was employed to identify patterns and themes in the interview data, shedding light on how technology influences administrative leadership strategies and decision-making.

3. Results and Discussion

3.1. Digital Transformation in Leadership

This includes the themes that are reshaping administrative leadership practices, decision-making, and organizational culture. These are all thoroughly discussed below based on the researchers' responses and observations. Participant A states that she always streamlined the technology when it comes to the decision-making process by providing real-time data, which helps in making informed decisions quickly. Participant B states that he uses digital tools, which have made communication more efficient, allowing for a more collaborative leadership style.

Participant C states that they have seen a significant shift towards remote leadership, where technology enables them to manage teams effectively from different locations. Participant D states that he has introduced new challenges in maintaining a cohesive organizational culture, especially with the increased reliance on virtual communication. Participant E states that she adopts data analytics tools that have empowered her to predict trends and make proactive decisions.

3.2. Tech-Driven Leadership Strategies

This covered the themes of tech-driven leadership strategies, category, and code. Based on the participants' comments and the researcher's observations, each of them was covered in detail below.

Table 1. Tech-driven leadership strategies

Theme	Category	Code
Efficiency and Decision-Making	Real-Time Data Utilization	Informed Decisions
Communication and Collaboration	Digital Tools	Collaborative Leadership
Remote Leadership	Management of Remote Teams	Effective Remote Management
Organizational Culture	Virtual Communication	Challenges in Cohesion
Data-Driven Leadership	Predictive Analytics	Proactive Decision-Making
Transparency and Accountability	Progress Tracking	Transparent Leadership
Innovation and Problem-Solving	Creative Solutions	Technological Problem-Solving
Tech-Savvy Leadership	Technology	Need for Tech-Savvy Leaders
Flexible and Adaptive Culture	Organizational Adaptability	Agility and Flexibility
Challenges of Technology	Employee Disconnect	Addressing Disconnection

Table 2. Types of technologies used and experienced by administrative leaders

Type of Technology	Comments
Microsoft Teams	The use of digital tools has made communication more efficient
Power Bi	It made communication more efficient.
Google Analytics, IBM Watson	Has empowered us leaders to predict trends
Innovation Labs, Hackathon	It changed the way leaders approach problem-solving
Adaptive Learning Platforms (e.g. Coursera, LinkedIn Learning)	Our organizational culture evolved to be more flexible and adaptive
Employee Feedback Tools (e.g. SurveyMonkey, Culture Amp)	It has also created a disconnect among employees, which leaders need to address carefully.

The table outlines the specific types of technologies used by administrative leaders, as identified by the participants. Leaders utilize tools such as Power BI for real-time data visualization and analysis, while Microsoft Teams facilitates communication and collaboration. Virtual meetings are conducted using Zoom and Microsoft Teams. Predictive analytics and trend forecasting are managed by Google Analytics and IBM Watson. Innovation is essential through innovation labs and hackathons. Employee training and skill development are enhanced using adaptive learning platforms such as Coursera and LinkedIn, and employee engagement is monitored through feedback tools like SurveyMonkey and Culture Amp.

4. Conclusion

Incorporating technology into administrative leadership has fundamentally transformed the decision-making process by providing real-time and advanced analytics. Communication and collaboration have also been revolutionized with the adoption of platforms like Microsoft Teams. These tools facilitate seamless interaction among team members, regardless of location, and contribute to a more collaborative work environment. As a result, leaders can manage remote teams effectively and maintain a cohesive organizational culture despite the challenges of virtual communication. Technologies focused on employee engagement and development, such as adaptive learning platforms and feedback tools, play an important role in maintaining a positive organizational culture.

4.1. Recommendation

To enhance decision-making processes, administrative leaders should integrate advanced data analytics tools like Power BI in their operations. Providing training on these tools will enable leaders to make more informed and timely decisions, thereby improving organizational performance. Given the effectiveness of digital communication platforms, organizations should promote their use for better collaboration.

Investing in training and support for these platforms will help maintain effective communication and maintain a collaborative leadership environment. To improve task tracking and project management, administrative leaders should implement and standardize the use of project management tools.

Ensuring that all team members are trained on these tools will lead to more efficient project execution and better accountability. Organizations should invest in innovation-driven technologies to enhance operational integration and problem-solving capabilities.

Acknowledgments

We sincerely thank the National University of the Philippines for granting permission to conduct the study. Their support and cooperation have been invaluable in facilitating our research efforts, and we deeply appreciate the opportunity with the campus community to gather insights.

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