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Guideline Construction on the Basis of Innovation Technology Awareness for School Administrators to Enhance Decision-Making in School's Digital Platform Selection: A Case Study of an International School in Bangkok

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Abstract

This qualitative study investigates the awareness of innovation technology among senior educational administrators at an international school in Bangkok, Thailand, and its influence on their decision-making processes for selecting digital platforms. Semi-structured interviews were conducted with five senior-level administrators, and the data were analyzed using thematic analysis (Adu, 2019), framed by Merikle's (1984) theory of self-reported awareness. The findings reveal four principal themes: (1) a lack of theoretical grounding in defining educational technology, leading to inconsistent conceptualizations; (2) high awareness of available digital tools, significantly constrained by financial limitations that impede implementation; (3) artificial intelligence (AI) as a dominant future consideration, characterized by a duality of optimism and apprehension; and (4) a perceived saturation in technology usage, indicating potential complacency toward further innovation. The study concludes that a significant gap exists between administrators' subjective awareness and their capacity for strategic action. To bridge this gap, the article proposes a set of structured, evidence-based guidelines designed to enhance decision-making. These guidelines emphasize the establishment of a theoretical framework, systematic evaluation processes, strategic AI integration, and continuous professional development to foster informed and sustainable technology adoption in international school contexts.

Keywords: *Technology Awareness, Innovation Technology, Educational Administration, Artificial Intelligence (AI), Decision-Making, Structured Guidelines, Digital Platform Selection*

1. Introduction

The digital transformation of education necessitates that institutions adopt sophisticated technological platforms to support curriculum delivery, learning outcomes, and administrative efficiency (Haleem et al., 2022). For school administrators, this entails navigating a complex landscape of digital tools while balancing pedagogical objectives, operational demands, and financial constraints. However, the rapid proliferation of educational technology (EdTech) presents significant decision-making challenges, particularly concerning innovation, usability, security, and long-term sustainability (Ertmer & Ottenbreit-Leftwich, 2010).

Bangkok, as a hub for international education (Wu & Koh, 2022), hosts schools that must remain at the forefront of technological adoption, utilizing digital platforms for Learning Management Systems (LMS), Student Information Systems (SIS), and communication tools. Despite this pressure, a consistent framework to guide administrators in the selection and implementation of these platforms is often absent (Lim et al., 2018). Consequently, decisions are frequently made on an ad-hoc basis, leading to potential inefficiencies and misallocation of resources (Hew & Brush, 2007).

Awareness of innovation technology is a critical precursor to informed decision-making. Understanding emerging trends such as artificial intelligence (AI), cloud computing, and data analytics can profoundly influence the selection process. Yet, administrators may lack sufficient exposure to these innovations and a systematic framework for their assessment (Fernández-Batanero et al., 2022). This study addresses this gap by exploring the nexus between technology awareness and decision-making in a specific international school context.

1.1 Research Objectives

This study aims to:

1. Explore the level of awareness and understanding of innovation technology among senior educational administrators in an international school in Bangkok.

2. Examine the challenges and opportunities faced by these administrators in adopting and implementing educational technologies.
3. Provide recommendations for improving technology adoption through structured guidelines.

1.2 Research Questions

1. What is the level of awareness and understanding of innovation technology among senior educational administrators, and how does this awareness influence their decision-making processes regarding digital platform selection?
2. How do senior administrators perceive emerging technologies like AI, and what challenges (e.g., financial constraints, training gaps) hinder their effective adoption?
3. What framework or guidelines could be developed to enhance administrators' awareness and strategic implementation of innovation technology?

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2. Literature Review

2.1 The Context of Technology in International Schools

International schools in Bangkok operate within a competitive and dynamic environment. The case study school, offering the British curriculum and International Baccalaureate (IB), exemplifies this context. Its diverse, multilingual student body and reliance on technology as a primary communication channel make technological competence imperative. The IB curriculum's inherent fluidity and emphasis on design technology further necessitate that administrators maintain high awareness of technological trends (Escueta et al., 2017).

2.2 Technology Awareness and Adoption Theories

Awareness is a multifaceted construct. This study operationalizes it through Merikle's (1984) framework, which distinguishes between subjective (self-reported) and objective (measured) awareness. Subjective awareness is crucial as it forms the basis of administrators' conscious perceptions and decisions. This awareness directly informs established technology adoption models. Rogers' (2003) Diffusion of Innovations (DOI) theory explains how perceptions of an innovation's relative advantage, compatibility, and complexity affect its adoption. Similarly, the Technology Acceptance Model (TAM) posits that perceived usefulness and ease of use are key

determinants of technology use (Davis, 1989). This study posits that subjective awareness is an antecedent to these perceptual constructs.

2.3 Digital Leadership and Decision-Making

Effective technology integration is contingent upon digital leadership. Sheninger (2014) defines digital leadership as a proactive, strategic mindset that leverages technology to foster innovation and enhance learning. Effective digital leaders create a vision, build a supportive culture, and facilitate professional growth. In the complex context of international schools, leaders must navigate both technological and cultural complexities when selecting platforms, ensuring tools are pedagogically sound and culturally appropriate (Bunnell et al., 2016).

2.4 Challenges: Barriers and Emerging Technologies

The path to adoption is fraught with barriers. Ertmer (1999) categorizes these as first-order (external, e.g., financial constraints, lack of resources) and second-order (internal, e.g., beliefs, attitudes). Financial limitations are a pervasive first-order barrier that can stifle innovation even when awareness is high.

Furthermore, emerging technologies like AI present both opportunities and challenges. While AI promises personalized learning and administrative automation (Luckin et al., 2016), its adoption is hampered by ethical concerns, including data privacy, algorithmic bias, and a lack of clear institutional policies (UNESCO, 2023; Zawacki-Richter et al., 2019).

2.5 Synthesis and Research Gap

The literature establishes that awareness is necessary but insufficient for effective technology adoption, which is mediated by financial, cultural, and theoretical barriers. A significant gap exists in context-specific, actionable guidelines for international school administrators in Bangkok that bridge the divide between subjective awareness and strategic decision-making, particularly in the face of emerging technologies like AI. This study aims to fill this gap.

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3. Methodology

3.1 Research Design

This study employed a qualitative case study approach to gain an in-depth, contextual understanding of administrators' perceptions and experiences.

3.2 Population and Sampling

A purposive sampling strategy was used to select five senior administrators (e.g., Head of School, Head of Digital Systems) from a large international school in Bangkok. Participants were selected based on criteria ensuring they held decision-making authority, had a minimum of two years of administrative experience, and possessed relevant educational backgrounds.

3.3 Research Instrument and Data Collection

Data were collected through semi-structured interviews, which allowed for both focused inquiry and exploratory probing. The interview protocol consisted of eight open-ended questions designed to elicit self-reported awareness, aligned with Merikle's (1984) framework. Questions probed definitions of EdTech, current usage, decision-making processes, and perceptions of future trends like AI.

3.4 Data Analysis

The interviews were transcribed verbatim and analyzed using thematic analysis following the structured process outlined by Adu (2019). This involved familiarization with the data, generating initial codes, searching for themes, reviewing themes, and defining and naming them. This rigorous process ensured the identified themes were firmly grounded in the data.

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4. Findings

Thematic analysis of the interview data yielded four key themes:

4.1 Theme 1: Lack of Theoretical Grounding in Defining Educational Technology

Administrators demonstrated inconsistent and often nebulous conceptualizations of EdTech. Definitions ranged from a technical focus on "hardware and software" to an operational view of "systems and processes that enable data management." The frequent use of hedging phrases like "I think" indicated a reliance on experiential knowledge rather than a coherent theoretical framework, suggesting an underdeveloped foundation for strategic decision-making.

4.2 Theme 2: High Awareness Tempered by Financial Constraints

Participants exhibited a strong familiarity with a wide array of digital tools, including various LMS platforms and advanced systems like Turnitin. However, this awareness was consistently overshadowed by the primary barrier of financial limitations. Statements such as "the price is out

of control... the budgets limit us" highlighted a stark disconnect between awareness and implementation, positioning cost as the dominant factor in adoption decisions002E

4.3 Theme 3: AI as a Dominant yet Polarizing Future Consideration

Artificial intelligence emerged as the most prominent and recurring topic when discussing future trends. Perceptions were dualistic: AI was viewed simultaneously as an inevitable, transformative force ("AI is going to change everything") and a source of significant apprehension and uncertainty ("I don't know what's coming, maybe with AI"). This theme underscores a lack of consensus and clear strategy regarding AI's role in education.

4.4 Theme 4: Perceived Saturation and Complacency

A unanimous sentiment among administrators was that the school's current level of technology integration was "enough" or even sufficient to the point of saturation. This perception of adequacy, coupled with satisfaction with legacy systems, suggests a potential complacency and a risk-averse culture that may hinder the exploration and adoption of more innovative or effective solutions.

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5. Discussion

The findings illuminate a critical gap between administrators' subjective awareness of technology and their ability to translate this awareness into effective, strategic action. This discussion interprets these findings through the study's conceptual and theoretical lenses.

5.1 The Awareness-Action Gap and Theoretical Implications

The lack of a theoretical grounding (Theme 1) aligns with Merikle’s (1984) concept of subjective awareness, which can be fragmented and lack depth. Without a solid conceptual foundation, administrators' self-reported awareness does not reliably translate into the perceived usefulness and ease of use (TAM) required for advocacy and effective implementation. The financial constraints paradox (Theme 2) exemplifies Ertmer’s (1999) first-order barriers, demonstrating that even high awareness is futile without the organizational slack and resources to act.

5.2 Navigating the Future: The Ambiguity of AI

The mixed perceptions of AI (Theme 3) reflect the "compatibility" and "complexity" attributes from Rogers' (2003) DOI theory. The uncertainty indicates that administrators have not yet collectively defined AI's relative advantage for their specific context. This highlights an urgent

need for professional development and ethical frameworks to shape perceptions and guide strategic planning, moving from apprehension to informed adoption.

5.3 Complacency as a Second-Order Barrier

The perceived saturation of technology (Theme 4) represents a significant second-order barrier (Ertmer, 1999), rooted in institutional culture and beliefs. This complacency threatens the school's capacity for continuous innovation and digital transformation. It underscores the need for digital leadership (Sheninger, 2014) that champions a growth mindset and establishes processes for ongoing evaluation, challenging the status quo.

5.4 Towards a Structured Response

Collectively, these themes argue compellingly for the structured guidelines proposed in response to RQ3. The findings suggest that guidelines must address not only procedural gaps (e.g., how to evaluate) but also conceptual (e.g., what EdTech is) and cultural gaps (e.g., fostering innovation).

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6. Conclusion and Recommendations

This study concludes that while senior administrators at the international school in Bangkok possess a high level of subjective awareness regarding innovation technology, this awareness is not systematically leveraged for strategic decision-making. The translation of awareness into action is mediated by a lack of theoretical grounding, stringent financial constraints, ambiguous perceptions of emerging technologies like AI, and a culture of complacency.

To address these challenges, the following evidence-based guidelines are proposed for school administrators:

6.1 Proposed Guidelines for Enhanced Decision-Making

1. Establish a Clear Theoretical Framework: Develop a shared, pedagogically-grounded definition of EdTech within the school, informed by models like the TPACK framework, to guide all technology-related decisions.
2. Implement a Structured Evaluation Process: Adopt a formal decision-making matrix for platform selection that evaluates tools based on cost-effectiveness, pedagogical alignment, usability, scalability, and data security. Pilot new technologies before full-scale implementation.

3. Develop a Strategic AI Integration Plan: Form an AI task force to assess applications and risks. Create ethical guidelines and provide AI literacy training for staff to navigate its adoption responsibly.

4. Address Financial Barriers Strategically: Create a dedicated, multi-year EdTech budget aligned with the school's strategic plan. Explore consortium purchasing with other schools and prioritize open-source solutions where appropriate.

5. Combat Complacency through Continuous Professional Development: Mandate ongoing EdTech training for administrators, focusing on emerging trends and digital leadership. Encourage participation in professional learning networks.

6. Foster a Culture of Innovation: Appoint a digital leadership role (e.g., CTO) and create "innovation sandboxes" for safe experimentation with new tools.

7. Monitor and Evaluate Implementation Systematically: Implement Key Performance Indicators (KPIs) to measure EdTech effectiveness and conduct annual audits to ensure tools meet their intended educational and operational goals.

6.2 Limitations and Future Research

This study is limited by its focus on a single case study school and its reliance on self-reported data. Future research should expand to multiple international schools in Southeast Asia to allow for comparative analysis. Longitudinal studies tracking the impact of implementing structured guidelines would be valuable. Furthermore, dedicated research into effective models for AI professional development and policy-making in K-12 international education is strongly recommended.

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