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ARTIFICIAL INTELLIGENCE (AI) LITERACY AND APPLICATION ON SCHOOL GOVERNANCE OUTCOME IN THE CONTEXT OF PUBLIC SCHOOL ADMINISTRATORS

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ABSTRACT

This study examined the role of Artificial Intelligence (AI) in school governance among public school heads in the Division of Cotabato, focusing on AI literacy, AI application, and governance outcomes. Using a multi-phase mixed-methods design, the research combined quantitative and qualitative approaches. Phase 1 involved 353 school heads and utilized descriptive-correlational analysis to determine the relationships among variables. Phase 2 explored the experiences and challenges of 15 purposively selected school heads through semi-structured interviews, while Phase 3 focused on the development and validation of an intervention program to strengthen AI integration in school governance. Findings revealed that school heads demonstrated a high level of AI literacy and a high extent of AI application, particularly in administrative efficiency, data-driven decision-making, and stakeholder engagement. Governance outcomes in terms of efficiency, effectiveness, and trust were rated as very good. Significant relationships were found between AI literacy and AI application, as well as between AI application and governance outcomes, with critical appraisal emerging as a key predictor of effective AI use. Despite these positive findings, challenges such as limited resources, time constraints, and the need for continuous professional development were identified. The study concludes that strengthening AI competencies and institutional support systems is essential for optimizing AI-driven school governance. The proposed intervention program offers a practical framework to enhance leadership capacity and promote effective, ethical, and sustainable AI integration in education.

INTRODUCTION

The integration of Artificial Intelligence (AI) in school governance has emerged as a transformative approach to improving educational leadership, decision-making, and administrative efficiency. In the context of public schools in the Division of Cotabato, the increasing demand for data-driven and technology-supported governance highlights the need to examine how AI literacy and application influence school governance outcomes. Despite the recognized potential of AI to enhance efficiency, effectiveness, and stakeholder engagement, challenges such as limited resources, insufficient training, and varying levels of readiness among school heads hinder its full implementation. This study aimed to investigate the relationship between AI literacy, AI application, and school governance outcomes, as well as to develop an intervention program that supports effective AI integration in school leadership.

METHODOLOGY

This study employed a multi-phase mixed-methods research design. Phase 1 utilized a descriptive-correlational approach involving 353 school heads selected through stratified random sampling to examine the relationships among AI literacy, AI application, and governance outcomes. Phase 2 adopted a qualitative design using semi-structured interviews with 15 purposively selected school heads to explore their experiences and challenges in applying AI in school governance. Phase 3 focused on the development and validation of an intervention program based on the findings from the first two phases, with feedback gathered from another group of 15 school heads. Data were analyzed using descriptive statistics, Spearman's rho, regression analysis, and thematic analysis to ensure a comprehensive understanding of both quantitative and qualitative results.

RESULTS

The findings revealed that school heads demonstrated a high level of AI literacy in terms of technical understanding, critical appraisal, and practical application. Similarly, the extent of AI application in school governance—particularly in administrative efficiency, data-driven decision-making, and stakeholder engagement—was also found to be high, although not yet fully maximized. School governance outcomes in terms of efficiency, effectiveness, and trust were rated as very good, indicating that school heads are generally effective in managing school operations and fostering positive relationships with stakeholders. Furthermore, significant relationships were identified between AI literacy and AI application, as well as

between AI application and governance outcomes. Among the dimensions of AI literacy, critical appraisal emerged as the most consistent predictor of effective AI use across governance functions.

DISCUSSION

The results suggest that AI literacy plays a crucial role in enabling school heads to effectively apply AI in governance practices. A strong foundation in technical understanding allows leaders to utilize AI tools, while critical appraisal ensures responsible and ethical implementation. The practical application of AI contributes to improved efficiency by automating administrative tasks and enhancing decision-making processes. However, the findings also highlight the need for continuous professional development, improved access to resources, and flexible curriculum structures to fully optimize AI integration. The challenges identified, including time constraints and limited infrastructure, underscore the importance of policy support and institutional strategies to sustain and scale AI-driven governance practices. These findings align with existing literature emphasizing the importance of leadership competence, resource availability, and ethical considerations in the successful adoption of AI in education.

CONCLUSIONS

The study concludes that AI literacy and its effective application significantly contribute to improved school governance outcomes, particularly in enhancing efficiency, effectiveness, and stakeholder trust. School heads who possess strong competencies in understanding, evaluating, and applying AI are better equipped to lead data-driven and responsive school systems. While current levels of AI integration show promising results, there remains a need for sustained support through professional development, infrastructure investment, and policy alignment. The proposed intervention program provides a practical framework to address existing gaps and strengthen AI adoption in school governance. Ultimately, the successful integration of AI in education depends on a balanced approach that combines technological innovation with human-centered leadership, ensuring that governance practices remain ethical, inclusive, and aligned with educational goals.