The Impact of Technology on Organizational Performance:
How AI Innovations in Learning Environments Can Improve Dental School Outcomes in the US

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Dental schools in the United States play a crucial role and have a long-standing tradition of providing comprehensive oral care to millions of Americans at drastically reduced fees and lower costs. This altruistic commitment is deeply embedded in the educational mission of these institutions. As complex social systems, dental schools rely heavily on human capital and face numerous internal and external challenges, including technology capabilities, regulatory changes (Federal and State programs, e.g., Medicaid and managed care), and declines in patient volume. These challenges introduce uncertainty and necessitate innovative approaches to remain competitive and sustainable in the ever-evolving field of dental education.

In this dissertation, I investigate the feasibility of integrating artificial intelligence (AI) technology into pre-clinical and clinical settings to improve dental school outcomes and attract high-achieving dental students. I employ a careful research design utilizing multiple sources and a mixed-methodology approach. Quantitative data collected through surveys and qualitative data obtained through a focus group are analyzed and integrated to provide a comprehensive understanding of the impact of AI technology on dental education. These findings demonstrate how AI technology can positively impact organizational performance, improve learning environments, increase student satisfaction, and contribute to outstanding dental school outcomes.

This study has scholarly as well as practical significance for the field of dental education. Scholarly implications arise from exploring innovative approaches to addressing challenges in dental education, particularly by leveraging AI technology. The mixed-methods approach used in this study contributes to the methodological diversity of educational research, potentially inspiring similar investigations in other disciplines. My findings provide dental school leaders with insights into the tangible benefits of AI integration, such as improved student experiences and enhanced dental school performance and outcomes. The results should encourage the leaders of dental schools to embrace AI technology proactively, facilitating better preparation of students for their clinical careers while ensuring the continued competitiveness and sustainability of dental schools in a rapidly changing landscape.