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THE IMPACT OF MACHINE LEARNING ON ORGANIZATIONAL BEHAVIOR: A FRAMEWORK
FOR SPACE AGENCIES

Abstract

The application of machine learning for the analysis of space data and imagery has revolutionized the operations of space science agencies. Machine learning can enhance the precision and efficacy of data analysis, reduce costs, and improve decision-making abilities. Researchers are becoming increasingly interested in the influence of machine learning on organizational behavior during the digital transformation process. The purpose of this study is to investigate the positive impact of machine learning on organizational behavior during the digital transformation of a space science agency. Space data and imagery analysis using machine learning has the potential to enhance organizational behavior during the digital transformation process. Machine learning can improve decision-making, reduce manual labor, and boost job satisfaction. However, the implementation of machine learning can also generate change resistance and disrupt organizational behavior. Consequently, the problem statement for this study is to construct a framework that relies on literature review and organizational behavior to positively influence of machine learning on organizational behavior during digital transformation in a space science agency. The research intends to uncover methods in which machine learning can be effectively used to improve organizational performance and decision-making in the space sector. The outcomes of this study will help to improve understanding of how machine learning may be utilized to improve operations in the space sector through the usage of a constructed theoretical framework. The framework is based on theoretical concepts from organizational behavior on a thorough review of the organizational behavior theories such as McClelland's, expectancy, Alderfer's and Herzberg's dual factor theories which influenced the framework for understanding how employee and leaders behave during the implementation of machine learning in a space sector while analyzing space data. The framework is intended to assist researchers in better understanding the aspects that influence organizational success, such as leadership, communication, motivation, and team dynamics which aid in the implementation of the long-term strategies of space organization. This research is primarily concerned with theoretical notions, and no data was obtained. The study is principally based on a review and analysis of current organizational behavior literature/theory. As a result, the framework applicability to real-world situations may need to be tested empirically. The framework provides a structured approach for assessing organizational behavior and suggesting possibilities for development by relying on this theoretical approach. The framework provides useful insights into how space organizations can improve their performance through effective practices.