Artificial Intelligence, Total Quality Management, and Sustainable Development: A Strategic Framework for Organizational Excellence in the Real Estate Industry

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Abstract

The real estate industry faces increasing pressure to enhance organizational performance amid rapid technological advancements, sustainability imperatives, and evolving stakeholder expectations. This study examined the relationships among Artificial Intelligence Capability, Total Quality Management, Sustainable Development, and Organizational Excellence and developed a strategic framework for organizational excellence in the real estate industry. Anchored on the Resource-Based View Theory, Dynamic Capabilities Theory, Total Quality Management Theory, and Triple Bottom Line Theory, the study employed a quantitative descriptive-correlational research design utilizing Structural Equation Modeling (SEM). Data were collected from 300 employees and managerial personnel from selected real estate organizations in the Philippines using a validated survey questionnaire. The findings revealed that Artificial Intelligence Capability ($\beta = 0.42$, $p < .001$) and Total Quality Management ($\beta = 0.36$, $p < .001$) significantly influenced Sustainable Development. Likewise, Artificial Intelligence Capability ($\beta = 0.31$, $p < .001$), Total Quality Management ($\beta = 0.29$, $p < .001$), and Sustainable Development ($\beta = 0.41$, $p < .001$) significantly influenced Organizational Excellence. The results further demonstrated that Sustainable Development significantly mediated the relationships between Artificial Intelligence Capability and Organizational Excellence ($\beta = 0.17$, $p < .001$) and between Total Quality Management and Organizational Excellence ($\beta = 0.15$, $p < .001$). The validated structural model exhibited satisfactory goodness-of-fit indices and explained 72% of the variance in Organizational Excellence. The study concludes that the strategic integration of artificial intelligence, quality management practices, and sustainability initiatives significantly contributes to organizational excellence and provides a validated framework for enhancing competitiveness, sustainability performance, and long-term success in the real estate industry.

Keywords: Artificial Intelligence Capability, Total Quality Management, Sustainable Development, Organizational Excellence, Structural Equation Modeling, Real Estate Industry