

THE CRITICAL ROLE OF DATA UTILIZATION IN ACHIEVING SUSTAINABLE SUCCESS FOR MEDIUM-SIZED MANUFACTURING SMEs IN PATHUM THANI PROVINCE, THAILAND IN THE INDUSTRY 5.0 ERA

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ABSTRACT

This quantitative study investigated the impact of data utilization on the competitive advantage and performance of 131 medium-sized manufacturing SMEs in Pathum Thani, Thailand. Data was collected through a validated questionnaire administered to a convenience sample. The study employed a multi-method approach to data analysis. Exploratory factor analysis (EFA) was used for dimensionality reduction, followed by partial least squares structural equation modeling (PLS-SEM) to assess the hypothesized relationships. Covariance-based structural equation modeling (CB-SEM) was subsequently used for model validation. The results identified four key constructs: data capability, data utilization, competitive advantage, and firm performance. The developed structural model exhibited a good fit with the empirical data, demonstrating that data capability significantly influenced firm performance both directly and indirectly through competitive advantage. Data utilization demonstrated an indirect impact on performance, acting as a mediator between data capability and competitive advantage.

Keywords: Data Utilization, Data Capability, Firm Performance, Competitive Advantage, SMEs, PLS-SEM, CB-SEM

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