

A Causal Analysis of AI Powered Metaverse Adoption Barriers in SMEs

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Abstract:

The Metaverse, powered by Artificial Intelligence (AI), is emerging as a transformative digital space for businesses. While large enterprises are leveraging Metaverse applications to enhance customer engagement, optimize operations, and improve business models, Small and Medium Enterprises (SMEs) face significant barriers to adoption. This study employs the Decision-Making Trial and Evaluation Laboratory (DEMATEL) technique to analyze the interrelationships among these barriers. Key challenges include high implementation costs, lack of digital infrastructure, data security concerns, and limited consumer adoption. The DEMATEL approach helps classify these barriers into cause-and-effect groups, providing insights for policymakers and business leaders to devise targeted solutions for accelerating Metaverse adoption in SMEs

Keywords—Metaverse, SME, DEMATEL, Virtual world, Decision Support