SOUTHERN LUZON STATE UNIVERSITY
College of Engineering
COMPUTER ENGINEERING DEPARTMENT

CPE15 Cognate and Professional Course 1

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PROBLEM STATEMENT

The Philippine economy faces a persistent digital and spatial divide, where high-value IT–BPM jobs, over 1.82 million in total, are heavily concentrated in Metro Manila and a few urban growth centers, leaving skilled workers in provincial regions with limited opportunities despite relevant qualifications (Desiderio, 2025). This imbalance drives migration pressures, reinforces regional inequalities, and constrains inclusive economic growth. The core challenge is identifying municipal-level locations suitable for IT–BPM expansion by integrating geospatial connectivity data, population and labor force characteristics, and spatial accessibility. Leveraging machine learning techniques such as K-Means clustering, this study captures spatial patterns and classifies municipalities based on digital readiness, talent availability, and market potential. By systematically mapping latent opportunities beyond traditional urban hubs, the approach provides actionable insights for targeted infrastructure development and investment strategies, bridging the digital divide and fostering equitable socioeconomic progress across the Philippines.