## Classification of Indian States Based on Economic Characteristics

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This thesis examines how Indian states might be categorized based on their economic characteristics using advanced clustering techniques, particularly K-means and hierarchical clustering. By looking at socioeconomic indicators like GDP, population, development index, and agricultural dependency, the study identifies several categories that represent the different economic traits of Indian states. The results show differences between states that rely on agriculture and those that are industrially developed, providing information for focused policymaking. The study also discusses the theoretical difficulties of clustering, such as scalability, interpretability, and adaptation to changing data, and offers practical suggestions for further developments in clustering methods.