

## Identifying Trends in Blockbuster Films Using K-Means Clustering

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This study used K-means clustering to analyze patterns in blockbuster movie releases over a 40-year period, from 1975 to 2014. The dataset consisted of the top 10 movies produced each year. Finding trends in box office performance, audience response, and critical praise was the main goal. The study focused on important elements including the duration of the film, its rating on Rotten Tomatoes, its rating on IMDb, and its global gross profits. K-means clustering was used to identify discrete groups of films with different attributes, offering insights into the factors that influence a film's cultural effect and appeal. The research reveals certain patterns that have changed over time, with important ramifications for producers, distributors, and other business partners. Cluster analysis, for instance, showed how audience tastes have changed, how critical acclaim correlates with economic success, and what elements routinely affect box office results. This study advances knowledge about the film business by pointing out patterns that might be used to forecast viewer behavior in the future and direct advertising campaigns. As a result of the organized method of comprehending the dynamics of successful movies, K-means clustering appears to be a useful instrument for evaluating intricate datasets in the entertainment sector. Stakeholders may influence the future of cinema by identifying these patterns and making well-informed decisions that increase a film's chances of success.

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