# Business Strategies of a Coffee Shop by Identifying Customer Behaviours and Characteristics using Association Rules and Clustering Methods (A Case Study of Yogyakarta Students

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**Abstract.** Dramatic growth in coffee consumption across Indonesia underscores the promising future of the coffee industry, firmly establishing coffee as an integral part of the Indonesian lifestyle. Yogyakarta, a vibrant student city, stands as a prime example, boasting a bustling coffee culture with over 1200 coffee shops recorded in 2017, and this number continues to surge. In response to this proliferation, coffee shop proprietors have undertaken the strategic challenge of harnessing opportunities and thriving in a competitive market. To navigate this dynamic landscape, this research harnessed the power of data, sourcing responses through questionnaires distributed among students from various universities in Yogyakarta. The questionnaires employed a two-pronged methodology, utilizing both Association Rules and Clustering techniques. Association Rules, a potent data mining tool, delved into the vast database to uncover intricate relationships, while Clustering grouped students with similar characteristics into distinct clusters. The outcomes revealed four crucial rules derived from Association Rules, shedding light on the nuances of customer behaviors. Simultaneously, the Clustering process employed the K-Means algorithm to identify five distinct customer clusters, enabling in-depth profiling for each cluster's unique characteristics. Armed with these insights, businesses can effectively strategize their approach using the Marketing Mix method, focusing on four pivotal elements: Product, Price, Place, and Promotion. This comprehensive approach allows entrepreneurs to innovate their menus, tailor pricing to match student spending habits, select strategic locations with easy accessibility, and enhance customer engagement through promotions and unique menu offerings. In summary, the seamless integration of Association Rules and Clustering methodologies empowers coffee shop owners with invaluable insights into customer behaviors and traits, facilitating the formulation of data-driven strategies that leverage the Marketing Mix elements to enhance market positioning and elevate customer satisfaction within the coffee shop industry.

**Keywords**: Coffee, Lifestyle, Association Rules, Clustering, Marketing Mix.