

ABSTRACT

Astiti Weaving is a Balinese woven fabric MSME located in Banjar Jerokapal, Gelgel Village, Klungkung, Bali, owned by I Nyoman Sudira. Astiti Weaving faces the challenge of identifying customer woven fabric color preferences in a structured manner. In the woven fabric color selection process, the business owner relies on intuition and manual recording without a structured analytical basis. Therefore, this study uses a data-driven approach to help predict customer woven fabric color preferences (dark or light).

This study uses a decision tree classification method to identify the relationship between customer demographic attributes, including age, gender, occupation, and domicile, and fabric color preferences (dark or light). The process begins with data collection and cleaning, followed by encoding categorical values into numerical values. Next, entropy and information gain calculations are performed to construct a decision tree model that represents the classification patterns of customer data.

The analysis results indicate that the occupation attribute has the highest information gain value and is used as the root of the decision tree. The resulting decision tree model has a relatively simple structure and is easy to interpret. After pruning, the model demonstrated a simple classification performance and could be used to generate decision rules.

In conclusion, the decision tree method can be used to identify trends in woven fabric color choices based on demographic data. This model can be used as a basis for business development. Although not yet implemented in a digital system, the analysis results can be useful in applying data analysis to support decision-making regarding dark or light woven fabric colors.

Keywords – [Classification, Decision Tree, MSME Woven Fabric]