

**Development Of Ai-Based Product Pricing Recommendation System
Considering Internal Cost And Competitor Prices For MSMEs**

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ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) in Indonesia often set product prices manually using cost-plus calculations. While simple, this approach may overlook packaging costs, platform fees, competitor prices, and profit implications, resulting in unstructured and less market-responsive pricing decisions. This study introduces FinanceApp, a prototype AI-based decision support system designed to assist Indonesian MSMEs in pricing by integrating internal cost components and competitor price data. A quantitative Research and Development approach was applied, and the prototype was developed following the Spiral Model. Random Forest Regression was implemented to produce preliminary price recommendations. The system was evaluated through model performance testing, functional testing, and user acceptance testing. The dataset comprised 60 footwear product records and 48 competitor price records, with 19 rows used for model training. Model evaluation produced an MAE of 419.78, RMSE of 670.08, and R^2 of 0.245, indicating limited predictive generalization but feasibility at the prototype level. Functional testing confirmed that all major system modules performed as intended. User acceptance testing with 40 respondents yielded an average score of 4.20 (good), demonstrating positive perceptions of usability and decision-support value. Findings suggest that FinanceApp provides structured pricing support, improving data organization, cost visibility, competitor comparison, profit estimation, and pricing transparency. However, broader datasets, automated competitor data collection, algorithm comparison, and longitudinal MSME field testing are recommended before deployment as a production-level pricing tool.

Keywords: *Micro, Small, and Medium Enterprises (MSMEs); Artificial Intelligence; Pricing Decision Support System; Random Forest Regression; Competitor Price Analysis.*