

Abstract

Rapid urbanization in Jakarta has intensified organic waste management challenges, increasing environmental pollution and pressure on landfill capacity. Black Soldier Fly Larvae (BSFL) technology offers a sustainable solution by converting organic waste into valuable products such as animal feed and organic fertilizer, supporting resource recovery and circular economy principles. However, research on stakeholder perception and market adoption of BSFL-derived products remains limited, particularly in Indonesia. This study examined the influence of awareness, perceived environmental benefits, perceived economic benefits, and risk perception on the adoption intention of BSFL-derived products in Jakarta. A quantitative survey was conducted among members of the general public and industry-related stakeholders using a structured questionnaire. Data were analysed using descriptive statistics, validity and reliability tests, independent samples t-tests, assumption testing, and multiple linear regression. The questionnaire demonstrated satisfactory validity and reliability, with all Cronbach's Alpha values exceeding 0.70. The regression model was statistically significant and explained 26.6% of the variance in adoption intention. While none of the individual predictors were statistically significant after controlling for the others, perceived economic benefits showed the strongest practical influence. Industry-related respondents also demonstrated higher awareness and more favourable perceptions than the general public. The findings indicate that the adoption of BSFL-derived products is influenced by multiple perception-based factors rather than a single determinant. This study contributes to the limited literature on BSFL market adoption in Indonesia and provides insights for policymakers and industry practitioners to improve awareness, communicate economic and environmental benefits, and promote sustainable waste management.

Keywords: Black Soldier Fly Larvae (BSFL), market acceptance, adoption intention, stakeholder perception, organic waste management, circular economy, Jakarta