Gender Differences in Behavioral Intentions to Adopt Seaweed Farming in Northern Sri Lanka

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Seaweed farming has emerged as a climate-resilient livelihood strategy in post-conflict coastal regions of Sri Lanka. However, adoption intentions may differ across gender due to variations in perceived support, ease of use, and expected outcomes. This study aims to examine gender differences in behavioral intention to adopt seaweed farming using the Unified Theory of Acceptance and Use of Technology (UTAUT) framework. Primary data was collected from 195 respondents in the Northern Province using a structured questionnaire. A multi-stage sampling approach was utilized; to collect data from specific DS Divisions (Delft, Kayts, Velanai, Poonakary) in Jaffna and Kilinochchi districts. The population was stratified into 'adopters' and 'non-adopter' categories based on their seaweed farming practices. Partial Least Squares Structural Equation Modelling (PLS-SEM) and Multi-Group Analysis (MGA) were employed. Multi-Group Analysis revealed distinct gender dynamics: female respondents are significantly more reliant on enabling environments and institutional scaffolding, as Facilitating Conditions emerged as their strongest predictor ($\beta = 0.516$, $p < 0.001$) compared to males ($\beta = 0.422$, $p < 0.001$). Conversely, males respond more strongly to perceived ease of use, with Effort Expectancy heavily influencing their intentions ($\beta = 0.374$, $p = 0.004$) compared to females ($\beta = 0.293$, $p = 0.023$). Performance Expectancy was statistically non-significant for both groups. Measurement model assessment showed strong internal consistency, with outer-loadings ranging from 0.714 to 0.890. A high HTMT ratio (0.994) between Social Influence and Facilitating Conditions revealed a conceptual overlap, reflecting a context where community social pressures and institutional support structures are heavily intertwined. The findings indicate that ease of use and institutional support are critical drivers of seaweed farming intention, while perceived productivity gains play a limited role. Gender differences suggest that female respondents are more dependent on enabling conditions, whereas males respond more strongly to perceived ease of use. The study extends UTAUT application to community-based aquaculture adoption in a developing-country context and highlights the importance of gender-sensitive livelihood interventions.

Keywords: behavioral intention, gender, PLS-SEM, seaweed farming, UTAUT

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