RESEARCH ARTICLE
eISSN 2234-1757
Fish Aquat Sci. 2023;26(2):105-116
https://doi.org/10.47853/FAS.2023.e9
FAS Fisheries and Aquatic Sciences

Factors influencing farmed fish traders' intention to use improved fish post-harvest technologies in Kenya: application of technology acceptance model

Jimmy Brian Mboya[1,2,*], Kevin Odhiambo Obiero[1], Maureen Jepkorir Cheserek[3], Kevin Okoth Ouko[4], Erick Ochieng Ogello[2], Nicholas Otieno Outa[2], Elizabeth Akinyi Nyauchi[1,5], Domitila Ndinda Kyule[6], Jonathan Mbonge Munguti[6]

[1]*Kenya Marine and Fisheries Research Institute (KMFRI), Sangoro Aquaculture Research Center, Pap Onditi 136-40111, Kenya*
[2]*Department of Animal and Fisheries Sciences, Maseno University, Private Bag, Maseno, Kenya*
[3]*Department of Human Nutrition, Faculty of Health Sciences, Egerton University, Nakuru 536-20115, Kenya*
[4]*Department of Agricultural Economics and Agribusiness Management, Jaramogi Oginga Odinga University of Science and Technology, Bondo 210-40601, Kenya*
[5]*Department of Biological Sciences, Egerton University, Nakuru 536-20115, Kenya*
[6]*Kenya Marine and Fisheries Research Institute (KMFRI), National Aquaculture Research Development and Training Center (NARDTC), Sagana 451-10230, Kenya*

Abstract

Improved fish post-harvest technologies (IFPT) have been promoted as more efficient methods of fish processing, preservation, and value addition than the traditional methods prevalent in developing countries. The adoption rates, however, do not appear to be convincing. The purpose of this study was to determine the socio-demographic and psychological factors that influence intention of Kenyan farmed fish traders to use IFPT. The technology acceptance model (TAM) was used to properly explain the impact of TAM constructs such as perceived usefulness (PU), perceived ease of use (PEOU), and attitude (ATT), as well as socio-demographic factors such as gender, age, education level and fish trading experience on traders' intention to use the technologies. A cross-sectional survey was conducted to collect data using a semi-structured questionnaire from 146 traders in Busia, Siaya and Kakamega counties. At a significance level of $p = 0.05$, a linear regression model was used to examine the socio-demographic and psychological determinants of the traders' behavioral intention to use the improved technologies. The regression analysis revealed that PU ($\beta = 0.443$; $p = 0.000$), PEOU ($\beta = 0.364$; $p = 0.000$) and ATT ($\beta = 0.615$; $p = 0.000$) influence traders' intention to use IFPT, with ATT having the highest influence on intention. However, the traders' socio-demographic characteristics have no effect on their intention to use the technologies, as the coefficients for gender ($\beta = 0.148$; $p = 0.096$), age ($\beta = 0.016$; $p = 0.882$), level of education ($\beta = -0.135$; $p = 0.141$) and fish trading experience ($\beta = 0.017$; $p = 0.869$) are all insignificant. These findings show that the traders intend to use IFPT and will use them when it is in their best economic interests.

Keywords: Behavioral intention, Farmed fish, Improved fish post-harvest technologies, Kenya, Technology acceptance model

Received: Oct 18, 2022 **Revised:** Dec 8, 2022 **Accepted:** Dec 8, 2022

***Corresponding author:** Jimmy Brian Mboya
Kenya Marine and Fisheries Research Institute (KMFRI), Sangoro Aquaculture Research Center, Pap Onditi 136-40111, Kenya
Tel: +254-716785854, **E-mail:** jimmybrianmboya@gmail.com

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (http://creativecommons.org/licenses/by-nc/4.0/) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.
Copyright © 2023 The Korean Society of Fisheries and Aquatic Science