

Evaluating Health Services and Operations among Barangay Health Offices: Basis for Document Digitalization with Text Classification Algorithm and Machine Learning

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Abstract: *Barangay Health Offices (BHOs) plays an important role in delivering primary healthcare services to local communities. However, many of its operations still rely on outdated manual systems for document reporting and analysis. The process of digitalizing document reporting and analysis presents an opportunity to streamline processes, enhance efficiency, accuracy, and accessibility of health-related information, and enable better data-driven decision-making at the barangay level. It is for this reason that the researchers intend to address the problem within the Barangay Health Offices (BHOs) of Surigao City. By analyzing the needs of the 20 female BHO workers and utilizing a mixed-methods approach, various aspects of health service provision and operational transactions were evaluated. The findings revealed positive perceptions among respondents, particularly in Health Services Provision (WM = 4.2), resource availability (WM = 3.85), data security (WM = 3.05), and infrastructure (WM = 2.53). However, infrastructure challenges such as internet speed and computer availability were highlighted as areas needing improvement. Data security measures were also identified as requiring enhancement through encryption and regular audits. The survey results will be essential in creating the proposed digitalization framework aimed at enhancing the efficiency, accuracy, and accessibility of health-related information using text classification algorithm and machine learning. This research exploration has also contributed valuable insights for policymakers and health administrators seeking to optimize health services provision at the grassroots level. The proposed digitalization framework will be a pathway towards improved healthcare delivery and operational effectiveness*

Keywords: Barangay Health Offices, health services, operational transactions, digitalization framework, document reporting, health information management, data security, infrastructure improvement, mixed methods.