

ABSTRACT

Child health in Indonesia is a major concern, with health problems predominantly affecting children. As a primary health care facility (Posyandu), it plays a crucial role in monitoring children's health, including nutrition, weight, and height. However, data recording is often still done manually.

To address this, an IoT-based digital Posyandu scale is proposed. This tool will automatically input child health data, which is then integrated with a website-based application. This will make it easier for Posyandu cadres to record data, and parents can monitor their children's health via smartphone. This innovation is expected to improve the efficiency of child health monitoring and support a healthier future generation.

The purpose of this research was to conduct an economic feasibility analysis for the procurement of an innovative health tool, namely an IoT-based digital Posyandu scale. The feasibility analysis was conducted from an economic perspective, taking into account market and technical aspects. The market analysis indicated a Total Addressable Market (TAM) of 304,263 Posyandus, a Serviceable Available Market (SAM) of 12,171 Posyandus, and a Serviceable Obtainable Market (SOM) of 2,434 Posyandus.

The results of the economic feasibility analysis indicated that the digital Posyandu scale is feasible with an NPV of Rp510,396,937, an IRR of 48%, and a PBP in year 3. The thresholds for a decrease in profit margin are -10%, an increase in marketing expenses of 16%, a decrease in cost of goods sold of -18%, an increase in employee salaries of 22%, and a decrease in sales growth of -43%. If these thresholds are exceeded, the digital Posyandu scale business is not feasible.

This research contributes to essential public health in understanding, preventing, and addressing health challenges. Its contributions include developing evidence-based policies, effective interventions, and improving quality of life. The integration of IoT into public health research leads to smarter, more responsive, and prevention-based approaches, significantly contributing to improving the overall health of individuals and communities.

Keyword: Digital Posyandu Scales, Feasibility Analysis, Health, Healthcare, IoT