

ABSTRACT

Aquaculture or fish farming contributed approximately IDR 431 trillion to GDP in 2022. The increasing demand for fish has also driven the growth of fish farming companies, with East Java Province being the region with the largest number of companies (34.48%). Telkom University has developed a solution in the form of an automatic feeding device called LeFeeder. LeFeeder is a tool that uses the Telegram application to feed fish efficiently and monitor water quality in real-time. Currently, LeFeeder is at Technology Readiness Level (TRL) six, which refers to prototype demonstration in a real environment. To achieve a higher readiness level and be ready for market entry, LeFeeder requires a feasibility study. In this final project, the researcher conducted a feasibility analysis focusing on the financial aspect, supported by technical and market aspects. Based on the conducted business feasibility design, the smart feeder business owned by LeFeeder has a Net Present Value (NPV) of IDR 4,889,815,469, an Internal Rate of Return (IRR) of 42%, and a Payback Period (PBP) of 3 years. Additionally, a sensitivity analysis was performed, indicating that changes in product selling price, sales target, and profit margin are sensitive to a 50% decrease. Based on the study results, which consider the financial aspect and are supported by technical and market aspects, the establishment of the smart feeder business by LeFeeder is deemed feasible to proceed.

Keywords: Aquaculture, Feasibility Study, Smart Feeder, Technology IoT