

ABSTRACT

This thesis examines how a viable and scalable business model can be improved to support water reduction initiatives in dishwashing operations at Saxion University of Applied Sciences Deventer, as part of the university's target to reduce total water consumption by 20% by 2030. The study responds to the broader challenge of water scarcity and the need for universities to convert sustainability goals into practical and financially informed decisions. An integrated single-case study design was applied, combining semi-structured interviews and secondary operational and financial data. The theoretical framework draws on Economic Evaluation Theory, Barriers and Feasibility Theory, Behavioral Theory, and Sustainable Business Model Theory. The findings show that, although dishwashing appears relevant in theory as a water-saving process, its empirical potential in the Saxion case is limited. The dishwasher had already been replaced with a newer adaptive machine, and water consumption for dishwashing was not measured separately. As a result, the study could not produce a full standalone investment case or a robust financial evaluation of further dishwashing-specific improvement. The research nevertheless shows that effective water-reduction decision-making depends on measurement availability, timing of intervention, and strategic scale. It concludes that dishwashing should be seen as a limited appliance-level example within Saxion's wider water strategy, while still being included in future monitoring and water-preservation efforts.

Keywords: Water reduction, dishwashing operations, Saxion University of Applied Sciences, business model, NPV, water management, sustainability, case study.

