Data Management for Strategy Dashboards

proactive data asset management for the circular economy to support the achievement of its business objectives

Bachelor Thesis

Submitted at the IMC Fachhochschule Krems (University of Applied Sciences)



Bachelor Programme Informatics

by

Dharmik Chaklasiya

for the award of academic degree
Bachelor of Science in Engineering (BSc)

under the supervision of Prof.(FH) Dipl. Ing. Dr. techn. Deepak Dhungana

Submitted on 05.05.2023

Abstract

Circular economy has drawn more attention recently as a way to encourage sustainable development and reduce the negative effects of human activity on the environment. As policymakers and businesses in Austria work towards achieving circular economy objectives, effective decision-making tools are essential for monitoring progress and guiding strategic actions. This bachelor thesis presents the development of a strategy dashboard for Austria's circular economy, with a focus on data management and visualization techniques to support informed decision-making.

The research goals of this study are: to identify the key characteristics of a strategy dashboard tailored to Austria's circular economy, to determine relevant indicators and data sources for assessing circularity, to investigate the opportunities and challenges in developing and implementing data management strategies, and to provide suggestions for upgrading data sources.

To address these objectives, the thesis outlines the development process of the dashboard using Python, and Django, from design and implementation to testing and evaluation. The dashboard incorporates a range of indicators including recycling rates, energy consumption, and management of waste and their data sources, in order to offer an exhaustive overview of Austria's circular economy. A user-friendly visualization tool(interactive charts) is employed to make the data easy to understand and actionable.

The results of the thesis demonstrate how effectively the developed dashboard supports strategic decision-making for Austria's circular economy. The dashboard's data management and visualization techniques enable users to track and apprehend relevant metrics, identify trends, and make informed decisions. Additionally, the research highlights potential improvements and future work to further enhance the dashboard's capabilities and address any limitations.

In conclusion, this thesis contributes to the field of study by offering a practical tool for monitoring and managing Austria's circular economy. The developed strategy dashboard not only aids decision-makers but also serves as a valuable resource for researchers and practitioners seeking to advance sustainability efforts in the country.

Keywords: Circular economy, Django, Python, Strategic Dashboard, Data Management, Data-driven decision-making, Web application