

At the Chair of Logistics and Supply Chain Management at the TUM School of Management, we are looking for an interested and qualified student to conduct their

Master's Thesis

on the topic:

Evaluating Industry Readiness for Circular Supply Chain: Developing a Maturity-Potential Framework

Transitioning to a circular economy requires industries to redesign supply chains for closed material loops, waste prevention, and value retention. Yet, decision-makers lack a practical, comparable way to assess (i) the current circularity maturity and (ii) the prospective impact of increased circularity across industries. This thesis aims to develop a transparent, indicator-based maturity-potential framework that positions industries according to their current circular supply chain (CSC) state and the potential benefits of scaling circularity. The framework will provide guidance for prioritization, policy, and investment by highlighting where circular interventions are both feasible and of high impact.

Key project tasks:

- Conduct a literature review on circular economy, CSC indicators and maturity models (incl. established industry benchmarking methods).
- Define an indicator set to use for a CSC maturity-potential matrix and scoring approach (e.g., variable definitions, weighting schemes, normalization procedures).
- Identify industries and collect data (e.g., Eurostat; UN Global Materials Flow Database; market, industry, and company reports).
- Compute maturity-potential scores for selected sectors in collaboration with the chair's industry partners.
- Validate the framework by benchmarking against external datasets and/or sensitivity analyses.
- Create an industry comparison and derive managerial insights, policy recommendations and outline potential future research avenues.

Requirements:

This thesis is suitable for Master Management and Technology (MMT) as well as Master in Management (MiM) students with a focus on operations and supply chain management. Candidates should possess the ability to work independently and demonstrate strong analytical skills. Experience with data analysis (e.g., Python, R) and familiarity with sustainability-related metrics are preferred. A keen interest in supply risk assessment and multi-criteria decision-making would be advantageous.

Earliest Start Date: As soon as possible.

Supervisor: Ben Mischeck

Application: Email with curriculum vitae and transcript of records to **logtheses.log@mgt.tum.de**