Circular Economy in the Construction Industry

Barriers and Drivers for the Implementation of Circularity in Family-Owned Construction Companies in Germany

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BACKGROUND

- increasing constraints and pressure on the environment and society give rise to a new, restorative economic system- **the circular economy**
- bottom-up approach recommended: **circular business model innovation** needed to transition toward the circular economy
- the **construction industry** is one of the most constraining industries
- **family-owned companies** considered particularly capable to engage in complex processes like circular business model innovation

This research bridges two **research gaps** by investigating barriers and drivers for circular business model innovation in **two under-researched contexts**:

- limited research on circular economy and the construction industry
- limited research on family-owned companies and the circular economy

THEORY

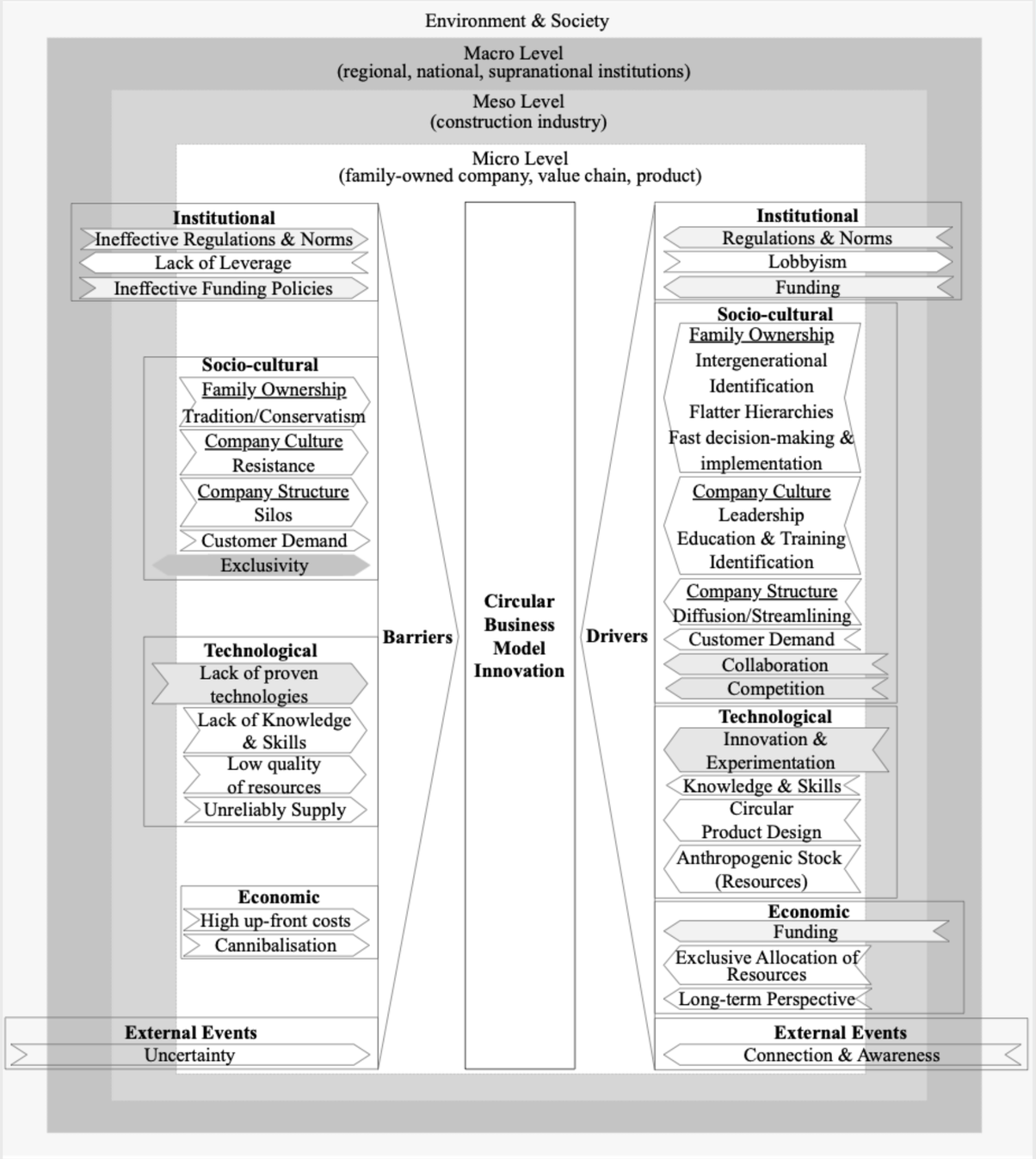
- the circular economy operates on three levels: micro, meso, and macro levels
- implementation of the circular economy is influenced by institutional, socio-cultural, technological, and economic barriers and drivers on all levels
- socio-cultural, technological, and economic barriers and drivers are predominant to circular business model innovation

METHODOLOGY

- abductive research
- qualitative case study
- semi-structured interviews with senior management & employees

Methodological gap:
circular economy in the construction industry primarily investigated with quantitative approaches or systematic, large-scale literature reviews

FINDINGS



CONCLUSION

In the context of the construction industry and family ownership, **the dynamics of the implementation factors change** and give rise to new factors:

- **family-ownership** affects circular business model innovation positively by creating a conducive **company culture & structure**
- the context of the **construction industry affects technological factors**, as buildings engage in different temporal dimensions than typical products the CE applies to, given their long lifecycles and design for durability
- **economic factors exercise greater influence** than in other contexts due to the naturally high price point of house construction
- **governmental funding is crucial** to ensure the economic viability of circular business models
- institutional factors play a more important role than anticipated; most interviewees expressed that a **top-down approach** is necessary to create pressure for circular business model innovation
- **external events** can function as barriers or drivers; this effect is dependent upon the company's approach to external events and uncertainty

Implementation factors are **subjective to the context a company** operates in

IMPLICATIONS

- a **holistic approach** is necessary for successful circular business model innovation
- **open innovation and collaboration** are crucial to accelerating the implementation of circularity beyond the micro level
- given the importance of institutional factors, companies must **engage politically** to shape regulations and norms in favour of the circular economy