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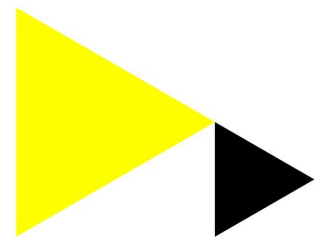
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Collaborative business model experimentation for urban upcycling

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Extended abstract

Across Dutch municipalities, unusual collaborative initiatives emerge that aim to stimulate the creation of value from municipal waste resources (Faun & Maas, 2019; Faun et al., 2021; MIW, 2023; Prendeville et al., 2018). For example, an increasing number of Dutch municipal so-called 'urban crafts centers' facilitate and incubate regional urban networks for entrepreneurial upcycling initiatives (Werner et al., 2020). Other recent urban initiatives, include a wide variety of collaborations, including urban maker spaces, used-product exchange platforms and circular hubs, that may be initiated by municipalities, by small social entrepreneurs or by national and international corporate organizations. Circular economy literature proposes that experimentation competences are important for developing initiatives towards circular business models (Bocken et al., 2018; 2021; Bocken & Konietzko, 2023) and a wide range of innovation frameworks and business model toolkits have been developed to support the development of circular business models based on experimentation (Bocken & Coffay, 2023; Konietzko et al., 2020; Kraaijenbrink et al., 2018; Pieroni et al., 2019; Scholl & de Kraker, 2021).

However, more insight is needed to understand how experimentation contributes to the development of urban upcycling initiatives, in particular those where collaborative business models are created. Literature suggest that business model experimentation occurs differently in various collaborative contexts (Brown et al., 2021). For example, depending on the type of initiating focal actors involved, collaborative business models develop along different pathways (Oskam et al., 2021).

Therefore, we aim to understand how experimentation occurs in various types of collaborative urban upcycling initiatives and we investigate the following research question: *How do stakeholders in collaborative urban upcycling initiatives use experimentation to develop circular business models?*

We use a multiple case-study approach (Yin, 2009) to identify what types of experiments and approaches are used in the development of collaborative upcycling initiatives in a city context, and to examine what types of experiments and approaches are perceived as effective by its initiators and key stakeholders. Based on a purposive sample (Bryman et al., 2011) of nine Dutch pilot projects (Table 1), we explore for each type of initiating actor, i.e. public, corporate, and local social enterprises, three cases for collaborative urban upcycling. For each case, we examine which experiments and approaches are used at three stages: (1) experimenting, (2) piloting and (3) rolling out (Bocken et al., 2017).

Table 1. Urban upcycling initiatives analyzed in this study.

Nr.	Interviewee	Initiating organization	Initiating type of organisation
P1	Project manager	Urban resource center	Public
P2	Project manager	Municipal circular crafts center	Public
P3	Initiator	Municipal circular crafts center	Public
C1	Project Initiator	Resource orchestrator	Corporate
C2	Sustainability manager	Incumbent corporate upcycler	Corporate
C3	Sustainability manager	Upcycling platform	Corporate
S1	Initiator / Founding partner	Circular crafts center	Local social enterprise
S2	Initiator / Founding partner	Maker space	Local social enterprise
S3	Initiator / Founding partner	Used product store	Local social enterprise

As part of this explorative multiple case-study approach we first describe and analyze nine cases based on data from semi-structured interviews with key actors, public reports and internal archives, such as meeting notes and workshop outcomes. Next, we use

questionnaires to identify which experiments and approaches are perceived as effective by key stakeholders. Then, we conduct within-case analysis to gain in-depth insight in the experimentation approach for each stage and the role of stakeholder collaboration therein. Finally, we use a cross-case analysis to identify which differences and similarities occur between the three types of collaborative urban upcycling regarding experimentation approaches and their perceived effectiveness.

Our preliminary analysis is based on primary and secondary data from semi-structured interviews, internal archives, and public articles. We used a timeline and relevant critical turning points (Pel et al., 2017) to visualize experimentation stages (Bocken et al., 2017). As a guideline in the interview protocol, we used open questions adapted from ten key criteria of circular business model experimentation (Bocken et al. 2021) and nine characteristics of community-based research design (Leavy, 2017).

Our initial findings suggest that urban upcycling initiatives use experimentation as an important means for collaborative business model development. All interviewees refer to a combination of financial, social, and environmental goals. However, actors take surprisingly different pathways depending on the type of initiator involved. Particularly regarding (1) triggering event, (2) timeline phasing, (3) structured data collection and (4) emphasis on stakeholder engagement, we found substantial differences.

First, initiating actors refer to different events that triggered their engagement in urban upcycling experiments. Whereas municipalities refer to local coalition agreements, city council motions and national subsidies as a critical starting point for urban upcycling experimentation, social entrepreneurs refer to more ad-hoc opportunities and unforeseen availability of resources, while corporates refer to various types of business model experimentation as part of a largely standardized strategic investment and budgeting cycle.

Next, as for timeline phasing, collaborative urban upcycling experiments initiated by municipalities start with high ambitions, but struggle to structure and phase the experimentation process, leading to extreme outcomes such as endless piloting or to the opposite: skipping the entire pilot phase. For example, the principal interviewee in [Case P2] suggests that the ambitious municipal urban upcycling project moved from identifying small-scale business experiments straight to a scaling phase without first piloting the concept on a small scale, which was primarily based on the argument 'if we do it, we do it right'. On the other hand, in cases [P1], [S2], [S3] interviewees refer to incidents where concrete decisions on continuation and timescale of municipal pilots largely depend on political priorities, sometimes resulting in endless pilots without fundamental decisions and causing disengagement and risk-averse behavior with involved stakeholders rather than progress.

Thirdly, as for structured data collection, the cases initiated by corporates use a more data-driven approach based on internally agreed quantitative monitoring methods and continuous experimentation in various phases and organizational levels, while the cases initiated by local social entrepreneurs and municipalities are guided by high-level results and retrospective evaluations.

Finally, while business model experiments of upcycling initiatives by corporates and local social entrepreneurs engage a limited number of potential partners, municipality-led business model experiments are more complex in terms of quantity and diversity of stakeholders involved. Business model experiments often aim towards changing public awareness and consumer behavior by targeting citizens as consumers of resources. However, initiators struggle to actively engage these stakeholders from a more fundamental community-based research perspective.

To make upcycling more impactful and relevant in the context of the city, we suggest a more integrated, structured, and diverse approach towards collaborative business model experimentation. For example, collaborative experiments between local social enterprises and corporates could be aimed at scaling up promising niche initiatives towards embedding them into existing value chains and collaborative public-private media campaigns may benefit from more data-driven and community-based research approaches. Local educational institutions may facilitate the scaling of urban upcycling by developing relevant circular competences, or by involving students more actively in collaborative experimentation.

We contribute to research on circular business model experimentation by improving the understanding of the role that different types of organizations play in the context of collaborative experimentation in urban upcycling. The insights of our study can be used by researchers to further examine collaborative experimentation in a city context and by practitioners to effectively develop upcycling initiatives towards impactful and scaled circular business models.

Keywords

experiments, collaborative business model experimentation, urban resource centers, circular cities, urban pilots, upcycle.

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