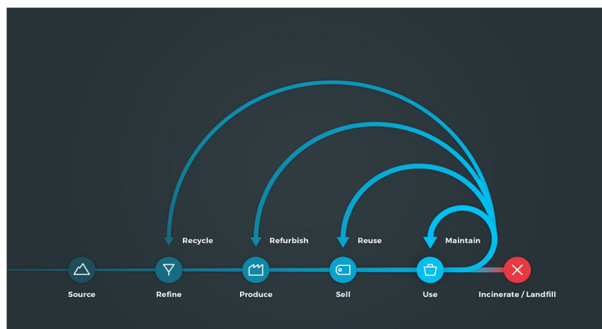


PhD Research Aglaia Fischer – Circular business models and institutional incentives

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Circular economy (CE) is considered to have a positive impact on the world's planetary boundaries by using products and the embedded resources in cyclical ways, thus mitigating resource depletion while creating a new rationale for economic activity. This PhD project focusses on *the development of circular business models while reshaping institutions*.



Circular economy cascades (Figure: Circle Economy)

A business model can be defined as the 'design or architecture of the value creation, delivery and capture mechanisms' of a firm (Teece, 2010). **Circular business models** use the circular economy cascades for value creation, delivery, and capture.

The **institutions** of the current linear economy can be understood as the "rules of the game" dominating socio-technical structures at a system/regime level (Geels, 2001). They tend to dominate and shape economic actors' decision-making and framing, and they are at the core of how firms, consumers, and other stakeholders interact and collaborate at a more general level (Coase, 1988; Williamson, 2000; 2002). These rules are often given shaping the way actors (inter)act and collaborate (Anderson and Hill, 2002, 2004). However, it is also the case that actors can change formal and informal rules through their decisions, and by promoting and adopting novel governance mechanisms. In this way they become "entrepreneurial" and mobilize resources required to change or transform institutions (Battilana et al., 2009; Pacheco et al., 2010) with the aim of exploiting economic opportunities that cannot be obtained in the current institutional system/landscape (Anderson and Hill, 2004). It must be noted that mobilizing resources to transform institutions in order to align with a CE rationale can be in tension with business models/organizational modes of the 'winners of the linear economy', i.e. firms that benefit from the status quo.

Article #1: Institutional incentives in Circular Economy transition: the case of material use in the Dutch Textile Industry.

This article is concerned with the RQ 'which institutional arrangements are used by firms operating in the transition to circular economy?'

Using the case of the Dutch textile sector, this study shows how firms shape new institutional arrangements in order to align with a new economic rationale of CE. Also it

discusses what sets apart Product-as-a-Service (PaaS) business models from other circular business models that can be more easily aligned with the status quo of the linear economic rationale. Challenges of PaaS are a lack of chain coordination, and a misfit of PaaS contracts and financial mechanisms with the current institutional realm. Methodological approach: Inductive research – Multiple case study in the Dutch textile sector. Data was collected by in the form of archival documents- and interviews from 4 firms in the Dutch textile sector and 3 CE accelerator organizations.

Status: This article was published in the Journal of Cleaner Production; special issue on Making, buying and collaborating for more sustainable production and consumption, March 2017. Authors: A. Fischer, S. Pascucci

Article #2: Building a circular Product-as-a-Service business model; Learnings from the journey of Fairphone-as-a-Service.

Pinpointing the misfit between PaaS business models and existing institutions led tot a specific focus on PaaS (note in literature this is also called Product Service System or PSS, see Tukker and Tischner 2006, Tukker 2015). In a PaaS business model, the performance of a product is sold to the consumer in the form of a service contract, while ownership and responsibilities remain at the company. By selling services of a product instead of the product itself, PaaS models arguably create a financial incentive to invest in longevity and re-use of products and materials (Baines et al., 2007; Bocken et al., 2014; Mont, 2002; Tukker, 2004; Williams, 2007). However, the differences between a linear sales-oriented business model and a circular PaaS business model strongly affects the value proposition, value creation and value captured. This article reveals how a ‘community of practice’ was able to shape the FaaS business model while adjusting to, and altering both internal processes *and* the institutional environment. By using a process theory approach we were want to show institutional entrepreneurship on a detailed level and connect this to sustainable business model literature.

Status: Data analysis and paper writing ongoing. Authors: A.Fischer, S.Kennedy, S.Pascucci

Article #3: Boundary objects as a means for institutional entrepreneurship in the construction sector.

The construction industry accounts for about 50% of our total use of raw materials. Furthermore, the built environment is responsible for 40% of CO2 emissions and 36% of energy consumption (<https://klimaatmonitor.databank.nl>). Addressing these impacts through circular and and climate neutral development is thus crucial. In another community of practice setting we deep dived into a case of three flats / 67 social housing units to be built in 2019 (of social housing organisation Eigen Haard, Amsterdam). The aim was to increase circularity in this project while looking at the financial consequences. The boundary objects used were the foundation, climate & energy system, kitchen and windows. Working in a multi-disciplinary consortium of constructors, architects, engineers, lawyers, valuers, financiers and accountants resulted in interesting findings concerning both circularity aspects and institutional barriers concerning valuing real estate (real versus financial value).

Status: Data collection in progress. Authors: A.Fischer, W.Dolfsma.