

A Business Model for an Industrial Symbiosis Facilitator

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Abstract

Symbiotic relations in industrial clusters provide the perfect breeding ground for innovative ideas to achieve resource and energy efficiency, and ultimately aim for a circular economy. This paper focuses on the role of an industrial symbiosis facilitator (ISF) that drives industrial symbiosis (IS) within and between self-organised industrial clusters and the community, towards resource efficiency (RE) at the regional level. Simple one-to-one contractual partnerships lack the complexity to tackle the multitude of factors that orient industrial networks; hence a legal organisation of the partnership is needed to structure decision-making processes, to simplify operations and to guarantee continuity of the symbiotic activities.

Large and established (multi-national) companies face significant barriers in business model redesign due to the institutionalisation of existing mental models and physical infrastructures (Bocken, Rana, & Short, 2015; Jonker & O’Riordan, 2016). Often, their focus is incremental improvement (Christensen, 2013; Massa & Tucci, 2013), translating to increased resource and energy efficiency while maintaining business as usual. Using the Value Mapping Tool (Bocken et al., 2015), the core of an ISF is placed in the outer rings of the business model of established businesses. It captures the value missed in the form of underused resources, from multiple businesses, and turns them into opportunities via IS,

which the personnel of the company might miss because of their focus on their core business (Van Beers, Bossilkov, Corder, & van Berkel, 2007).

It is not possible to create shared value without connectivity and reciprocity, thus without linkages and collaborations nothing can be traded, shared, or created (Jonker & O’Riordan, 2016) and an ISF provides this opportunity. The ISF is proposed to fulfil the role of glue between the different actors; the industry, local businesses, community and the local authorities (Maqbool, Piccolo, Zwaenepoel, & Eetvelde, 2017) while capturing value for itself by providing its services to the multiply stakeholders. The ISF responds to the societal need of RE from the process and manufacturing industries, by thinking globally and acting locally. The key partners of ISF in this pursuit are the waste managers, local authorities, recycling industries, logistics providers and local and regional industrial associations. The core services of the ISF include helping resource and energy intensive industry for finding local needs to consume their underused resources.

Highly skilled human resource is the key to ISF’s success. The value proposition of ISF lies in links with multiple stakeholders, knowledge of legal certification and different funding schemes to support RE. The customer relationships are maintained by continuous interaction between the ISF and the IS partners. The channels to reach the customer segments include platforms like sector associations, web-sites, city council, online platform for matchmaking and frequently organised networking sessions. The cost structure is based on the variable costs for the services provided. Revenue streams would include operation service fee from IS partners, management of the platform for match-making, service costs for subsidy applications filed, brokerage fee for putting IS partners together.

Ultimately a private ISF answers to the bottom-up initiatives that are more sustainable and more inclusive where large multi-national companies may find themselves obstructed.

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