

Circular business models in social housing associations

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Abstract

This paper focusses on circular business models in the context of a social housing association. Adopting network theory, this paper investigates linkages with local communities within the circular business model networks. Through two focus groups and 15 interviews, we found that two-way linkages with communities may lead to a new set of socially inclusive circular business models.

Keywords

Circular business models, social dimension, social network

Introduction

Research has prioritized the environmental and economic dimensions of circular business models at the expense of considering the social dimension in terms of social value and social perspectives (Murray et al. 2017). This is an important limitation as recent literature has indicated links between circular business models and the social dimension of sustainability (Geissendoerfer et al. 2017). For example, circular business models may create social value, for instance through realizing cleaner community spaces. Furthermore, social perspectives can be important for the success of circular business models, as these often require changes in con-

sumer behaviours (Ouillon et al. 2017). However, the integration of social perspectives within circular business model strategies has not been explored in the literature (Murray et al. 2017).

To address these gaps, this paper focusses on circular business models in the context of social housing associations: private non-profit-making organizations that focus on providing low income communities with affordable housing and improving their well-being. Circular business models are increasingly seen as promising areas for housing associations due to their energy and waste intensive activities and their potential to address social problems through environmental activities (Van der Horst, 2008). The context of a housing association offers a unique opportunity for studying the social dimension of circular business models as housing associations have a dominant social mission which has to be addressed when they adopt environmental practices. For instance, Dewick and Miozzo (2004) found in interviews among housing associations that all associations expressed an interest in implementing environmental practices but only when they assisted in improving the overall living conditions of the communities they serve. The first objective of this paper is to investigate the circular business models that can be adopted by social housing associations and to categorize them in a set of generic archetypes. To achieve this objective, we will build on the circular business model archetypes defined by Bocken et al. (2016). A critical assessment of these archetypes is useful to evaluate whether a revision is needed that more strongly integrates the social attributes of housing associations.

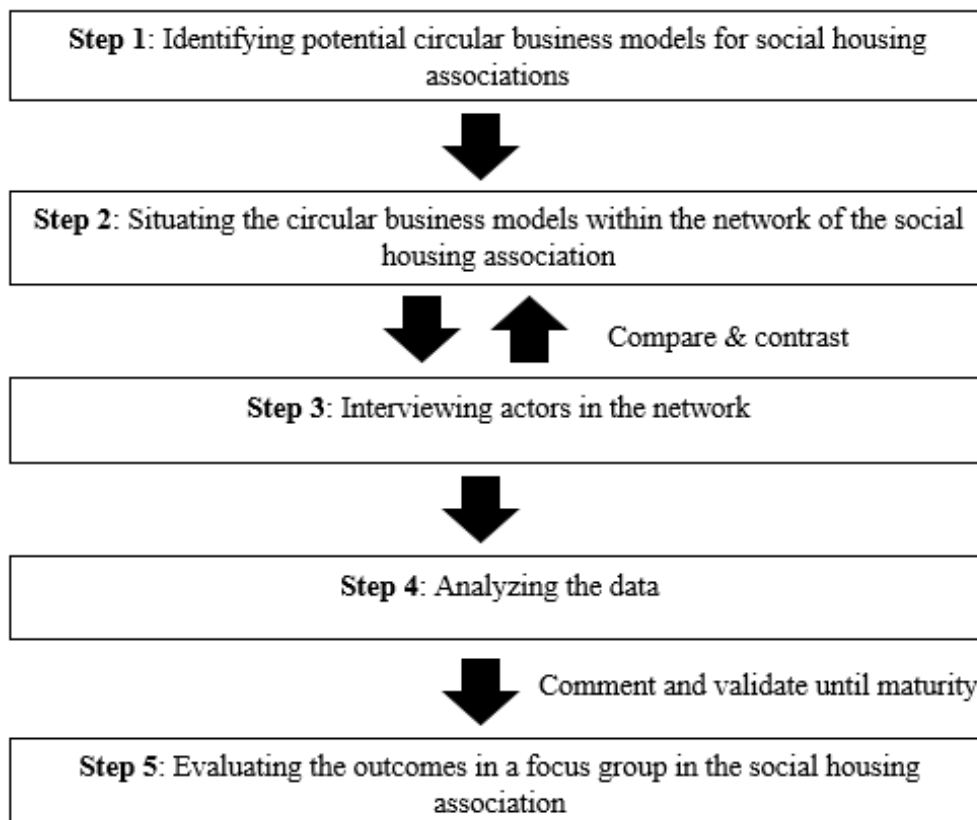
Circular business models are not isolated but situated in networks in which each actor plays a role based on effective inter-organizational relationships (Zucchella & Previtali, 2018). Linkages within this network mostly refer to the production side including the exchange of products and technological knowledge among organizational actors such as producers and service providers. Linkages with local communities are important for housing associations as they offer advantages such as access to local knowledge and the creation of local partnerships (Dacin et al. 2010). Therefore, next to linkages with organizational actors, housing associations may also create linkages with local communities in circular business model networks. Despite calls for more community engagement in the circular economy, very few studies have examined linkages with communities within the context of circular business models. The second objective of this paper is therefore to investigate the characteristics of linkages with local communities within the networks in which the circular business models of housing associations are situated. This paper builds on social network theory in order to achieve this objective, focussing

on the characteristics of linkages between actors in a network, such as transactional content (the basis of a relationship) and strength (Tichy et al. 1979).

Approach

This study is based on a single-case study which is appropriate in order to analyse the complex interplay of actors involved in circular business models. The mechanism of abductive inference is adopted in this study, as it is an appropriate method for making sense of new situations through an inference from empirical observations. We focus on the continuous interplay between circular business model literature and social network theory and the empirical observations with the aim of integrating these streams, as well as advancing knowledge, through an in-depth analysis of the case study (Dubois & Gadde, 2002). Figure 1 portrays the methodological steps in this research.

Figure 1: Method overview



In the first step grey literature was reviewed on real-life examples of circular business models in housing associations. This resulted in 23 relevant publications. One of the researchers also joined and observed 7 explorative meetings on the potential of circular business models in the housing association. The materials were analyzed and coded using the circular business model archetypes (Bocken et al. 2016). All codes were evaluated against whether they could fit the original archetypes. This research aimed to focus on models that can be practically adopted and therefore also coded for viability.

In the second step, the circular business models were positioned within the network of the housing association by adopting the net-map method (Schiffer & Hauck, 2011). The main aim of this step was to identify the network in which the circular business models were situated. The net-map approach was conducted in a focus group of 7 organizational members with responsibility for the strategy of the association. The net-map approach involved two steps: participants were asked to (1) think of all external actors that could be involved in and affected by the circular business model, and (2) link the identified actors in the network.

In the third step, relevant actors from the identified networks were identified and interviewed. The main aim of these interviews was to collect in-depth information on the linkages with communities within the networks and to check the network maps. Other actors who were identified to have linkages with community stakeholders were interviewed, in addition to community stakeholders. In total 15 semi-structured interviews with the relevant actors (social team, social working space, neighbourhood organization, tenant association, local entrepreneur, second-hand shop, school, municipality, waste processor and builder) were conducted.

In the fourth step, the network maps were created based on the focus group and interviews. The net-map discussion and the interviews were coded using a 1st and 2nd order analysis, taking the previously discussed literature into account. In the final step, the results were discussed in a focus group in the housing association.

Key findings

Table 1: Adjustment of the circular business model archetypes

Archetype	Archetype in social housing	Modifications
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1. Access and performance	Delivery of a service, 'living', to low-income communities, arranging all living requirements through one contract. Buildings remain in the ownership of builders. Pricing per unit of service and large-scale contracts.	The housing association itself shifts from the ownership of buildings to renting buildings from contractors.
2. Extending product value	Extending the residual value of locally existing demolition materials, resulting in reduced material costs.	Increasingly collaborate with builders and demolition companies, rather than with consumers in take-back systems.
3. Classic long-life	Delivering houses that have a longer live-span, enabling communities to stay in their houses longer. Enabling longer usage of buildings and decreased amortizations.	Usage of modular design principles. Changes in value capture as premium prices are not desirable. Inclusion of a social goal in the value proposition.
4. Encouraging sufficiency	Encouraging communities to adopt circular lifestyles, through facilitating sharing spaces, providing technologies, and offering coaching. May potentially reduce maintenance and living costs.	Focus on assisting communities instead of delivering a product. Changes in value capture as a charge for the services is undesirable.
5. Extending resource value	Exploiting the residual value of materials through sourcing and collecting demolition materials and selling them on the market.	Focus on selling otherwise wasted resources.
6. Industrial symbiosis	Facilitating platforms where different parties can combine and share their resources and knowledge to develop integrative circular solutions in neighbourhoods. Can lead to joint cost reductions and the creation of new projects.	Accounting for the exchange of multiple attributes including knowledge, rather than a focus on materials. A focus on integrative solutions, rather than new product lines.
7. Outsourcing circularity	Focus on offering affordable housing, outsourcing circularity to the supply chain by demanding circularity from partners.	New archetype

Only one new archetype was found in the analysis and most of the archetypes were only modified to a limited extent in order to reflect the social attributes of housing associations. Concerns were raised about the viability of all models due

to their potential negative impacts on communities. Other viability issues related to the required operational changes, the legal obligations of housing associations, the reluctance of communities to cooperate, and the inability to cover initial investments. The 'industrial symbiosis' and 'extending product value' models only suffered from limited viability issues. The 'outsourcing circularity' model was seen as highly viable, however, it did not require the adoption of circularity by housing associations. Therefore, we decided to focus on the 'industrial symbiosis' and 'extending product value' models in the remainder of this research. Figure 2 and 3 portray the graphical representations of their networks.

Figure 2: 'Extending product value' network

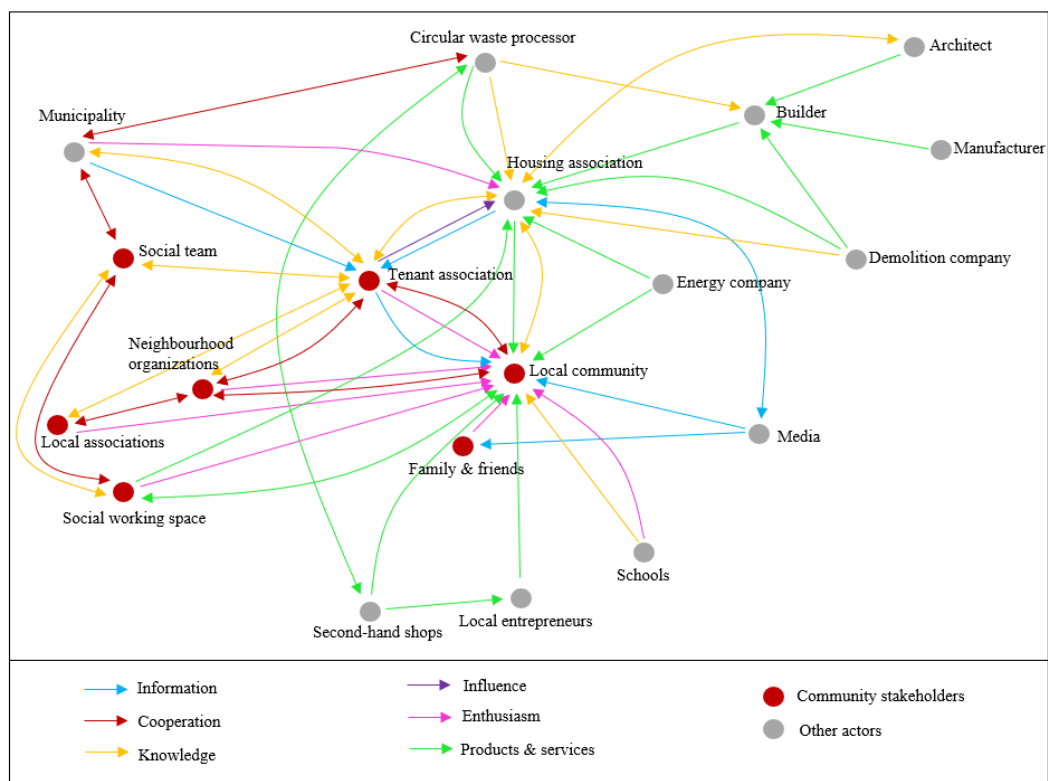
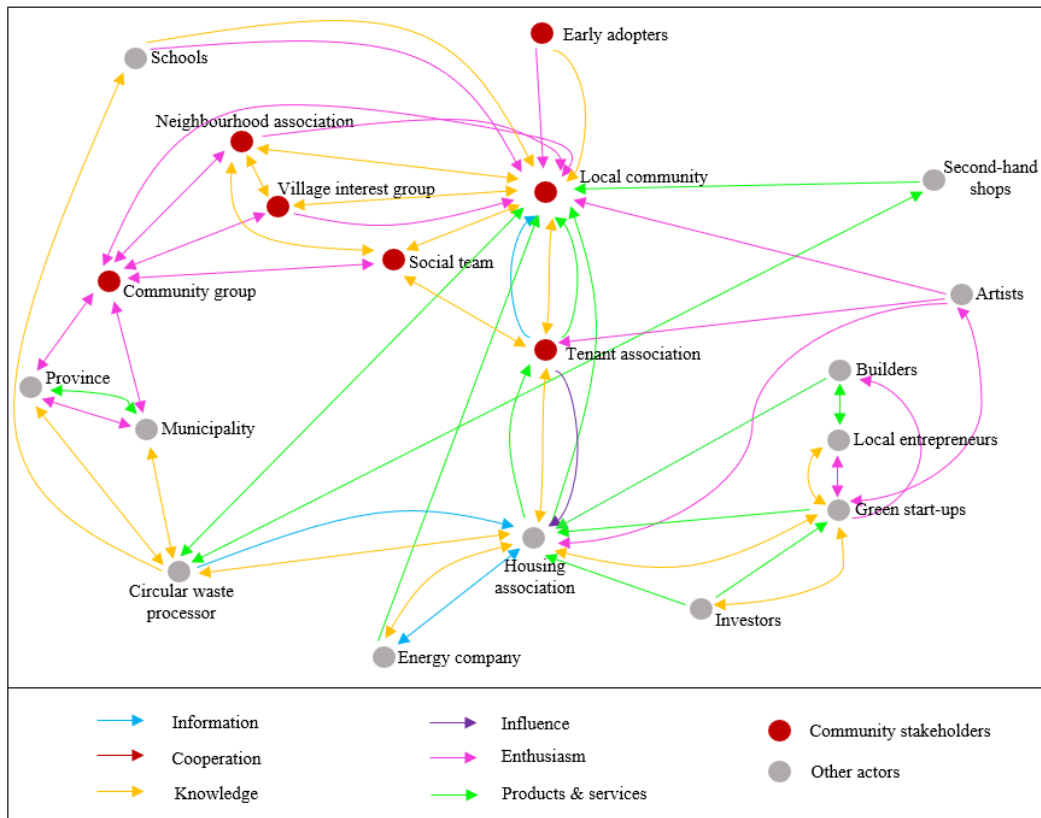


Figure 3: 'Industrial symbiosis' network



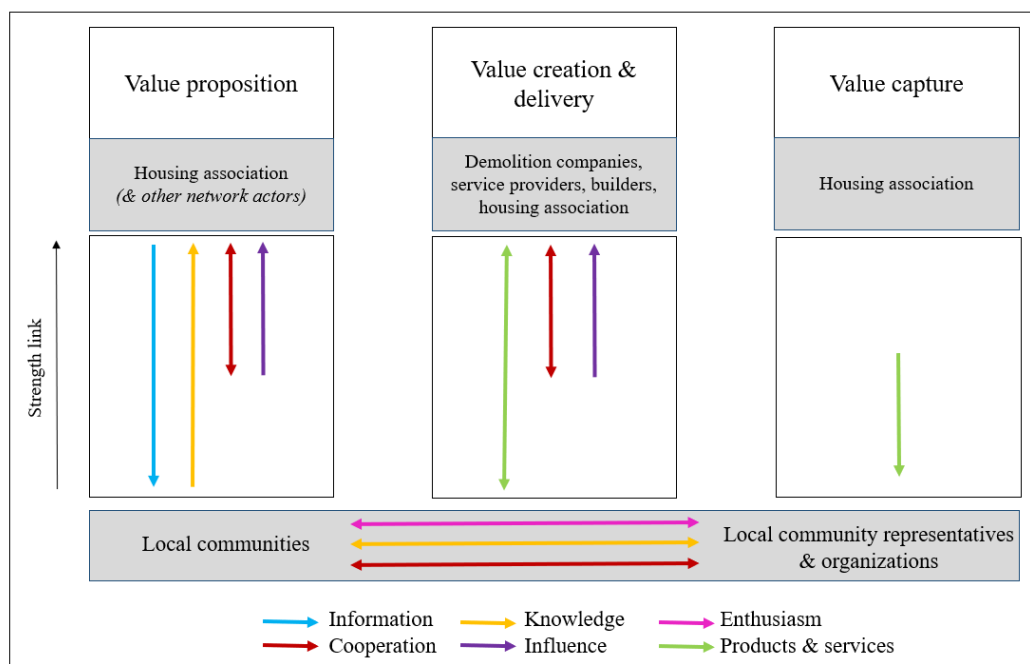
The figures show that multiple linkages with communities within the circular business model networks were anticipated. These linkages were not only directly formed between the housing association and communities, but also with other actors, such as second-hand shops, who could establish linkages with communities. Furthermore, different community stakeholders were involved in the linkages, including community representatives and community organizations. Multiple linkages with community stakeholders were anticipated including the exchange of knowledge and enthusiasm. The interviewees and focus group participants noted that linkages with communities were highly important. It was noted that they may (1) enable increased support for and success of the circular business model, (2) enable the inclusion of community needs and objectives within the model, and (3) change the model. For instance, it was noted that:

By actively involving communities [...] the housing association may facilitate platforms of community members which design circular community initiatives, instead of platforms of suppliers,

manufactures and service providers which design integrative circular solutions (social team, district manager).

The results indicated that the impact of linkages with communities is likely affected by their characteristics. A first characteristic was the transactional content of linkages with communities, including the transfer and exchange of (1) information, (2) knowledge, (3) products and services, (4) enthusiasm and (5) cooperation. A second characteristic was the strength of linkages with communities. It was mentioned that it might be beneficial to solely establish weak linkages with communities due to a lack of interest of communities and the potential burden on communities. Within these weak linkages, the focus would be on ‘unburdening’ communities, making sure circular business models do not affect them. On the other hand, strong linkages with communities were emphasized including reciprocal and collaborative ties that enable the active involvement of communities. Another important characteristic was the timing of linkages with communities, were linkages could be established within (1) the design of the value proposition through community participation and the involvement of social goals, (2) the value creation and delivery where communities could perform activities within the model, and (3) the value capture involving the distribution of gains to communities. The different characteristics discussed are not isolated but likely influence each other. Figure 4 portrays these dynamic relations.

Figure 4: Framework for linking communities to circular business models



Discussion & conclusion

The results have several implications which are discussed using decoupling theory and a social-ecological systems perspective. Firstly, the results contribute to previous research by confirming the applicability of the circular business model archetypes (Bocken et al. 2016) within a social context. Our results add to this research by highlighting the potential decoupling between circular business models and social activities within this context. Social housing associations may adopt circular business models, but likely as separate activities which are not integrated within the association's social activities. This may be due to the fact that housing associations are increasingly required to address their environmental sustainability and may do so through the adoption of the circular business model archetypes. However, the ecological focus of these archetypes may not fit to the social context of the housing association. This can result in horizontal patterns of decoupling where housing associations decouple circular business models from their social activities. These decoupling practices highlight the difficulty of integrating the social dimension of sustainability within circular business models.

Secondly, this study confirms that the network is important for the execution of circular business models. We add to the literature by showing that linking community stakeholders, next to organizational actors, in the network is important in order to increase the success of circular business models and enable the inclusion of community objectives. Decoupling may be avoided by enabling the interaction of social and ecological elements within circular business models through the creation of two-way linkages with communities (Jodha, 1998). Within such linkages, communities can adapt to and cooperate on ecological processes within circular business models, and the ecological goals of circular business models can be adapted to the needs and objectives of communities. The results highlighted for instance that linkages with communities could increase their cooperation on, responsibility in and support for natural resource cycling processes. This will most likely happen when strong reciprocal linkages with communities are established within value proposition and creation business model innovation stages, in which communities have the ability to collaborate on the formulation and execution of circular business models.

Finally, our study offers valuable insights into community participation in the circular economy by highlighting the important characteristics of linkages with communities. We add to the literature by showing that linkages with communities that are strong, collaborative, and correctly timed may lead to a new set of circular business model archetypes that more extensively include the social dimension in

terms of community needs and perspectives. Through their linkages, housing associations, communities and other network partners, may recombine their perspectives, leading to the emergence of new circular business models. Including community objectives within the ecological focus of circular business models may be difficult. Further research is needed in this regard, as our study only scratched the surface of the complexities of this issue.

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