Circular Economy in the building sector: Three cases and a collaboration tool

Last Modified on 08/04/2019 4:43 pm CEST

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Date Published: December 2017

Why did we conduct this research?

The Circular Economy (CE) gained significant traction in business and academia. While in the building sector issues around energy efficiency are being widely explored, CE is still a relatively new topic. This article reports on three CE pilots in the Dutch building sector and develops a collaboration tool for developing and operating circular buildings and their supply chain collaborations.

Key Findings

- CE in supply chain collaboration starts with vision development. The cases show that clients have a key role in redefining their requirements based on needs instead of specified requirements. Vision development can contribute to supply chain collaboration by involving stakeholders with relevant knowledge to refine the client's vision and ambition together.

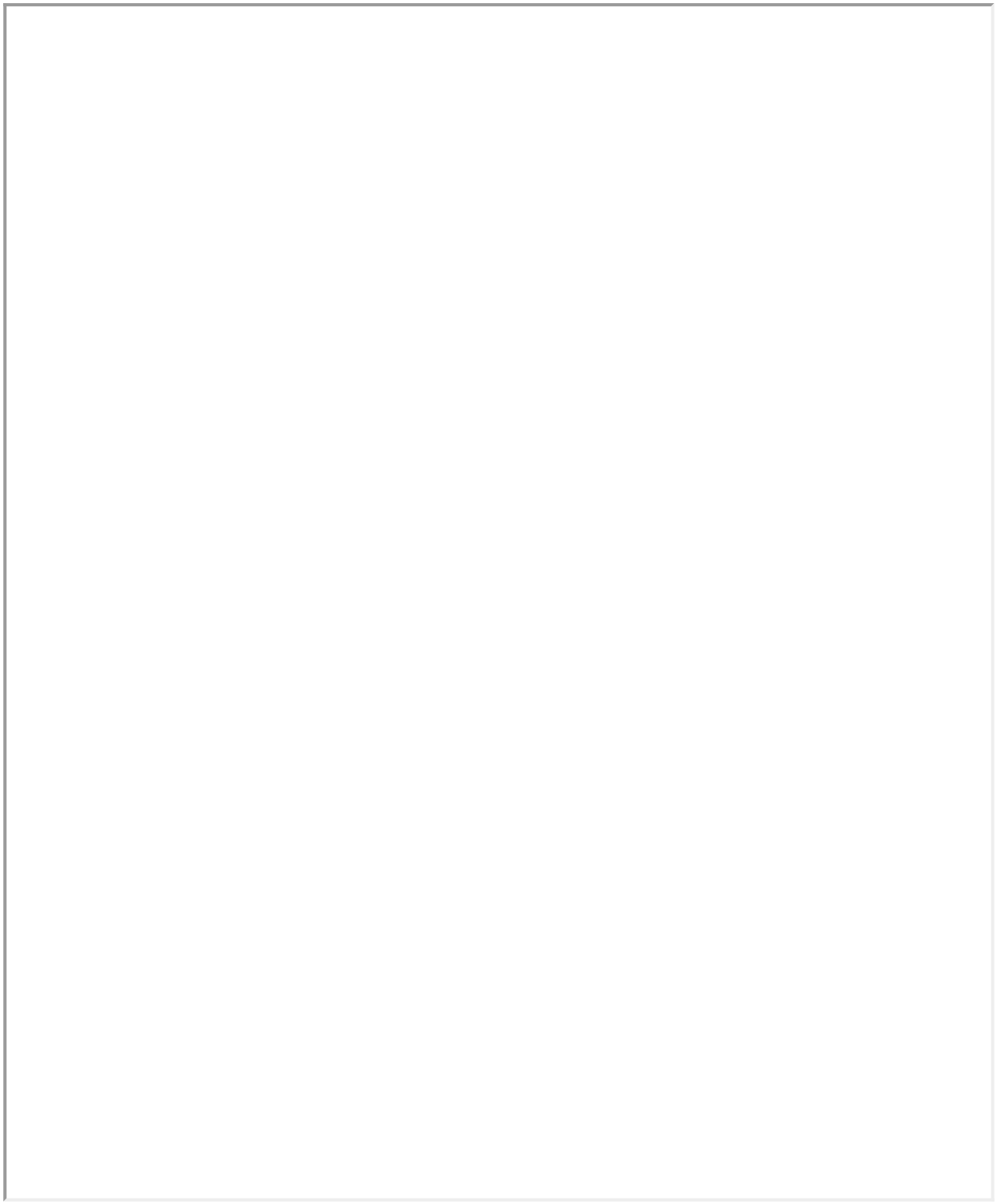
- Higher order actor learning is essential to embed new collaborative approaches among supply chain partners. This relates to the pioneering phase of CE in the building sector: actors need to learn to broaden their scope to include end-of-life options for a building.

- An essential activity in the network dynamics is facilitating supply chain collaboration by bringing all partners together - from suppliers to designers, demolishers and waste companies. This calls for trust between supply chain partners, especially among the ones that are normally not involved in the

design process

- New types of sustainable business models have been identified in circular building pilots. These can be seen as important enablers for the implementation of collective approaches for supply chain collaboration in closing and slowing resource loops. In these business models, circular and sustainable value creation are actively sought.

- A new process design is required in which a variety of disciplines along the supply chain is integrated upfront for developing the vision in co-creation with clients.



Reference

Leising, E., Quist, J. & Bocken, N. (2017) Circular Economy in the building sector: Three cases and a collaboration tool. Journal of Cleaner Production, Vol. 176: 976-989.

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