

Circular business models in the construction industry

Shreya Kanther

Thomas Jefferson University, USA

The need for change in the construction sector and to convert its on-going negative effects on the environment into positive results, a radical shift from current practice in architecture or building sector is crucial. The linear economy model is the traditional model where raw materials are collected and transformed into products that consumers use until discarding them as waste, with no concern for their ecological footprint and consequences. In the Journal of Cleaner Production, circular economy is mentioned as a system in which resource input and waste, emission and energy leakages are minimized by cycling, extending, intensifying and dematerializing material and energy loops. This can be achieved through digitalization, servitization, sharing solutions, long-lasting product design, maintenance, repair, reuse, remanufacturing, refurbishing and recycling. To implement the CE concept on the organizational level in the building industry, business models are important. Organizations that is willing to adopt the circular economy model need to implement new types of business models by rethinking value propositions and developing value chains that offer feasible cost efficiency, production effectiveness and business performance.

According to the board of innovation, a circular business model articulates the logic of how an organization creates, delivers and captures value to its broader range of stakeholders while minimizing ecological and social costs. The Principles of CBMs are:

- Source products and materials from the economy, not from ecological reserves.
- Create value for customers by adding value to existing products and materials.
- Create valuable inputs for businesses beyond your customer.

Circularity in the construction sector can be mainly divided in three different areas: Design and Planning, Construction phase and material supply. Currently, businesses implementing circular economy principles are product (material supply) based organizations. There is less discussion on circular business models focusing on the planning and design phase of the construction project. This is an opportunity for project designers to become a facilitator that integrates competencies and mutual benefits across the different stakeholders. It leads to planning and assessing circularity throughout an assets lifecycle by developing innovative and functional solutions. The transition to circular construction calls for consistent demands for new business models because the market is still nascent and circular ideas have not been implemented in all areas. Industrialized countries all over the world have started pushing and developing circular policies in the construction sector. There have been green infrastructure ratings such as LEED certification, Living Building Challenge, BREEAM, etc. to help in advancing the circular economy, aligning much of its evaluation process with climate mitigation, energy efficiency, resource and waste reduction and sustainability. European countries like Scotland, the

18th World Bioenergy Congress and Expo

March 29, 2023

Webinar

Netherlands, Sweden and Denmark are accepting and approving circular economy legislations with the help of digital technology and integrated infrastructure systems whereas developing economies still lack access to the technology and financial investments needed to move from linear to circular methods.

The research focuses on developing a circular business framework for the construction companies in developing economies by analyzing business models of large scale construction practices in the industrialized economies and looking at the potential of adopting it in the Indian context where there is opportunity to develop infrastructure by incorporating circular business strategies at core level. CBMs at initial design and planning phase of construction would make higher control of resource flow throughout the value chain and identification of value creation in the process. By highlighting the value proposition to all stakeholders, it is intended that more companies will see the benefit of contributing to a built environment based on a circular model. This requires exchanging information, collaborating at various levels, as well as tools and incentives which interest companies to receive a financial return. If many companies adopt circular business models in the construction industry, the focus will move to designing & planning considering environmental impacts, sourcing sustainably, maintaining material productivity and reducing usage of non-renewable materials which will lead to substantial financial, social and environmental benefits.

Biography

Shreya Kanther is a PhD Candidate. She is studying in Thomas Jefferson University, USA. She has done her research on [circular economy](#).

Received: March 16, 2023; **Accepted:** March 17, 2023; **Published:** March 29, 2023
