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Circular Economy Supply Chains – From Chains to Systems

Call for Papers for Contributions to an Edited Collection Published by Emerald

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A Circular Economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems (MacArthur Foundation, 2019). Circular Economy is a sustainable and flexible way to grow without exhausting primary materials, based on longevity of products and servitization (Esposito, Tse & Soufani, 2017). Waste is reduced by closed loop recycling and reuse, also known as the "cradle-to-cradle" model (McDonough & Braungart, 2010). This goes beyond recycling, moving to a new way of thinking about growth without resorting to merely expending resources (Esposito et al., 2017) combined with an effective and efficient use of finite resources (European Commission, 2018). This leads to improved sustainability and enables further value creation (De Angelis, Howard & Miemczyk, 2018). In the EU, for example, research funding has been increasingly directed into this area (about 9.6 billion Euros during the current budgetary period; European Commission, 2019), as it is estimated that in total around EUR 320 billion will be needed between now and 2025 to implement projects that put the European economy on the path to transition (MacArthur Foundation, 2017). The product ownership is shifted to leasing and access (De Angelis et al., 2018) which enables remanufacturing (Esposito et al., 2017), making collaboration within industry boundaries is more important (De Angelis et al., 2018). Although leasing and access, for example, mostly refer to non-biological products (e.g. carpets or electronic devices), it is important to note that both flows- for technical materials and biological mass, are part of the cradle-to-cradle concept (McDonough & Braungart, 2010) and also part of the intended scope of this book. Moreover, the research-trajectory created in the field of industrial ecology clearly needs to be acknowledged and built upon. Industrial ecology researchers propose that networks of industries can be designed in analogy to food webs to reach a sustainable and efficient state (e.g. Frosch, 1992; Frosch & Gallopoulos, 1989), enabling 'closed-loops' (Korhonen, 2001a, b).

Current economic systems are characterized by an abundance of producers and consumers in a linear material usage pattern. Looking at circularity with the lens of biomimicry in natural ecosystems, there is a balance between producers, consumers, scavengers and decomposers (Babbitt, Gaustad, Fisher, Chen & Liu, 2018; Geng & Côté, 2002). Current research often lacks such a broader perspective, but a comprehensive view on such actors is essential to achieve integrated management of material and information flows as a central backbone to realize a circular economy with circular value cycles (Tate, Bals, Bals & Foerstl, 2019). In the business world, scavengers can be represented, for example, by reverse logistics companies and overstock/salvage retailers, and decomposers represented by recyclers and waste treatment companies. The book aims to cover and outline all of those four latter roles plus additional requirements, such as information infrastructure, in order to bridge the current linear material usage patterns in today's supply chains toward circular material systems.

Current publications at the intersection of circular economy and supply chain management research lack a systemic perspective. Supply chain literature often still frames the world in dyads instead of "networks" or "systems". In order to move beyond shortsighted recycling solutions that still result in waste, a systemic perspective is needed that embraces cross-industry flows and more actors (e.g. taking care of the reverse logistics) than in traditional supply chains, establishing circular value cycles. Two of the editors recently published a manuscript (Tate et al., 2019) which uses a biomimetic lens, highlighting the need for such cross-industry flows and need for different actors (beyond producers and consumers) in circular value cycles. In that research, cross-industry flows are enabled by, among other aspects, a material database that allows tracking of materials over their entire lifecycle and creating a market place for them, where companies across industries can source their inputs. For the book, more generally, enablers also such as incentives and/or legislation are of high interest.

Potential topics

The biomimetic lens frames the aspired coverage of this edited book. The goal is to include of a broad range of actors, and include issues such as the additional requirements regarding information and financial flows. The editors will outline this background in the introductory chapter and explain how biomimicry sets the basic structure for the book. There is currently no comprehensive book with a biomimicry-inspired, systemic structure on the market. To clarify, biomimicry only provides the structure for organizing the book. Individual chapters may build on other theoretical lenses and concepts, such as cradle-to cradle, natural resource-based view, systems perspective, industrial symbiosis, stakeholder theory etc. The intent is to move beyond a dyadic (buyer-supplier) view, even beyond a network view, toward a cross-industry system perspective, where there is a diversity of actors (covering all four actor groups: producers, consumers, scavengers and decomposers) needed for a working circular ecosystem.

A preliminary outline to the structure of the book is shown in the table below. This outline provides only a basic look at how the book will be structured. The contents of each section are still in development.

1. Introduction to circular economy requirements: From supply chains to value systems	The introductory chapter explains the idea of cross-industry value systems (moving beyond the typical supply chain view for one particular product), highlighting related insights from biomimetic research into natural ecosystems by the editors.
2. The role of production (actor: producers)	Chapters will focus on product design, production methods, etc.
3. The role and types of (reverse) logistics (actors: scavengers and decomposers)	Chapters will focus on recovery and resale of used goods, material recovery, transportation etc.
4. The role and types of business and retail consumers (actor: consumers)	Chapters will focus on willingness to pay for circular products, consumer acceptance, business to business arrangements in the circular economy, marketing and brand aspects, etc.
5. The role of information and financial flows (main actor: decomposers)	Chapters will focus on how material databases and passports, micro-credits, sharing platforms, blockchain technology, artificial intelligence, etc., enable circularity.
6. The role of the business context (policy makers, NGOs, etc.)	Chapters will focus on how incentives and/or legislation, the role of NGOs and other factors in the business context enable (or hinder) the move towards circularity.
7. Lessons learned in the move to a circular economy	Chapters will focus on success stories and/or examples/cases in which introduction of practices for moving to a circular economy failed or near-failed; what can be learned?

The chapters need not apply a biomimetic lens. Their relation to the respective actor group (producers, etc.) or needed information infrastructure in the context of a circular economy are deemed sufficient. The originality and novelty lies in bringing these timely insights together in a systemic framework inspired by nature.

Chapter preparation and submission

Conceptual/theoretical and empirical contributions should be between 5,000 and 8,000 words in length. (Illustrative) case studies (particularly for section 7 on the lessons learned) should be between 2,500 and 4,000 words in length. When submitting such case studies authors should ensure that these are positioned in the broader context of moving to a circular economy. The word limits include tables and figures. Each table counts as 300 words, and each Figure counts as 500 words.

In addition, each chapter should include a 150 word abstract and up to 10 keywords or phrases in the front and a 150 words biographical text for each author at the end.

Papers must be submitted, without exception, as per the editorial guidelines. The respective style guide and permissions & copyrights guide will be sent to prospective authors after the abstract stage. Each Author will be asked to review another chapter.

Please see the timeline below for an understanding of dates for key deliverables

Abstract submission

As a first step, please submit abstracts of no more than 500 words, together with a CV, as email attachments directly to the editors:
lydia.bals@hs-mainz.de; wendy.tate@utk.edu; ellramlm@miamioh.edu

Timeline

Abstract submission	February 29th, 2020 (early submissions are welcome)
Full chapter submission	November 1st, 2020
Peer review process	November 1st 2020 to January 15th, 2021
Revised chapter submission	June 1st, 2021
Publication	Approx. May, 2022

Audience

The potential audience for this book is both an academic and managerial audience. This book will include conceptual, empirical as well as more application-oriented contributions.

Further information

For further information, or to discuss ideas for contributions, please contact the Editors.
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About the Editors

Lydia Bals, Dr., is Professor of Supply Chain & Operations Management at the University of Applied Sciences Mainz, Germany, since beginning of 2014 and since 2008 a Visiting Scholar at the Strategy & Innovation Department at Copenhagen Business School, Denmark. Until the end of 2013 she was head of the global department of Procurement Solutions (e.g. Sustainability, Methods, Tools & Systems; Benchmarking and Excellence) at Bayer CropScience AG, also steering the international Procurement Solutions network in Germany, North America, France, India, China and Brazil. Before, she worked as a Project Manager at Bayer Business Consulting, managing projects in various functional areas and countries (e.g. Spain, Mexico, Turkey). Her main research areas are Sustainable Supply Chain Management, Offshoring/Reshoring and Procurement Organization & Competences. She has published in the Journal of Operations Management, Journal of Supply Chain Management, Journal of Purchasing & Supply Management, Journal of International Management, Journal of Business Ethics and other academic outlets.

Wendy L. Tate, Ph.D. (Arizona State University, 2006) is the Taylor Professor of Business and Cheryl Massengale Faculty Research Fellow, Department of Supply Chain Management, University of Tennessee. She teaches undergraduate, MBA, MSCM, and PhD students Strategic Sourcing and has an interest in the financial impacts of business decisions across the supply chain. Dr. Tate has published in both academic and practitioner top-rated journals in supply chain management. She enjoys research and takes a special interest in translating academic work into classroom learning activities and disseminating her work globally. Her research can be broadly classified under the umbrella of purchasing but focuses primarily on two different types of business problems. The first is in the area of services purchasing including outsourcing and offshoring. This area of research has expanded into "reshoring", or bringing manufacturing

back to the home country. The second area is on environmental business practices and trying to understand how these initiatives can be diffused across a supply chain and a supply network. She presents at many different venues including both academic- and practitioner-oriented conferences.

Lisa M. Ellram, Ph.D., C.P.M., CMA, Scor-S is the University Distinguished Professor and Rees Distinguished Professor of Supply Chain Management in the Department of Management at the Farmer School of Business, Miami University in Oxford, OH, where she teaches logistics and supply chain management at the undergraduate and graduate level. Her primary areas of research interest include sustainable purchasing, transportation and supply chain management; services purchasing and supply chain management; offshoring and outsourcing; and supply chain cost management. She has published in numerous top journals spanning a variety of disciplines, including Journal of Supply Chain Management, Academy of Management Journal, Journal of Operations Management, California Management Review, MIT Sloan Management Review, and other managerial and academic outlets. She has co-authored seven textbooks, the most recent being "Logistics Management: Enhancing Competitiveness and Customer Value," an on-line text published by myeducator.com. She has a B.S.B. in accounting and worked as a cost accountant, financial analyst and a new product financial manager at Pillsbury Corporation before receiving her PhD from the Ohio State University. She has been teaching, studying and writing about cost management in the supply chain for over 25 years.