

List of Included Works

Supplementary Material for "Transitioning to a Circular Economy: A Systematic Review of its Drivers and Barriers"
by Jovan Tan, Fabien Jianwei Tan & Seeram Ramakrishna in MDPI Sustainability.

S/N	Authors (Date)	Title	Type of Work	Key Points	Reason for Inclusion
1	OECD (2020)	Assessing and unlocking the circular economy in Groningen, Netherlands	Book Chapter	Challenges of a circular economy in 3 areas, Public Procurement, Waste Management, Technical Knowledge; Main Barriers: Silo based approaches, low communication, poor cost-benefit analysis	Region specific insights
2	Zucchella, A. (2019)	The Growth of Circular Entrepreneurship: An Integrative Model	Book Chapter	Identifying enabling conditions for rise and growth of circular enterprises; Internal factors: resources and capabilities; External factors: institutional enablers which supports circular economy	Comprehensive insights
3	Awan, U. et al. (2021)	Industry 4.0 and the circular economy: A literature review and recommendations for future research	Research Article	Identifying how Internet of Things (IOT) can be part of the circular economy and stakeholder interests are affected by understanding government, suppliers, and organization interests.	Good foresight on relationship between technology and CE
4	Kirchherr, K. , et al. (2018)	Barriers to the Circular Economy - Evidence from the European Union	Research Article	Low consumer awareness, hesitant firm culture, lack of supportive frameworks.	Region specific insights
5	De Jesus, A. , Mendonca, S. (2018)	Lost in Transition? Drivers and Barriers in the Eco-innovation Road to the Circular Economy	Research Article	High price costs, steep learning curves, slow consumer preferences, increased resource consumption. More support for R&D.	Comprehensive insights
6	Kapsalis, V. C. , et al. (2019)	Investigation of Ecosystem Services and Circular Economy Interactions under an Inter-organizational Framework	Review Article	Labor, time preference for consumers to change, firm liquidity constraints, cultural constraints.	Good understanding of micro perspective (firms)
7	Garcés-Ayerbe, C. , et al. (2019)	Is It Possible to Change from a Linear to a Circular Economy? An Overview of Opportunities and Barriers for European Small and Medium-Sized Enterprise Companies	Research Article	Complex procedures towards circularity, fundings for circular projects not well defined, high costs, lack of technically skilled workers.	Comprehensive insights
8	Min, Z. et al. (2021)	Proposing Circular Economy Ecosystem for Chinese SMEs: A Systematic Review	Review Article	Lack of innovation, short SME market survival time, More exposure towards sustainability, strategic MNC and SME partnerships.	<i>[Exception Article]</i> Region specific insights, In-depth understanding of firm culture in China
9	Hesmati A. (2017)	A Review of the Circular Economy and its Implementation	Review Article	Low resource endowments, low consumer awareness.	Comprehensive insights

10	Govindan, K. , Hasanagic, M. (2018)	A systematic review on drivers, barriers, and practices towards circular economy: a supply chain perspective	Review Article	Lack of performance assessment frameworks for CE efforts, lack of support from top management, Supportive laws and regulations for clean production and consumption.	Comprehensive insights
11	Whicher, A. , et al. (2017)	Design for circular economy: Developing an action plan for Scotland	Research Article	Aligning market and government needs, financial support, skillset training, driving change towards circular economy in Europe.	Region specific insights
12	Rossi, E. , et al. (2020)	Circular economy indicators for organizations considering sustainability and business models: Plastic, textile, and electro-electronic cases	Research Article	Identifying indicators which help drive businesses towards circular economy, identify potential areas of importance to increase CE performance.	Comprehensive insights
13	Ormazabal, M. et al. (2018)	Circular Economy in Spanish SMEs: Challenges and opportunities	Research Article	Inadequate information system management, increased prestige from driving CE activities in businesses, gaining alternative revenues from remanufacturing and recycling.	Region specific insights
14	Zhang A. , et al. (2019)	Barriers to smart waste management for a circular economy in China	Research Article	Lack of innovative culture, stakeholder cooperation, proper standards for CE initiatives, pursuing short term profits instead of long-term sustainability.	Region specific insights
15	Fan, V. Y. , et al. (2019)	Cross-disciplinary approaches towards smart, resilient, and sustainable circular economy	Research Article	Environmental taxes, building more awareness towards climate change and sustainability.	Comprehensive insights
16	Staicu, D. , Pop, O. (2018)	Mapping the interactions between the stakeholders of the circular economy ecosystem applied to the textile and apparel sector in Romania	Research Article	Negative perceptions towards sustainability, stakeholders do not feel empowered to change, lack of opportunities to specialize in CE skillsets.	<i>[Exception Article]</i> Insightful regional and Industry specific factors and good analysis on stakeholder mentality
17	Laubinger, F. , et al. (2020)	Labor market consequences of a transition to a circular economy: A review paper	Review Article	Using resource efficient policies to shift away from linear business models, utilizing demand patterns and macroeconomic conditions to analyze CE changes in labor market.	In depth analysis of relationship between labor market and CE
18	Galvão, G.D.A , et al. (2018)	Circular economy: overview of barriers	Review Article	Poor management drive, lack of societal pressure towards sustainability issues.	Comprehensive insights
19	Mangla S. K. , et al (2018)	Barriers to effective circular supply chain management in a developing country context	Research Article	Complexity within supply chains, lack of environmental laws for polluted sectors, poor demand for superior technologies.	Insightful analysis on developing countries
20	Khan, O. et al. (2020)	Assessing the determinants of intentions and behaviors of organizations towards a circular economy for plastics	Research Article	Differing consumer actions, regulatory and market pressure towards CE efforts.	<i>[Exception Article]</i> Industry specific insights on opportunities and constraints for specific material (plastics)

21	Huang B. et al. (2018)	Construction and demolition waste management in China through the 3R principle	Research Article	Low cost for businesses to dispose waste inappropriately, lack of guidance for proper waste management, immature recycling technologies and underdeveloped facilities.	Industry specific insights
22	Ranta V. et al. (2018)	Exploring institutional drivers and barriers of the circular economy: A cross regional comparison of China, the US, and Europe	Research Article	Firms rejecting CE business models due to familiarity and lower cost of linear models, differing regulations across states, CE initiatives are deemed low value, underdeveloped technology.	In-depth cross regional insights
23	Farooque, M. , Zhang A. , Liu, Y. P. (2019)	Barriers to food supply chain in China	Research Article	Weak environmental regulations, lack of enforcement towards pollution, lack of market/societal pressure towards CE activities.	Industry specific insights
24	Alhawari, O. et al. (2021)	Insights from Circular Economy Literature: A Review of Extant Definitions and Unravelling Paths to Future Research	Review Article	Using new technology to drive resource efficiency, collaboration and information sharing between businesses help to drive exchange of new ideas and solutions.	Comprehensive insights
25	Rizos V., et al. (2016)	Implementation of circular economy business models by small and medium-sized enterprises (SMEs): Barriers and enablers	Research Article	Risk adversity towards CE transition, lack of supportive frameworks, enabling company culture, cross firm technological knowledge transfer.	Comprehensive insights
26	Oghazi P, Mostaghel R. (2018)	Circular business models and challenges and lessons learned from Industrial perspective	Research Article	Risk adversity, low consumer awareness, risk of cannibalism from firms, lack of resources to develop innovative products and solutions.	Comprehensive insights
27	Valache-Altinel, C. , Wachholz, C. Engström, M. (2021)	A low carbon and circular economy for Europe	Policy Paper	Stakeholders with conflicting interests, the need to enhance transparency and communication among businesses, innovative urban planning.	Region specific insights
28	Goyal, S. , Esposito, M. , Kapoor, A. (2016)	Circular economy business models in developing economies: Lessons from India on reduce, recycle, and reuse paradigms	Research Article	Infrastructure barriers which include inefficient recycling systems, under focused and underdeveloped capabilities, ecosystem for awareness and adoption of integrated technologies is lacking. Ineffective policies and lack of governmental focus.	Insightful analysis on developing countries
29	Tura N. et al. (2019)	Unlocking circular business: A framework of barriers and drivers	Review Article	Hierarchical system of firms impede change, some industries still favor linear economy approaches, Identifying new synergies to create value and reduce dependency on linear supply chain.	Comprehensive insights
30	Farooque, M. et al. (2019)	Circular supply chain management: A definition and structured literature review	Review Article	Utilizing cost efficiency frameworks to support adoption of CE, improving customer value propositions, the need for research on barriers and drivers to be contextualized.	Comprehensive insights
31	Caldera, H.T.S, Desha, C. , Dawes, L. (2019)	Evaluating the enablers and barriers for successful implementation of	Research Article	Negative attitudes towards CE, lack of technological skillsets, aligning organizations and stakeholders with green goals.	Comprehensive insights

		sustainable business practice in 'lean' SMEs			
32	Kiefer, C.P. , González, P.D-R, Carrillo-Hermosilla, J. (2018)	Drivers and barriers of eco-innovation types for sustainable transitions A quantitative perspective	Research Article	Resources and capabilities receive the lowest attention from firm analysis, involvement in green supply chains, technology push and market pull are the drivers for eco-innovation.	Comprehensive insights
33	Hart, J. et al. (2019)	Barriers and drivers in a circular economy The case of the built environment	Review Article	Lack of understanding across the business value chain, obstructing laws and regulations, technical challenges towards material recovery and infrastructure development.	Comprehensive insights
34	Linder M. , Willander, M. (2017)	Circular Business Model Innovation: Inherent Uncertainties	Research Article	Pilot study results: Collaboration between partners was viewed as a critical issue, but resolved in the later stages. Mainly operational risks.	Comprehensive insights
35	Ritzén, S. , Sandström, G.Ö. (2017)	Barriers to the Circular Economy – integration of perspectives and domains	Research Article	Difficulty in measuring financial benefits of CE, Risk aversion, Differing perceptions of sustainability.	Comprehensive insights
36	Su. B , et al. (2013)	A review of the circular economy in China: moving from rhetoric to implementation	Review Article	Weak economic incentives, poor implementations, lack of consumer awareness, lack of proper assessment.	<i>[Exception Article]</i> In depth analysis of firm culture in China and offers a good benchmark for China's current CE efforts
37	Masi. D. , et al. (2018)	Towards a more circular economy: exploring the awareness, practices, and barriers from a focal firm perspective	Research Article	three levels of initiatives; micro firms, meso networks, macro policies. Firms more likely to participate in resource efficiency and reduction practices rather than recovery, i.e., remanufacturing or recycling to close the loop. Lack of awareness and sense of urgency from management levels.	Alternative perspective towards approaching CE on different levels
38	van Buren N. , et al (2016)	Towards a circular economy: The role of Dutch logistics industries and governments	Research Article	Institutional barriers such as different interpretations and enforcement in transport of waste material in EU. Economic barriers such as vested interests by certain firms. Prices of raw materials is cheaper than recycled materials.	Region specific insights
39	Ferronato. N. , et al (2019)	Introduction of the circular economy within developing regions: A comparative analysis of advantages and opportunities for waste valorization	Research Article	Comparing CE participation opportunities for Romania and Bolivia in their solid waste management. Factors include the need to change public recycling perceptions and participation rate, the need for investment opportunities into waste management industry to help support informal recycling efforts in country.	Insightful analysis on developing countries
40	Camacho-Otero, J. et al (2018)	Consumption in the circular economy: A literature review	Research Article	Theme of nature, meaning, and dynamics of circular consumer consumption is relatively unaddressed. Product design, lifespan is critical for firms to consider trying and change consumer preferences. Hard to create symbolic value aside from utility value for consumers to choose sustainable products.	Comprehensive insights
41	Hartley K. et al (2020)	Policies for transitioning towards a circular economy:	Research Article	Influencing the change in consumption preferences and attitudes. Converging the values of consumers and producers together. Done through collaboration with stakeholders instead of top-down	Region specific insights

		Expectations from the European Union (EU)		approach. Liberalizing waste material trading to widen the manufacturing of recycled products	
42	Diaz Lopez, F.J. , et al (2019)	Business Model Innovation for Resource-efficiency, Circularity and Cleaner Production: What 143 Cases Tell Us	Research Article	Barriers towards resource efficiency measures fiscal and regulatory restrictions, market monopoly, misdirected focus of social systems (company goals, strategies).	Comprehensive insights
43	Hahladakis J.N. , Iacovidou, E. (2019)	An overview of the challenges and trade-offs in closing the loop of post-consumer plastic waste (PCPW): Focus on recycling	Review Article	Lower income countries in the Global South often have underdeveloped facilities for recycling. Informal recycling efforts are affected by price fluctuations. Sorting process requires large amount of manual labor to separate non-polymers from plastic waste. Product design at start-of-life prevents proper recycling to take place in end-of-life.	Industry specific insights on opportunities and constraints for specific material (plastics)
44	Guldmann, E. ,Huulgaard, R.D. (2020)	Barriers to circular business model innovation: A multiple-case study	Research Article	Public procurements are cost driven and not sustainability driven. Complex value chains, firm cannibalization, prevailing linear business models together with strong supportive policies/measures that support linear models.	Comprehensive insights
45	Kumar V. , et al (2019)	Circular economy in the manufacturing sector: benefits, opportunities, and barriers	Review Article	Creating employment opportunities, advancing social value and quality of life for consumers. Enhancing profitability for firms as product end-of-life is managed. Low demand for remanufactured products as consumers pays attention to appearance and face value. Limited incentives to move towards material and energy savings.	Comprehensive insights
46	Masi, D. et al (2017)	Supply chain configurations in the circular economy: A systematic literature review	Review Article	Technologies in linear business models are well funded and supported compared to circular business models. Current green tech leverages on rare earth materials, need to develop breakthroughs in research.	Comprehensive insights
47	Gusmerotti N.M. , et al (2019)	Drivers and approaches to the circular economy in manufacturing firms	Research Article	Regulations work as an external signal to help redirect the focus of managers and business leaders. Economic efficiency and supply chain related risks are significant.	Comprehensive insights
48	Moktadir, M. A. , et al (2018)	Drivers to sustainable manufacturing practices and circular economy: A perspective of leather industries in Bangladesh	Review Article	Scarcity of available information for developing countries like Bangladesh. Misaligned knowledge between stakeholders. Preventing economic uncertainties through competent thought leadership.	Industry specific and insightful analysis on developing countries
49	Lewandowski, M. (2016)	Designing the business models for circular economy-towards the conceptual framework	Review Article	Barriers include HR constraints (team goal alignment), political systems, IT, business risks. Enablers include thought leadership, firm collaboration. Evaluation of circular business models have to be targeted towards micro, meso, and macro.	Comprehensive insights
50	Tunn, V.S.C. et al (2019)	Business models for sustainable consumption in the circular economy: An expert study	Research Article	Cycling products and materials to achieve sustainable resource strategy. Mixed views on success on consumer/company driven CE. Changing business model to stabilize consumption levels	Comprehensive insights
51	Hopkinson, P. et al (2018)	Managing a Complex Global Circular Economy Business	Research Article	Opportunities: Optimal pricing strategies, driving consumer acceptance, creating product value and design beyond utility.	Comprehensive insights

		Model: Opportunities and Challenges		Barriers: Waste/remanufactured product import prohibitions, foreign tariffs, high price of recycled materials.	
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