



University
of Exeter

[CLARASYS]

An exploration of customers and the Circular Economy

Report



clarasys.com/customer-experience-in-a-circular-economy

An exploration of customers and the Circular Economy

Research overview

Our purpose as an organisation is to make a lasting difference to the way that people live, work, and grow. We do this through being the Experience Consultancy, in other words the consultancy that solves problems by thinking primarily about users.

We love the potential of the Circular Economy (CE). Systems that operate with a closed loop present a huge potential for solving environmental and economic problems. Whilst the opportunity is significant in many of the major Circular Economy models there are fundamentally different relationships between organisations that provide products and those who are accessing them. To manage that transition intentional system and experience design is required.

As part of our research for this report, we aimed to understand how organisations are exploring these new relationships and how they should design for the Circular Economy in the future.

The hope was to create both academic and industry knowledge that was both rigorous and practical to meet our purpose, and enable us to help clients in this space. To do so, we partnered with the leading Academic Institution for Circular Economy, The Exeter Centre for Circular Economy, and embarked on a year of investigation. During this period, we focused on two main industries - Food & Beverage and Household Appliances. These were selected as they both had growing maturity in the Circular Economy, but were experiencing challenges in widespread adoption.



Literature review

A review of current literature was conducted to identify how the research community positions customer experience (CX) in the context of Circular Economy.



Roundtables and interviews

To reflect on a series of hypotheses drawn from the literature review, we conducted roundtables and interviews with participant organisations to understand experiences and challenges and test possible tools.



Toolkit development

Based on the insight gathered from the roundtables and interviews, we developed a series of tools to enable organisations to design for customers in a Circular Economy and launch successful pilots.



Testing

We tested the toolkit further through sessions with other participant organisations to improve the quality and effectiveness of the tools.

Research participants

We wish to express our gratitude to the following organisations who, among others, gave their insight to this research:

JOHN LEWIS
& PARTNERS

 Electrolux
Group

WAITROSE
& PARTNERS

 Pernod Ricard

Findings from the literature review

The role of CX in the Circular Economy

The shift from a linear business model is not as straightforward as merely making circular-driven products. Instead research emphasises the importance of the role of customers/users when moving towards a Circular Business Model (CBM).

Why is it important to consider the customer in moving towards a CBM?

Previous studies argue that the shift from a linear business model to a CBM **still needs to satisfy the specific needs of customers**, rather than merely make circular-driven products available (Hankammer et al., 2019).

It indicates that **customers' purchase intentions and behaviours are crucial enablers of the successful**

implementation of CBMs (Mostaghel et al, 2021) and that in a circular economy, consumers would be expected to perform a series of behaviours that enable circular consumption (Camacho-Otero et al., 2020). Mentthink (2014) emphasises this stating "**customers need to be interested and involved in resource recirculation, and that customer attitudes are vital** to the achievement of a CBM."

However, customers' **different profiles and personal characteristics, and their changes over time**, make it difficult for companies to understand the full range of their expectations and behaviour. Therefore, being able to track changing customer perspectives is even more important given the drastic changes necessary when shifting from a linear to a circular economy (Mostaghel et al, 2021)

Customers in the Circular Economy

In a linear system, a customer's role is relatively simple: find the product that enables them to solve their problem, use it, and then dispose of it.

In a circular system, customers become stewards/custodians and maintainers of value, products and materials, fundamentally changing the way producers and consumers interact and engage with each other.

This transition represents a significant shift from today's linear journeys where customer will be required to develop 'new behaviours' and habits to ensure the recirculation of resources within the system, 'new

relationships' between producers, customers and products that are built on transparency, trust and emotional connection with the products they use thereby, inhabiting 'new roles'

For example, an appliance manufacturer is trialling a Product as a Service model whereby customers become temporary 'stewards' of a product rather than permanent owners. Stewardship involves maintaining the product to ensure it lasts and helping to return it at the right time; therefore, the relationship between customer and producer is more sustained.

New customer roles

- Activated, co-creating customer
- Maintainers of value
- Steward/guardian of products.

New behaviours

- Returning products or packaging
- Maintaining products
- Repairing products
- Renting/Borrowing/Buying used.

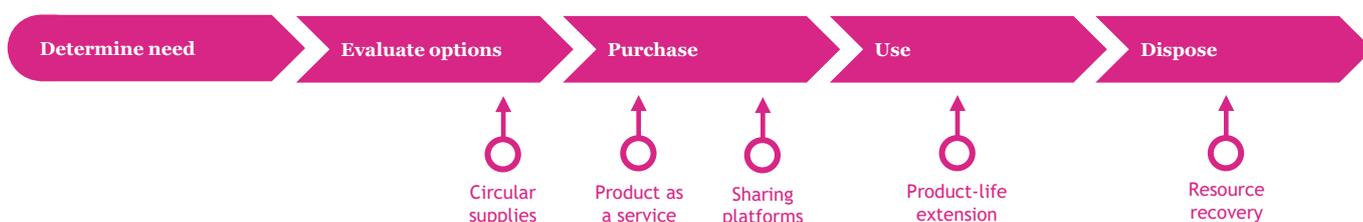
New relationships

- With producers
- With products.



Circular journey design

Customer journeys need to evolve so that customers continuously participate with organisations to ensure products and the resources that create them are kept circulating in loops that sustain their value. This can be done through the application of Circular Business Models.



We have reimagined the stages in a fully circular customer journey:



On page four we have modelled what an exemplar circular journey that embeds further sustainability considerations could look like.

A sustainable, circular customer journey

We think the sustainable B2C customer journey of the future should be more...



Focused on needs

For customer journeys to be truly sustainable they need to move away from the promotion of endless buying and encourage mindful consumption.



Experiential

Retailers will focus more on supporting customers with exploring the experience they can have with a product rather than simply purchasing it.



Circular

Journeys will be designed with circular economy principles embedded. There will be a focus on reducing the resources used in products and keeping those in use for as long as possible.



Community-based

We will see even greater focus on community-based sharing of products to enhance affordability and access. Online and in-person communities will be central to providing feedback around products.



Affordable

For necessary products and services there needs to be a greater focus on ensuring they are accessible to all.



Transparent

The most critical element of a sustainable customer journey is the provision of easily comparable and accurate information about the environmental and social impact of products.



The step

- Determine need**
 - Customer assesses their level of need
 - They understand the different sustainability considerations they should have for any acquisition of a product or service
 - They explore the different options to fulfil their need.
- Evaluate options**
 - Customer compares the different options for factors such as cost, convenience alongside sustainability credentials
 - Customer utilises community forums and relationships to get feedback about the product.
- Access**
 - Customer chooses from a range of sustainable options to access the product or service from:
 - Borrow
 - Lease
 - Share
 - Buy as a service
 - Buy as a virtual product.
- Use**
 - The customer uses the product to fulfil their need while using it in a responsible way ensuring that any waste created from its use is managed appropriately.
- Keep in use**
 - If the customer has accessed a physical product, they are able to continuously upgrade, repair or refurbish the product to ensure that they can continue to get value from it.
 - If the product is no longer useful to the customer, they have options to resell or share with others who will find it useful.
- Return and recycle**
 - If any physical component of the product or service is no longer functional then there is opportunity to return it so the original producer, a partner or an infrastructure provider can remanufacture the resources or recycle them.

Example: acquiring a sofa



- Customers are able to understand via labels the different sustainability credentials they should be applying to physical products.



- Customers are able to compare options across different online providers across sustainability and cost, convenience and quality factors.



- Customers are able to access sofa as a service where they rent sofas
- Customers are able to access modular sofas which can be updated as their tastes and needs change
- Customers can use ethical credit options to acquire the sofa.



- Sofas are designed to be hard wearing and designed for long-life using quality materials.



- Sofas are designed to be easily maintained and repaired to ensure continued use, and information on how to do this is easy to access by customers
- Customers are able to resell via the parent company.



- Customers are able to return a leased sofa so it can be refurbished and resold by the parent company
- For sofas that are at the end of their life they can be collected for recycling so that they can be maintained.

Considerations for retailers

- How do you contribute to recognisable labelling and not add to confusion?
- Should you stock unsustainable options?
- How do you support the development of high-quality, cost-competitive sustainable alternatives?
- How do you provide information to enable customers to compare across products?
- How do you collate the complex sustainability data for each product?
- How do you provision a low-waste, low-emission delivery system?
- How do you model the financial viability of switching to a circular, low-consumption business model?
- How do you ensure that products that are sustainable are accessible?
- How do you rework your design process to ensure products are designed with sustainability in mind?
- How do you enable customers to use the products so they last?
- How do you develop platforms and work with other providers to enable sharing?
- How do you develop capabilities for repair and refurbishment?
- How do you work with infrastructure providers to ensure that materials are handled appropriately at end of life?
- How do you incentivise customers to manage end of life products in the right ways?

Considerations in journey design

When designing customer journeys there are a number of customer factors highlighted by the literature review that need to be considered:

Circular design principles	What does the research say?	Considerations for journey design
Quality	"Chief among the reasons given for remanufacturing's failure to fully realize its potential is consumer perception of the quality of remanufactured goods." (Hazen et al., 2017)	How might we guarantee quality and change the perception of remanufactured goods?
Price	"It emerged clearly from the different strands of research that the price-quality ratio is the most important driver and simultaneously barrier for consumer engagement in the CE." (European Commission, 2018, p11)	<ul style="list-style-type: none"> • What is the price point that will encourage consumers to invest in a remanufactured or leased product? • What information about full life cycle costs and economic incentives do customers need organisations to provide to change their purchasing decisions?
Convenience	"From a consumer perspective the total cost of a product also includes the effort needed to acquire a product, repair, buy or to rent/lease it." (European Commission, 2018, p186). In turn, research into specific consumer practices of product care (including repair and maintenance) show that these require time, effort and competences, which can limit the involvement of some individuals. For others however, new forms of consumption work encourage participation, particularly when it is framed and felt as challenge and/or fun. (Hobson et al., pg4). While CE advocates make claims of 'hassle-free' services, studies show there is often significant effort required in doing repairs, purchasing second-hand, or participating in peer-to-peer sharing. How these all add up to helping create the 'circular consumer' (or not) remains to be seen. (Hobson et al., pg5)	<ul style="list-style-type: none"> • How might we maintain ease of access and minimise customer effort to drive uptake in product repairs, second-hand purchases and renting or leasing products? • Where circular activities feel 'less convenient', what factors and incentives make engagement worthwhile for consumers?
Trust	"...the importance paid by consumers to seller reputation and distribution are significantly related to perceived value and risk, which in turn affect attitude and the intention to purchase refurbished products." (Agostini et al, 2021)	How might we use knowledge and information to provide reassurance to the consumer that the products and services will perform and the experience will be the same level that they expect?
Identity	"In the circular economy, consumption becomes anonymous because people do not own products, they merely use them... people might not be able to define themselves by the products they have anymore." (Camacho-Otero, Boks & Pettersen, 2018)	How might we attach identity to the circular-based model and encourage users to take ownership of the products until they are returned?
Languages and communication	Anthropomorphising 2nd life materials as 'rescued' or 'heroic', for example, may help to transform customers' initial feelings of disgust or contamination at the thought of purchasing a pre-used item into feelings of interest or empathy. (Chamberlin and Boks, 2018)	What storytelling strategies can brands use to encourage customer engagement in the circular economy?
Hygiene / Contamination	Customers want to feel confident that their purchases provide the same hygiene standards as those of newly manufactured products.	Is there a customer assurance process that can be developed to promote this?
Circular understanding and skills	"In turn, the ability of individuals and households to undertake such consumption work depend in part upon various, vital resources (e.g. time, skills, social capital), all of which are not distributed equally among populations". (Hobson et al., 2021)	<ul style="list-style-type: none"> • Do our customers have the knowledge (where and how to rent, share, return) and skills needed to carry out their new circular roles (repair, maintenance, identifying quality)? • How do we help build these skills in our customers? • How do we remove the uncertainty and build up their confidence?

Research findings

Our headlines

Our research showed that in order for businesses to successfully design, launch and scale circular business models more focus had to be placed on articulating the value of your CBMs to your customer, supporting customers to adopt the new circular behaviours, and enhancing your business delivery capabilities to test, learn and adapt your CBMs.

Exploring circular value

Key findings

Circular business models are being built "inside out" resulting in a lack of customer focus. Where considered, the value proposition is tailored to customers that would be early and easy adopters, neglecting the broader customer base.

- CBM business cases tend to be siloed and incomplete impacting investment decisions
- Insufficient focus is being placed on understanding the value proposition behind the CBMs in the eyes of the customer
- A deeper understanding of the the drivers behind customer behaviours is required to enable customers to adopt circular products and services.

Our recommendations

Be intentional about the circular value proposition to your customer from the outset

- Articulate your circular motivations
- Explore the value of CBMs to your customers
- Define your circular innovation business scorecard
- Re-imagine your customer journey
- Define your existing and target customer profiles
- Conduct circular business model user research.

Designing circular products and services

Key findings

Many circular business models are failing because customers are not fulfilling the new roles and behaviours required of them in these systems. Organisations are narrowly focused on communicating the importance of sustainability to their customers and are not considering the other behavioural levers they can pull to drive circular product adoption.

- Circular business models require customers to take on new roles and behaviours
- Sustainability is rarely a powerful enough motivational driver to enable target circular behaviours
- Excellent customer experience can be a powerful catalyst of circular product adoption.

Our recommendations

Design for the circular behavioural change needed from your customer

- Build circular journey design framework
- Identify behaviour change pain points
- Prioritise behaviour change pain points
- Identify behaviour change interventions
- Prioritise behaviour change interventions
- Identify circular stakeholder jobs.

Delivering circular value

Key findings

Much of the innovation in circular business models is small scale and securing investment to scale can be a challenge. Innovators are not obtaining satisfactory measurement to track success of these "value retaining models" to supply the relevant evidence for investment.

- The breadth of ambition for circular initiatives can't be oversimplified
- Getting organisational commitment is hard
- Current measurement approaches aren't effectively substantiating pilot hypotheses
- Transitioning to BAU (e.g. systems, R&Rs) is an afterthought.

Our recommendations

Evolve expectations and methods of evaluating pilot success of a circular vs a linear business model

- Define Circular Pilot Measurement Framework
- Capture risks, assumptions, limitations and dependencies
- Define Circular Pilot Evaluation & Improvement Approach
- Design Pilot
- Outline Circular Pilot Outcomes
- Prioritise and Map circular journey scope
- Generate Pilot Hypotheses.

To download a copy of our toolkit, please click [here](#)

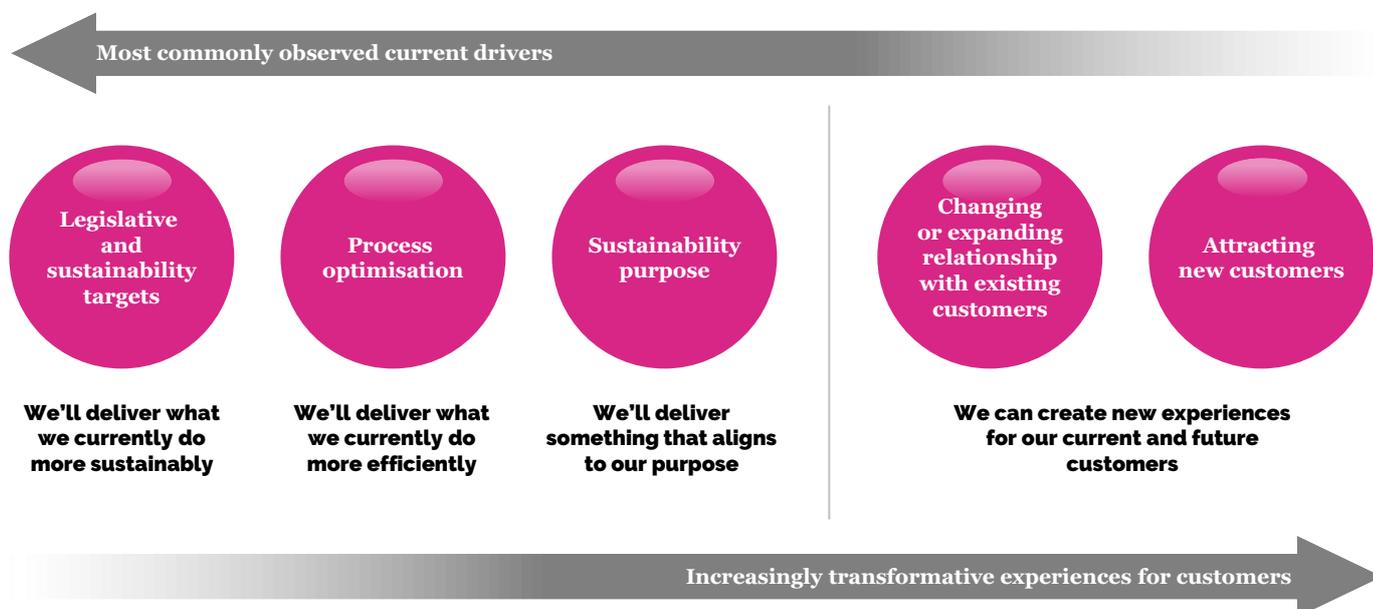
Exploring circular value

Our research showed an important reason that many organisations are struggling or failing to launch successful CBMs at scale is because:

1. They were built "inside out" with a strong focus on hitting sustainability targets, preparing for shifting legislation or trying to streamline operations. And while these are all good reasons to invest in circular initiatives, the lack of customer focus will impact their likelihood of success at scale
2. When customers were considered, the value proposition was largely tailored to customers that would be early and easy adopters based on their sustainability values alignment rather than being designed to offer value to the broader customer base

We have found that, where organisations had most effectively created circular business models, they had combined this desire for resource and waste reduction, with intent to do so through designing great circular experiences.

We think this is critical because circular models that utilise clever technology or streamlined processes can fall down because haven't started with what they are ultimately trying to achieve for customers, and how to create experiences that work for them.



None of these drivers are wrong!

All are valid reasons to be exploring circular initiatives. However, we found that the drivers on the right of the spectrum offer more opportunity for organisations to innovate and create new, transformative experiences for customers that will actually present return on investment.

In order to achieve this, spend time upfront understanding the needs and expectations of your B2C or B2B customers, and conducting some additional research on their perceptions of circular experience factors associated with CBMs such ownership, hygiene/ contamination, circular skills and capabilities etc. This will ensure you establish a CE vision and value proposition that has the real potential to achieve impact at scale.

Designing circular products and services

An organisation's ability to design excellent circular customer experiences was dependent on:

Maturity of CX within organisation

The culture and capability of the organisation around how to develop customer insight and make design decisions off the back of it.

Applying CX to design of initiatives

Many CE solutions were engineering or sustainability-led instead of taking a holistic CX approach which combines environmentally sound thinking with experience design.

Understanding customers in a circular context

Those that designed more successful CBMs had understood the relationships that customers had with sustainability and their willingness to adopt new roles, relationships, and work.

Circular maturity of organisations

Great CE business models are not just about enabling the customer to perform their role. The model must also be feasible for employees and viable commercially. Organisations with more mature circular models were able to do this more effectively.

Designing great experiences

In order to enable organisations to design great circular customer experiences, we believe that new tooling is required to better understand customers in a circular context and design solutions that not only meet their needs but also support their adoption of new roles through behavioral change interventions.

Behavioural science within a Circular Economy is still in its infancy. However, there are emerging perspectives within [academic](#) and [practitioner](#) circles that represent its value. We, therefore, factored both an understanding of customers within a circular context and designing for behavioural change into our CE toolkit.

This tooling incorporates some concepts that are particularly important to the Circular Economy. These are:

- **Consumption work** – in a Circular Economy often there is greater effort associated with consumers accessing the product or service. For example, in a car sharing scheme a customer might have to travel to access the car every time. Or in a refill model the container might have to be cleaned every time. In journey design, it is important to assess whether customers will actually undertake this work or if the producer will have to take the burden of that work on.
- **Key moments of circularity** – the moment in a customer journey where the customer is required to perform an action that without their participation the loop breaks. For example, in a refill model within a Waitrose store a customer might be required to bring a container to the shop to continue the loop. Therefore, we might need to design interventions to remind the customer or to allow for if they forget the container.

Delivering circular value

Many organisations reported problems with making the business case for scaled circular models. These struggles included:



- Designing initiatives with broad appeal
- Attracting and encouraging customers to engage in Circular Economy
- Measuring success of initiatives.



- Seeing CBMs as just an addition to an existing business model rather than a potential replacement
- Struggling to secure the investment required to scale.



- Competitors with cheaper or more convenient models
- Enabling infrastructure not being in place, e.g. storage space, reverse logistics for returns
- Legislation and policy is optimised for linear systems and has yet to provide for conditions favourable to CBMs, e.g. comparably high taxes on labour vs. materials is a barrier to a viable repair economy

Ability to create scalable pilots

For us, the crux of the challenge was the formation of evidence bases within organisations that demonstrated the potential of circular models and enabled stakeholders within the business to buy-in while de-risking investment.

This requires excellent upfront design rooted in customer insights that have been tested and experimented on with customers through prototyping and pilots that test for customer desirability.

However, the struggle with Circular Models is often the ability to model whether customers will adopt them at scale and reach the critical mass necessary to prove they are commercially viable and operationally feasible. Therefore, pilot outcomes and assumptions need to be clear upfront and easily evaluated.

Through our toolkit we thought it was important to enable users to design and run pilots that help build the case for expansion.

Widespread adoption

The three key themes from the research and broader insight gathered from participants has led us to believe that for widespread consumer adoption of Circular Economy models we need a combination of:

CX design for circular behaviours, roles, and relationships

There is huge potential for improved adoption of Circular Economy business models through better understanding of different customer needs in different contexts and designing for them. Using customer experience design that enables customers to play new roles utilising different behaviours can work where it is possible to design journeys that remain competitive compared to cheaper and more convenient linear alternatives.

This is why we have developed a [toolkit](#) that enables organisations to do just this.

Cross-organisation collaboration

In places, the adoption of new circular behaviours, roles and relationships can be achieved by organisations collaborating and agreeing on standard approaches to circular models, such as refill and take back. This would remove the complexity for the customer and offer a unified approach across all outlets. This can particularly work in supermarkets or food and beverage outlets, where customers are likely to undergo similar journeys. Cross-organisation collaboration also enables the highlighting of gaps, and limits to policymakers to showcase where intervention is required.

Enabling policy design

To fully ensure customers are willing to play their role in circular economy models there will, at times, need to be policy intervention to help providers or users overcome or accept the additional work and / or cost associated with some circular business models. For example, supermarkets are unlikely to get mass adoption of refills unless there is a policy intervention that pushes customers to do so over traditional, highly convenient alternatives. This sort of policy intervention has been successfully demonstrated by the introduction of plastic bag charges where there has been a reduction in new plastic bags from 7.6billion p.a in 2014 to 496 million p.a in 2022. Without policy intervention and a willingness for retailers to collaborate, this wouldn't have been possible.

Authors



Sam Maguire

Sam Maguire is an experienced consultant, and our sustainability lead at Clarasys, who specialises in sustainability strategy and operating model design across multiple industries. He has particular expertise in sustainable business models and designing organisations to be more circular.



Loic Le Fouest

Loic Le Fouest is a managing consultant and one of our customer experience experts at Clarasys. He specialises in helping organisations understand the needs of their customers and leverage this insight to improve their products and services. With experience in product management and service design he understands how to design customer journeys that are viable for the business and deliver a positive customer experience.



Merryn Haines-Gadd

Dr Merryn Haines-Gadd is a Research Fellow at the University of Exeter within the Exeter Centre for Circular Economy (ECCE) and primarily engages in industry-led academic research projects on the topics of circular design, emotionally durable design, user centered research and circular business modelling. A designer by background, she has extensive experience in development of design and innovation tools that enable and support companies to improve the circularity and sustainability of their products and services.



Nellie Salter

Nellie Salter is a Research Assistant with the University of Exeter working in the field of Circular Economy. She consolidated her sustainable business knowledge through the MBA program at the University of Exeter, during which she completed her final project on customer container return habits for reusable packaging systems. She has developed an expertise on consumer roles in the circular economy with an aim to enable circular businesses to thrive.



Harriet Shelton

Harriet Shelton is a Managing Consultant. She joined Clarasys in 2020, with over 8 years of blended consulting and industry experience where she has used her strengths as a critical thinker and her ability to apply structure to solve a variety of complex business problems. Harriet has a keen interest in customer-centric business improvement and during her time at Clarasys, she has worked across process discovery, customer experience and business architecture.



Jacob Brockmann

Jacob Brockmann joined Clarasys in 2021 with a Masters in Anthropology from University College London and a BA in Human Social and Political Sciences from the University of Cambridge. As a Consultant, Jacob has worked primarily as a business analyst with experience in process definition, capability modelling and customer journey mapping. Most recently, he worked on a discovery project for a leading kitchen and bathroom design software company undergoing a three-way international merger.



A special thanks to Zaneta Muranko and Fiona Charnley from the University of Exeter and Nicky Croxford from Clarasys for helping to shape and inform the work.

References

- Agostini, L., Bigliardi, B., Filippelli, S., Galati, F. (2021).** *Seller reputation, distribution and intention to purchase refurbished products.* Journal of Cleaner Production, Volume 316, 2021, 128296, ISSN 0959-6526, <https://doi.org/10.1016/j.jclepro.2021.128296>.
- Camacho-Otero, J., Boks, C., & Pettersen, I. N. (2018).** *Consumption in the circular economy: A literature review.* Sustainability (Switzerland), 10(8). <https://doi.org/10.3390/su10082758>
- Chamberlin L, Boks C. (2018).** *Marketing Approaches for a Circular Economy: Using Design Frameworks to Interpret Online Communications.* Sustainability, 10(6):2070. <https://doi.org/10.3390/su10062070>
- European Commission (2018).** *Behavioural Study on Consumers' Engagement in the Circular Economy* (et al. A., Porsch, L., Suter, J. (ed.)). <https://op.europa.eu/en/publication-detail/-/publication/0779f275-f9d6-11e8-a96d-01aa75ed71a1/language-en>
- Hankammer, S., Brenk, S., Fabry, H., Nordemann, S., Pillar, F.T. (2019)** *Towards circular business models: Identifying consumer needs based on the jobs-to-be-done theory,* Journal of Cleaner Production, Volume 231, pp 341-358, ISSN 0959-6526, <https://doi.org/10.1016/j.jclepro.2019.05.165>
- Hazen, B.T., Mollenkopf, D.A., Wang, Y. (2017).** *Remanufacturing for the circular economy: an examination of consumer switching behaviour.* Bus. Strat. Environ. 26 (4),
- Hobson, K., Holmes, H., Welch, D., Wheeler, K. & Wieser, H. (2021).** *Consumption Work in the circular economy: A research agenda.* Journal of Cleaner Production, 321(April), 128969. <https://doi.org/10.1016/j.jclepro.2021.128969>
- Mostaghel, R., & Chirumalla, K. (2021).** *Role of customers in circular business models.* Journal of Business Research, 127(December 2020), 35-44. <https://doi.org/10.1016/j.jbusres.2020.12.053>



About us

[CLARASYS]

Clarasys

Our mission at Clarasys is to help our clients tackle their toughest business challenges, helping them transform their organisations. In this digital, data age, everyone expects the best experience – at work, as a citizen, as a business partner and as a customer. We think they should have it.

Through our sustainability consulting services, we want to help your experience as well as your customers' by creating a clearly defined route, broken into simple and achievable steps, that will generate meaningful results. We do this by combining our science with your stakeholders, ensuring a positive impact on people, the planet and prosperity.

We are The Experience Consultancy.



The Exeter Centre for Circular Economy

The Exeter Centre for Circular Economy (ECCE) was formally launched in September 2018 by [Dame Ellen MacArthur](#). ECCE is a new research centre comprising staff based in three locations, Streatham, Penryn and London. We are a multi-disciplinary team composed of economists, engineers, designers, sociologists, management academics and practitioners.

Our vision is 'to be the leading UK centre for Circular Economy engaging in innovative research, knowledge transfer and executive education projects. We engage in projects that develop Circular Economy theory and practice designed to transform our economy, creating regenerative wealth and well-being'.

For more information or to speak with our team please contact us at sustainability@clarasys.com or click [here](#) to take a look at the other outputs and thinking from our research.