
CONTEXT FOR THE ACTIVITY

Over the past few years the Ellen MacArthur Foundation has compiled and categorised circular business model definitions, study cases and examples, as they are described by other thought leaders, businesses, policy makers, scholars and NGOs. Analysis points towards the fact that there's not one single approach to embed circular economy in the business model, and that there's no fully circular business model example out there. In order to achieve a complete circular business model, we need a systems change and wide collaborations across companies, sectors and regions. However, the Ellen MacArthur Foundation review did identify many circular business model components out there, and in this activity participants are encouraged to reflect on how, through different combinations, these components might affect material flows and/or product and component utilisation across the value chain. In this session, up to five guiding questions are offered to facilitate the discussion:

Question 1 - Identify which business model components are the most promising in enabling circularity within a business model – and why?

Question 2 - Identify the combination of components that will constitute the different circular business models – and why?

Question 3 - Consider which components are less important in enabling transitioning businesses towards greater circularity – and why?

Question 4 - Identify and discuss three main challenges for developing and operating fully circular business models - what might be suitable solutions for these challenges?

Question 5 - What are the benefits for businesses in transitioning towards a circular business model?

RESOURCES AVAILABLE

- 6:R1a Intro PPT slide
- 6:R1 18 double-sided cards with business models components + examples
- 6:R2 PPT and R2a Slide and cards with Five Guiding Questions
- 6:R3 Circularity and nine 'Rs'

ORGANISATION

- Small groups between 2-5 people in each group
- Large board or wall space for presentation of small group card collections

TASK(S) AND RUNNING ORDER

- 1) Background and presentation of the session. Presentation of the cards. Select 2/3 of the 5 Guiding Questions
- 1a) Participants to familiarise themselves with the card deck (R1)
- 2) Small group discussion
- 3) Plenary debrief. 15 minutes feedback to the room and discussion

TIMINGS

Overall approximately 80 minutes. Task 1: 10 mins; Task 1a: 5 mins; Task 2: 45 mins; Task 3: 20 mins.

AIM OF THE ACTIVITY

This activity familiarises participants with the landscape of circular business models. It aims to challenge the perception that by adding certain components to an existing business model it can become circular and appreciate that a more radical and systematic transition needs to happen.

The tasks below are designed to enable participants to develop:

- a) a better understanding of which aspects of circular business models practitioners view as vital and central, and which are less important
- b) an appreciation of the current state of affairs in terms of practical circular business model development
- c) insights into the future development of circular business models

GUIDANCE FOR FACILITATORS INCLUDING DEBRIEFING NOTES

TASK



Invite participants to form and work in small groups (of 2-5) and then introduce the context for this activity: Ellen MacArthur Foundation research into circular business model definitions; and their analysis that indicates that currently there is not one single approach to embed circular economy in the business model (see Context section above).

Hand out a set of the cards to each group. Explain to participants that these are double sided cards - on the front are indicative business model components and on the back of each card are actual examples that illustrate the component highlighted on the front of a particular card.

Invite participants to use these cards to reflect on how, through different combinations, these business model components might affect material flows and/or product and component utilisation across the value chain. As facilitator, choose two or three of the five guiding questions (use R2 PPT slide or R2a cards) and invite groups to use the selected questions as a focus for their discussion and reflection.

TASK



Before groups move to the main task, encourage them to first spend five minutes familiarising themselves with the card deck (R1). Give participants an opportunity to ask questions and seek clarification about the cards and the business model focus of the activity. Briefly introduce a general definition of a business model e.g. "the rationale of how an organisation creates, delivers and captures value". For some detail on general business models see the recent *Harvard Business Review* paper 'How to design a winning business model' (Casadesus-Masanell, R. and Richart, J., 2011).

TASK

2

Then invite the small groups to spend up to 45 minutes in discussion using the card deck and guiding questions that you have selected. To help focus the discussions, invite groups to choose and work with a maximum of 10 cards from their card deck.

Some points that might be discerned from the cards and elaborated on by the facilitator during this task:

- a) Remind and challenge how these business models may/may not help to achieve the three principles of a circular economy.
- b) Encourage systems thinking when approaching the discussion on material circularity.
- c) Recognise the need to design appropriate business models for both the biological cycle and the technical cycle. In a circular economy, business models need to reflect that we have: consumers in the biological cycle - where the biological materials decompose through 'cascades'; users in the technical cycle - where the technical materials are maintained at high value in the inner material loops.
- d) Note the importance of digital technologies to enhance business models - digital lowers transaction costs and creates many new ways of connecting buyers and sellers, assets and potential users and people with tasks. It is as if the feedback loops in the circular economy 'butterfly diagram' have been brought alive by digital. Digital amplifies the potential circular value creation from Stocks/Flows, Scale, Materials and Assets, and, through novel combinations of these, digital transformation creates enhanced business models and economic activity.

TASK

3

In a plenary session ask each group to present the outcome of their discussions to the whole group, explaining the rationale behind the choice of their cards. To allow several groups to use one whiteboard or display space, use the numbers on the cards to indicate choices, as below:

- Group 'A': 3, 6, 7, 12, 14, 17
- Group 'B': 1, 2, 5, 6, 8 etc.

Emphasise that while the numbers on the cards have no intrinsic meaning, for the purpose of easier representation use numbered order on the large board or wall space provided. Invite questions after each presentation, but keep this light and move on quickly. After everyone has presented, encourage the participants to discuss which similarities are prominent among their presentations. In the case of significant differences, encourage discussion and reflection on those differences.

In the plenary debriefing with participants try to draw out and elaborate on points such as:

What are the most vital ingredients of a circular business model and which are the more peripheral?

What about 'big picture' thinking? How important is it to take into account cradle to end-of-life of the product/service?

How do we take circular business models to the next stage? What are the next steps towards greater circularity within our organisations?

Which of these business models merely represent resource efficiency? i.e. are not part of a journey towards 'circularity'. Does it matter?

At the end of the activity ask participants to reflect on the following questions: "to what extent can adding certain business model components to an existing business model create an authentic and innovative circular business model? Or would a more thoroughgoing or systemic transition be required?"

POSSIBLE EXTENSION ACTIVITY

A paper from Mateusz Lewandowski (2016) considers the business model canvas concept and how it can be extended into the circular economy field. The paper critiques the canvas concept and discusses and visualises a circular business model canvas. We consider this especially useful as a focus for a follow up.

SUPPLEMENTARY RESOURCES

The table in R3 is from work by the Netherlands PBL - Environment Assessment Agency (Potting et al., 2017) to identify increasing 'circularity' and might make a useful discussion point about the position of a particular approach in relation to increasing circularity. But does this diagram make the mistake of many characterisations: of having, by necessity, quite arbitrary categories and relating to just one further cycle or activity when the emphasis is on a circular economy, over time - one which works long term and where business is 'designed for pattern'?

GUIDANCE FOR FACILITATORS INCLUDING DEBRIEFING NOTES (continued)

Five circular business models is a useful diagram from Consultancy.uk/Peter Lacey. See: <http://www.consultancy.uk/news/2895/waste-to-wealth-the-circular-economy-advantage>

REFERENCES AND FURTHER READING

Accenture (2014) *Circular Advantage: Innovative Business Models and Technologies to Create Value in a World without Limits to Growth*. Available at: <https://tinyurl.com/hdu6tff>

Casadesus-Masanell, R. and Richart, J. (2011) How to design a winning business model. *Harvard Business Review* January issue. Available at: <https://hbr.org/2011/01/how-to-design-a-winning-business-model>

Useful general review of business model definitions-relationship to strategy etc

Jukka-Pekka, O. (2016) *Business Models for a Circular Economy - 7 Companies Paving the Way*. SITRA

Lewandowski, M. (2016) *Designing the Business Models for Circular Economy - Towards the Conceptual Framework*. *Sustainability* 8

Review and design of circular business models. Visualisation of a circular business model canvas

Narberhaus, M. and Mitschke-Collande, J. (2017) Circular economy isn't a magical fix for our environmental woes. *Guardian* July 14 2017. Available at: <https://tinyurl.com/yacpvxg>

Critique of circular economy - with reference to rebound effect and domination of 'sharing economy' by large corporations

Potting, J., Hekkert, M., Worrel, E. and Hanemaaijer, A. (2017) *Circular economy: measuring innovation in product chains*. Policy report. PBL Netherlands Environmental Assessment Agency. Available at: <http://www.pbl.nl/en/publications/circular-economy-measuring-innovation-in-product-chains>

Prendeville, S. and Bocken, N. (2015) *Design for Remanufacturing and Circular Business Models*. Product Innovation Management, Industrial Design Engineering, TU Delft

Rizos, V., Behrens, A., van der Gaast, W., Hofman, E., Ioannou, A., Kafyeke, T., Flamos, A. Rinaldi, R., Papadelis, S., Hirschnitz-Garbers, M. and Topi, C. (2016) *Implementation of Circular Economy Business Models by Small and Medium-Sized Enterprises (SMEs): Barriers and Enablers*. *Sustainability* 8

Rizos, V., Tuokko, K. and Behrens, A. (2017) *The Circular Economy. A review of definitions, processes and impacts*. CEPS Research Report No 2017/08, April 2017

Good review of circular economy processes such as: remanufacturing, refurbishment and reuse; product life extension; product as service; sharing model; recycling; use of renewable energy sources

WRAP (2012) *Innovative Business Model Map*. Available at: <https://tinyurl.com/zqpo82g>

THUMBNAIL RESOURCES

CLICK TO DOWNLOAD HIGH RESOLUTION VERSIONS FROM BELOW

6:R1a Intro PPT slide

6:R1a ACTIVITY 06: THE CIRCULAR ECONOMY IS IN THE CARDS

KEY ENQUIRY
What does it take to achieve a circular business model?

TASK(S)
1) Background and presentation of the session. Presentation of the cards. Select 2/3 of the 5 Guiding Questions (Time)
1a) Participants to familiarise themselves with the card deck (R1) (Time)
2) Small group discussion (Time)
3) Plenary debrief. 15 minutes feedback to the room and discussion (Time)

6:R2 PPT slide with Five Guiding Questions

FIVE GUIDING QUESTIONS

Question 1 Identify which business model components are the most promising in enabling circularity within a business model – and why?

Question 2 Identify the combination of components that will constitute the different circular business models – and why?

Question 3 Consider which components are less important in enabling transitioning businesses towards greater circularity – and why?

Question 4 Identify and discuss 3 main challenges for developing and operating fully circular business models - what might be suitable solutions for these challenges?

Question 5 What are the benefits for businesses in transitioning towards a circular business model?

6:R1 18 double-sided cards with business models components + examples

<p>Industrial symbiosis: Create value out of waste. Waste streams from companies become raw materials for others.</p> <p>Business models component no. 1</p>	<p>Product life-extension: Maintaining and improving used products through repairs, upgrades, remanufacturing or remarketing, to keep them economically useful for defined use periods (OEM)</p> <p>Business models component no. 2</p>	<p>Caterpillar - ongoing upgrading and repairing their products throughout the product life</p> <p>Business models component no. 2</p>	<p>Timberland is using old tires to produce shoes soles</p> <p>Business models component no. 1</p>
<p>Sharing platform: Increasing revenue from under utilised assets.</p> <p>Business models component no. 3</p>	<p>Offering leasing/ pay-per-use services</p> <p>Business models component no. 4</p>	<p>Airbnb, GetAround car sharing, FLOOW2</p> <p>Business models component no. 3</p>	<p>Avis - car leasing</p> <p>Business models component no. 4</p>

6:R2a Cards with Five Guiding Questions

<p>Question 1</p> <p>Identify which business model components are the most promising in enabling circularity within a business model – and why?</p>	<p>Question 2</p> <p>Identify the combination of components that will constitute the different circular business models – and why?</p>	<p>Question 3</p> <p>Consider which components are less important in enabling transitioning businesses towards greater circularity – and why?</p>	<p>Question 4</p> <p>Identify and discuss 3 main challenges for developing and operating fully circular business models - what might be suitable solutions for these challenges?</p>	<p>Question 5</p> <p>What are the benefits for businesses in transitioning towards a circular business model?</p>
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6:R3 Circularity and nine 'R's

6:R3 CIRCULARITY AND NINE 'R'S

<p>Circular economy</p> <p>↑ Increasing circularity</p> <p>↓ Linear economy</p>	<p>Smarter product use and remanufacture</p>	<p>R0 Refuse Make product redundant by abandoning its function or by offering the same function with a radically different product.</p>
	<p>Extended lifespan of product and its parts</p>	<p>R1 Resell Make product use more intensive (e.g. by sharing product)</p> <p>R2 Reduce Increase efficiency in product manufacture or use by consuming fewer natural resources and materials.</p>
	<p>Useful re-use of materials</p>	<p>R3 Reuse Reuse by another consumer of discarded product which is still in good condition and fulfils its original function.</p> <p>R4 Repair Repair and maintenance of defective product so it can be used with its original function.</p> <p>R5 Refurbish Restore an old product and bring it up to date.</p> <p>R6 Remanufacture Use parts of discarded product in a new product with the same function.</p> <p>R7 Repurpose Use discarded product or its parts in a new product with a different function.</p> <p>R8 Recycle Process materials to obtain the same (high grade) or lower (low grade) quality.</p> <p>R9 Recover Incineration of material with energy recovery.</p>

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