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Queensland Circular Economy Lab Outcomes Report

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Abstract

In 2019, Meat and Livestock Australia (MLA) joined the Queensland Circular Economy Lab (CELab). The CELab is a project collaboration led by Business Models Inc and Coreo, and seeded by the Queensland Department of Environment and Science, designed to accelerate the transition towards a circular economy in Queensland through a multi-party co-innovation process. Within the food and agricultural industry, there are significant challenges in transitioning to a circular economy and therefore numerous opportunities for innovation through the exploration of new partnerships, business models and collaboration. One of the key opportunity areas within this industry is the valorisation of food waste streams. As a Foundation Partner of the CELab, MLA led the exploration of an opportunity area within the food and agriculture industry and was joined by Cisco Australia, Grove Juice and Freeze Dry Industries to establish a collaborative Lab team. Together the team co-created *Ripple* (the Regional Investment Platform) which is designed to encourage regional resilience through problem and solution identification, beginning with food waste and finite resources. Ripple will serve as an education and collaboration platform for local communities and businesses to capture the value of underused or otherwise discarded resources across regional communities and identify creative solutions to employ such resources, thereby contributing to the broader transition to the circular economy across Queensland.

Executive summary

The Queensland Circular Economy Lab (CELab) is an immersive program designed to provide a collaborative environment to tackle hurdles and challenges in transitioning to a circular economy. In 2019, the CELab had 26 participants, ranging from industry, government and academia, and representing over $170 billion in collective revenue. The participants were divided into five groups, with each group being led by a Foundation Partner who guided the exploration of a specific circular economy opportunity area. Following a three-month innovation process, 5 new projects were developed using Business Models Inc's award-winning multi-party innovation methodology. These projects were then pitched to a panel of judges, vying for investment from the Circular Seed Fund - a pool of $100K provided by the Queensland Department of Environment and Science.

Meat and Livestock Australia (MLA) was one of the CELab's five Foundation Partners, seeking to address challenges and opportunities across the food and agriculture value chain. As a Foundation Partner, MLA worked closely with the CELab core team – Business Models Inc and Coreo – to convene several other key industry players across the sector. These include Cisco, Grove Juice and Freeze Dry Industries.

Together, the team worked to create Ripple: a new business model and venture that seeks to foster competitive regional collaboration and resilience across agriculture communities and businesses. This report provides an overview of the process and the outcomes of Australia's first CELab.

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1. Background

1.1. What is the circular economy?

1.1.1. Systems wide innovation

In a circular economy stocks and flows of resources, such as money, materials, information and energy, are acknowledged to interact with each other. Designing a product or service to fit into such an economy demands considering its interactions with economic and ecological systems along its entire lifecycles. Likewise, any organisation active in the transition to a circular economy needs to consider its interactions with the wider system and pay attention to emergent behaviours; system level effects that cannot be simply explained or predicted from the actions of individuals and organisations.

Circular economy principles include:

1. Designing out waste/pollution
2. Keeping products and materials in use (highest value/long as possible)
3. Regenerating natural systems

1.1.2. The mechanics of circular economy business model design

Circular economy concepts can be complex. The terms and different taxonomies used to describe a circular economy, makes it necessary to balance the theory with a practical perspective of business model design. The Queensland Circular Economy Lab leveraged the work of the *R2π – Transition from Linear to Circular* project, to define the concept of Circular Economy Business Models (CEBM). You can read more about this approach in the *Circular Economy Business Model Case Studies: Introduction and Methodology* (Smith-Gillespie 2017). These business models promote innovation, collaboration, and leadership and have been used by world leading companies to radically rethink growth in a circular economy.

Circular Business Models emphasise:

1. Circular supplies
2. Resource recovery
3. Product life extension
4. Sharing
5. Product to service

2. Project objectives

2.1. The Queensland Circular Economy Lab

2.1.1. Background

The Queensland Circular Economy Lab is a project of Coreo and Business Models Inc and was seeded by the Queensland Government to accelerate the transition towards a circular economy in Queensland. Minister for the Environment and the Great Barrier Reef and Minister for Science and the Arts, The Hon Leeanne Enoch MP, announced the Government's support of the Lab at the February launch event: "If we keep resources circulating in the economy, retaining the highest value

for as long as possible, it will provide opportunities for new ways of thinking, new businesses and importantly new jobs."

Important to success, the Lab also enjoyed multi-agency support across the Queensland Government. The Department of Innovation, Tourism and Industry Development helped drive connection with industry leaders including Leanne Kemp, the Queensland Chief Entrepreur and Co-Chair of the Circular Economy at Davos. Support for the project aligned with the Theory of Change discovered as part of the Department's Regional Innovation Ecosystem Report. This theory aligns with Hidalgo, Cesar & Hauesmann, Ricardo's Economic Complexity index and goes further to explore how ecosystem innovation is designed to discover, explore and validate big opportunities across organisations in a very short period of time. Specifically, how ecosystem networks collaborate to develop and then commercialise new concepts.

2.1.2. Industry Lab Participants

Fig. 1 Company logos of 2019 CELab Foundation Partners and Industry Participants

2.1.3. About CELab Designers Business Models Inc and Coreo

Business Models Inc is an award-winning international strategy design agency. We help organisations make better decisions today and shape strategy into action. We are working with the Commonwealth Government of Australia to support industry driving the circular economy, and with the EU to examine ways to shift from the broad concept of a Circular Economy to one of Circular Economy Business Models (CEBMs) while searching for both market failures and policy failure that hinder the broad implementation, use and acceptance of CEBMs. Our way of working was awarded the inaugural Good Design Australia Design Pioneer award, and in 2018 our Launch in 100 Days program won the Good Design Australia Gold Award and the Design Value award from the Design Management Institute. This programming underpins our role in the Circular Economy Lab and is at the heart of our co-innovation offering.

Coreo is Australasia's leading circular economy company transitioning global businesses and governments from linear to circular. Coreo is fuelled by a diverse and experienced team that put collaboration before competition and transformation before transaction. Coreo's CEO was appointed as one of only 44 people globally by the Ellen MacArthur Foundation as a circular economy pioneer and invited to represent Australia at the World Circular Economy Forum. Founded

by 2017 Coreo's value has been recognised globally with projects in Chile, the United States, New Zealand, and most recently Coreo has been invited to the United Nations General Assembly to discuss circular economy and the enablers required to accelerate the transition.

2.2. Food and agriculture circular economy opportunity areas

Within the food and agriculture industry, there are numerous opportunities and challenges in transitioning to a circular economy – zero waste in the supply chain – that require a collaborative and partnerships approach.

One of the key opportunities, not exclusive to the meat sector but certainly pertinent, is food waste. According to the Federal Government, about $20 billion is lost to the economy through food waste each year. Further, cattle and calves were the most salient commodity. To put this into perspective, the total value of agricultural production in Queensland is $13 billion with 8,288 beef farms across the state. That's a staggering amount and a big opportunity to lead the way in eliminating waste and valorising food waste streams.

Another key opportunity area for innovation within the packaging and plastics arena. This includes product packaging and the use of plastics across the supply chain. Engaging in new partnership models and alternative materials enable through technology, will accelerate progress in these areas.

3. Methodology

3.1. Overview

The CE Lab was a three-month co-innovation program that brought together Coreo's expertise in circular economy and Business Models Inc award winning design thinking methodology, and their collective global network of insights. The CE Lab provided a fast-paced environment for learning and ideation, designed to address entrenched industry challenges. The Lab participants journeyed through the Lab in five teams, representative of five industry opportunities to implement circular principles and create solutions that focussed on delivering environmental, economic and social value. These opportunities were identified by the foundation partner of each team and evolved over the course of the Lab resulting in a diverse range of concepts that were presented before a panel of esteemed judges for consideration and investment.

Multi-party co-innovation was a key element of ensuring the success of the CE Lab; 'Learning by Doing, Together'. No single company can address complex global issues alone. The systemic nature of circular economy requires the cooperation, combined resources and ingenuity of multiple organisations: local and global companies, not-for-profit organisations, and government agencies, as well as start-ups. The 26 organisations that joined the Lab brought in different perspectives, different points of view on what a solution may look like.

3.2. Overview

3.2.1. Take a look inside the CELab

The Lab programme encouraged a human-centred approach to problem-solving, creating commercial opportunities from needs that really matter to people. Over the course of the Lab, each team was taken through the four phases of innovation – what Business Models Inc refer to as the Double Loop. This process took place over 4 full-day workshops over the course of three months.

Fig 2. Visualisation of four-phase innovation process

3.3. Workshops

3.3.1. Workshop 1: Understand

Designing for the future means having a keen awareness of changes in the world around you. We asked the teams to consider trends occurring in the world as well as those they are noticing within their own organisation.

Then we map our ambitions – What does it mean to be 'circular'? What does it mean to you? How do you want to transform or create new value?

3.3.2. Workshop 2: Ideate

As the teams stepped into the second full-day workshop, the focus was on ideating solutions to the challenge space defined in the first workshop. Big or small ideas, they all made the wall. The teams then made choices around which choices around which ideas might have the greatest impact.

Meanwhile: We saw many connections made and new details done, including cross-team members.

3.3.3. Workshop 3: Prototype/Validate

What are the challenges your customer is facing that your product or service will help alleviate? What positive opportunities you are creating for your customer and how does your product maximise the benefits?

The Lab teams created prototypes of their ideas to test with each other and their customers.

3.3.4. Workshop 4: Prepare to scale

In order to successfully graduate the Lab, teams were given the opportunity to pitch their solutions in front of a panel of investment judges. Teams had to tell an effective story that captured the details.

Are their ideas desirable (customer validation), feasible (able to be executed), viable (commercial solutions), and circular (build on circular principles and models)?

Further explanation of workshops tools and methods used in Appendix 9.1. Overview of the tools used throughout methodology

4. Results

4.1. Ripple

4.1.1. An introduction

Ripple seeks to transform regional ecosystems and economies, from linear to circular systems.

With an ambition to understand system boundaries and work with local stakeholders to identity the most pressing challenges they face, Ripple moves people and organisations from a transaction project, to a transformational program.

Ripple (the Regional Investment Platform) was led by Meat and Livestock Australia (MLA). The team supporting MLA included Cisco Australia, Grove Juice and Freeze Dry Industries. The team approached the Lab with a determination to transform and secure the food and agri systems that are existential to the survival of regional economies across Queensland.

As a Regional Investment Platform to identify waste in regional communities, the platform concept sees local communities work together to identify new opportunities and businesses to use the waste. This transformation of waste to a resource, is designed to attract investment back into the communities to grow regional economic development.

Ripple leverages the principles and practice of systems design in a four-phase process that seeks to:

1. **Identify** challenges
2. **Ideate** solutions
3. **Invest** in people
4. **Include** the community

5. Discussion

5.1. Participant feedback from the CELab

Following the CELab, participants were asked what they thought, felt and experienced during the Circular Economy Lab to help us understand the pain points and victories of the CE Lab journey.

We were pleased to learn that the success of the Lab was largely attributed to having created a safe space to collaborate with other organisations. It deepened commercial relationships and trust among lab participants and laid the foundation for an active Circular Economy community of practice in Queensland.

It is also extremely positive to note the increase in understanding of circular economy principles and business models, moving from an average 2.7/5 rating prior to the Lab to a 4.0/5 rating after having undergone the Lab experience.

Most importantly, 82% of participants have expressed that they are actively taking steps towards a circular economy in their organisation. A summary of key insights includes:

1. Participants found the *Prototyping* workshop the most engaging
2. Participants found the *Understanding* workshop the most challenging
3. 78% of participants agree that co-innovation will accelerate the CE in Queensland

6. Conclusions

6.1. Next steps for Ripple

Ripple as a concept is being led in market by MLA's Sam Bucolo and Cisco's Cori Drogemuller, with the support of the Queensland Government. The first Ripple project is under development with the ambition to launch in Quarter 1, 2020.

Following launch, Ripple will be able to assist local communities in regional areas to identify new opportunities and businesses to use waste currently created by business. Through adoption by local business, waste can be transformed into a potentially profitable resource which in turn can stimulate regional economic development.

7. Key messages

7.1. Behaviours to adopt

- Re-evaluation of waste as a valuable resource
- Recognition of circular economy business models and principles within MLA's strategic initiatives
- Strengthening involvement across MLA's regional networks and relationships
- Collaboration and co-innovation as a vehicle for the identification of common challenges and the pursuit of new ideas and solutions
- Design-thinking methodology and disciplines to approach systemic challenges

7.2. Likely benefits

- New commercial partnerships
- Increased resource sustainability through valorisation of waste streams
- Increased resilience in regional communities
- MLA's leadership in facilitating regional innovation and circularity
- Increased capability through immersion into collaborative, design-thinking methodology

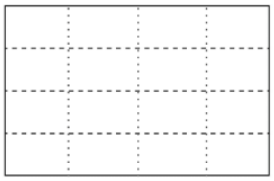
8. Bibliography

Smith-Gillespie, A. (2017). *Defining the Concept of Circular Economy Business Model*. Retrieved from: http://www.r2piproject.eu/wp-content/uploads/2017/04/Defining-the-Concept-of-Circular-Economy-Business-Model.pdf

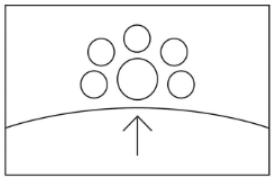
9. Appendix

9.1. Overview of the tools used throughout methodology

9.1.1. Workshop 1

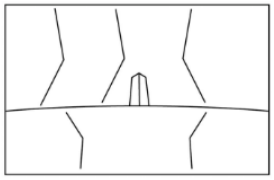


Concept Team Canvas
What do I bring to the table? What will this Lab do for me?

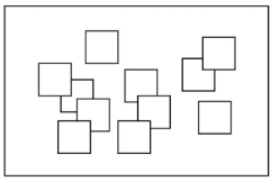


Vision Map Canvas
What is our winning aspiration?

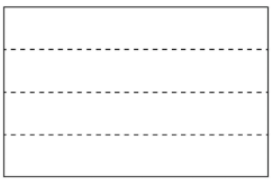
Team Charter Canvas
How will the team work together in this journey?



Context Map Canvas
Mapping the trends that we're seeing - strong and weak signals of change.

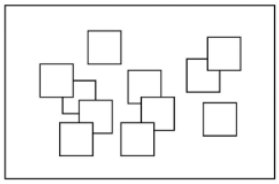


Wall of Ideas
What do we think? Ideas were clustered according to likeness and alignment.

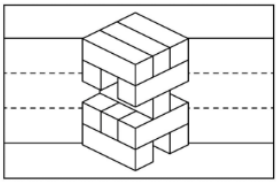


Design Criteria Canvas
What are the design elements - the constraints for our exploration and decision making?

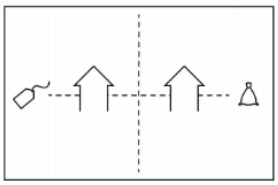
9.1.2. Workshop 2



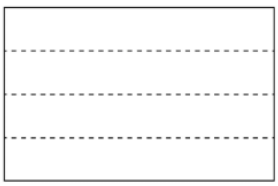
Wall of Ideas
What do we think? No idea is too crazy.



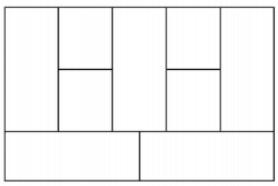
Riskiest Assumption
What is the assumption that holds the biggest risk if its invalidated?



Innovation Matrix
Filtering our ideas based on their anticipated impact.

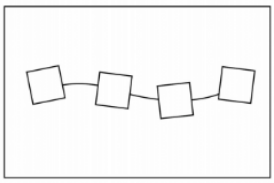


Design Criteria Canvas
Return to our design criteria - how do our ideas hold up against this?

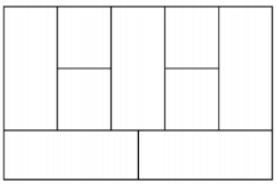


Business Model Canvas
How might we create, capture and deliver value?

9.1.3. Workshop 3



Customer Journey Map
Who is our customer and what does their journey look like? What are the moments of interaction?



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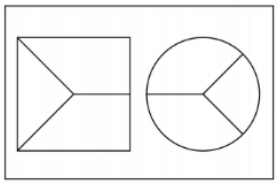
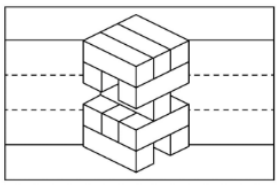
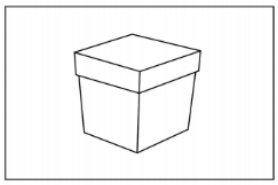


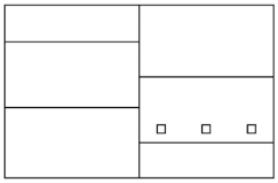
Value Proposition Canvas
What is our promise and how do we deliver it to our customer?



Riskiest Assumption
What is the assumption that holds the biggest risk if its invalidated?

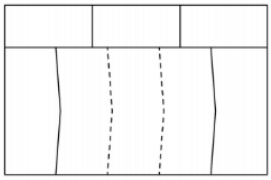


Prototyping
What does our solution look and feel like? Make it real...

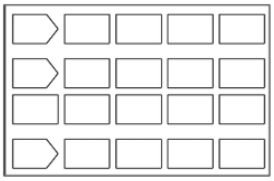


Test and Experiment
Test your value proposition and identify what assumptions need to be validated? What experiments will you run?

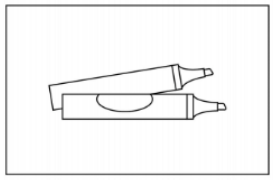
9.1.4. Workshop 4



Storytelling Canvas
How will we communicate our concept in a way that engages the audience and tells a compelling story.



Storyboard Canvas
What will our pitch include and what is the format and flow?



Visual thinking
Teams used visual thinking to communicate their ideas and build on their pitches.