Academy for DESIGN INNOVATION MANAGEMENT Conference 2019
LONDON, UNITED KINGDOM
19–21 JUNE 2019
Research Perspectives IN THE ERA OF Transformations

Transitioning Business for a Circular Economy

EVANS Susan

Hong Kong Polytechnic University, Hong Kong
susan.evans@connect.polyu.hk
doi: 10.33114/adim.2019.c05.137

This case study explores the strategic business opportunities, for Lane Crawford, an iconic luxury department store, to transition in a circular economy towards sustainability. A new experimentation framework was developed and conducted among cross departmental employees, during a Design Lab, with intention to co-create novel Circular Economy business concepts towards a new vision: the later was a reframe of the old system based on the principles of sustainability; to move beyond a linear operational model towards a circular economy that can contribute to a regenerative society. This work draws on both academic and professional experience and was conducted through professional practice. It was found that innovative co-created concepts, output from the Design Lab, can create radical change in a circular economy that is holistically beneficial and financially viable; looking forward to extract greater value a)Internal organization requires remodeling to transform towards a circular economy; b)Requirement for more horizonal teams across departments vs solely vertical; c)New language and relationships are required to be able to transition towards a circular economy; d)Some form of physical and virtual space requirements, for cross-disciplinary teams to come together to co-create; e)Ability to iterate, learn and evolve requires agency across the business

Keywords: Experimentation, Design for Sustainability, Circular-Economy, Business-Transformation, Methodological-Framework

Context and opportunity area

The circular economy model continues to gain attention from global companies (Lewandowski, 2016), yet a recent report, by (PACE, 2019), identified that the linear economy is 'baked in' to the global economy, only 9% is circular, and that progress towards sustainability is in reverse.

From the perspective of business transformation in a circular economy there is a gap in tools and methods as while "Sustainable business model innovation is an emerging topic, … only few tools are currently available to assist companies in sustainable business modelling" (Geissdoerfer, Bocken, & Hultink, 2016) and "To date few if any processes for sustainable and circular business model experimentation have been developed" (Bocken, Schuit, & Kraaijenhagen 2018).

The economic paradigm is shifting, thought to happen at times of revolutionary development, with significant changes in societal and business values, and interrupt periods of continuity, as first discussed by Kuhn (Shapere, 1964); Brand & Rocchi (2011) and Gardien, Djajadiningrat, Hummels and Brombacher (2014) discuss the change to the future economy as the transformation economy.

With paradigm shifts come changes in design processes, methods and tools (Gardien, 2014). The latter argues that by adapting to the new paradigms 'will allow companies to extract more value from the marketplace'. There are four paradigms, spanning from the 1950's to the future, defined by people and business mindsets,

each with a specific economic driver, namely, 1) the industrial economy (mass production), 2) Experience economy (marketing and branding), 3) Knowledge economy (knowledge platforms) 4) Transformation economy (value networks). This study leverages the research method types of the transformation economy described as 'Empathic, in-context experimentation and data collection through living labs', (Gardien, 2014), whereby the design deliverable is imagined to fit beyond the needs of the individual to include society and planet, suggesting that design processes may take place in a circular economy for sustainability.

This case study aims to explore, through the use of action research and a systems and design thinking approach, (The Design Lab), a new methodological framework to co-create novel business concepts to radically change business practices in a circular economy that can be implemented in a business circular economy experiment in the form of a living lab.

Circular economy

The circular economy is used as it presents a 'more targeted focus on resource-related issues to facilitate experimentation' (Bocken, 2018) and contributes to sustainability (Mentink 2014). It was first introduced by Stahel and Reday (1981) as a way to minimize resources impacts, wastes, emissions, energy use and energy loss by slowing, closing and narrowing materials and energy loops. In this way regenerative loops aim to create, Innovation opportunity, Job creation, Economic competitiveness, Resource savings, Waste prevention. There are now various frameworks that highlight the opportunities and ways to integrate and evaluate circular economy concepts, all with their roots in the earlier work of Stahel et al., (1981), built on the looped system theory, these include Resolve (Ellen-MacArthur-Foundation, 2015) and the work by Van Renswoude, Wolde and Joustra (2015) and Laubscher and Merinelli (Lewandowski 2014). Most recently the work of Lüdeke-Freund, Gold, & Bocken (2019) proposes a framework for circular economy business model (CEBM) development, drawn from an assessment of literature of 26 published circular economy business models (CEBM). The framework relates six CEBM patterns, with four design strategies and links the different strategies back to the key circular economy resource strategies of slowing and closing; and value strategies of retain product and material value.

This work is situated at the 'upfront end', of the design process, (Sanders & Stappers, 2008) uses co-creation, through experimentation (Hall, 2011) and in this way, informs and inspires exploration of an open ended question and addresses fundamental and radical challenges, beyond the cutting edge (Hall 2011) to innovate new business concepts in a circular economy. The latter will have wider impacts on the eco-system and so, ideation is initiated through a holistic sustainability lens (Boons & Lüdeke-Freund, 2013) to enable reflection (Schon 1983) on the consequences of any intervention on the system (Cross 1972). Co-create is used as embraced by sustainable development to increase efficacy of interventions (Bell, 2012).

This case study builds on and contributes to the discussion of strategic design methods, tools and processes to transition business from the linear economy to the circular economy; through the exploration of a new methodological framework to co-create, with transdisciplinary dialogues (Banerjee 2008); (Stock & Burton 2011), that seek to propose new business opportunities beyond the leading edge, that can evolve technologies, markets, user expectations and behaviours (Hall 2011) in a circular economy for sustainability (Stegall, 2006). Output concepts are implemented into the business eco-system, the living lab, among suppliers, other stakeholders, customers and employees for experimentation.

The context: Lane Crawford - Iconic Luxury Department Store

Lane Crawford department stores are located in Asia. Awareness and commitment from senior management to transition towards responsible business in a circular economy for sustainability. This company relates most clearly to Paradigm 2,(Brand et al., 2011), 'The Experience Economy', such that the business economic driver, is 'marketing and branding' and the business focus is 'brand experience'. This can be observed both, externally, from the offer that is heavily invested in the physical, an integral and tangible brand touch point; the brands and messaging, and internally from the company operational and siloed set up and the way interactions are organised across the eco-system.

The competitive landscape is fierce and includes well-funded digital first companies and start-ups, such as Net-a-Porter, for example, that tend to operate in paradigm four, the transformation economy; as their technology advances so company learning and iteration accelerate due to leveraging the research and tools of paradigm 4; that includes the use of Living Labs 'which involves users as co-creators and enables

experimentation in real-world settings' (Almirall, 2011). Development is amplified by exponential growth in processing speeds as given by Moore's Law and grounded in the lean start-up methodology (Ries 2011).

By comparison the approaches used in Paradigm 2, operate on much longer developmental time frames and rely on limiting research methods. It is complicated and difficult to transfer from an earlier economic paradigm to another "companies that grew up in an earlier paradigm risk being bogged down by an outdated mindset and ways of working" Gardien et al., 2014, p.137).

Strategically, over the past 18 months, the senior management set new purpose, principles and values with business goals. The latter are aligned with two key global themes as identified by the Sustainable Development Goals (SDG's) one of which targets waste (Figure 1). Measurements for KPI's are in progress and currently driven by specifics from individual projects.

The case study discussed in this paper is the first prototype project to systematically address a move towards a circular business economy with intention to change behaviours and measure impact. To initialize and test this type of change a specific and bounded, controlled event was set up and measured by the internal team. In this way a business experimentation was set up with its employees, including relationships with other stakeholders and their users, over a controlled time period with specific changes.

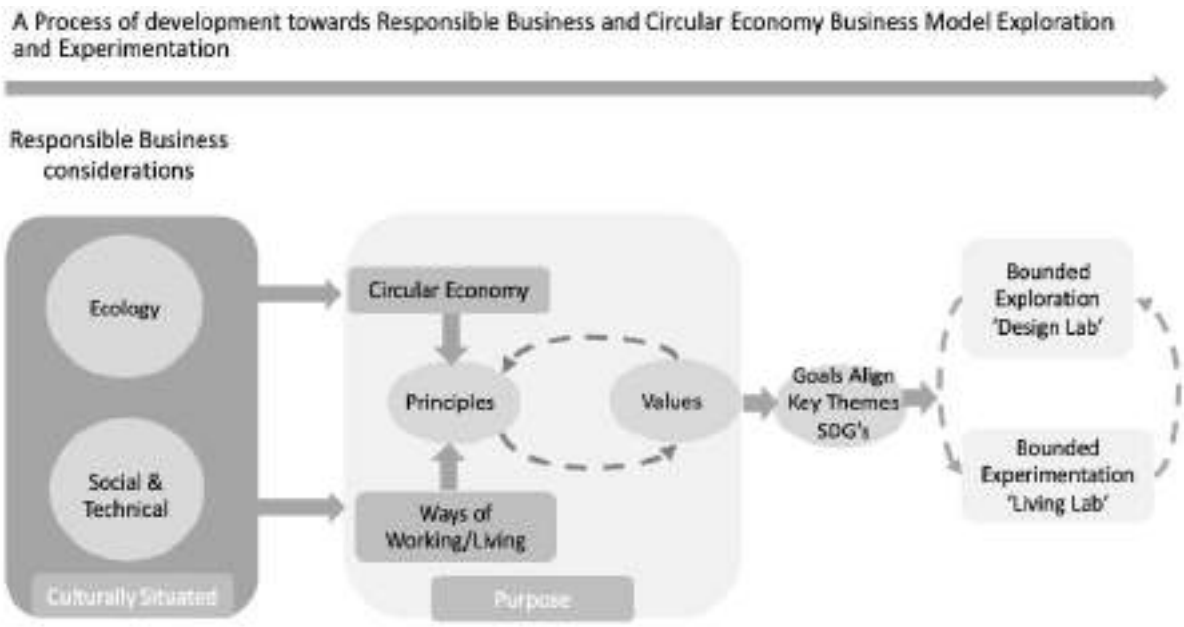

Figure 1: *A Process of development towards Responsible Business and Circular Economy Business Model Exploration and Experimentation*

The Narrative

This research was conducted with the belief that a diverse group of eco-system business stakeholders in a design led co-create environment, using the new methodological framework, could innovate viable, desirable and feasible business concepts in a circular economy.

The research question proposed to kick off the Design lab was 'How might we design responsible Christmas packaging and retain our excellence and luxury offer in a circular economy?

A three-hour Design Lab was conducted among a diverse group of eco-system stakeholders including, store management, communications, design, brand strategy, technology and academia who are involved with the organization and contributions to the implementation and outcomes of the research; to co-create novel concepts that can radically change the business eco-system in a circular economy.

It should be noted that the time frame was extremely short to implement this first experiment in a circular economy, such that concepts moved forward were believed to be feasible in the time frame.

The new methodological framework

The methodological framework (Figure 2) has been developed with intention to explore, support and accelerate novel business and systems scenarios in a circular economy using co-create and a systems and design thinking approach. It has drawn on the behavioural change work of (Dolan, 2012) with intension to change the context from which participants tackle the challenge to raise automatic behavioural responses in a circular economy: specifically resetting norms, raising salience in the potential of the challenge and in this way priming participants prior to co-creation. The work of Schon (1983/4) is leveraged such that the visionary view is changed and, in this way, encourages participants to co-create towards a circular economy rather than the established norm of a linear model.

The framework consists of three parts, namely, Empathize, Ideate and synthesize; the first phase,

Empathize phase, has intention to change the context, through which participants consider the norm, moving their perspective from a linear business model to a circular business model, using a future novel vision, case studies, and facts and in this way changes the context and sets the challenge.

- An alternative supply chain visual is created in several steps; the first considers the core principles of the circular economy (Lewandowski, 2016); secondly social impacts (Boon et al., 2013) and thirdly the concept of data usage. This acts to change the context (Dolan et al., 2012), the norm and so shift the view of the problem with intension for participants to consider alternative solutions (Schon 1983).
- Case studies included leading packaging examples that use renewable resources, non-toxic, design led products to design out waste and design in regenerative behaviours.
- Facts: Included: Relevant changes in policy that fundamentally change the flow of waste and so resources in a production and supply chain, current local and regional facts, State and user perspectives, global goals as defined by the SDG's in the area of consideration.

The second phase, Ideation, invites participants grouped in teams representative from diverse departments, to strategically design concepts that meet the challenge by re-considering, through a holistic and new view the eco-system and supply chain. This allows the co-ideation of new narratives and potential futures in a circular economy.

- Conversation mapping is used at the early stage of a co-create design process as it enables many new themes, through capturing plurality (Fry 2010).
- This is followed by future scenario planning that uses a visual plotting method to identify the business strengths and weaknesses of various new concepts using qualities of desirability (what users want), Feasibility (what is technologically possible) and viability (what is financially possible).

The final phase, Synthesize, summarizes the themes and through decision making dialogues aided by the soft system tools, the team progresses to create conceptual future narratives within the system of interest; with greater clarity of how and what might be and so set project goals the team believes are achievable.

- Participants individually created their own Root definition using the given format as presented as: How might we *(problem to solve*) through/by (*doing something*) so that (*we create an impactful outcome*)?
- Pairwise analysis is conducted, and the top definitions were reconsidered.
- Following this exercise, a stakeholder responsibility road map is created.

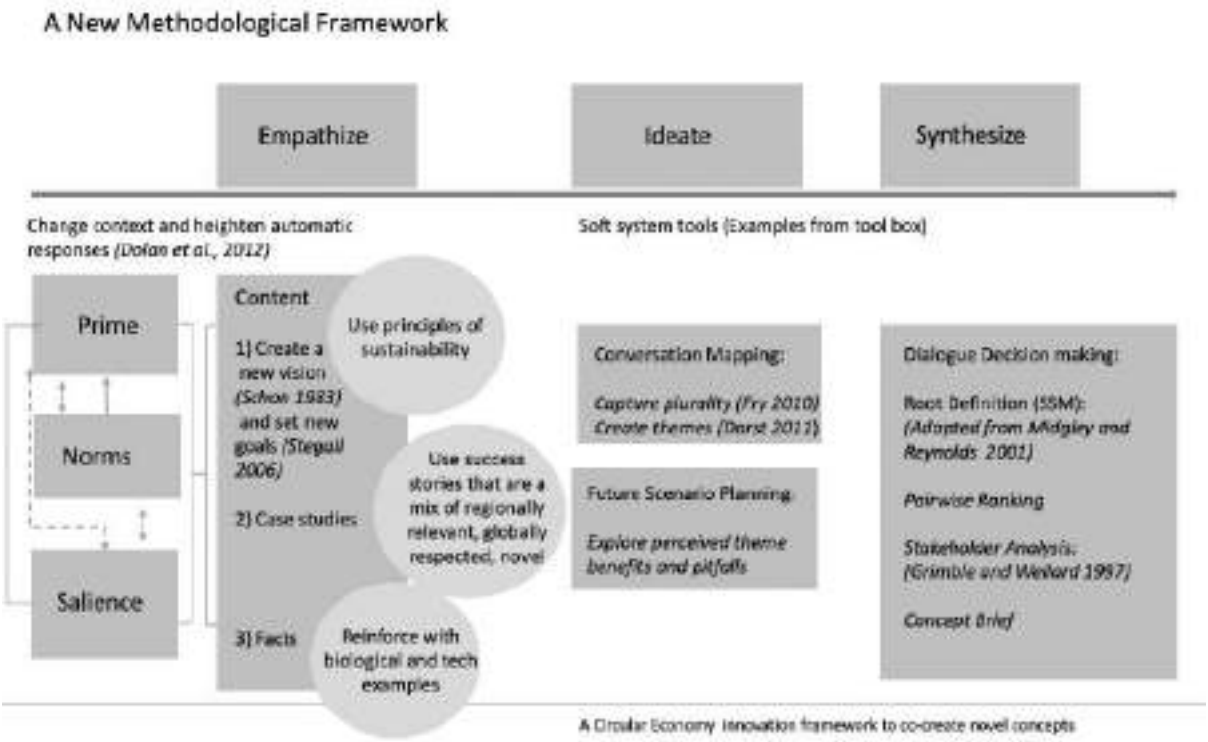

Figure 2: A New Methodological Framework – A Circular Economy Innovation Framework to Co-create Novel Concepts

Key Learnings

Findings from the Design Lab

Overall, we can say that the participants in the Design Lab, using the new methodological framework were able to co-create many innovative business concepts (Sanders et al., 2008) from a different context and view in a circular economy (Dolan et al., 2012); (Schon 1983).

In the following section the concept findings are discussed using an evaluation framework adopted from the Resolve framework (Ellen-MacArthur-Foundation, 2015) with additions from the work of Laubscher and Merinelli (Lewandowski 2015).

Outcomes: These are the first and immediate steps taken to change the Christmas packaging in a circular economy as made during the 2018/2019 season.

Regenerate*:* 'Focuses on the use of renewable energy and materials'. Participants recognized the issues with their product in terms of its non-renewable materials and toxic pollutants prior to the design lab. This contribution was further explored and expanded to understand the full lifecycle and what happens in the afterlife; after use. From this reflection, mixed materials were brought to the forefront as an issue for recycling and so significantly more likely to keep the products in a linear system; also, the lack of infrastructure locally to aptly process biodegradable products led to further thought on how to better manage the product after-use. In turn this led to further discussion and a build through exploration of what can happen further up the chain to reduce materials entering into the system?

Beyond Christmas packaging dialogues explored the increase in packaging due to their online sales and delivery, this provided wider opportunity to redesign packaging for online sales.

Action taken:

- Redesign of Christmas packaging and for online purchases
- Renewable and non-toxic supply chain for packaging
- Removal of mixed materials
- Ongoing discussions on how to better manage after-life

Share: 'Maximize utilization of products through share'. As part of the full lifecycle and extended life of a designed product, seasonal holiday boxes were viewed as limiting for their desirability to re-use due to their colour.

Action taken:

- The team changed the colour as they believed that a more neutral colour would allow for the box to be re-used given its quality, durability and aesthetics.
- Secondly, old stock was donated to local schools for a specific Christmas project.

Optimize: 'Aim to increase performance/efficiency and remove waste'. Once the teams focused on waste, they realized that there were some habits that were consistent and frequent that led to high volumes of waste that could be addressed prior to materials and resources entering the system, for example: double or triple bagging goods; or customers asking for extra wrapping papers and accessories; double use of tissue paper for perceived greater aesthetic effect. Strategies were developed to address minimizing unnecessary product entering into the system with consideration for various relationships, such as, clients, staff usage and also beyond into other types of products, curtesy umbrellas for example. All of which add to inputs to the circular economy loop, energy and resources and potential outputs in terms of waste and again energy to address end of lifecycle.

Action taken:

- New informed strategy and road-show to inform staff of new positioning packaging and perspective on packaging and its contribution to healthier life (self, family, community and planet)

Loop: 'Retain materials and components in the system'. Until now all materials and products were sent to landfill. Raised consciousness on the lack of infrastructure to process appropriately in a circular system

Action taken:

- The team is exploring ways to recover and increase likelihood that biodegradeable products can be treated appropriately so that after use product can naturally biodegrade and so contribute to regenerative systems.

Exchange: 'Replace old items with new technologies'. At the customer level the offer and service experience changes between the customer and the staff. The staff and customer are more actively involved in the transaction. The customer at the moment when interfacing with the sales and packaging staff will actively make a decision based on some new information (Mentink 2014).

Action taken:

- New micro-systems put into place to deliver on new processes and relationships. New language, new considerations, new meaning.

Building trusted partnerships: From the perspective of the team these changes will be exploratory and iterative, the effects will disrupt the eco-system so collaboration and trust to ensure that these changes can be optimized is key

Action taken:

- Changed packaging processes and materials, required new learning and practical applications to use materials that are less agile and less convenient for packaging purposes at time of packing and take longer to apply. Team managed disruption in the eco-system supported by trusted relationships and belief in the purpose stakeholders moved through discomfort and arrived at a circular economy solution.

Incentives and capabilities: Incentives are in discussion with intension to align with responsible business practices and a strategic move towards a circular economy and sustainability. Capabilities there are beginnings of practice and experimentation internally. This Is a time, people, budget balance

Action taken:

- Learning is continually taking place and with this comes iterations.

Participants had short term deadlines to meet and were able to use the scenario planning tools to identify concepts that they felt they could make happen in a relatively short time space. This was based on the ability to collaborate seamlessly and to roll out the road map as they had planned during the synthesize session.

The CEBM according to the framework , Lüdeke-Freund et al., (2019 p54), can be said to place emphasis on a CEBM pattern of 'Recycling'; and a design strategy of 'Design for biological cycles (using biological nutrients e.g., organic, plant-based materials)': a change in material ingredients to improve the potential of recycling, cascading and organic feedstock that can lead to closing loops.

The challenge space to move forward was set by the participants:

'How might we design responsible Christmas packaging, retain our excellence and luxury offer by exploring opportunities among our customers, staff and supply chain to reduce consumption of paper bag and wrapping by 30%, average per customer sale, over the Christmas 2018/2019 compared with 2017/2018.'

Follow up

Following the Design Lab activities further work was conducted on viability to implement biodegradable packaging materials. It was calculated that a 12% reduction in packaging materials, as compared with previous year, would be needed to balance investment in the change. With this knowledge and an absolute minimum goal for change in packaging entering into the system, the project was established, and first steps were made towards a CEBM.

The transition was accomplished over the Christmas period 2018/19. Early feedback indicates that key goals to reduce packaging entering into the eco-system and financial targets were met a) financially accounts were balanced (key to the continuation of this project and next projects) by creatively and strategically reducing resources entering into the system (in the form of packaging) this reduced financial outgoings to compensate for the added financial outgoings associated with a change to renewable and non-toxic resources, materials and production b) Messaging represented a paradigm four value proposition that is appealing to social leaders (beyond the individual inclusive of social and environmental); c) staff were motivated and enthused to be involved in this project d) An alignment with global as well as local goals added more weight to the necessity to act e) the project was highly desirable with real purpose and goals that highlighted the consequences for their personal lives and those of the people around them as expressed by one of the team leaders as "doing something meaningful" f) general raising of consciousness on waste and its impacts throughout the business.

Gaps in the system

Lack of systems technology that can accelerate decision making processes based on circular economy (systems) changes. Operates mostly in paradigm two The Experience Economy: complicated to gain decision making information and takes time as this involves a process of contacting various departments to access data that can then be assessed.

Discussion

We can say that the methodological framework was successful. It aimed through the empathize stage to reset the context, by priming participants, resetting norms and raising salience in the challenge space. The outcomes demonstrated that participants switched thinking into a new context (Dolan et al., 2012) co-creating ideas from a different view in a circular economy (Schon 1983). Participants were able to co-create many innovative concepts (Sanders & Stappers, 2008) that expanded scope and implementation opportunities to apply circular economy practices (Ellen-MacArthur-Foundation, 2015).

During the Design Lab, an introduction to the principles of the circular economy, a wider view of the eco-system and supply chain participants opened up to a greater number of opportunities for circular economy business practices.

Participants considered the full lifecycle from upfront design aspects through to the long cycle which extends the lifetime of existing products and processes (Van Renswoude et al., 2015); (Lewandowski, 2016) and considered reverse logistics and creating relationships with other companies and customers to assure closing of material loops (Mentink 2014). In this way the value proposition, delivery, creation and capture of the CEBM (Lüdeke-Freund et al., 2019), for experimentation in the living lab, was explored through Design Lab dialogues, reflections and the narrative creation of potential Circular economy business concepts.

Finally, the teams settled on changes that they believed they could make in the short term which could have significant impacts on reducing waste, toxic materials, pollution and production as associated with their packaging offer.

Technology

This first step and accomplished change to the supply system represents a fundamental and successful step for a traditional company that is baked in an earlier economical paradigm. It is evident from the process needed to collect and assess KPI data that technology on many levels is not available. Improvements can be made to support measurement of, flow, quantity and types, of materials; the customer and staff feedback systems; the relationships between customers, suppliers and other system influencers, with staff. Reflection on this specific project and how data could be captured and turned into decision making knowledge, relevant to users, staff, suppliers, quantity for example, that can promote better relationships through more informed interfaces and can give guidance for development and for further research using paradigm four methods.

Conclusions

This case study was conducted with Lane Crawford and found that novel, viable, feasible and desirable, concepts co-created in a circular economy, among a diverse group of stakeholders, using a new methodological framework, were able to radically change the specified eco-system from linear to circular practices through experimentation in a living lab. Further, that a shift in thinking happens through use of the new methodological framework such that a greater number of eco-system opportunities in a circular economy are opened up once participants start to view the system differently.

Early feedback from Living Lab Experimentation indicates financial costs associated with changes to materials and products in the system were balanced through creative strategic tactics to reduce materials and energy entering into the system such that both financial and reduction of waste goals were achieved; meaning no extra cost to Lane Crawford with circular economy benefits. It was found that a) the business rallied around the concept and purpose of change; b) a transformational economy positioning was found to be highly desirable by staff and stakeholders; c) the message and action raised behavioural consciousness around waste and materials; d) amplified beyond the specific business goals.

Forward looking: to support further change, Internal organization requires remodeling to transform towards a circular economy, sustainability and responsible business practices; this might include a) Operations to include collaborative project team work with use of physical (and virtual space), for cross-disciplinary teams to come together to co-create as 'future innovation will require intensive collaboration between stakeholders', (Gardien et al., 2014) b)Requirement for more horizonal teams across departments vs vertical; c) New language and supported relationships (to include: customer, other stakeholders and staff); d) Ability to iterate, learn and evolve requires greater and perhaps dedicated agency across the business.

References

Almirall, E., Wareham, Jonathan (2011). *Living Labs: arbiters of mid- and ground-level innovation*. Technology Analysis & Strategic Management **23**(1): 87-102.

Banerjee, B., (2008) *Designer as Agent of Change: A vision for Catalyzing Rapid Change*, *Changing the Change Conference*

Bell, S., Morse, S., Shah, R. A. (2012). *Understanding stakeholder participation in research as part of sustainable development.* Journal of Environmental Management **101**: 13-22.

Bocken, N. M. P., Schuit, C. S. C., Kraaijenhagen, C. (2018). *Experimenting with a circular business model: Lessons from eight cases.* Environmental Innovation and Societal Transitions **28**: 79-95.

Boons, F. and F. Lüdeke-Freund (2013). *Business models for sustainable innovation: state-of-the-art and steps towards a research agenda. Journal* of Cleaner Production **45**: 9-19.

Brand, R., and Rocchi, S. (2011). *Rethinking value in a changing landscape: A model for strategic reflection and business transformation.* A Philip's Paper.

Branson., R (2011) *Screw Business as Usual*, virgin Books, A Random House Group Company

Cross, N. (Ed.), 1972. *In: Design participation: Proceedings of the design research society's conference 1971*, Academy editions, London, UK.

Dolan, P., Hallsworth, M., Halpern, D., King, D., Metcalfe, R., Vlaev, I. (2012). *Influencing behaviour: The mindspace way.* Journal of Economic Psychology **33**(1): 264-277.

Ellen MacArthur Foundation. (2013). *Towards the Circular Economy. Opportunities for the consumer Goods Sector*. Available online: http://www.ellenmacarthurfoundation.org/assets/downloads/publications/TCE_Report-2013.pdf (accessed 14th February 2019)

Ellen-MacArthur-Foundation (2015). *Delivering the Circular economy: A Toolkit for Policy Makers.* Ellen MacArthur Foundation.

Fletcher, K. and Grose, L (2012*) Fashion and Sustainability: Design for change*: Laurence King publishing Ltd

Fry, T. (2009). *Design Futuring: Sustainability, Ethics and New Practice*. Bloomsbury publishing.

Gardien, P., Djajadiningrat, T., Hummels, C., & Brombacher, A. (2014). *Changing your hammer: The implications of paradigmatic innovation for design practice*. International Journal of Design **8**(2): 119-139.

Geissdoerfer, M., Bocken, N. M. P., & Hultink, E. J. (2016). *Design thinking to enhance the sustainable business modelling process – A workshop based on a value mapping process*. Journal of Cleaner Production **135**: 1218-1232.

Hall, A. (2011). *Experimental Design: Design Experimentation.* Design Issues **27**(2 (Spring 2011)): 17-26.

Lüdeke-Freund, F., Gold, S., & Bocken, N. M. P. (2019). A Review and Typology of Circular Economy Business Model Patterns. *Journal of Industrial Ecology, 23*(1), 36-61. doi:10.1111/jiec.12763

Lewandowski, M. (2016). *Designing the Business Models for Circular Economy—Towards the Conceptual Framework.* Sustainability **8**(1).

Mentink, B. (2014) *Circular Business Model Innovation: A Process Framework and a Tool for Business Model Innovation in a Circular Economy*. Master's Thesis, Delft University of Technology & Leiden University, Leiden, The Netherlands, 2014.

PACE (2019). *Circular Gap Report 2019*. *The Platform for Accelerating the Circular Economy*. Accessed 13th February 2019

Sanders, E. B. N. and P. J. Stappers (2008). *Co-creation and the new landscapes of design*. CoDesign **4**(1): 5-18.

Schon, Donald. A. (1983). *The reflective Practitioner: How Professionals Think in Action* (New York: Basic Books, 1983)

Schon, Donald. A. (1984). *Design: A process of Enquiry, Experimentation and Research*, Design Studies 5, 3, 130-31

Shapere, D. (1964). *The structure of Scientific Revolutions*. Philosophical Review **73**(3): 383-394.

Stahel, W., and Reday, G. (1981). *Jobs for Tomorrow, the Potential for Substituting Manpower for Energy*, Vantage Press, N.Y.

Stegall, N. (2006). *Designing for Sustainability: A Philosophy for Ecologically Intentional Design.* Design Issues **22**(2 (Spring, 2006)): 56-63.

Stock, P., and Burton, R. (2011). *Defining terms for integrated (multi-inter-trans-disciplinary) sustainability research. Sustainability.* 3, 1090-1113.

Van Renswoude, K.; Wolde, A.T.; Joustra, D.J. Circular Business Models. Part 1: *An introduction to IMSa's Circular Business Model Scan.* Available online: https://groenomstilling.erhvervsstyrelsen.dk/sites/default/files/media/imsa_circular_business_models_-_april_2015_-_part_1.pdf