PLATE conference
Delft University of Technology
8-10 November 2017

PLATE
Product Lifetimes And The Environment

Challenges and support for scaling up upcycling businesses in the UK: insights from small-business entrepreneurs

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Keywords

Product longevity
Scaling up
Sustainable business
Sustainable production
Upcycling

Abstract

Upcycling is the creation or modification of a product from used materials, components and products which is of equal or higher quality or value than the compositional elements. Within the context of increased product longevity, it enables a reduction in the use of raw materials by extending the lifetime of used materials, components and products, thereby increasing material efficiency and reducing industrial energy consumption. If scaled up to a considerable level through appropriate interventions, upcycling could, in theory, contribute significantly to preventing environmental harm. In particular, upcycling-based businesses have been identified as one of sustainable alternatives to prevailing business models that are based on unrestrained access to virgin materials, in contrast with the circular economy. Previous research regarding upcycling has focused mostly on fashion and textiles and highlighted the potential of upcycling businesses, providing sector-specific suggestions for expansion beyond their currently niche status. There is a critical knowledge gap concerning ways of achieving the full potential of upcycling-based businesses across the whole economy. This paper therefore provides results from a study on the challenges that upcycling entrepreneurs face when attempting to scale up and how to overcome them, based on an exploratory workshop with 12 British upcycling entrepreneurs. It identifies the key challenges faced by upcycling businesses and presents a mapping of the systemic support required for overcoming them, with potential actors.

Introduction

Upcycling is defined as the creation or modification of a product from used materials, components and products which is of equal or higher quality or value than the compositional elements (Sung, Cooper, & Kettley, 2014; Sung, 2017). It is an umbrella concept which incorporates 'creative' repair (e.g. darning), reuse (e.g. redesigned and remade clothing), refurbishment (e.g. upholstery), upgrade (e.g. IKEA furniture hacks), recreation (e.g. fashion items from clothing) and more. Upcycling is both a form of alternative consumption in which people can engage (Albinsson & Yasanthi Perera, 2012), and a form of alternative production that environmentally-conscious entrepreneurs can utilise (e.g. Sung & Cooper, 2015). Within the context of increased product longevity (Cooper, 2010), it enables a reduction in the use of raw materials by extending the lifetime of used materials, components and products, thereby increasing material efficiency and reducing industrial energy consumption (Allwood, Ashby, Gutowski, & Worrell, 2011). The reduction in energy consumption contributes ultimately to lowering greenhouse gas emissions (Hamit-Haggar, 2012). It also reduces solid waste or, at least, delays the addition of waste to landfill (Bramston & Maycroft, 2013; Zhuo & Levendis, 2014). Thus, if scaled up to a considerable level through appropriate interventions (Van den Bosch, 2010), upcycling could, in theory, contribute significantly to preventing environmental harm.

Previous research regarding upcycling has focused mostly on fashion and textiles (e.g. Han, Tyler, & Apeagyei, 2015; Paras, Curteza, & Pal, 2016) and highlighted the potential of upcycling businesses, providing sector-specific suggestions for expansion beyond their currently niche status. There is a critical knowledge gap concerning ways of achieving the full potential of upcycling-based businesses across the whole economy. In other words, how could this niche practice of upcycling in different businesses be scaled up?

This paper therefore aims to provide some commercial insights for upscaling upcycling-based businesses across different product categories in the context of small enterprises in the UK.

Methods

This research used a workshop[1] as a method for data collection. A participatory workshop with British

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upcycling-based entrepreneurs was organised in March 2016 at the University of London.[2]

Sampling and respondents

A workshop invitation was sent to 21 UK-based upcycling enterprises (identified through a Google search and word of mouth), Remade in Britain (a UK-based online upcycling marketplace: http://www.remadeinbritain.com/) and all identifiable upcycling-based makers (n=76) involved in Folksy (a UK-based online craft marketplace: https://folksy.com/). Workshop advertisement was also posted on 29 Hackspace/Makerspace google groups/fora (selected on the basis of the accessibility and activeness).[3] Twenty-five people expressed their interest in participation, of which 12 eventually took part in the workshop.

The 12 participants comprised 10 females and 2 males. Nine people were between 30 and 49 years old and 3 were over 50 years old. Most businesses were sole traders (n=9), followed by private limited companies with less than 5 employees (n=2).[4] Eight were full-time, 3 part-time, and one considered their upcycling as a hobby. Annual gross sales for most businesses (n=10) were under £10,000, followed by between £10,000 and £20,000 (n=2). The product categories they had were fashion items (n=3), home accessories[5] (3), furniture (2), jewellery (2), cabins (1), musical instruments (1) and artwork (1).[6] The materials they used for upcycling were mostly used timber (n=4), fabrics (4) and packaging (3).[7]

Procedures and analysis

The half day workshop consisted of keynote speeches,[8] small group activities and a whole group discussion. For the small group activities, the participants were separated into two groups (6 per group) and each group was supported by an expert facilitator. The questions for the small group activities were open-ended questions on challenges faced by participants in their upcycling businesses and the support required for scaling up.[9] During the group activities, the participants were asked to write down their answers on post-it notes and stick them on the mapping board, indicating the size of each challenge and how common they are, and the importance of each type of support and the level of demand for it. After each small group activity, the results were presented to the whole group, who then discussed the actors responsible for introducing the changes.[10]

The presentations of the results of small group activities and the whole group discussion were audio-recorded and transcribed. The transcript and mapping results were combined and categorised for interpretation through manual coding.

Results

The results are presented below with three categories: challenges, support and responsible actors.

Challenges for scaling up

Five themes emerged in challenges for scaling up upcycling businesses: materials, the craft of upcycling, marketing, the working environment, and consumer attitudes (see Table 1 for a summary). Sourcing sufficient used/waste materials was regarded as a big challenge and storing materials as a small challenge by most participants. The craft of upcycling (including material collection) was commonly viewed as time-consuming and this was not reflected in the price. One participant stated, *"There's a massive amount of time involved in craft and hand-making processes. […] Some people say 'Well, it didn't cost you anything for the raw materials, so can I have a discount?' People don't appreciate the time it takes to source the materials."*

Varied product quality and inadequate quality assurance were seen as big challenges by many participants. One said, *"Maybe some customers have had poor experiences [with upcycled products] in the past, and don't want to go down that route? And there's no quality assurance, regulations, or insurance."* Working with damaged materials was a common, small challenge in upcycling craft. Most participants found marketing time-consuming, as put by one, *"If you are making individual pieces, which will often happen with upcycled products, you've got individual photos, individual descriptions, which take time."* The distinctive nature of upcycled products was considered to make it more difficult to position such products in the market. Identifying suitable marketplace (both online and offline) was a common, medium scale, challenge in marketing. Regarding the working environment, most sole trader participants indicated that they have a problem finding a suitable space in which to work. They either work from home, dealing with limitations and problems (e.g. limited space for materials and equipment, interrupting family, disturbing neighbours) or pay rent for the work space, which can be expensive.

Consumer attitudes were mentioned several times. Consumers' preference for mass-produced products was commonly perceived as a big challenge. One participant said, *"If your products are beautiful and consumers will*

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[2] *The event was organised by the 1st and 2nd named authors.*

[3] *Whether or not it has a Google group/forum, and whether or not it has relatively high recent posting and read numbers in the forum.*

[4] *The other participant engaged in upcycling as a hobby and thus lacked legal status.*

[5] *Home accessories include home fragrance & candles, cushions, wall art, rugs, vases & bowls, photo frames, ornaments, lighting, curtains & blinds, mirrors, artificial flowers, clocks and door stops (e.g. House of Fraser, 2017).*

[6] *Two entrepreneurs produce fashion items and home accessories.*

[7] *Other materials (n=1) included bicycle inner tubes, ceramics, electronics, glasses, jewellery, metal, musical instruments, paper, and interesting discarded objects and materials.*

[8] *Rebecca Earley, Professor of Sustainable Textile and Fashion Design at the University of the Arts London and director of the Textile Futures Research Centre, presented on her textile upcycling practices. Jamie Billing, Programme Leader for product design and innovation at the Plymouth College of Art and co-founder and technical director of Co-oproduct (an online platform for sustainable product design teaching and learning materials including upcycling), presented exemplary projects of upcycling in product design for sustainability.*

[9] *"What challenges have you encountered for growing your business?" and "What support do you need to grow your business?"*

[10] *"Who do you think should act on providing support?"*

come in and look at them, but then they will walk away and buy something mass-produced from Debenhams […] because it's from a known brand. That's what they like." Consumers' perception of upcycling (either non-existent or negative), reluctance to accept alternative (or waste) materials, and fear of product failure were also identified as challenges to overcome. On these matters, participants' comments included: *"Upcycling is not mainstream yet and consumers don't know about it"; "Consumers have low confidence in longevity and material finish [of the upcycled product]"; "Different can be scary";* and *"Consumers have preconceptions that you are trying to sell them rubbish."*

Support for scaling up

Five themes emerged in support for scaling up upcycling businesses: a) changing consumers' perceptions, b) financial and business management support, c) marketing support, d) materials, facilities and tools, and e) network (see Table 2 for the summary).

Changing consumers' perceptions turned out to be the most important support that upcycling entrepreneurs need. The participants emphasised the importance of education and communication to raise awareness and enlighten the general public about the value of upcycling, providing evidence of environmental sustainability of upcycling and using social media for public engagement. One participant stated, *"The key thing is, first of all, education and communication to more people that what we are doing is the right thing."* Another said, *"Teaching the right values to start appreciating creativity. […] Too many people walk past, enjoy the upcycled products, and then go to the shopping centre to buy products."*

Financial and business management support was regarded very important. Many participants agreed that grants, loans, and low business rates for start-up costs and equipment would be extremely helpful. They stated that support with funding bids and some tips and know-how for managing businesses in creative industry would be very helpful. Effective marketing and promotion support was required for both online and offline activities. The participants did not seem to know how best to utilise social media in particular. One said, *"Can we do everything through Facebook or Twitter? You've got all these platforms, and is there anything to bring them all together so you don't spend all your life just tapping away at the computer?"* Another said, *"The downside of doing the same thing on all the platforms is that people will start to turn off."*

Connections with physical stores and pop-up shops for product exposure and actual selling was commonly required. Stable material suppliers, places to work (away from home), and equipment hiring service were identified as fairly important by some participants. Hiring industrial equipment was considered especially important for productivity, as put by one participant, *"If you do want to do that mass-produced in a sense, you always need to do repetitive bit of work to some products. How easy would it be to do that task if you could borrow industrial*

Scale of the challenge	Frequency of the challenge	
	Common	Uncommon
Big	-Sourcing sufficient materials -Time-consuming upcycling craft -Time-consuming marketing -No product category -Variable product quality and inadequate quality assurance -Place/space to work -Consumers' preference for the mass-produced	-Expensive rent (for work space) -Consumers' reluctance to accept alternative materials
Medium	-Identifying suitable marketplace (on/off line) -Consumers' perception of upcycling	-Disturbing working environment (at home)
Small	-Limits in working from home -Storing materials -Working with damaged materials -Consumers' fear of product failure	NA

Table 1. Challenges for upcycling businesses.

Importance of support	Demand for the support	
	High	Low
Extremely important	-Education and communication to raise awareness and enlighten the public about the value of upcycling -Grants, loans, low business rates -Community events and, networks for learning from each other	NA
Very important	-Use of social media for public engagement -Places to work (away from home) -Effective promotion and marketing -Creative industry business management support	-Help with funding bids -Stable material suppliers
Important	-Connections with physical stores and pop-up shops -Providing evidence of environmental sustainability	-Network of freelance associates to deal with workload peaks -Industrial equipment hiring service

Table 2. Support for scaling up upcycling businesses.

equipment?" Networks amongst upcycling entrepreneurs were commonly perceived as a potentially extremely helpful support. They anticipated that they would learn from each other by, for example, holding regular events, and dealing with workload peaks by sharing work.

Actors responsible for change

Mainstream businesses, the government and local authorities were identified as key actors to act on scaling up upcycling businesses. Most participants believed that mainstream businesses should take more responsibility for their waste and encourage its reuse rather than pay to get it removed. One suggested role of mainstream businesses was to create a database collectively (at a regional or national level) to list their waste and donate or sell it to upcycling businesses.

Many participants felt that the government should amend policies and regulations on waste, health and

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safety to encourage more reuse, repair and upcycling. One participant argued, *"People shouldn't be allowed to throw perfectly serviceable furniture and other products away, because it's criminal."* Another complained, *"Where I worked, there were so many useable products. They didn't give them away because there is a rule that they have to destroy those for health and safety issues."* Another said, *"At my local recycling centre, as soon as something has gone in the recycling skips, it's council property. People throw away dining tables, chairs, etc. And you cannot just take them out or you will be charged with theft."*

Some participants felt that local authorities could play an active role to promote reuse, repair and upcycling to better deal with municipal solid waste. One said, *"Blackpool Council has a shop outside of their recycling centre and the stuff that gets taken in, it all gets sorted. If it's resalable, they will clean it and sell it on-site. They have knick-knacks, furniture, fabrics, and stuff. They mend electrical products. All councils should do that."*

Discussion

Many of the challenges to upcycling businesses are also common in hand-made or craft businesses or start-ups. The hand-made or craft process is time consuming, and such products require time-consuming marketing (e.g. Liebl & Roy, 2004; Rosner & Ryokai, 2009). Any such business needs sufficient space to store materials and suitable markets to sell products, and competes with mass-produced products (e.g. Dissanayake, Perera, & Wanniarachchi, 2017; Jaitly, 1989; Tung, 2012). Many start-ups are based in a garage or struggle to find affordable work space (e.g. Audia & Rider, 2005). Particular challenges for upcycling businesses are in: a) sourcing sufficient used or waste materials with consistent types and quality, b) working with damaged materials and assuring quality, and c) changing consumers' perceptions and beliefs about upcycling and upcycled products.

Many of the suggested forms of support would be beneficial to hand-made/craft businesses or start-ups. Connections with retailers and an industrial equipment hiring service could benefit any craft businesses (e.g. Jakob, 2013). Financial support or help with funding bids, networks with other entrepreneurs, use of social media, affordable workspace, support for effective promotion, marketing and business management could benefit any start-ups (e.g. Bruneel, Ratinho, Clarysse, & Groen, 2012; Carson, Cromie, McGowan, & Hill, 1995; Chandra & Medrano Silva, 2012; Jenssen & Koenig, 2002; Watson, Hogarth-Scott, & Wilson, 1998). Forms of support that are particularly significant for upcycling businesses are the provision of stable material suppliers, skills development for high quality upcycling, education and communication to improve consumers' perceptions and beliefs about upcycling and upcycled products, and policies and regulations to encourage more reuse, repair and upcycling.

Synthesising the results, Figure 1 maps the challenges and

forms of support for scaling up upcycling businesses with potential actors. Local authorities, mainstream businesses and the Arts Council, Crafts Council, Design Council and Research Councils could potentially play a major role.

Local authorities could: a) run reuse and upcycling centres along with recycling centres, serving as a stable material supplier; b) provide affordable workspaces and, perhaps, an industrial equipment hiring service; c) create or support a local upcyclers' community; d) raise awareness by organising events and seminars; and e) offer financial and business management support. Mainstream businesses (especially manufacturers) could: a) create a database of their waste for materials provision; b) offer unused industrial equipment as a hiring service; and c) share their retailers and know-how of marketing and promotion. The Arts Council, Crafts Council, Design Council and Research Councils could: a) provide subsidies for workspaces; b) bring together upcycling entrepreneurs at a national level; c) transfer knowledge in effective marketing and promotion and in business management; d) disseminate upcycling knowledge; and e) support upcycling research and related initiatives (e.g. funding, collaboration).

Central government could introduce policies and regulations to encourage more reuse, repair and upcycling,
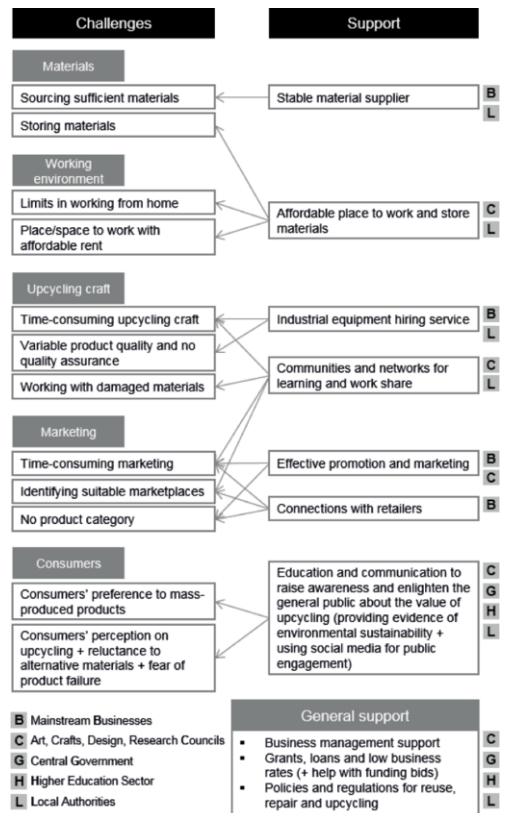

Figure 1. Mapping of challenges and support for scaling upcycling businesses with potential actors .

including use of the school curricula to instil the value of upcycling in children. The higher education sector could play a crucial role in providing evidence of the environmental benefits of upcycling and equipping young adults with a new mind-set more open to alternative forms of consumption (cf. purchasing mass-produced goods). Art and design departments and business schools, in particular, could seek funding to work with upcycling businesses.

Among all the potential forms of support suggested by participants, improved materials provision, communication and education for the general public (e.g. television programmes, media coverage, community events and curriculum enrichment), tax benefits and subsidies for upcycling businesses, and grants and subsidies for upcycling research and related initiatives have been identified as priority interventions (considering potential impact and feasibility) for scaling up upcycling (Sung, 2017).

Conclusions

This paper investigated challenges and support for scaling up upcycling businesses across product sectors in the UK through an exploratory workshop with 12 British upcycling-based entrepreneurs in small businesses. It described British upcycling entrepreneurs' perceived challenges, with an indication of their size and importance, and the support required for scaling up their businesses, with an indication of the importance of and demand for each form of support. It mapped the systemic support required to overcome challenges, with potential actors.[11]

Acknowledgments

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[11] Building on this research, the ongoing inter-school collaboration project between the School of Architecture, Design and the Built Environment and Nottingham Business School at Nottingham Trent University investigates challenges and success factors for scaling up upcycling-based SMEs mainly utilising wood and textiles in the UK with systems thinking approach.

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