



# CRAFT MICRO-ENTERPRISES CONTRIBUTIONS TO SUSTAINABILITY

## *The Example of Yarn Related Businesses*

by Dr Alice Owen

*This paper uses two case studies of small UK-based yarn businesses to explore whether craft enterprises might make a distinctive contribution to sustainable development. The ways in which positive social, environmental and economic impacts are supported by these businesses are identified and their potential as niche sites contributing to a broader sustainability transition is considered. These businesses themselves believe there are strong links to the social dimensions of sustainability, particularly in terms of community building. There is also a distinctive contribution to economic aspects of sustainability with the outputs of craft enterprises releasing latent financial value and attaching value associated with provenance and rarity compared to a commodity market, rather than contributing to conventional economic growth. Contributions to environmental sustainability are largely indirect, through changing the economic viability of marginal agricultural production and therefore allowing conservation management in less economically favoured areas. This preliminary analysis suggest that the smallest craft enterprises do offer insights into how a wide transition might be achieved, but realising such a transition is made more difficult by the ambitions and motivations of the individuals in the craft businesses themselves.*

**Keywords:** craft, yarn, micro-enterprises, sustainability

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## Introduction

The purpose of this paper is to use the example of yarn-related businesses to explore whether craft enterprises, and specifically the smallest craft enterprises, make a positive and distinctive contribution. The simple partitioning of sustainability into a triple bottom line of economic, environmental and social impacts is used to explore the dimensions of any such contribution. This purpose is situated within the multi-level perspective of transition management. The case studies presented and analysed are being explored to assess whether they offer niches for innovation which might spread further, affecting a transition to greater sustainability where business success is co-dependent on generating environmental and social value, rather than achieving financial success at the cost of social and environmental value. The case studies presented in this paper demonstrate that the business of craft contributes to the economic and, indirectly, to the environmental dimensions of sustainability, and micro-enterprises in the business of craft make a distinctive contribution to the social dimension of sustainability. No major negative impacts of these businesses on sustainability are identified.

Three aspects of the paper's scope require clarifying at the outset; what is meant by 'craft', 'yarn businesses' and 'micro-enterprises'?

In this paper, using the term 'craft' is intended to mean deploying skilled labour to shape physical materials creating a unique item. Craft here is 'creative' in that applying those skills to achieve a desired outcome requires innovation and problem solving. Equally, craft is 'technical' in that materials must be handled in specific ways in order to function as required in the crafted object. Craft activities operate along a gradient from fully professional to hobbyists.

'Yarn businesses' covers a range of yarn-related enterprises. Creating crafted objects from fibre may be the commercial activity (e.g. the production of knitted sweaters or felted ornaments), or micro-enterprises might support craft as a leisure, DIY activity (e.g. dyeing yarn which is then used by the customer to create a sweater). This seems appropriate given the economic value of craft supply is much greater than that of craft production (Luckman, 2015a<sup>[1]</sup>). The scope of textile craft micro-enterprises considered here is that they participate in the chain 'from fleece to garment'. While wool is not the only fibre used in yarn businesses, it is a helpful illustration of the different enterprise activities in this sector. Fibre is spun into yarn or felted, dyed, and used to create a crafted object through knitting, crochet or weaving. Spinning, dyeing and fibre use are all processes which can be carried out by micro-enterprises, usually with other larger scale enterprises

carrying out similar functions using common elements of the supply chain and providing products to meet different customer needs. In addition to this linear conception of the supply chain, there are also satellite enterprises that might also be considered to contain elements of craft, such as pattern design and preparation. Yarn businesses often carry out more than one craft activity, e.g. for example combining spinning with dyeing (with retail). While this paper focuses on the smallest enterprises, economic activity of yarn production and sales in the UK has a core of large, long established firms buying fleece through the commodity broker British Wool Marketing Board and spinning yarn for both DIY and commercial manufacture use in a range of mills across Europe. However, as craft has (re)emerged and knitting/crochet have been reclaimed by some as fashionable activities supported by IT platforms which connect a geographically dispersed community of enthusiasts, a new niche has opened up in micro-enterprises (Luckman, 2015a<sup>[1]</sup>). The case studies below start to explore that niche. The case study enterprises carry out activities 'from fleece to materials ready to make a garment', together with associated activities of design and customer support for making. One case study is a collaboration between dyer and designer to source single breed yarns offered through a subscription club. The other case study works with several farms to produce a custom blend of yarn which is dyed and collated with other materials to make craft kits.

The definition of 'micro-enterprises' used in this paper is the one adopted by the EU: ten or less employees and a turnover below two million euro. In practice, the enterprises providing the empirical data for this paper are much smaller, three employees or less. However, these micro-enterprises often collaborate, forming larger virtual enterprises, to achieve shared or complementary goals, while each retaining a separate economic footprint.

The structure of the rest of this paper is as follows: the next section provides some context by describing how contributions to sustainability can be classified and common conceptions of sustainability in business. This is followed by a short description of the method and longer descriptions of the two case studies. After the findings from the case analysis, the discussion section reflects on whether these businesses might form niches of innovation with the potential to trigger wider change. The conclusions situate the key findings – that craft micro-enterprises can make a distinctive contribution to sustainability, particularly in terms of releasing latent economic value and in generating social capital – in the broader context of whether this contribution can be part of a wider transition to greater sustainability, and then offers avenues for further research.

## Context: sustainability, business and transition theory

To provide some structure for the exploration of how craft micro-enterprises contribute to sustainability, a 'triple bottom line'

model is used (Elkington, 1999<sup>[2]</sup>). While this model has been criticised as simplistic or impossible to operationalise (Norman and



MacDonald, 2004<sup>[6]</sup>) it does provide an accessible way to open up the impact of craft micro-enterprises beyond their simple economic or employment contribution.

**Economic** – most readily measured in terms of “gross domestic product” (GDP), an increased level of economic activity does not necessarily imply greater contribution to sustainability. Increasing spend on environmental remediation or health care for chronic respiratory disease contributes to increasing economic activity, but the more sustainable outcome would surely be not to have to finance these activities but rather to remove their cause? Craft micro-enterprises will make some contribution to GDP, but their contribution to the economy might also be by allowing people to enter the economy through flexible working or by adding value to a commodity.

**Environmental** – this area of contribution is mostly concerned with the environmental impacts of production and consumption. What materials are used by craft micro-enterprises and how are they used, with what environmental effect? In terms of consumption, what are the environmental effects of using, and eventually of disposing of the products of craft enterprises? In considering this area, the factors that influence materials selection and use also need to be drawn into the picture.

**Social** – relevant to this paper at both the individual and community scale. Does a craft micro-enterprise offer benefits to individuals in terms of their health and well-being (the individuals evaluating this could be the business person or the customer)? And do micro-enterprises contribute beyond the individual level to the quality and cohesion of their communities or neighbourhoods?

One of the limitations of using this structure is that while the idea of a bottom line implies that there can be positive and negative impact (or benefits and disbenefits), in practice there is no baseline established against which positives and negatives can be measured. This limitation is recognised in the thematic analysis described in the method, below.

While both the terms “enterprise” and “business” are used interchangeably to some degree, it is worth noting that exploring “enterprise” rather than “business” indicates several possible organisational purposes i.e. profit or non-profit, whereas business will imply a profit motive. In terms of how sustainability is addressed in and by business, the role of business in contributing to sustainability is often viewed as driving resource efficiency and doing more with less. This has been developed further to include concepts of social benefit and capital, using enterprise to generate “shared value” (Porter and Kramer, 2011<sup>[6]</sup>) with both producer and consumer receiving benefits. In shared value, the underlying assumption is that the enterprise still generates financial value, but in doing so it generates social or environmental value for its customers. In this paper, the potential for economic, social

and environmental value is considered for both suppliers and customers.

Economic and social benefits also intersect in the concept of the “bottom of the pyramid” where business can support sustainability and be profitable by providing goods and services to the poorest in society, often suggested in the context of developing economies (Prahalad, 2009<sup>[6]</sup>). The context in which this theory is developed is very different to the context of the case studies presented here. ‘Bottom of the pyramid’ strategies aim to meet social goals through the alleviation of poverty, and economic impact. The case studies presented here are representative of sector which does not have the primary aim to meet basic needs for the owners or the customers.

Instead, the examination of these case studies and their contribution to a triple bottom line is couched within the theory of transition management, and specifically within the “multi-level perspective” (Geels, 2002<sup>[6]</sup>). This paper’s interest in craft businesses extends beyond whether they are sustainable enterprises, to whether they might form part of a transition to a more sustainable economy. The multi-level perspective offers a framework where niches of innovation are set within in a particular socio-technical regime, operating in a landscape of policy, society and available resources. A successful niche innovation may eventually succeed in altering the regime that sets the rules for success (Geels, 2002<sup>[6]</sup>). This perspective has been powerful in understanding technology-led transitions and has been used to examine ways in which a regime might be shifted to achieve more sustainable outcomes. Further work by Geels and Schot (2007<sup>[6]</sup>) identified four possible pathways for niches to spread into wider regime-level norms. Working with historical examples of where technology has driven system-wide transition, the four pathways suggested are “transformation, re-configuration, technological substitution, and de-alignment and re-alignment” (Geels and Schot, 2007<sup>[6]</sup>). The rise of craft businesses from interesting niche to a wider pattern of economic activity would be closest to the “reconfiguration” pathway, although what is changing is not the technologies of making; the fundamentals of yarn production and use remain as they have been, in essence, for centuries. Rather the purpose of the technologies used and the outcomes from using them are changing. Objects crafted from the products of yarn micro-enterprises are fulfilling multiple goals for both the yarn producer and consumer/customer, and business is conducted in different ways that reflect these complex objectives. Despite the technological continuity in yarn businesses, the multi-level perspective is being applied here to consider small craft businesses as innovators in the way in which they do business. Does their approach to enterprise lead to different outcomes and different contributions to sustainability, compared to the conventional economic-growth driven way of doing business? From the case studies described below, we can start to label the distinctive contribution that such businesses make to sustainability, and reflect on how these ways of doing business might move from niche innovations to regime level norms.).



## Method

The two exploratory case studies are largely based on secondary data sources (mainly web-based and social media) plus primary data collection from interviewing the entrepreneurs who lead each case study, clarifying or expanding on information sourced through on-line scoping. Data was collected by a crafter (and enthusiastic knitter) and while the resulting potential for bias is acknowledged, this is countered by the benefits of the common technical language of craft practice shared by the interviewer and the entrepreneurs, together with the way in which that shared enthusiasm opened up access to data. The case studies were selected purposively, using the criteria of on-line presence; the business providing a main income; yarn as a core product; and use of bespoke or traceable supply chains. Parallel mapping research still under way suggests that there are hundreds of similar enterprises in the UK and the two case studies presented here do not appear to be outliers, although no robust claims are made for their representativeness. Rather, the case studies present different facets of the ways in which

micro-enterprises can operate in the sector. Cross case thematic analysis and comparison was carried out, examining the ways in which the two different businesses made contributions to sustainability in the dimensions of the triple bottom line. As recognised in the description of the triple bottom line, there is also a bias in the case studies towards positive impacts or the benefits that the case studies offer to sustainability, with the underlying assumption that these benefits are in contrast to a baseline which is "business as usual". This further implies that "business as usual" needs to be described and forecast for a rigorous assessment of the changes if a more 'sustainable' approach is taken. For this exploratory analysis, no such baseline is established. The case studies do, however, highlight practices and impacts which are not part of 'business as usual' as carried out by larger, commodity-based, yarn businesses. While no direct negative impacts from the micro-enterprise activity were identified from the case study data, it must be recognised that such disbenefits may exist.

## Case study 1: Neighbo(u)rhood Sheep Society 2016

The Neighbo(u)rhood Sheep Society 2016 (NSS2016) was a three-part yarn-and-pattern club run by an independent dyer YME1 in collaboration with designer YME2. YME1 also runs a bricks and mortar yarn store in a city, retailing a range of yarns from large and small enterprises, and providing classes and a social network for knitters. The store's products are also available through an online shop run as part of the store's website. NSS2016 was the third time this pair of micro-enterprises had collaborated. Customers paid in advance for a series of yarns together with newly designed patterns that used the yarn. The international reach of this project is signalled by the use of both UK and American English spellings in the club title. A notable feature of NSS2016 was its focus on single breed yarns. Different sheep breeds produce fibres of different thickness, length and colour. This affects the properties of yarn that those fibres are spun into, in both the yarn's ability to take colour, and the way it performs when turned into a fabric. Each instalment of NSS2016 featured one, or sometimes two, different sheep breeds, with the fibre commercially spun and then dyed by YME1. Thus both YME1 and YME2 had to understand the properties of that instalment's yarn and deploy their expert craft skills in dyeing and designing so that the final product, as crafted by the club members, would be functional and attractive. Each yarn club instalment had a slightly different supply chain, with YME1 working directly with flock managers in different UK locations, using the same mill for spinning each batch.

Each club yarn instalment was supplied with a download code which gave club members access to a specially designed pattern

via the 'Ravelry' platform. Ravelry is 'facebook for yarn', a micro-enterprise itself employing five people in the US. Founded in 2007, Ravelry now has more than seven million members and acts as social network, personal record of projects, pattern database and yarn database. YME2 has around 100 patterns for sale via Ravelry and also offers teaching in addition to collaborating with dyers. There were 65 NSS club members in 2016, across three continents. Each member paid approximately €150 for three instalments over five months. A forum, co-moderated by both YME1 and YME2, on Ravelry offered a way for club participants to 'chat' about the club packages and their making progress, as well as showing off their finished projects. This forum indicates that both YME1 and YME2 operate in an on-line community with international participation. YME1's website includes blog entries from both enterprises and the tone of communications is personal.

NSS16 was part of a broader picture of micro-enterprise collaborations based in and around the city where YME1's store is located, including a Yarn Festival and a Yarn Crawl, which aim to generate greater retail sales for all independent craft retailers in the city. This indicates that YME1 has a strong presence in a spatially defined crafting community as well as reaching internationally through Ravelry and projects such as NSS2016. The skillsets of the two entrepreneurs are important in placing these enterprises within a social network; as practitioners rather than 'only' a business, the entrepreneurs are peers with their customers.



## Case Study 2: Yarn producer and retailer's flower brooch series

LYME<sub>3</sub> operates from a small village in a deeply rural location in the north of England where sheep farming dominates agricultural activity. It is run by a married couple. YME<sub>3</sub> combines retailing mass-produced items for knitting or crochet with its own line of yarn – a blend of fibres from farms in the north and south west of England, spun at a mill in Yorkshire. YME<sub>3</sub> has developed its own supply chain, combining fibres from at three different farm producers and co-ordinating spinning via a small mill, as well as colour palette design and dyeing the fibre. The two strands of YME<sub>3</sub>'s retail business (mass produced and unique) come together in kits at a range of price points to make knitted bags, cushions, brooches and other accessories. The knitted flower brooch kit comprises less than ten grammes of yarn, together with a button, brooch pin and pattern, packaged together in a cardboard case measuring less than 6cm square and retailing for approximately €8. There are seven variants of the kit, each with a different design, button and

yarn combination. The customer can then create, if they have basic knitting skills and the needles not supplied in the kit, a brooch in the shape of a flower. YME<sub>3</sub> also sells wooden items produced in Weardale by another rural craft microenterprise and aimed at the yarn crafter.

YME<sub>3</sub> sells its products online through its own web shop rather than using Etsy or another platform. YME<sub>3</sub> does not have a highly visible presence in the online craft communities supported by Ravelry. The website does not support a blog or profile the people behind the business. YME<sub>3</sub> also retails its products at festivals and events which promote rural business and yarn crafting. At such events, the smaller value items which offer a complete project for the crafter, such as the flower brooch kits are extremely popular and YME<sub>3</sub> frequently sells all the stock of brooches or ornament kits that it takes to such retail events.

## Findings from case analysis

The attributes of the two case studies are now explored under the three elements of the triple bottom line.

Economic impacts: both case studies offer an economic contribution in unlocking latent value of a commodity (raw wool from fleece). When put into the centralised commodity market, wool has a very low value in cents per kilo. Separated out from that centralised value chain, retaining the identity of breed and provenance, these micro-enterprises are able to distribute value differently along the supply chain with a value in the finished item (processed yarn ready for craft use) hundreds of times higher per kilo. This latent value is released by making provenance visible. Location, breed or flock/farm specific information is part of the product information. Both case studies also highlight the way in which micro-enterprises deliberately involve other micro-enterprises (such as designers or craftspeople), and occasionally SMEs (such as spinning mills) in that new value chain.

The notion of providing good work for individuals also fits into a consideration of the economic contribution of these yarn businesses. Good work here means work which provides intrinsic benefits, to an individual or a community, rather than work whose sole purpose is to provide income. Thus the practice of craft as a business activity provides different rewards for the entrepreneur compared to the business activities of other small businesses, such as, for example, web design or consulting. All the individuals in these case studies display curiosity, excitement and professional pride in their work, describing the satisfaction of craft work. The work that these individuals undertake is not only the means to an end (income), it also offers rewards in the doing of the work itself.

The individuals in these case studies also expressed a desire for self-determination in creating their own patterns of work and activity. This affects both the craft practiced, where a craftsperson makes products for which they have the skills, knowledge and resources, and the forms of enterprise in which the craft is practiced. The choice to be self-employed, or a sole trader, or part of a flexible micro-enterprise is deliberate. The ostensible lack of security of employment is balanced against the opportunity to select projects that individuals want to work on, and people (customers and collaborators) with whom they wish to work, in flexible working hours, in locations they want to work in. The issue of working hours is particularly visible; practitioners in micro-enterprises design their work with flexibility around caring responsibilities, school hours and holidays and so on. Once relationships are established, the location of individuals is not critical. YME<sub>2</sub> moved from the UK to Australia during the case study period and remains an active part of that enterprise network.

Importantly in terms of a contribution to sustainability, none of the case study micro-enterprises have economic growth as their main motivation. Although YME<sub>1</sub> and YME<sub>3</sub> would both like to grow their economic activity a little, this is bounded by wanting a sufficiency to live well, but not to take on the responsibility of employing others. By contrast, the variety of levels of income from textile craft enterprises is wider. While for some yarn businesses, notably retail or dye studios, the business is the primary source of income, for many more income from the craft enterprise is a second or top up income. This sector is female dominated, thus any craft-related income is often- although by no means always - considered supplementary, a way for an individual to ensure ongoing economic activity while also balancing other needs and expectations such as home making or caring responsibilities (Luckman, 2015a<sup>(1)</sup>).



Environmental impacts: both case studies claim a secondary link to environmental benefits through procuring their products (yarn) from specific farms or habitats. The case study products improve the economic viability of rare breed or conservation grazing i.e. agricultural practices that enhance biodiversity. There may also be a direct link to environmental benefits through the use of 'natural' dyes, particularly by YME1, although to what degree the dyestuffs and the dyeing technique in combination can be claimed to be lower in environmental impact than the use of synthetic dyes does require further evaluation before the claim is fully supported.

Social impacts: both case studies make claims to the importance of community in developing their businesses, although this is much more visible for YME1 and YME2 who put considerable effort maintaining an international community of customers and collaborators, while YME3's community is more transient, brought together for a festival or fair but potentially not becoming active again for a year until the festival comes around again. A thriving community of users may not be the same thing as a thriving community, but the individuals in these case studies reported a sense of belonging and community as something that felt important to them. The idea of community is entangled with location and place most clearly for YME1.

These yarn businesses undertake community building activities along their supply chains, as part of developing a market for craft. In effect, the final part of the supply chain, the labour of production in producing the garment or other crafted item has been exported. The customer is also a producer. Community building activities include: podcasting, teaching (on line or face to face), 'trunk shows', yarn festivals, craft fairs, and farmers' markets as well as

Ravelry activities. These activities rely on the yarn business developing multiple relationships and becoming part of a wider community with many collaborations at different levels. Collaboration may be in fibre selection, product design or product aftercare, as demonstrated by activity on discussion forums where customers can suggest new ideas for product variation or use.

The role of the yarn business in supporting, and re-inventing, tradition is also a common theme with societal impact. By displaying the provenance of their yarn at all, both case studies demonstrate that distinct spatial identities (e.g. wool from a Scottish croft or a farm on the fringes of a protected landscape) form the basis for co-operation and product promotion.

As well as these contributions to, and dependence upon, communities, the yarn businesses in these case studies also claim a contribution to individual health and well-being, for both the entrepreneurs and their customers. Practicing yarn craft offers benefits for mental health (Corkhill, 2014<sup>[9]</sup>) as well as supporting skill development as an aspect of personal growth. However, this is not necessarily a distinctive contribution from micro-enterprises, since crafting with cheap acrylic yarn bought from large chain stores may deliver similar benefits to crafting with expensive artisan yarns with single flock provenance purchased from micro-enterprises. Increasing individual craft knowledge and skills is intertwined with the community-building aspects of the yarn business activity, where skills are acquired through social networks and personal connections (real or virtual). Yarn craft skills can be passed on through generations and can offer some sense of family or community identity (Abrams, 2006<sup>[9]</sup>).

## Discussion

Reflecting on the framework of the multi-level perspective offered by sustainability transition theory, is the innovation that these small yarn businesses are driving a niche activity that might break out and change the wider regime that surrounds it? Niches can provide the basis for strategic change in a socio-technical system (Geels and Schot, 2007<sup>[9]</sup>) but this requires both an understanding of the transition sought, and a protective space for the niche actors to flourish and expand into the broader regime, and landscape (Kemp et al, 1998<sup>[9]</sup>, Smith and Raven, 2012<sup>[9]</sup>). The case study businesses are deploying innovation in business models rather than the technology of making, but this is still innovation that offers a contribution to sustainability. These business models offer the entrepreneurs benefits other than economic growth. Could this niche lead to further transformation, a regime-level revaluation of craft and craft materials to counter the economies of scale and commodification that have dominated methods of production since the industrial revolution? Some yarn microenterprises have a desire for a broader transition as part of their aim, e.g. to increase the visibility and value of fibres with provenance and connections to conservation values, but these case studies do not suggest an innate drive

towards transition of the wider economy; they would not use protective spaces (Smith and Raven, 2012<sup>[9]</sup>) to grow far beyond their current niche and make a wider change. There is no evidence that growth, beyond a comfortable livelihood and fulfilling work life, is sought by craft enterprises such as those described here. Craft micro-enterprises are concerned with earning a living, but growing the economic footprint of the firm, taking on employees and so on can be a disincentive, taking the craftsperson away from their core interest of practicing their craft. This is by no means a uniform situation and it has also been observed that the increased focus on craft as a trend can lead to craft entrepreneurs prioritising brand building and marketing while outsourcing the physical practice of craft (Luckman, 2015a<sup>[9]</sup>). Data collected internationally from craft micro-enterprises suggests there might be a 'handmade' economy emerging (Luckman, 2015a<sup>[9]</sup>), but that this is not sufficiently robust to provide a full income for craft practitioners (Jakob, 2012<sup>[9]</sup>).

The most distinctive contributions from yarn micro-enterprises arise where the different forms of sustainability impact intersect. Environmental and economic benefits overlap in the focus on





fibre provenance, breed-specific fibres and conservation grazing. These micro-enterprises are deliberately improving the viability of their small fibre suppliers by offering a route that takes fibre out of the commodity value chain. In parallel, the small fibre suppliers managing rare breed flocks are often based in locations where the landscape and conservation values are highly prized, but agricultural productivity is marginal. Similarly, social and economic benefits overlap in community building where, by offering social benefits through supporting a community of craft practitioners, micro-enterprises also grow the market for their products, and for similar products from other micro-enterprises. Another example of mutually reinforcing social and economic benefits lies in how yarn businesses can be configured to allow individuals to enter the workplace on their own terms with flexibility and self-determination. This connects to the historical perspective on the role of gender in place-specific yarn enterprises, and the changing value of work done in the home for internal or external consumption (Abrams, 2006<sup>[9]</sup>). This historical analysis brings to light a web of complex economic arrangements and different forms of collaboration and interdependence which has echoes in today's yarn businesses.

Also at the individual level, social and economic benefits are very closely related in the way that the entrepreneur undertakes their work. A useful differentiation between businesses which are practice-oriented and practices which are business-oriented comes from the rather different field of design and architecture (Coxe et al, 1986<sup>[9]</sup>). The case studies here seem to have a stronger sense of being practice oriented i.e. the business is a means of supporting craft practice rather than being business-oriented, where craft practice would be a means to generating an income first and foremost. Coxe et al. (1986<sup>[9]</sup>) also indicate that the focus of a firm also

appeals to distinct sets of customers. Small yarn businesses such as those described in the case studies connect effectively to a distinct group of customers, enhanced by their on-line and community building activities, but this is only a subset of all yarn customers. Related to this, a survey of small manufacturers of clothing and textiles with similar characteristics to the case study enterprises in their size, activity and markets found that the motivations of the business owners covered a variety of needs including physiological, safety and emotional needs (Stoll and Ha-Brookshire, 2012<sup>[9]</sup>) which suggests that there is no simple model of the yarn business entrepreneur's motivation.

A final point to note here is that the economic and social contributions to sustainability from these micro-enterprises rely on information technology (IT). The way in which both case studies operate would not have been possible prior to widespread use of the internet, the development of secure online shopping platforms and, in the case of YME1 and YME2, the development of the industry-specific platform, Ravelry. IT enables collaboration (supporting the social contribution of these firms) and provides access to markets for the results of those collaborations (supporting the economic contribution). Ravelry's forums contain many examples of 'knitalongs' where a designer and yarn supplier collaborate and provide incentives and support to customers to work on a project. Collaboration in the textile micro-enterprise sector makes use of crowdfunding, which is only possible due to developments in information technology. Crowdfunding platforms are frequently used to provide capital for yarn production, for books of designs linked to specific yarns, for dye studio equipment or for retail space. In addition, retail platforms provide even the smallest businesses with access a new customer base, ways to promote products, identify collaborators and provide customer support (Luckman, 2015b<sup>[9]</sup>).

## Conclusions

These two case studies suggest that there are contributions that the smallest yarn businesses can make to sustainability, particularly in the economic and social elements of the triple bottom line. These contributions are distinctive, reflecting both the micro nature of the businesses and the craft focus of those businesses. The two case studies briefly presented here only suggest the nature of these contributions. Analysis of a greater number of small yarn businesses working from different locations and targeting different market segments and their impacts would help to develop a better understanding of the attributes of craft and small business that drive the production of these benefits. What is it about yarn crafting that enables micro-enterprises to reach back along the supply chain and release latent value as well as supporting environmental benefits while at the same time building individual social capital through skills development or community social capital?

If it is accepted that a micro-enterprise's business approach is an innovation, with parallels to the more usual conception of innovation

as changes in technology, then the challenge becomes how to think about spreading that innovation more widely. Transition management theory and the multi-level perspective offer a way to focus on how a niche activity can expand towards a mainstream, or regime-level, set of norms. Expanding to influence the regime level could increase the scale and impact of these small businesses' contributions to sustainability. However, there are severe limitations on how well the case studies here represent the kind of strategic niches that lead to wider change. Small craft businesses may wish to remain small and niche. This does not mean they are isolationist; a tapestry of micro-enterprise activity is interwoven with the activities of big enterprises, particularly upstream in their respective supply chains. Dozens of artisan yarn and textile brands exist, but mass-produced fibre, yarn, accessories and garments account for most market share. Given that these larger firms operate comfortably within the existing regime level, with well-established technologies, business models and retail channels, the dependence of the small firms on what larger firms provide, would suggest



there is limited motivation or interest in the niche innovations of the smallest businesses spreading much beyond their current sphere of influence. Neither does this desire to stay within a niche imply a lack of innovation in the micro-enterprise. While the core “technologies” of spinning and textile manufacture have been in existence for centuries, the innovation in craft product design and in the craft supply chain is extensive.

If the multi-level perspective does not offer a perfect fit for understanding the potential for the smallest craft businesses to contribute to sustainability, what other theoretical framings might be useful? Two possible avenues for further research are suggested. First, actor network theory (Latour, 2005<sup>[6]</sup>) reminds us of two important ideas: no-one acts alone, and objects also have agency in networks. Systematically applying the ideas of actor network theory to craft enterprises might reveal where agency to effect sustainable outcomes is located. Situating the enterprises delivering a crafted project within a ‘community of practice’ (Wenger,

1998<sup>[7]</sup>) might also help to analyse how such a community might be developed in order to contribute to sustainability. A communities of practice focus might help to identify the processes through which a group of craftspeople might accelerate their learning and create positive impacts from their work.

From the outset of this paper, no claims are made for a fully worked out theory of craft, enterprises and sustainability. Rather, the paper has sought to bring into discussion micro-enterprises as a location for yarn craft activity which makes a contribution to sustainability both for individuals and for communities, as both consumers and producers, of fleece, yarn and crafted objects. Individually small by definition, and certainly diverse, collectively micro-enterprises matter as the context for thousands of practitioners to practice their craft skills. Micro-enterprises present an as yet unrealised opportunity to transform the impact of craft activity and make a unique contribution to transitions towards sustainability.

## Acknowledgements

I am grateful to Gavin Killip for his insightful comments on an early draft of this paper and to the anonymous reviewers who revealed to me what was really interesting in the first submission! My fellow participants at the “Crafting Sustainability” workshop hosted by

NTNU in Trondheim in June 2017 helped to shape the ideas I have attempted to outline here. I am also grateful to the Centre for Understanding Sustainability & Prosperity (cusp.ac.uk) for supporting the travel costs associated with this research.

## Biography

Dr Alice Owen is an Associate Professor of Business, Sustainability & Stakeholder Engagement in the Sustainability Research Institute at the University in Leeds, UK. She became a social scientist and academic after two decades of experience in business and public policy at a

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