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Effects of Consumer Attitudes on Handloom Textiles and Product Designs for Longevity:
A case study of textile handloom manufacturing in Sri Lankan traditional handloom sector.

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Product longevity is an important feature of sustainability, and encouraging consumers to use their items for longer period of time helps to reduce environmental sustainability consequences. The textile manufacturers, clothing and lifestyle product manufacturers, distribution, and disposal stages all have an impact on the environment, but extending garments active lifetimes through design, maintenance, and re-use of materials and clothes are the most effective ways to reduce the textile industry's negative environment effects. The study used a mixed qualitative and quantitative research strategy to analyze customer opinions on textile product lifetime and to evaluate everyday processes and practices of handloom use in an exploratory approach. the outcomes of the study reveals that a variety of factors influence the durability of consumers apparel during the purchase , use and disposal stages of the handloom lifecycle. the conclusion discusses how variables interacts and affects the local handloom business.

Keywords: Textile longevity; sustainable textiles; consumer behaviour; consumer attitudes

Introduction

The phases of the garment life cycle that include production, distribution, and disposal have an influence on the environment; however, life cycle analysis has shown that increasing the useful life of clothing through design, upkeep, and reuse of components additionally wearing clothes is the most efficient strategy to lessen the environmental effects of the apparel business.

Goods One important component of sustainability is lifespan, therefore encouraging customers to extend the lifespan of goods, hence it contributes to minimizing implications for environmental sustainability (Evans & Cooper, 2010).

The typical lifespan of clothing would be shortened by three months of use for each item if we were to reach the average life of clothing. billions of pounds for both consumers and producers (McLaren et al., 2012; WRAP, 2012). (2015)).

Earlier Studies aimed at prolonging the life of products have revealed the need for additional Studying how to prolong the life of products has revealed the need for more behavior relating to the maintenance and disposal of garments (Cooper et al., 2014; Cooper et al., 2013; Langley, Durkacz, & Tanase, 2013).

The textile and fashion business clearly thrives on innovation and the creation of obsolescence, thus appearing to be incompatible with the notion of keeping apparel products for an extended

period of time. This contradictory situation is explored within this investigation, by seeking insights from consumers about their behavior and the manner in which it may affect the inclusion of lifespan in the incorporation of longevity into apparel products through design

The paper aims to investigate consumers' behavior towards textile and lifestyle products' longevity, establishing potential obstacles and finding ways in which they could be overcome through design practice and processes. The research questions that the study seeks to answer are:

- What are consumers' views on the longevity of textile materials and lifestyle products?
- Which aspects of fashion design could encourage consumers to prolong the lifetime of textile products?
- What are the barriers that enable to design of products for longevity that should be investigated to meet consumer needs?

This research project has been conducted by a team comprising members with experience of weaving , craft textiles and textile design, fashion product management, marketing, product longevity and supply chain management. At the end of the study, findings will inform the development of responsive strategies to facilitate local textile / handloom industry that prolongs the life of textiles and lifestyle products.

Literature Review

If the usable life of textiles can be increased, leading to a less frequent replacement, fewer products can be discarded, with a lower number of resources being consumed by textile handloom manufacturers. Existing research indicates that certain consumer segments, such as mature consumers and those looking for value, are becoming more willing to buy products that last for longer.

There are various approaches that brands and retailers can take in order to enhance product longevity. Some local designs materials and lifestyle products in styles that do not follow mainstream textile and fashion trends, and which can be offered for hire, with the aim of making them wearable and used for longer than ordinary apparel products.

During textile design and production, longevity can be built into textiles and clothing in various ways such as classic sty..ng, strengthening seams, or using durable materials and components, Although fast fashion has contributed to the trend towards a throwaway approach by consumers (Barnes & Lea Greenwood, 2010; Birtwistle & Moore, 2007).

There is a level of demand for clothes that last longer, mainly among men, older people, those on low incomes or higher social grades, and those who own a large number of garments (Langley et al., 2013). However, the durability of textile products can be an elusive concept for consumers; they may be unsure of how to check and assess durability at the point of purchase, or not consider it at all (Langley et al., 2013). Additionally, their expectations of clothing durability may be

dependent upon factors such as retail price (Bide, 2012) and it is unclear whether they impact consumer behavior during purchase, or the usage phase.

A paradox exists regarding textile care and maintenance, in that laundering can enhance garments and textile products whilst simultaneously contributing to their deterioration. Consumers' understanding and implementation of care instructions have a significant effect on the longevity of textiles and lifestyle products. Some of the major issues that can have a destructive effect are the selection of inaccurate wash cycles and abrasive detergents (Ross, 2013), over-use of fabric conditioner (Chiwese & Cox Crews, 2000), and overly frequent washing and tumble drying (Laitala, Boks & Klepp, 2011). Middle-aged men, younger people, and those in high-income brackets were the main segments that lacked confidence in their ability to care for clothing correctly. Consequently, there is a literature gap in terms of consumers' behavior relating to care, maintenance, and understanding of the effects of care on clothing lifetimes.

Previous studies have investigated the social and technical aspects of clothing usage and maintenance, relating to mutually interdependent dimensions of wear and laundering, establishing that there are opportunities to influence consumers to alter their behavior towards more sustainable practices (Shove, 2003). Other research has proposed that a deeper understanding of the social value in terms of aesthetics, emotions, society, and senses (Pink, 2005; Fletcher, 2012): garments effectively is important to keeping clothing in use (Fletcher, 2012; Laitala & Boks, 2012; Niinimaki & Armstrong, 2013). Value is identified as a key factor in retaining garments to sustain purchase price to functional, aesthetic, emotional, social, and sensory value (Pink, 2005; Fletcher, 2012; Laitala & Boks, 2012; Niinimaki & Armstrong, 2013; McLaren et al., 2015) that could be facilitated by initiatives from the clothing industry, such as the production of clothing made from naturally anti-bacterial fibers to maintain garments' freshness (Laitala & Boks, 2012).

Consumers inevitably display variable behavior in determining when clothing is ready to be discarded, since they may have different criteria that affect their decisions about the point when garments are no longer usable (Bide, 2012:126). For example, pilling may be acceptable to some, but for others, it would result in the disposal of a garment (Laitala & Boks, 2012). Textiles may often be disposed of before the end of its useful life because consumers have become tired of it or it is perceived as being out-of-date, making new products appear more desirable (Cooper et al., 2013; Laitala & Boks, 2012; You Gov, 2012). Wearable items of clothing of this kind can be donated to charities, thus extending their life, but local consumers buy so many new textile products that the supply of second-hand garments exceeds demand, resulting in them being exported, which can impact negatively the economies of developing countries by replacing sales from local suppliers. Consequently, trends propose a higher rate of reuse in the UK and some other European countries as a preferable method of increasing the lifespan of clothing. Despite this, a lack of social acceptability and hygiene considerations can limit sales of used products (Fisher et al., 2008). Nevertheless, consumers are demonstrating an increased willingness to re-use items via a variety of contemporary routes such as buying online via eBay or events where participants swap clothing and They are regularly discarded in general waste as a result. Thus, it would be advantageous to raise and, more recently certain brands and retailers in-house, have begun to offer recycling initiatives to their specified customers. Even garments that can no longer be worn can retain some use by being made into carpet underlay, furniture fillings, or, insulations. However, most consumers may not be aware of these opportunities to recycle clothing, which are therefore

frequently disposed of in general refuse. It would therefore be beneficial to increase consumers' awareness that all used textiles are of value, to raise the level of repurposing, whilst reducing the amount of disposal in landfill.

Methodology

Both an exploratory and a mixed qualitative research strategy were used in the study. to investigate how consumers view textile durability and daily activities techniques and customs for dressing, purchasing, and caring for material maintenance, repair, recycling, and disposal in order to grow possibilities and challenges in designing to encourage the creation of more robust attire.
4 Focus groups were organized to collect a variety of client perspectives.

Focus groups featured talks led by participants in the research project, as well as extra interactive assignments. The itinerary sparked conversations about four primary phases of a garment's life, including acquisition, use, recycling, and disposal. Individual perceptions and experiences with various clothing lives debate among participants. The focus groups included discussion facilitated by members of the research project team and additional interactive tasks. The schedule prompted discussions on four main stages of garment lifetimes, purchase, usage, re-use, and disposal. Personal expectations and experiences of different garment life times were described to explore individual and shared behaviors at each of the stages and determine what limits garment lifetimes.

Interactive tasks explored participants' relationships with the clothing through a favorite garment exercise (Figure 1), and perspectives on a range of potential sustainability strategies by presenting products, services, and marketing that could support clothing longevity (following Armstrong et al., 2015).

The focus groups took place in February and September 2023, each for a duration of around two hours, involving 20 participants in total. The discussions were transcribed and then analyzed using qualitative qualitative Data Analysis method.
A direct interview approach was taken towards exploring the details of consumers' clothing maintenance since this is an appropriate method when an aspect of culture needs to be studied in-depth In addition to the focus groups, clothing diaries were designed as an empirical tool for qualitative data collection in the specific research environment (participants' own homes), and to gather insights into everyday textile products, wear and care practices. An additional sample of six consumers carried out the following:

Consumer clothing diaries recording wash, wear, and care patterns of an individual, everyday garment selected by each participant over an eight-week period.

interviews were compiled following completion, in order to learn more about participants' attitudes towards textile and clothing longevity and social factors behind their behaviours. Qualitative research was carried out via focus groups with 30 participants in three consumer segments, identified as priorities for research into clothing longevity in this study.

·　Consumers aged 18-35-years associated with 'fast fashion' consumption (Group A)

·　Parents with children(Group B)

·　Consumers aged 30-60-years with a focus on classic clothing (Group C)

Each focus group contained one consumer segment, as listed above. The three segments were selected to represent market segments with different approaches to shopping, different demands of clothing, and lifestyles that affect their behavior towards clothing lifetimes.

Purposive sampling was used to recruit participants in the three consumer segments to ensure that a range of relevant types of participants could be included (Bryman & Bell, 2015). The sample was selected via a combination of demographic and behavioral segmentation. Group A consisted of students from mixed disciplines and young, full-time professionals aged 18-35 years, who shopped frequently in fast fashion outlets. In Group C, participants were all parents and the discussion focused on garments purchased for their children. Group B consisted of respondents aged between 30- 60 years in a range of job roles.

Snowball sampling was used for the clothing diaries to acquire respondents with a variety of backgrounds and lifestyles who were willing to commit to the time involved. The samples for the focus groups and clothing diaries consisted mainly of female consumers, to reflect the fact that almost twice as much women's wear as men's wear is sold in the UK (Mintel, 2014) and that women are also typically responsible for purchasing most children's clothing.

As the findings of this study are qualitative, local, and limited, the findings are not representative of the local population but provide rich descriptive data about consumer behaviors and perspectives on clothing lifetimes about which relatively little is known. This paper will present the findings of this consumer research, followed by a discussion of their implications for the design of longer-lasting clothes. As the study is not quantitative and the sample is not intended to be sufficiently large to be statistically significant, there is intentionally no mention of percentages of responses, as is recommended practice with a qualitative study of this kind (Hennink, 2014; Bryman and Bell, 2015)

Findings and Analysis

This section discusses initial findings from the study, prior to the publication of the report by its funding body. The key aspects covered in the literature review: purchase, usage and disposal, will be considered, to provide insights into the ways in which consumer behaviour can impact upon fashion designers and the organisations in which they work.

The results of this research showed willingness among consumers to purchase longer-lasting textile materials, supporting the findings. Generally, value for money was the most important priority for all groups when purchasing clothing. Longevity was considered within this implicitly, as consumers want garments to last a reasonable lifetime in relation to their expectations, which

were influenced by where it was bought, how much they paid for it, its care requirements, the type of material, and considerations of its purpose/context. Assessment of longevity at point of purchase was based on a combination of experience, touching, and trying on garment, as illustrated by this comment from one of the focus group participants:

Most of the consumers in each focus group were confident in their ability to assess longevity and identify better quality clothes, although all had experience of garments that had failed in a short time period and not met their expectations. All agreed they were unable to assess whether or not a garment would pill and some were unsure what caused it, how to prevent it or remove it. Participants associated certain brands with cheap, throwaway clothes that are unlikely to last, and avoided by some, whereas other brands were valued, associated with quality, style, customer service, good fit and selection, resulting in a level of trust for their products.

"I don't shop in any stores that I think would be short life garments. I think it's the store I go in rather than looking and checking the garment. I know that it's going to last. I don't go into the ones that are doing sort of instant throw-away fashion. So, if I did that, I probably wouldn't be bothered if the seams were going to go in after five wears because I probably expect it." – customer.

Purchase price was, predictably, of the least importance for the 30-60 year-old focus group (A) and more of a priority for parents (B) and younger fast-fashion consumers (C). It was found that people did not generally bother to return low-priced faulty items. Although expectations of more expensive items were higher, consumers felt price did not always positively correlate with quality. In general though, they had a higher level of trust in more expensive brands, and brand value was understood beyond the purchase price, as this statement shows:

"I feel like because I've spent more money, I have trust in handloom textiles and these products. If something went wrong with it, I'd be happier to go back and say, "This has happened. Would you mind replacing the product?" And I feel like that's the kind of quality………….(customer)

Comfort was also important and consumers said that they would avoid fabrics that had caused negative experiences, such as being scratchy, or making them feel sweaty. Comfort had different interpretations: comfortable to wear, relaxed style of casual wear for the younger market, or an outcome of feeling confident in styles that suit a person's body shape and sense of personal identity. Emotion-driven purchases, although sometimes impulsive, may be preferable to encourage clothing longevity, as the textile is better loved by the owner from the start, leading the owner to value it and take more care of it.

"I very rarely buy anything that's sort of standalone. I will buy something which I think, 'Oh, that will go with that and that in my wardrobe.' So, you can mix and match...handlooms match well with its color scheme all the time" …………(customer)

Garment context was more important for young workers (A), making a clear distinction between work and leisure clothes. Most of the younger children were described as being happy with whatever is chosen for them to wear, although some favoured comfortable materials developed extreme attachments to items as a result, refusing to wear anything else and wearing them past the

point of outgrowing them. Certain items were bought specifically to last a long time, which had fairly high expectations of being long-lasting for some members of the sample.

In relation to longevity, online shopping was considered as a risk, as it wasn't possible to assess the quality of a textiles and several in the sample said that they preferred interacting with products before buying. This was a typical comment from one of the participants:

"I think shopping for clothes online is always going to be a little bit of a gamble as well because it might look all right on the actual image but when you try it on, it could be a different case scenario, so you are taking a gamble with it, rather than going in the shop and physically having that item there." …………… (customer)

Time affected clothing purchases for many in the focus groups, as a lack of time sometimes resulted in quick purchases and bad decisions. Visible indicators of longevity considerations, such as labelling, may be valued in these situations, to allow consumers to take longevity into account despite having to make a quick decision.

One of the most direct ways of enhancing textile longevity would be to purchase second- hand materials. The respondents' attitudes to buying and wearing second-hand clothes varied with reasons cited being similar to those mentioned in previous research (Fisher et al., 2008), including hygiene; not being comfortable wearing strangers' clothes; questions of quality and disliking the shopping experience. The younger fast fashion group were the most likely to shop second-hand, including online, reflecting a rising trend towards vintage clothing and possibly due to this group having the lowest income. The other groups were less likely to buy second-hand, due to lack of time and being able to afford new. Some of the participants in the focus group aged 30-60-years said that they would buy second-hand if items were viewed as particularly valuable or rare, for example designer pieces, but they believed that the quality of clothing in charity shops had decreased. The younger groups discussed how they thought older materials were better quality, made with more craftsmanship and care to last longer. Some of their comments suggested they felt trapped by the current cheap, fast system of short-life garments as it made them feel obliged to buy new clothing frequently.

Easy care, convenience and cost of laundry were top priorities for parents and working people, as these two statements from focus group participants show:

"I mean with washing, I used to separate darks and lights, now it all just goes in a mixed wash, everything. Yeah, I haven't got time to be messing with whites, darks, and also it's cheaper, isn't it to put one massive wash than two separate washes."…………. (customer)

Wash and wear frequency was affected by social norms and habits, such as washing after one wear. The clothing diary exercise revealed that detergents were chosen largely due to brand familiarity rather than by suitability for fibre types, and that limited washing machine settings restrict how garments are washed. Price also affected the care relationship: consumers were more likely to hand-wash, separate colours, maintain and repair higher priced items. The value of an item was understood beyond purchase price though: the emotional value, exchange potential, social value, aesthetics and use value were also important.

Other examples of reasons for disposal of clothing were sarees, that had given so much of potentials in creating a variety of product categories including wearable and lifestyle products. These expensive garments were launched when the rest of the 6 yards in the saree was finetuned and leadding towards colourfull textured reusable items.

As well as being seen as straightforward cleaning, washing was also seen as a process of refreshing the material or sensory qualities of the fabrics. The cost of care was judged financially, e.g. dry cleaning, but also in terms of energy and water. Additionally, washing was seen as having a material cost to the garment's fibres that, while prolonging their active life in the short-term, ultimately leads to their deterioration. Pilling was a main area of concern that was experienced in both high- and low-priced textiles and products and across fibre types, e.g. cotton , rayon and mixed fibres; a cause of much frustration and disappointment, despite many participants removing pills in attempts to preserve garment life. This is demonstrated by this statement from one of the study's participants:

One of the participants in the diary exercise said that she did everything she could to maintain clothes and launder in an environmentally friendly manner,using eco detergent brands and low energy cycles, but would like to know more, to be able to sew and fix everything. She washed trousers after every wear though, despite reporting that clothes were at a low level of dirtiness. Further questioning revealed that, while this respondent stated that sustainability was a priority, in practice, social norms that dictate the importance of cleanliness and avoiding odours overtook her desire to wash garments less frequently.

Participants in the study were asked whether they took any special measures to extend the life of their clothing. Examples given by respondents were darning, stitching up hems, using Wundaweb and sewing on buttons: activities which were more prevalent in the groups of parents and professionals, than in the student group. Some of the participants in group C occasionally paid for clothing repair services, although one member stated:

"There are very few and again, particularly if you work full-time, you haven't really got much free time available... To be honest, it's easier to replace it. I would repair more if it was easier and cheaper to do it. "….(customer)

Those who were trend-driven would pass on or sell clothes before they wore out so that they could find replacements and keep up-to-date. All of the focus groups discussed donating items to charity shops. Most had a hierarchy of disposal methods, with expensive items being sold online (via eBay and Facebook selling groups, dress agencies or exchanging sites). Good quality items were passed on to friends or family, especially children's clothes.

Pilling was considered unacceptable to wear and affected satisfaction of user experience, leading to low active use and disposal. Failure of garments prior to their expected useful life caused strong emotional responses of frustration, annoyance and disappointment in our participants.

Conclusion

The research findings showed that numerous factors affect consumers' perspectives of clothing longevity during the purchase, usage and disposal stages of the clothing lifecycle, supporting the findings of previous studies. This conclusion addresses how these factors can influence design practice in the textile and fashion industry, recommendations that could also be applied in other industries. Designers and consumers can influence each other and this iterative process can potentially lead to improved product longevity.

This study found that a key way in which textile and fashion products could be designed to encourage consumers to prolong the lifetime of clothing would be to ensure that customers would perceive textile products as good value for money because valuing clothing and having positive emotions towards it could encourage consumers to use them for longer. Practical considerations for designers such as selecting materials that ensure straightforward laundering, providing clearer care instructions, avoiding fabrics that pill and ensuring designs are comfortable to wear, could also increase users' perception of a garment's value, thus improving the care and maintenance of textiles and products and prolonging active use prior to disposal. Certain participants were willing to repair clothes themselves, with repair services being difficult to access, and therefore designing garments to allow them to be repaired by consumers would be beneficial. Clothing which is designed to be versatile and adaptable in its styling and purpose could also help to minimise consumers' need to purchase more textiles and lifestyle products including garments. There are commercial benefits to clothing brands and retailers as these measures also foster consumer trust, loyalty and brand perception.

Various barriers to designing products for longevity should be investigated to meet consumer needs, with some key issues. Due to the influence of fast fashion, there is pressure on the new product development process to design products quickly and cheaply, thus leaving limited time and resources to consider aspects of physical and emotional longevity. Then, designers may lack information about consumers' perspectives on textile longevity, which does not enable them to be considered during the design process. Research support to facilitate access to market and consumer perspectives of relevant guidelines for fashion designers could be enabling factors in facilitating design for longevity, to better meet consumer needs. This could be provided in the form of an online presentation via relevant government departments and industry bodies, to promote awareness of the environmental costs of clothing disposal. They could influence designers to develop products that have longer active use and thus discourage premature disposal by consumers. This could be a series of specific guidelines, used as a collaborative tool by design teams and other departments involved in product development, such as quality control, buying and marketing, blending consumer research and technical knowledge.

The implications for clothing companies are that they can provide product longevity guidelines to their design teams and investigate their own customers' opinions of textile and product longevity, either supplying them to designers or involving the design/product development team in the discussion. To facilitate this, additional time and financial resources may need to be allocated by management. Clearly, this would be likely to affect price in certain respects, so price ranges may need to be reviewed in relation to consumers' perceptions of value. Implications for theory are that

new models of the consumer decision-making process and the new product development process could be developed to incorporate steps which address textile longevity.

Limitations of this study are that it was based in one country and one industry. Therefore, the research topic could also be applied in future research in the context of other locations and product sectors.

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