FASHION DESIGN FOR LONGEVITY:
design strategies and their
implementation in practice

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Abstract

This doctoral research is situated in the field of fashion design for sustainability. It consists of three phases fieldwork to answer the question: How can designers be supported in designing garments with extended lifetimes? The aim of this inquiry is to provide parameters for framing longevity as a strategy for sustainability in fashion.

Design for longevity stands in stark contrast to the dominant and highly profitable model of fast fashion. These items are mass-produced, sold at low prices and linked to environmental degradation. Despite arguably being the most effective means of reducing environmental impacts, there are significant gaps in knowledge relating to garment longevity in practice.

The first of three distinct but interlinked phases of research therefore consists of case studies to investigate how design strategies for longevity are manifest within these exemplary fashion micro-enterprises. The results are distilled into nine categories which describe ways of framing design for extended garment lifetimes. The findings were developed into a prism graphic, providing a philosophical foundation for integrating design-led approaches to extended clothing lifetimes as part of a sustainability portfolio.

The subsequent phase of research investigated user factors affecting clothing lifetimes. Qualitative interviews with customers from a participating case study organisation provided in-depth data elucidating the complex interplay between material objects, cultural norms and individual personal factors. It became clear that the design of a garment alone is significantly less influential in affecting the length of its use period than previously assumed.

In order for knowledge from Phases 1 and 2 of fieldwork to be applied in practice, it is important that it is appropriately disseminated. The third and final phase of fieldwork addresses this need, as previous literature described an abundance of design toolkits but only few are successfully adopted in practice.
It was found that guides developed together with an industry partner can provide gravitas and real-world context; also, that the flexibility and openness to change as evident within micro-enterprises, young businesses, or educational institutions is conducive to their success.

In summary, the three core contributions to knowledge made by this thesis are:

1. Philosophical foundations towards clothing longevity.
2. Evidence supporting the individual and social factors affecting clothing lifetimes, which include but exceed the designable characteristics of a garment.
3. Factors affecting toolkit uptake and success.

Overall, the contribution to knowledge provides greater clarity in relation to sustainable design practices for industry.
Contents

List of Appendices .................................................................................................................. 7
List of Figures ......................................................................................................................... 8
List of Tables ........................................................................................................................... 9
Acknowledgements ............................................................................................................... 10
Declaration .............................................................................................................................. 11
Chapter 1 – Introduction ...................................................................................................... 13
  1.1 Context ......................................................................................................................... 13
  1.2 Research Questions ....................................................................................................... 17
  1.3 Methodologies ............................................................................................................... 19
  1.4 Structure of the Thesis ................................................................................................. 20
Chapter 2 – Literature Review ............................................................................................. 22
  2.1 Introduction .................................................................................................................... 22
  2.2 The Status Quo: Context and Timeliness .................................................................... 23
  2.3 Longevity and Sustainable Fashion Design .................................................................. 29
  2.4 Strategies for Garment Longevity ............................................................................... 48
  2.5 The Role of the Designer .............................................................................................. 64
  2.6 Post-growth Fashion and Wellbeing ........................................................................... 68
  2.7 Design Toolkits ............................................................................................................ 77
  2.8 Summary ....................................................................................................................... 85
Chapter 3 – Research Methodology ..................................................................................... 87
  3.1 Introduction .................................................................................................................... 87
  3.2 Philosophical foundations ............................................................................................ 89
  3.3 Research design ........................................................................................................... 91
  3.4 Summary of fieldwork ............................................................................................... 95
  3.5 Fieldwork Phase 1 ....................................................................................................... 101
  3.6 Fieldwork Phase 2 ....................................................................................................... 109
  3.7 Fieldwork Phase 3 ....................................................................................................... 113
  3.8 Approach to analysis for Phases 1, 2 and 3 ................................................................. 116
  3.9 Critical reflection and assessment of work .................................................................. 117
  3.10 Summary ..................................................................................................................... 119
Chapter 4 – Findings from the Case Studies (Phase 1) ......................................................... 121
  4.1 Case study 1 ................................................................................................................... 121
Chapter 5 – Findings from the User Study (Phase 2) ........................................... 156
  5.1 User study analysis ......................................................................................... 156
  5.2 Discussion ........................................................................................................ 187
  5.3 Summary .......................................................................................................... 200
Chapter 6 – Findings from the Toolkit Study (Phase 3) ....................................... 209
  6.1 Analysis ............................................................................................................. 209
  6.2 Discussion ......................................................................................................... 225
  6.3 Summary .......................................................................................................... 228
Chapter 7 – Cross-phase discussion ...................................................................... 236
  7.1 Introduction ....................................................................................................... 236
  7.2 Discussion ......................................................................................................... 236
  7.3 Summary .......................................................................................................... 245
Chapter 8 – Conclusions ....................................................................................... 246
  8.1 Introduction ....................................................................................................... 246
  8.2 Conclusions ....................................................................................................... 247
  8.3 Contributions to Knowledge ............................................................................. 250
  8.4 Limitations ......................................................................................................... 260
  8.5 Future Research ............................................................................................... 261
References ............................................................................................................. 263
Appendix ................................................................................................................ 282
List of Appendices

A: Phase 1 consent form, information sheet, photography consent form…….282
B: Phase 2 consent form, information sheet, photography consent form…….286
C: Interview guide Phase 1 .................................................................290
D: Call out for participation Phase 2: flyer and blog post .......................291
E: Interview guide Phase 2....................................................................293
F: Overview of garments from Phase 2 interviews ................................294
G: Interview transcript Phase 2, U11.......................................................301
H: C2 blog post: interim findings ........................................................322
I: Phase 3 interview guide .....................................................................324
J: Table 6 – Summary of Results from Phase 2 User Study…………………325
List of Figures

Figure 2.1 Bodies of literature and focus of this study [Diagram] .......................... 23
Figure 2.2 Progression of the field towards sustainable design [Diagram] .......... 37
Figure 2.3 Outline of the circular economy [Diagram] ........................................ 38
Figure 2.4 PLATE exhibition [Photograph] .......................................................... 39
Figure 2.5 Impacts along the clothing supply chain [Diagram] .......................... 46
Figure 2.6 Carbon, water and waste footprints [Diagram] ................................. 47
Figure 2.7 Cut, Pleat, Shorten, Fit [Photograph] ................................................. 63
Figure 2.8 A holistic framework for ecodesign tools [Diagram] .......................... 82

Figure 3.1 Map of Chapter 3 Research Methodology [Diagram] .......................... 88
Figure 3.2 Methodology map [Diagram] ............................................................... 97

Figure 4.1 ‘Bear Dress’ by C1 [Photograph] .......................................................... 127
Figure 4.2 Observations of C1 – tools used in the design process [Photograph] ................................. 128
Figure 4.3 Observations of C1 – workspace [Photograph] ...................................... 129
Figure 4.4 ‘Folk Dress’ by C2 [Photograph] .......................................................... 134
Figure 4.5 ‘Box Jumper’, screenshot from C2 blog [Photograph] .......................... 135
Figure 4.6 Observation of C2 – workspace [Photograph]. ...................................... 136
Figure 4.7 ‘Little Navy Dress’ by C3 [Photograph] ................................................. 141
Figure 4.8 Observation of C3 – workspace [Photograph] ...................................... 142
Figure 4.9 Observation of C3 – tools [Photograph] ................................................. 143

Figure 5.1 Repaired dress by U11 [Photograph] ..................................................... 203
Figure 5.2 Wool cardigan darned by U4 [Photograph] ........................................... 204
Figure 5.3 U13's Second-hand Indian tunic [Photograph]. ..................................... 205
Figure 5.4 No-wash 1960s wool dress owned by U11 .......................................... 206
Figure 5.5 Factors affecting clothing practices [Diagram] ...................................... 207
Figure 5.6 Overview of clothing practices [Diagram] .............................................. 208

Figure 6.1 TED's Ten [Photograph] ................................................................. 231
List of Tables

Table 1 Pragmatism and constructivism ........................................................................... 90
Table 2 Overview of interviews conducted in three phases of fieldwork .................... 100
Table 3 Cross case comparison of strategies for longevity .............................................. 150
Table 4 Overview of Phase 2 participants .......................................................................... 157
Table 5 Participant profiles for Phase 3 of fieldwork ....................................................... 224
Table 6 – Summary of Results from Phase 2 User Study ................................................. 325
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Declaration

I declare that the research contained in this thesis, unless otherwise formally indicated within this text, is the original work of the author. The thesis has not been previously submitted to this or any other university for a degree, and does not incorporate any material already submitted for a degree.

Signed: [Signature]

Date: 12.12.2017
Chapter 1 – Introduction

This PhD research concerns longevity as a potential design strategy for micro to small and medium-sized fashion enterprises in the UK. This first introductory chapter provides an outline of the key elements of this thesis: its context, the research questions, a summary of the applied methodologies, their implications and finally an outline of the thesis chapters.

1.1 Context

The longevity of clothing has reduced drastically in the last centuries but most significantly since the 1990s with the rise of 'throwaway' or fast fashion (Bhardwaj and Fairhurst, 2010). Textiles in the 1500s and 1600s were so valuable that they were used in trading to replace cash (Farrer, 2011) and were considered a precious commodity in industrialised cultures up until the mid-twentieth century (Gwilt, 2014). Today, however, millions of tonnes of textile items are purchased and disposed of annually: out of the 55 kg of clothing and textiles the average UK citizen acquires a year, 30 kg will end up in landfill (Allwood et al., 2006). Due to technological advances and manufacturing moving to countries with low wages, clothing prices have dropped considerably: men’s jeans at British value retailer Primark are priced at just £7 (Primark, 2017).

The highly profitable but hugely damaging business model of fast fashion dominates: it is characterised by high volumes of clothing sold at low prices. These prices do not reflect the environmental and social costs, such as the embodied amounts of fossil fuels burned to create the energy for production, the toxic chemicals flushed into waterways, hours of underpaid labour and copious amounts of water used to produce and process fibres for quickly discarded items (Allwood et al., 2006). For example, it can take up to 2,700 litres of water to grow and process the cotton needed for a single t-shirt (WWF, 2013). While reducing the environmental impacts of products overall is vital, this simply does not suffice to alleviate the high and increasing levels of consumption and disposal (Schmidt-Bleek 2008, Cooper, 2010, Fletcher and
The researcher first became aware of the catastrophic effects of mainstream fashion production and consumption whilst working as a women's wear designer for a global sportswear brand in 2006. In the years that followed, she began exploring more sustainable approaches to fashion, though at the time, information was often patchy and at times contradictory. It became clear that sustainability was a complex territory to navigate, yet one that offered more inspiring visions of fashion than those that leave death and destruction in their wake – for instance, during the Rana Plaza garment factory collapse in Bangladesh in 2013, where 1138 people were killed and many more were injured (Kasperkevic, 2016). From both a personal and professional point of view, it was felt as increasingly imperative to find ways of working from within fashion to influence and foster practices that respect people and planet.

More than simply an antidote to fast fashion, the notion of enduring clothing design was explored by the author as a means to create meaningful and satisfying relationships between wearer and their garments and reduce the level of fashion consumption. During an MA in Fashion and the Environment at the London College of Fashion, the notion of embedding memories into garments to allow the garment to evolve with the wearer became a starting point for examining design approaches for extended garment use. The MA provided the stepping-stone onto the research embodied within this thesis.

It soon became clear that design for extended use is potentially a highly effective but largely unexplored approach to sustainability in fashion. Extending garment lifetimes has been found to offer the greatest savings overall in carbon, water and waste footprints when compared with best practices in production and fibre choice, laundry and re-use and recycling (WRAP, 2012). However, proposing longevity as a strategy in fashion is not straightforward. First, fashion is known to be characterised by change and newness (Wilson, 2003, Rocamora, 2013). Further, designers are not conventionally concerned with the product beyond the point of purchase (Bye, 2010). Also, the notion of longer-lasting clothing stands in stark contrast to the
dominant business model of fast fashion, which perpetuates high levels of material throughput, and it is therefore fair to question the economic viability of producing longer-lasting clothing. Design for product life extension thus requires the redefining of fashion, the role of the fashion designer and the value systems surrounding fashion.

A new appreciation of the fashion system may benefit both the creators and the wearers of fashion as fashion’s current emphasis on consumption and materialism can lead to feelings of anxiety and dissatisfaction (Clarke and Miller, 2002, Woodward, 2007, Dittmar, 2008). This is not an unintended consequence but dissatisfaction is something capitalism relies on and promotes to sell products and make profits (Svendsen, 2006). Business models based on longer-lasting products can be profitable while providing benefits to individual wellbeing of both designers and wearers of fashion while reducing consumption levels. Jackson (2005) argues that the widely adopted capitalist economic model of production and consumption is based on infinite growth on a finite planet, a potentially destructive and outdated model; alternative and more resourceful models are therefore required (Meadows et al., 2005, Jackson, 2005, Fletcher and Grose, 2011).

The circular economy, for instance, has been proposed as a means of keeping raw materials in use for as long as possible through regenerative cycles of reusing and recycling (Stahel, 2016). Sustainability, and more specifically design strategies for longer-lasting fashion, can therefore offer a ‘double dividend’ in environmental and personal benefits (Jackson, 2005), a significant but largely unexplored subject area in fashion.

The slow philosophy can provide a philosophical framework for value creation beyond the purely economic. The Slow Food movement originated in the 1980s and importance is placed on the quality of environment, society, working conditions, business and product (Petrini, 2007). This concept has been adopted in architecture, product design and more recently also in fashion. New ways of engaging with fashion design, such as through participatory approaches, require a re-evaluation of the role of designers and
wearers as well as the aims of fashion (Fletcher and Grose, 2011). Designers within these scenarios may no longer simply create clothing, but collaborate with users to create designs or breathe new life into existing items.

Garment life extension is understood as referring to the active life of a garment in the hands of its owner rather than merely extending its physical durability in isolation. As Chapman states: ‘There is little point designing physical durability into goods if consumers lack the desire to keep them or else we would merely be designing highly durable waste’ (2010, pp. 61-62). This statement points to the complex factors surrounding designing for longevity. To date, however, literature investigating the relationship between designer, wearer and physical garment in relation to longevity is sparse and it is therefore essential to draw out factors that influence garment lifetimes.

Most approaches to product life extension to date have centred on the material characteristics and the assumptions underlying these design theories have been criticised as ‘shaky at best’ (Fletcher, 2012, p. 227). The limitations of product-based approaches to durability have also been recognised by other researchers (Chapman, 2010, Evans and Cooper, 2010, Park, 2010). Alternative approaches, such as durability as ‘embedded in the techniques and processes of use’ (Fletcher, 2012, p. 230), have begun to emerge. This research aims to investigate both product and user-based approaches within fashion practices.

The aim of contributing to academic knowledge is a worthwhile endeavour in itself, though research can also influence practice if it is synthesised and disseminated in a format that is useful to designers (Farrer, 2011). The researcher became aware of the disconnect between a growing body of academic knowledge on sustainable fashion on the one hand, and the lack of significant change in the fashion industry on the other. She encountered an abundance of design toolkits in academia; yet despite their variety and prevalence, their implementation is in fact rare (Baumann et al., 2002, Knight and Jenkins, 2009, Bovea and Pérez-Belis, 2012).
This research therefore builds on interdisciplinary toolkit knowledge in order to make recommendations on knowledge transfer in the field of fashion. It will enable designers within British fashion micro-enterprises and new fashion businesses to implement design-led strategies for garment longevity. Micro-enterprises are defined by the Centre for Fashion Enterprise (2008) as a business with a turnover under £250,000 a year. The rationale for selecting micro-enterprises is outlined in section 3.5, which discusses the sampling method for Fieldwork Phase 1 (p. 99).

In the academic realm, this thesis will provide students and researchers with knowledge on product life extension as well as a transferrable 3-phase methodological framework.

In summary, the aims of this research are:

1. To support fashion designers in their implementation of design strategies for longevity.
2. To contribute to knowledge on extending garment lifetimes.

1.2 Research Questions

The research questions for this doctoral research were developed in response to the gaps identified in the literature review. Throughout this thesis, RQ signifies the overarching research question, while RQ A and RQ B are sub questions informing the main RQ. These are formulated as follows:

RQ: How can designers be supported in designing garments with extended lifetimes?

RQ A: How do designers in UK fashion micro-enterprises implement strategies for garment longevity?

RQ B: How do users influence garment lifetimes?
With the overall aim to contribute to an understanding of the factors affecting garment lifetimes, this research also examines how this knowledge can be disseminated to practitioners.

RQ A addresses the lack of knowledge on how life-extension strategies are currently being implemented within UK fashion micro-enterprises. Reports support the importance of developing business models for extended lifetimes (Allwood et al., 2006, DEFRA, 2007, WRAP, 2012) and sustainable fashion literature provides useful theoretical starting points; yet an in-depth, critical investigation into how these scenarios play out in practice is lacking. This research thus includes an examination of the roles and tasks of the designer, the role of the user within these contexts, the aim and values underlying the respective business models as well as the tools and support systems used for the design and production process.

Wardrobe studies (e.g. Woodward, 2007) and research into the lived experience of fashion (e.g. Guy, Green et al. 2001, Clarke and Miller, 2002) provide insights into use practices of everyday people with their clothing. These studies are valuable, but there is a clear shortfall of research examining the link between the intended use of a product (such as those designed for longevity) and actual user practices. RQ B therefore aims to address this gap in knowledge by exploring the perceptions and practices that affect garment lifetimes.

By investigating the sub-questions A and B, a solid foundation is generated to address the overarching research question. Adding to this foundation, is an investigation into how knowledge is transferred between academia and practice in the field of sustainable fashion. The suitability of design toolkits as vehicles for knowledge transfer is interrogated as research into the practical application of toolkits has thus far taken place mainly in industrial and product design scenarios. While some of these insights are transferrable to fashion, an enquiry with a focus on fashion and longevity is necessary to help answer the overarching RQ.
As a result, this doctoral research contributes to academic knowledge on factors affecting garment longevity and the means for transferring this knowledge into practice. For practice, this research generates informed parameters for a fashion-specific guide to help fashion designers in micro-enterprises extend garment lifetimes.

1.3 Methodologies

Three distinct but interrelated phases of research were undertaken in this study, aligned to addressing the two sub-RQs and the overarching RQ. The first phase of fieldwork, addressing RQ A and the overarching RQ, consisted of case study research with three small UK-based fashion businesses. Over a 6-month period, the research was formulated, designed, piloted and conducted. Six weeks were allocated to each participant for interviews and three observation sessions; this was followed by data analysis and interpretation. This first phase of fieldwork ‘unpicked’ how the three organisations implement viable longevity strategies in their practice. The results from this phase of fieldwork shaped the research design of the following user study by providing discussion points for the interviews.

In order to understand the link between designable elements for longevity, how users perceive these and how their behaviour influences garment lifetimes, Phase 2 of fieldwork explored RQ B through interviews and photographic evidence. A purposive sampling technique was employed, targeting the customers of one participating business from Phase 1 of the fieldwork. In-depth interviews with the participants provided rich, qualitative data on garment purchase, care, wear and disposal with a focus on the case study brand and their design strategies intended to extend garment lifetimes.

The overarching RQ is additionally informed by research Phase 3 where design toolkit creators were interviewed. The toolkits under investigation were the most recent and relevant toolkits to the area of sustainable fashion and design. General accounts of toolkit implementation and classification are
discussed in the literature review. The discussion points during the interviews are focused on the testing of the toolkit in its development phase and its application in practice. These insights provided up-to-date and nuanced viewpoints focusing on the usefulness of toolkits in industry settings, in addition to knowledge gained from publications.

Subsequently, a cross-case analysis with findings from all three phases of fieldwork was synthesised to elucidate broader insights relating to the overarching RQ.

1.4 Structure of the Thesis

This doctoral thesis is structured as follows:

Chapter 1 is the introductory chapter, which frames the research by providing an overview of the thesis context and discusses the rationale for examining the role of garment longevity in fashion for sustainability.

Chapter 2 provides a review of the most relevant literature, starting with the status quo to provide the context of this research. Definitions of fashion, sustainability and longevity are then discussed before exploring specific design strategies for longevity. The roles of designers and users in this context are then discussed. The discussion then focuses on alternative systems of value creation and individual wellbeing in a post-growth fashion context. The chapter is summarised in the final section, describing the revealed gaps in literature and implications for this thesis.

Chapter 3 discusses the research methods applied to explore the questions and the grounds for selecting those specific approaches. The philosophical foundations underlying the methodology are first explored before describing the research design and the three phases of fieldwork. Finally, the selected methods are critically reflected upon and assessed in terms of rigour and suitability in addressing the RQs.
Chapter 4 presents the research results from Phase 1 of fieldwork, which consists of case study research with three UK based fashion businesses.

Chapter 5 presents the research results from Phase 2 of fieldwork, a user study with the customers of a participating case study business.

Chapter 6 presents the research results from Phase 3 of fieldwork, an interview study with toolkit developers.

Chapter 7 provides a synthesis of the results from all three phases of fieldwork, which are discussed in relation to the RQs and the literature.

Chapter 8 presents the conclusions drawn from this body of research in relation to the research questions. This final chapter also provides the contributions to knowledge, the limitations of this study and avenues for future research.

This first introductory chapter has provided an outline of the key elements of this thesis. In the next chapter, the most relevant literature in the fields of sustainability, fashion and design toolkits is reviewed.
Chapter 2 – Literature Review

This chapter provides the context within which this research is situated by reviewing the most relevant literature with respect to the RQs outlined in the previous chapter. First, a broad view on the research context is provided before focusing on fashion scholarship, the concept of sustainability and longevity as a strategy for sustainability in fashion. Then specific design strategies potentially affecting garment lifespans are reviewed, followed by an assessment of the role of the designer and the user within these contexts. The slow philosophy, the circular economy and the notion of wellbeing in relation to garment extension practices are then critically examined. Finally, literature on toolkits as a means of implementing design strategies is described before the chapter is summarised.

2.1 Introduction

The following key topics addressed in this research are:

• Longevity and sustainable fashion: patterns of production, consumption, waste and their impacts on the environment provide a broad contextual foundation for understanding theoretical concepts around fashion practice and sustainability in fashion as well as design for extended garment lifespans.

• Strategies for garment longevity: identifying different design strategies that are intended to extend product lifetimes in fashion and other design disciplines; historical as well as current references are included to demonstrate how these strategies have evolved.

• The role of the designer: examining the traditional role of the fashion designer, their changing role within design for sustainability and relating this to the implementation of design strategies for longevity.

• Post-growth fashion and wellbeing: providing an overview on literature on
the significance of the slow philosophy, the notion of wellbeing for sustainability, post-growth economic systems and how these concepts relate to designing for longevity.

• Design toolkits: investigating toolkit theory and critically analysing a selection of the most relevant toolkits to the area of fashion design and sustainability, with a focus on toolkit implementation.

**Figure 2.1** Bodies of literature and focus of this study

An overview of the bodies of literature included for review in this thesis is illustrated in Figure 2.1. The final section of this chapter (2.8 Summary) outlines the gap in the literature that was revealed through a review of the literature. This section provides the research context and opportunities for research.

### 2.2 The Status Quo: Context and Timeliness

The previous section provided an overview on the topics addressed in the literature review. In order to situate this research, this first part of the literature review will discuss the broader contextual issues around ecological impacts and patterns of production, consumption and waste.
Since the 1960s, concerns about man-made ecological impacts have been growing. American marine biologist and conservationist Rachel Carson’s best-selling book, *Silent Spring* (1962), documented the detrimental effects of pesticide use on the environment and led to the banning of DDT. This book acted as a catalyst for a significant counter-culture movement rejecting consumerist culture. Yet, after fifty years it appears that the unsustainable consumption of resources, the release of harmful toxic pollutants and high levels of waste are on the rise and continue to take their toll on our planet.

This epoch has thus been termed the *Anthropocene* as for the first time in history, human activity significantly changes the temperatures and ecosystems of our planet (Stromberg, 2013). According to a paper co-authored by 27 researchers, ‘humanity has already transgressed three [out of nine] planetary boundaries: for climate change, rate of biodiversity loss, and changes to the global nitrogen cycle’ - and ‘[t]ransgressing one or more planetary boundaries may be deleterious or even catastrophic due to the risk of crossing thresholds that will trigger non-linear, abrupt environmental change within continental- to planetary-scale systems’ (Rockström et al., 2009, para. 1).

After the hottest year on record in 2016, the world is being pushed into 'truly unchartered territory', according to the World Meteorological Organisation (Carrington, 2017, para. 1). Environmental damage can be directly linked to the production, consumption, and disposal of goods (Datschefski, 2011). With this environmental backdrop, it is essential to investigate the role of design in helping to alleviate these problems.

*Design and the environment*

Design plays a significant role regarding the increased use of resources, contributing to waste and environmental damage as ‘[d]esign, in all its history, but especially in more recent years, has been an agent of acceleration’
The concept of planned obsolescence was made widely known in Packard’s book *The Waste Makers* (1960), which critiques the ecological impacts of deliberately shortening product lifespans to increase profits through higher levels of production and consumption. The foundation for this concept was established in a lesser-known publication entitled *What Consumer Engineering Really Is* (1932) by Calkins. A number of alternative design approaches emerged in response to the growing resource pressures (Stern 2006) and irreversible anthropogenic changes (Rockström et al., 2009). 

*Green design* came into view in the mid-1980s and developed in the 1990s into what was termed *ecological design* or *eco-design* (Madge, 1997). These approaches have since been criticised as limited in scope and consequently, *sustainable design* emerged in the early 2000s, advocating a paradigmatic shift in how we can understand design as a means to lower levels of resource use (Ehrenfeld, 2008, Vezzoli and Manzini, 2008, Ehrenfeld and Hoffman, 2013).

*Islands of slowness*

Reducing material throughput is indeed key: a radical reduction of resource use by a factor 10 has been suggested for industrialised nations in order to allow reasonable growth in poorer countries, while operating within the planet’s carrying capacity (Schmidt-Bleek, 2008). In the last 15 years, longevity has been discussed as a design strategy that offers the potential for reduced material throughput (Park, 2010, Cooper, 1997, 2010, Chapman, 2010). Chapman (2008, p. 32) views product life extension as ‘environmentally beneficial as it reduces (and often eliminates) the need for the symptom-focused waste-management methodologies, whilst simultaneously reducing the need for the resource extraction’. This is supported by Jackson (2010, p. xvii) who states: ‘the creation of product durability, a long lasting solution to our throwaway culture, emerges as an absolutely vital element in the pursuit of sustainability’.

Park (2010) describes the notion of product lifetime ‘optimization’ where a product is designed with regard to its environmental impacts during use in
relation to impacts created during production. *Slow Design* has been discussed by authors such as Fuad-Luke (2006) and Manzini (2001) as a means of pacing consumption and resource throughput; products hereby provide more satisfying and enriching experiences. Manzini (2001) refers to ‘islands of slowness’ in the fast-paced world. This concept is reflected by Fletcher (2008) who discusses the need for a diversity of rhythms and speeds of production and consumption in fashion.

*Unfeasible and suicidal*

The notion of reduced consumption and production, however, can seem problematic in many ways. Firstly, possessions have become a means of expressing our identities, becoming an extension of the self (Belk, 1988). Connecting identities with material objects and promoting their transience by rendering them either physically or psychologically obsolete through newer technologies or styles has been a means for creating profits and thus fuelling the economy (Packard, 1960). According to Bocock (1993), the hunger for more becomes insatiable: the more one consumes, the more one desires. Would restraining the consumption of goods then have adverse effects on our wellbeing, depriving us from our fundamental need for expressing our identities? Cooper (2013, p. 140) states that ‘a deliberate strategy to reduce the flow of consumer goods would normally be derided as politically unfeasible for government and commercially suicidal for industry’ as business models are dependent on ever-increasing volumes of sales.

*Less is more*

Increased sales may enrich the owners of corporations, but in less affluent countries, such as Mozambique, ‘economic growth has contributed to rising inequality rather than a reduction in poverty’ (Brooks, 2015, p. 1). Additionally, in Europe, increased consumerism can have a detrimental effect on individuals: there is increasing evidence that valuing possessions as a means toward happiness is a barrier to personal wellbeing (Dittmar, 2008) and can lead to increased loneliness (Pieters, 2013). A national survey in Britain shows
that approximately 25% of British adults aged 30-59 have taken voluntary steps to downshift, that is change their lifestyle in ways that resulted in reduced income and, by implication reduced consumption (Hamilton, 2003, p. vii).

Furthermore, the EU Waste Directive Framework proposes the reuse of products or the extension of the lifespan of products to reduce waste (DEFRA, 2013). According to a British Government publication, lower production rates would be offset by development in repair, refurbishment, maintenance and second-hand markets’ (ERM, 2011). In 2011, the UK government created a Waste Prevention Loan Fund (LCRN, 2011): ‘to enable organisations to introduce business models and processes which make more efficient use of material resources. Examples include product reuse, repair and upgrading services.’ In addition, Cooper (2013) suggests that innovations in retailing could make service options as accessible and attractive to consumers as the sales of new items and calls for the need to decouple economic and environmental activity. Overall, a multi-stakeholder approach is needed: ‘Progress from throwaway culture thus requires changes across society: in public policy, design and marketing strategies, consumer attitudes and behaviour, and socio-cultural norms’ (Cooper, 2010, p. 3).

Summary

In short, it is widely documented that the current patterns of consumption demanding high levels of materials, resources and energy are unsustainable over the long-term. Longer lasting products can contribute to this shift, physical properties of a product, services and/or user practices (such as refurbishment, repair or shared use) can help ensure that products are not discarded before the end of their useful life. A shift is also required in terms of the current economy, which currently relies heavily upon material throughput of resources. A transition towards a society valuing possessions and services as a means toward wellbeing is needed – products become a means to an end rather than an end in themselves.
Throwaway society can be observed in one of its most extreme manifestations in fashion, a phenomenon called fast fashion. Fast fashion is a business model in which the supply chain enables a retailer to quickly respond to emerging fashion trends with a short lead times of approximately two weeks (Fletcher and Grose, 2011). The designs emulate catwalk fashion trends and are mediated through popular culture and retail data on buying habits (Julier, 2017). While high numbers of garments are made overall, typically only small batches of the same garment are produced, mainly in low-wage locations such as East Asia (ibid). Examples of fast fashion stores include Zara (Spain), H&M (Sweden), Topshop (UK) and Forever 21 (USA) (Levy and Weitz, 2008). Key characteristics of fast fashion retailers are electronic communication, high volume of deliveries and markdowns in price to make space for new products (Watson and Yan, 2013). With its high turnaround of trend-led products and low prices, fast fashion has been attributed to accelerating the unsustainable and increasing rates of clothing consumption and disposal (Black, 2008, Fletcher, 2008, Siegle, 2011). In summary, fast fashion is characterised by its fast response to trends and fast production of garments, which are sold with within international retail outlets in high volumes with a fast turnaround of stock.

In the UK alone over 1.1 million tones of clothes are consumed and disposed of each year (WRAP, 2012). This figure featured in a milestone report entitled ‘Valuing our Clothes – the true cost of how we design, use and dispose of clothing in the UK’ (ibid). This research was previously coordinated by the Department for Environment, Food and Rural Affairs (DEFRA, 2007) and is now managed by the Waste and Resource Action Network (WRAP), an NGO funded by the UK Government and overseen by a steering group consisting of major retailers, brands, recyclers, sector bodies, NGOs and charities. The report draws on a broad evidence base as well as data from a consumer survey involving 7,950 UK adults aged 16+. This report highlights the importance of product life extension and states that extending the active life of clothing can provide the greatest environmental savings overall compared with best practice in production and fibre choice, laundry and re-use and recycling (WRAP, 2012). In sustainable fashion discourse, however, the use stage of
the garment’s lifecycle has largely been overlooked (Jack, 2013, Laitala and Klepp, 2011). The following section will examine the concepts of fashion and sustainability and how these relate to longevity.

2.3 Longevity and Sustainable Fashion Design

A broad contextual view provided an interdisciplinary perspective in the previous section and rationale for investigating product life extension as a strategy toward sustainability. The following section is focused on fashion and examines the relationship between fashion and sustainability. These discussions are concluded by evaluating what role design for longevity plays in fashion.

Understanding fashion

Fashion has countless definitions and has been discussed from a variety of viewpoints. It has a broad epistemological base, underpinned by knowledge from a number of disciplines, such as anthropology, sociology, psychology and history. Furthermore, many distinctions are made in fashion theory, between clothing and fashion, production and consumption, fashion discourse exploring fashion image (as viewer) and fashion as the embodied experience (practices of wearers and designers), for instance. However, these distinctions are not always helpful when taking a holistic view on the subject (Entwistle, 2000). The meaning of fashion as understood for this thesis is now explored in more depth and reflected on with regard to the RQs introduced in Chapter 1.

Clothing and fashion

One of the most common distinctions made by fashion theorists is the difference between 'clothing' and 'fashion'. 'Clothing' indicates the functional and technical aspects of dress, and ‘fashion’ is the symbolic, communicative and socially constructed meaning (Barthes, 1983, Kawamura, 2005). Or as Brenninkmeyer (1963, p. 6) states: ‘clothing and dress are the raw material
from which fashion is formed.’ Fashion, in this sense, is a mechanism that can be applied to many things, including clothing (Svendsen, 2006). Fashion researcher von Busch (2009) compares clothing to the Hellenic time concept of *chronos*, the duration, and fashion to *kairos* as the propitious moment and the ephemeral. The author explains: ‘This continuous stream of intensity is fashion, a phenomenon in a constant dynamic flow of becoming, that never stands still or is never subordinated to permanent substance’ (von Busch, 2009, p. 38). The meaning of these terms, however, is often intertwined and the distinctions become blurred (Sawchuk, 1988). This study understands fashion as a concept which is applied to clothing, fashion adding symbolic, intangible value to clothing (Kawamura, 2005). However, the difference between fashionable clothing (often termed ‘fashion’) and ‘non-fashion’ clothing is fluid and subjective (clothing can become fashion and vice versa); therefore, for greater clarity, the terms 'fashion' and 'clothing' are used interchangeably in this thesis, unless stated otherwise.

*Consumption and production*

A further distinction can be found in literature regarding consumption and production of fashion. Over a century ago, Simmel described a shift from a *producer* society to a *consumer* society (Svendsen, 2006). Marx expressed concern about the fetishism of commodities where the producer remains invisible. According to von Busch, (2009), this separation reflects the division of labour and the concept of professionalism, which have been described as a means to grow industrialism, modernism and capitalism. He states:

‘This type of economic system is based on a few simple and linear principles: production is separated from amateur hobbyism, culture is broadcasted to the masses who are offered the choice from ready-made programs, stations or music and the knowledge and skills produced by professionals is locked within the company. The same divisions are also central to fashion.’ (von Busch 2009, p.37)

The distance between the consumer and the product as Simmel describes it, ultimately leads to disappointment and unfulfilled desire, something capitalism
relies on to sell an increasing amount of goods (Svendsen, 2006). This has led researchers, such as von Busch (2009), to investigate if perhaps bringing the user closer to the production of fashion and thus demystifying the process, provides a more satisfying experience, reducing the constant need for novelty.

_Narrowing the gap between consumer, designer and producer_

These intersections between producing and consuming have previously been ignored in literature, though recent research in the field of sustainable fashion has attempted to address these gaps. Hethorn (2008) and Gwilt (2013), for instance, call for user-centred design to increase garment lifetimes. Von Busch (2009), on the other hand, discusses practices of remaking clothing as a political statement of ‘hacktivism’ and Ballie (2012) explores avenues of co-design for textiles. Notions of ‘openness’ were also investigated by Hirscher and Niinimäki (2012) for participatory fashion as a form of design activism. Amateur re-knitting as a strategy for sustainability was considered by Holroyd (2013).

Williams (2015) critisised mainstream fashion as ‘too reactionary rather than radical’ within an industry that has become focused on short-term profitability with an inherent lack of transactions with human or spiritual value. By taking human relationships as the point of departure in fashion design, she adopts Tim Ingold’s (2011) view on ‘the shape of things’ as ‘arising within flows (of material)’ (p. 235). This contributes to the understanding of fashion as a ‘dynamic flow’ as previously described by von Busch (2009, p. 37). This generative design process, ‘iterant, improvisatory and rhythmic’, is evident in designers who are directly involved in the making process and/or attune their ways of working to their local communities where the garments are produced (Williams, 2015, p. 235). Thus, the line between designer and producer is blurred, providing a more engaged way of designing and making clothing.

_Identity_

With the focus shifting toward the wearers of fashion, fashion as an expression
of identity is now discussed. It is not only a fundamental aspect of fashion discourse but also plays an important role when addressing design for longevity as the fate of a product ultimately lies in the hands of the user. Identity is hereby defined by sociologists, such as Rogers and Smith-Lovin (2011, p. 121), as the ‘many meanings attached to a person, both by the self and other’. Previously, identity was strongly linked to social class (Crane, 2000); Marx describes clothing in these settings as ‘social hieroglyphics’ (Barnard, 1996). In modern and post-modern societies, however, we can have multiple identities (Burke and Stets, 2009) and one way of constructing our identities is through our possessions (Belk, 1988). The link between identity and clothing, however, has been exploited for consumerist motives, fashion being ‘capitalism's favourite child’, according to 20th century economist and sociologist Sombart (Svendsen, 2006). Williams (2015, p. 239) critiques the reliance on consumption to express individual aspirations and states:

‘The materialization of tasks in the form of new products, such as creating a good impression being materialized through a new purchase, suggests ‘access to possibility’ but ties us to a cycle of ‘dependency on’ over ‘delight in’ what we might wear or use… Innovations (...) are built on models of insatiability, with the role of the designer as enticer rather than provider of life-affirming interactions.’

For fashion to be a conduit for sustainability rather than perpetuating an environmentally and socially damaging throwaway culture (Cooper, 2010), fashion products and systems must be viewed in relation to the business system they support (Fuad-Luke, 2009). ‘And if fashion, by definition, is always relevant to its time and context, then social action, including that supporting durability, will also shape fashion’ (Fletcher, 2012, p. 223). Alternative approaches to fashion and how they have developed is explored in the following section.

**Sustainability**

With the key concepts relating to the various interpretations of fashion laid out in the previous section, the discussion will now move onto the concept of
sustainable design and its relationship with fashion and longevity.

*From ‘green’ to ‘eco’ to ‘sustainable’ design*

The shift from *green design* to *ecological design* and subsequently *sustainable design* were outlined earlier and will now be discussed in more detail. Magde (1997, p. 45) highlights the political and environmental background against which this discussion should be examined, leading to ‘not necessarily a cohesive or unified phenomenon – there are many shades of green and different ecological perspectives’. Overall, the aim of *green design* is to optimise and eliminate environmentally damaging product characteristics, an approach mainly concerned with the technical aspects of products, like material composition (Chick and Micklethwaite, 2011). Subsequently, this concept was termed *eco-design* in the early 1990s, although the aim was still to reduce the environmental impact of individual products, increasing their ‘eco-efficiency’ (Tischner and Charter, 2001).

The adoption of the life cycle approach for product development is central to *eco-design* (Madge, 1997). This approach, however, has been criticised as too limited in scope and not effective enough as it still operates within conventional wasteful production and consumption patterns – a paradigmatic shift in mindsets to address root causes is advocated in the more holistic concept of *design for sustainability* (Ehrenfeld, 2008, Vezzoli and Manzini, 2008). Cooper (1997) similarly criticises eco-design as techno-centric. *Sustainable design* emerged in the early 2000s, advocating a shift from ‘products’ to ‘solutions’ (Vezzoli and Manzini 2008, p. 15), through product-service systems, for instance.

According to Thorpe, ‘[s]ustainable design is maturing’ with the role of design in economic and social aspects being more fully explored (2007) as well as more radical approaches emerging. Dusch (2013) terms these approaches *transformative design*, which ‘suggests a radical discontinuation on a socio-economic level and a far-reaching transcendence of the current market-driven economy’ (p. 37). An overview of the progression of the field of sustainable
design is illustrated in Figure 2.2 (p. 37).

*The Circular Economy*

As part of the shift toward new economic models and design scenarios, the concept of the Circular Economy (CE) has gained traction in the last decade. Extended product lifetimes is ‘a cornerstone of the circular economy, because it helps slow down the speed of the flow of materials and goods through society, thus reducing waste’ (Bakker et al., 2014).

WRAP define the CE as ‘an alternative to a traditional linear economy (make, use, dispose) in which we keep resources in use for as long as possible, extract the maximum value from them while in use, then recover and regenerate products and materials at the end of each service life’ (WRAP, 2017). A key characteristic of the CE is thus maximising resource use while minimising waste (Stahel, 2016). The conventional linear system can be likened to the flow of a river, a constant stream of production, use and waste; while the CE is like a lake: it is fed by small amounts of fresh water but products are largely (re)made and used from the same pool of resources (ibid).

Apart from saving resources and energy, Stahel (2016) sees the CE as an opportunity for creating local jobs. The author describes two main types of circular business models: those that support product reuse and extend service life through repair, upgrades and the like; and those which create new products from old ones by recycling the materials. However, uptake is still slow and Stahel (2016) calls for a shift of services in the consumer realm to become mainstream, a need for academic and vocational training in CE as well as government policies supporting the CE, technological innovations, communication promoting the CE and more research exploring viable approaches to the CE.

The Ellen McArthur Foundation addresses many of the above-mentioned points. The foundation was established with the aim of accelerating the
transition to the CE (Ellen McArthur Foundation, 2015). Together with design company IDEO, for instance, they have developed The Circular Design Guide, citing circularity as ‘the next big thing’ and ‘worth around a trillion dollars’ (Ellen McArthur Foundation & IDEO, 2016). The repair and refurbishing service of clothing by outdoor company Patagonia is named in this guide as an exemplary model for circularity. The graphic in Figure 2.3 (p. 38) shows the ‘loops’ that represent circular business opportunities, with the aim of preserving finite resources. It becomes clear that the loops Share, Maintain/prolong, Reuse/Redistribute and Refurbish/Remanufacture rely on products that are made to endure and experience multiple ownerships.

The outcome of a 3-year research project into business opportunities and design challenges of prolonged product lifetimes within a circular business model was published in a book by Bakker et al. (2014) entitled ‘Products that last: product design for circular business models’. Here Cooper (2014, p. 5) highlights the inevitability of reduced material throughput due to resource pressures and states: ‘environmental sustainability does not require a decrease in the value of consumption, only in its volume, or weight. […] Profit must in future be generated through improvements in the intrinsic quality of goods and enhanced after-sales services’. The circular design strategies (Attachment, Durability, Standardisation & Compatibility, Ease of Maintenance & Repair, Upgradability & Adaptability, Dis- & Reassembly) are discussed with a focus on product design, thus a critical approach must be taken when applying these approaches to fashion products.

Furthermore, this publication emphasises conventional product-based approaches to sustainability rather than user-orientated aspects. In the chapter ‘Attachment’, for instance, the question of affordability is discussed: ‘The question of whether a certain user will buy a new product, will have the old one redone or will accept the unsatisfactory situation is of course also an economic one’ (Bakker et al. 2014, p. 85). This conundrum is a key issue in fashion where low cost clothing is widely available, making it more economically effective to purchase a new item than repairing it. However, how this issue can be tackled is not discussed.
In June 2015, a conference entitled ‘Product Lifetimes and the Environment (PLATE)’ was hosted at Nottingham Trent University, where a wide range of disciplines were represented, with 10 out of 42 exhibition items falling into the category of fashion and textiles (including the author’s own work, see Fig. 2.4, p. 39) and 12 out of 63 papers being situated within the field of fashion and textiles, several of which have informed this thesis directly. Overall, the tensions and contradictions surrounding this subject area became apparent within the artifacts, workshops and papers presented at the conference and the lively discussions that followed. The conference is testament to the timeliness and importance of research into product life extension.
Figure 2.2 Progression of the field towards sustainable design

Adapted from Dusch (2013, p. 38)
Figure 2.3 Outline of the Circular Economy

Adapted from Ellen McArthur Foundation, SUN and McKinsey Centre for Business and Environment; drawing from Braungart & McDonough Cradle to Cradle (C2C) (2015)
Figure 2.4 PLATE exhibition at Nottingham Trent University, June 2015

*Exhibition featuring the author’s work entitled ‘Seam Decoder’ (zine publication above and garments below), commissioned for the Local Wisdom project (Fletcher, 2016)*
Sustainability and fashion

The previous section discussed ways of understanding fashion and sustainability. Now a more in-depth discussion of sustainability in fashion follows, with a focus on the role of design for longevity.

A paradox?

The shift from eco to sustainable design is also evident in fashion, although fashion as a design discipline is late to investigate sustainable approaches and lags behind industrial design and architecture (Thomas, 2008). In the 1990s, interest in reducing the impact of fashion items manifest itself through the promotion of natural and recycled fibres, most notably with the launch of the Esprit Ecollection in November 1991 (ibid). In the 2000s, there was interest in organic, Fair Trade and rapidly renewable fibres (Fletcher, 2008). Only in the last five to ten years has a more holistic approach of sustainability begun to develop in niche areas of the industry (ibid). There are, however, some conflicting ideas inherent to the concept of sustainability in fashion.

Fletcher (2008) describes consumption as ‘the elephant in the room’ (p. 117) in discourse on sustainable fashion. ‘Sustainable Fashion - Why now?’ by Hethorn and Ulasewicz (2008) thus asks if sustainable fashion is not in fact an oxymoron. This is echoed by Black's book title: ‘Eco chic: the fashion paradox’ (2008, p. 18), in which the author asks ‘how to reconcile the transience and inherent obsolescence of fashion’s constant change with the imperatives of sustainability with fashion economic importance with diminishing resources?’.

Finding ways to reconcile these issues is imperative as there are environmental and social implications at all stages of the garment lifecycle as illustrated in Figure 2.5 (p. 46), with examples added from other sources (e.g. Brooks, 2015). The figure shows the current dominant linear nature of the clothing lifecycle (make, use, dispose) and the wide-ranging negative impacts of fashion, from the use of toxic chemicals in cotton cultivation to the impacts of donated garments on local economies in Africa. Rather than simply
reducing unsustainability, the focus will now shift to what Ehrenfeld (2008) terms sustainability as flourishing and the potential of fashion for positive change.

*Fashion as flourishing*

Just as there is no single definition of fashion, there is also no agreed definition of sustainability. One of the most widely known descriptions on sustainable development was derived from the Brundtland Report ‘Our Common Future’ in 1987\(^1\). This definition, however, has been criticised as outdated and limiting as its central principle is efficiency (Sneddon et al., 2006). Efficiency, in turn, is a driver for competition and growth, disregarding the finiteness of the planet (Ehrenfeld and Hoffman, 2013). Previous research has focused on technology-based solutions for improving efficiency (Thackara, 2005).

While this approach can be beneficial for reducing a product’s environmental footprint, this alone will not suffice to alleviate high levels of consumption and disposal in industrialised nations (Cooper, 2010, Niinimäki and Hassi, 2011). These practices have been criticised as merely reducing unsustainability, rather than creating sustainability (Ehrenfeld 2008). Furthermore, with production and consumption simultaneously increasing, the environmental benefits of technological advances are eroded, in part due to the rebound effect whereby efficiency savings lead to reduced cost and this in turn leads to increased consumption (Throne-Holst et al., 2007).

On the other hand, by adopting Ehrenfeld’s definition, sustainability may in fact provide opportunities to fundamentally reimagine the fashion system. Ehrenfeld (2008, p. 49) states: 'sustainability is the possibility that humans and

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other life will flourish on Earth forever'. In this context, fashion could contribute to human wellbeing by challenging the ever-increasing pace of fashion, which ‘feeds insecurity, and rising levels of psychological illness’ (Fletcher, 2008, p. 117). The ubiquity of clothing makes it a powerful vehicle for change (Hethorn and Ulasewicz, 2008) and the inherent notion of change within fashion can be used as a driver for sustainability. Industrial design academic Stuart Walker (2006) entitles a chapter in his book ‘Fashion and Sustainability – the Attraction of Opposites’ and notes that while fashion over-emphasises materialism as a means for happiness and success, it can also foster creativity and innovation; he states:

‘There is no one correct way and no right solution – approaches and directions will always change as time progresses, as generations change and tastes evolve. This is not necessarily a bad thing – it allows us to hone our approaches, to stay on our toes and keep things fresh, vital and joyful – which is what fashion is surely all about.’ (Walker 2006, p.77)

Rissanen (2011) similarly describes a shift from designing products (described as ‘sustainable design’) to nurturing sustainable lifestyles (called ‘design for sustainability’). This thesis is thus positioned within the field of design for sustainability. However, for the purpose of clarity, within the thesis, sustainable fashion design and (fashion) design for sustainability are used interchangeably. This means that material aspects of longevity (products) are taken in to consideration as well as the socio-cultural contexts within which the garments are situated (user behaviour).

**Circular fashion design**

The notion of designing for a Circular Economy is a relatively new concept in fashion. In November 2016 in London, a conference on Textile Design for a CE entitled ‘Circular Transitions’ was held. The conference was part of the Mistra Future Fashion initiative, a cross-disciplinary research program funded by the Swedish Foundation for Strategic Environmental Research (with a budget of £10 million over 8 years). The aim is to provide ‘research for
systemic change in fashion – via closed loops and changed mindsets’ (MISTRA, 2017). Circular concepts for the fashion and textiles industry are being developed in close collaboration with the TED research group (Textiles Environment Design at Chelsea College of Art, UAL). This conference denotes the shift from the term ‘sustainability’ to ‘circularity’.

While many of the concepts overlap, the notion of ‘circularity’ has a focus on maximising resources through re-use and the recycling of materials (Han et al., 2017) and can be viewed as one facet of the more holistic concept of sustainability (as defined by Ehrenfeld, 2008). Design for longevity can therefore be viewed as a circular approach to product life extension (Bakker et al., 2014), also in fashion, while being situated in the broader field of sustainability.

Longevity as a strategy for fashion was also discussed by Karl-Johan Petersen, CEO of the H&M Group, which has 4,351 stores worldwide (H&M, 2017). During a conference dedicated to the topic of sustainability, entitled 'H&M Change Makers Lab' (2017), Petersen discussed the company’s long-term aim of becoming fully circular by working with the Ellen McArthur Foundation and the Stockholm Resilience Centre. Apart from recycling the fibres of garments collected in their stores to make into new items (by 2020 they aim to collect more than 25,000 tonnes of clothing), the company wishes to extend the lifespan of their products, ‘through durability requirements and by promoting and/or facilitating repair, re-use and recycling’ (H&M, 2016).

Currently, when garments are returned to in-store recycling collection points, the customer receives a £5.00 store voucher. The Change Makers Lab speaker and Innovation Consultant, Rachel Arthur, described this as ‘very, very confusing for the consumer’ as the brand is sending mixed messages about desirable consumption behaviour. As Cooper (2013) highlights, while the shift from linear to circular is imperative, it is important to slow down the overall throughput of resources as well as confront the growth-orientated nature of traditional economics; particularly as recycling can ‘sometimes even [be] an excuse for more rapid discarding’ (Cooper, 1997, p. 61).
Longevity

In the field of fashion, there are a small number of studies which address sustainability and longevity in fashion specifically. One such study was conducted by Laitala and Klepp (2011), who combined a quantitative study with 546 respondents and a qualitative wardrobe study with 16 households in Norway, focusing on environmental savings created through prolonged clothing use. The research provides valuable insights on clothing acquisition, use and disposal. A key finding was that poor fit, technical quality and taste-related issues were the main reasons for clothing disposal as are situational factors (e.g. owning too many similar garments). In the UK, McLaren et al. (2015) conducted a DEFRA-funded qualitative study with 29 participants examining consumer expectations, consumption and use regarding clothing longevity. The authors reveal that overall, consumers demand longer-lasting, more durable clothing, with different consumer groups expressing distinct priorities and attitudes, thus providing opportunities for clothing brands to focus their strategies for longevity.

Within the field of sustainability in fashion, there are a wide variety of design approaches, such as closed-loop systems of production, zero-waste pattern-cutting, hyper-local sourcing, up-cycling, design to reduce the need to launder and modularity, to name a few. Designing for longevity is hereby acknowledged as one of many approaches to tackle the complex issues surrounding sustainability in fashion (Fletcher and Grose, 2011, Rissanen, 2011, Gwilt, 2014a). In fact, it is the variety of and wealth of approaches that is required to tackle the problems from different angles. As Fletcher states: ‘What sustainable fashion needs is not mass answers but a mass of answers’ (2007). As discussed in the previous section, most effort for achieving sustainability in fashion has previously been focused on improving efficiency through cleaner production methods and less impactful materials, rather than taking behaviour and the use phase into consideration.

Moreover, while previous reports have included longevity in their
recommendations (Allwood et al., 2006, DEFRA, 2007), the large-scale report by WRAP (2012) highlights that extending the active life of clothing offers the single greatest savings overall in carbon, water and waste footprints when compared with good practices in production and fibre choice, laundry and re-use and recycling as shown in Figure 2.6 (p. 47). A final report was published in 2013, in collaboration with Nottingham Trent University, including guidance for product development teams on increasing the active life of clothing (Cooper et al., 2013). The four areas identified where changes to design practices can extend garment lifetimes were: size and fit, fabric quality, colours and styles, and care.

Since the publication of the report, WRAP has launched a campaign entitled Love Your Clothes in 2014, which is manifest online through a website and social media outlets, providing information and advice on the environmental impacts clothing consumption, use and disposal as well as facilitating workshops and events to promote life extension practices (WRAP, 2014). Other online campaigns to encourage extended clothing use include #30wears by Livia Firth (founder of sustainability consultancy Eco Age and wife of high-profile actor Colin Firth), which asks the consumer to consider if the prospective garment will be worn at least thirty times before making the purchase (Cole, 2016). How effective these campaigns have been in increasing garment lifetimes, however, is unknown.
Figure 2.5 Social and environmental impacts along the clothing supply chain

Adapted from Gwilt (2014a, p. 12)

- Pesticide used in cotton growing
- Water used in cotton growing
- Genetic modifications of fibres

8000 litres of water are required to grow, pack and ship the cotton for a single pair of jeans (Brooks, 2015)

Cotton farmers and children in developing countries are exposed to harmful and deadly pesticides banned in the West (EJF, 2007)

- Use of chemicals in textile treatments
- Water and energy use in textile processes
- Fabric and resource waste
- Working conditions in factories

During a factory collapse in 2013 in Bangladesh, more than 1,130 workers were killed and over 2,500 were injured (BBC, 2013)

Highly toxic chemicals are dumped in rivers near textile processing plants in Asia (Greenpeace, 2013)

- High-street working conditions and pay
- Treatment of suppliers
- Energy use in retail outlets
- Packaging
- CO2 emissions and waste in transport

The average t-shirt travels the equivalent distance of once around the globe during its production (Lee and Sevier, 2007)

Up to 50-trend driven seasons perpetuate impulse buys through the notion of once it’s gone, it’s gone (Siegle 2011)

Most detergents contain non-biodegradable petrochemicals which affect water quality & organisms (Fletcher, 2008)

- Chemical detergents
- Water and energy use - washing, drying and ironing

The washing and drying of a polyester blouse uses 6 times as much energy as its production (Franklin Associates, 1993)

- Amount of textile waste going to landfill
- Early disposal

350,000 tonnes of used clothing goes to landfill every year in the UK (WRAP, 2012)

47.6% of donated clothing is resold to low income countries, mainly in Africa, which undermines local industries (Brooks, 2015)
Figure 2.6 Projected reductions in carbon, water and waste footprints based on implementing good practice (WRAP, 2012, p. 15)
Summary

Fashion can be viewed as being inherently ephemeral (Breward, 2003, Rocamora, 2013), though considering fashion as ‘a constant dynamic flow’ (von Busch 2009, p. 38) may help foster the change in mindset which is required when designing for longevity. The current dominant model of fast fashion relies on high volumes sold at low prices to generate maximum profits, leading to an increase in production, consumption and disposal of clothing (Farrer, 2011, Fletcher and Grose, 2011, Black, 2008). In the UK alone 350,000 tonnes of used clothing annually go into landfill; the average age of these discarded garments are less than 2 years and 3 months (WRAP, 2012). Many of these garments are discarded before they are physically worn out, some having never been worn at all (Fletcher and Grose, 2012), in part due to a form of aesthetic obsolescence evident in fashion (Burns, 2010).

The dominant consumerist story of fashion, however, is reinforced by business and does not reflect a true image of existing fashion practices and alternative stories, says Fletcher (2012). This sentiment is supported by trend forecaster Lidewij Edelkoort who states that fashion has lost touch with society as ‘society is now about exchange and the new economy and working together in teams and groups’; it is therefore ‘the end of fashion as we know it’ (Fairs, 2005). This narrative runs parallel with ideas around alternative value systems in fashion, challenging the prevailing understanding of growth-based economics and paradigms in fashion centred on consumption. Design for longevity can thus be viewed as one type of emergent model for fashion that can reflect an increasingly collaborative and resourceful society. Building on the previously discussed key definitions and the defined context for the research, the following section will review a selection of design strategies for extended garment lifetimes.

2.4 Strategies for Garment Longevity

As the contextual foundations for this research have been established, the
following section will discuss design strategies for longevity. For this section, literature from fashion and other design disciplines regarding approaches to extending product lifetimes are reviewed.

Much of the literature on the topic exists in the field of product design, most notably the pioneering work by the Eternally Yours foundation (van Hinte 1997, 2004). Other key authors include Chapman (2005, 2015), Mugge et al. (2005) and Cooper (2010). More recently, research has extended to also address longer-lasting fashion (e.g. Niinimäki and Hassi, 2011, Rissanen, 2011, Laitala and Klepp, 2011, Fletcher, 2012, Gwilt, 2014b). As the following discussion will demonstrate, there are interventions at all stages of the garment lifecycle that can potentially influence the longevity of a garment.

**Physical durability**

Addressing the physical durability of a garment appears the most logical step to increasing longevity. How long a garment physically lasts depends on a range of factors, such as the construction methods, seam strength and the quality of the materials (Cooper et al., 2013). Therefore, Rissanen (2011) suggests using waste fabric to reinforce seams while simultaneously reducing or even eliminating waste. Used in conjunction with other strategies for extended lifespans, this approach can potentially help save resources.

While better quality fibres and fabric generally contribute to longer-lasting garments, there are a range of variables, such as fibre type, yarn blends, yarn structure, fabric construction, fabric dyeing and finishing – thus, the same fabric descriptor (e.g. 100% wool) can vary greatly regarding the garment’s longevity (Cooper et al., 2013). Furthermore, 'quality' does not always equate to robustness, but may refer to drape or softness (ibid).

A further factor influencing how long a garment remains wearable is the way it is worn, cared for and laundered. Previously, women would wear aprons to protect their dresses and men wore t-shirts beneath shirts to absorb perspiration; dress shields, placed inside the sleeves, offered clothing
protection from perspiration damage (Shaeffer, 2007). While this is no longer common-place, Niinimäki (2011) suggests that manufacturers include information on the number of washes a garment will take and still 'look good', allowing brands to offer durability guarantees. Though the objective nature of what is perceived as ‘good’ may be problematic. This recommendation is based on a study the researcher conducted in Finland showing that the largest area of consumer dissatisfaction is concerned with low quality, experienced in particular during the use and maintenance phase. This sense of ‘betrayal, annoyance and disturbance’ was also described in Romania, when the bobbling (pilling) of their garments meant that their ‘[c]herished garments must be discarded not because the short fashion cycle makes them outdated, but because their short life cycle makes them unbearable’ (Craciun, 2015, p. 17).

Although low quality clothing can be a source of frustration, and physical failure may result in discarding, 90 percent of clothing in the UK is in fact thrown away before the end of its useful life (Fletcher and Grose, 2011). Laitala and Klepp (2011) found that clothing is mainly discarded due to technical or quality related obsolescence; other factors include unsuitable fit and psychological, social and situational reasons. Furthermore, the benefits of material durability are based on two contentious key assumptions: firstly, that people will continue to use physically robust garments and secondly, that this extra utility leads to reduced consumption levels (Fletcher, 2012). Thus, design strategies enhancing the physical robustness of a product must be developed with careful consideration of other factors, which may impact garment use, such as social, cultural and individual factors.

*Emotional durability*

Indeed, for garments, it may be aesthetics, social preferences or a change in body shape, rather than material durability that determines its lifespan (Cooper et al., 2013). Even domestic electronic products can become victims of the mechanisms of fashion: they are often discarded before the end of their useful life – this was the starting point of doctoral research by Chapman (2008), who coined the term ‘emotionally durable design’. Chapman has shaped ideas on
the psychology and motivations around consumption and developed a 6-point experiential framework that includes the following points for product designers to engage with: narrative, detachment, surface, attachment, enhancement and consciousness (2008, pp. 148-149).

In reference to Chapman’s 6-point framework (2008), meaningfulness and attachment can also be created through a narrative connecting the wearer with the maker. Examples from fashion include Alabama Chanin’s pieces, which are created with local artisans, using traditional craft techniques, thus creating a narrative that connects the wearer with the maker (Gwilt, 2011). It can be argued that by offering practical creative workshops, fashion collectives such as shop-studio Here Today Here Tomorrow in London or Manchester-based co-operative Stitched Up, can help reconnect customers with how clothing is made. Rachel Clowes’ MA collection, on the other hand, instills a sense of enchantment through its dissolvable decorative bio-sequins in order to transform the sequined occasion dress into an everyday garment in new colours (Clowes, 2013).

According to Niinimäki and Hassi (2011), enduring product-object relationships can be created in a unique design or co-creation process, which requires new mindsets as well as new business models and manufacturing systems. One approach to co-creation, intended to create personal meaning and attachment, is through halfway products which allows for customisation (Papanek, 1995, Fuad-Luke, 2009). Applying this theory to fashion, half-way garments and their potential to foster attachment was explored by Hirscher and Niinimäki (2012). The authors state that while a longitudinal study would be necessary to provide data of product attachment over time, it was found that involvement in the design and creation of the garments has led to participants considering the redesign of their old garments rather than purchasing new ones and overall an increased appreciation of the garment they co-created was also documented.

*Multi-functionality and modularity*

The concept of modular updatable parts as a strategy for longevity is widely
suggested in the field of product design (e.g. van Hinte, 1997, Mugge et al., 2005), where modularity is typically a means to address technological obsolescence. For garments, however, removable parts allow for aesthetic updates, but also enable easy repair, cleaning and replacement when a section of the garment is worn-out or damaged. By providing styles that can be updated through exchangeable collars, for instance, this strategy can potentially reduce resource use by providing the user with flexibility and transparency of control. This, in turn, can strengthen the bond between brand and customer (van Hinte, 1997). ‘Waste is symptomatic of failed relationships’, according to Chapman (Chapman, 2015, p. 24); this can occur when the user’s desires change and evolve over time while the object remains ‘hopelessly frozen in time’ (ibid), static and unchanged. Modularity can address this need for change but can conversely contribute to increased consumption when additional features seduce the user to purchase more; these garments must therefore be designed with careful consideration of the users and their habits (Fletcher and Grose, 2011).

Garments with detachable parts have existed long before the emergence of the concept of environmental sustainability. In the 17th century, for instance, mid-seventeenth century corseted bodices came with sleeves that could be easily removed by untying bows; and in the 18th century, it was fashionable for men’s coat cuffs to match their waistcoats, the cuffs were therefore designed to be detachable (Gwilt, 2014a). Furthermore, men’s shirts and women’s blouses were typically sold with detachable cuffs and collars to reduce washing before domestic washing machines became widespread in the 1950s (ibid).

While today one can find detachable hoods, trouser legs and jacket linings mostly in functional outerwear, fashion designers have used the concept of modularity to create garments from small interlocking felt pieces, allowing for full reconfiguration into almost any other shape, even morphing into other products (e.g. Berber Soepber, Eunsuk Hur and Galya Rosenfeld). According to Fletcher and Grose (2011), modularity can be developed further by offering different levels of adaptability within various product categories that reflect the
individual’s needs for the respective product, based on user research. Literature documenting the effect of modular products on consumption levels, however, was not found to date.

*Alterability*

Garments are different to other product types as they have soft surfaces and are worn on the body. This means that when the body shape changes, the clothing may no longer fit. Indeed, the reason a third of the clothing in a wardrobe remains there for at least a year is because it does not fit (WRAP, 2012). While in theory all garments can be adapted to fit again, it is often cheaper to simply replace the garment with a new one (Rissanen, 2011). As Farrer states, fashion overconsumption is ‘a physical problem rather than a philosophical one’ (2011, p. 21). This is highlighted by Laitala and Klepp (2011) who state that the clothing prices in 2011 were the same as in 1984, while relative income levels have risen, thus resulting in higher purchase power, clothing consumption and waste levels.

Before the rise of fast-fashion, most notably in war-time and post-war Britain when resources and money were scarce, clothing rationing was imposed by the government; in 1943, the ‘Make Do and Mend’ campaign was launched with the aim to make existing clothing stock last longer, through careful clothing maintenance, mending and the repurposing of textiles (Clouting, 2016). The creativity that developed from these material constraints is documented in a pamphlet issued by the Ministry of Information, which states there are ‘almost endless possibilities’ when remodelling clothes (1943, p. 20). The leaflet contains ideas on how to renovate a blouse with worn underarms, worn elbows, a too-short blouse, a too-tight blouse, or salvaging a blouse front to tie under the arms and around the waist. It also contains instructions on remodelling children’s clothing, turning adult clothing into children’s clothing, turning men’s clothing into women’s altering coats, corsets, dresses, gloves, shirts, skirts, suits, ties and even underwear.

Contemporary garment construction makes alteration more difficult than in
bygone years, when seam allowances were not all over-locked together and a standardised 1 cm wide. Rissanen (2011) therefore calls for the reintroduction of appropriately sized seam allowances in contemporary garments, modeled on the inbuilt alterability of 1950s haute couture garments. He cites Williams (1945), who advises on making or selecting clothing with generous ‘turnings’, that not only prevent seam slippage but also allow for ‘letting out’ to enlarge a garment. The variety of seam finishings, ‘turning’ widths and altered clothing was found during the author’s research into the London College of Fashion dress archive for commissioned work for Fletcher’s Local Wisdom project (2016). This research informed a conceptual design project by the researcher entitled *Cut, Pleat, Shorten, Fit* which features garments with colour-coded seam finishings and guidelines to signal where the wearer can unpick and remake (see Figure 2.7, p. 63). The project also features a collaged ‘zine’ booklet, *Seam Decoder*, providing an overview of different seams types to encourage alteration. Prolific sustainable design author John Thackara wrote in relation to the booklet’s criticism of standardised contemporary garment construction, that ‘even where there’s a will to care for clothes, the global system puts practical obstacles in its way’ (Thackara, 2014).

‘Fashion hacktivist’ Otto von Busch (2009) provides open-source online ‘cookbooks’ and ‘recyclopedias’ as a contemporary equivalent of the once widely available renovation patterns of the make-do-and-mend era (Ministry of Information, 1943). These contain instructions on refashioning unwanted garments; the author considers ‘hacktivism’ as a new mode of engaged and participatory fashion production. Holroyd (2013) has been investigating the partial re-knitting of existing garments, which she also describes as a form of fashion activism. More simply, however, garments could be adjusted without cutting or sewing, by providing inbuilt means of adjusting side seams or hems through strategic fastenings (Cooper et al., 2013).

*Trans-seasonality*

Fast fashion retailers, such as Zara, H&M and Primark, offer up to 50 trend-driven seasons annually (Siegle, 2011) and are able to retail garments just two
weeks after being sketched (Fletcher and Grose, 2011). This is enabled by technological advances, such as the internet and just-in-time manufacturing (McQuillan, 2011). However, in the process of speeding up, the term ‘season’ has lost its original connection to the change of climates throughout the year. While garments are typically marked down after 12 weeks as they are perceived to look out of date, in reality, the weather still determines what people will purchase (Parry, 2014). Nonetheless, the system of short lead times and high stock turnaround means the notion of ‘once it’s gone, it’s gone’ is perpetuated, encouraging impulse buys (Siegle, 2011). Just as the invention of the clock in the 18th and 19th century ‘changed the meaning of time’, making it subject to appropriation and calculation: ‘time has become an economic asset and speed a factor for profit’ (Barbara Adam, 2004, pp. 113-114, cited by Rocamora, 2013).

While there has potentially always been a drive for the new, the highly profitable business model of fast fashion relies on high volumes of clothing being sold at lower prices than ever before. To ensure product turnaround, the fashion industry has produced artificial ‘seasons’ (Fletcher and Grose, 2011). Conversely, there are contemporary designers who are reconnecting with the more natural rhythms of change through the design of trans-seasonal pieces, i.e. items of clothing that are available to purchase throughout the year and do not relate to artificially conceived fashion seasons, such as ‘Spring/Summer 2018’.

Even long before mass-produced fashion, designers such as Mario Fortuny in the early 1900s, rebelled against the traditional fashion calendar and dictating style conventions (de la Haye, 2000). Interdisciplinary fashion designer, architect and inventor Fortuny (1871-1949) did not agree with the predominantly corseted styles of the time and created soft flowing pieces which are still highly desirable today (ibid). The Canadian haute couture label Rad Hourani (2014), launched in 2007, also creates ‘anti-conformist’ design. These are unisex and the numbered collections are intended to be trans-seasonal, ‘freeing them from trends and seasons to ensure that they are timeless’. Aesthetically, the collections have been described as ‘distinctive'
(Foreman, 2015), 'sophisticated yet radical' (Lopez, n.d.) and even 'strikingly sci-fi' (Cochrane, 2014) by fashion journalists.

A study by Cooper et al. (2013, p. 49) states that classic colours and styles ‘will result in consumers wearing such garments for longer’. Items, such as ‘the little black dress, tailored shirts, pencil skirt, chino-style trousers, v-neck jumpers’ are described as classic styles and less likely to go out of fashion, particularly if colours, such as red, white, navy, grey and black (as opposed to ‘fashion colours’, are used) (ibid, p. 15). Classic design is equated to ‘simple styling’ as opposed to ‘fad design’ (ibid, p. 22). Garments displaying these characteristics are described in this thesis as archetypal classic styles.

However, as designers Hourani and Fortuny prove, trans-seasonal does not necessarily equate to simplicity; the notion of designing a classic, obsolescence-defying piece is indeed contested. While Niinimäki and Hassi (2011) claim that ‘timeless design’, paired with good fit and high quality, can provide longer utilisation, Rissanen (2011) instead asks if the more unusual and original pieces stand the test of time. De la Haye agrees: ‘with designs that are never ‘in’ fashion, they never fall outside it either’ (2000, p. 65). Mugge et al. (2005, p. 40), on the other hand, suggest that ‘although it is unlikely that designers can purposively create a truly timeless design, because all products are susceptible to fashion cycles and can thus be traced back to the time they were made, the strategy ‘classic design’ may lengthen the time until the point when a product becomes old-fashioned’.

Within literature, a consensus on what constitutes classic design was not found and evidence suggesting that ‘classic’ design characteristics indeed lead to extended use is debatable; however, a deeper exploration of this theme is a question beyond the limits of this doctoral research.

*Repair*

Up until the mid-twentieth century, textiles were considered a valuable commodity in industrialised cultures (Gwilt, 2014a), then a shift in perception
occurred: clothing once considered a durable consumer good with intrinsic value became non-durable consumer goods with novelty and brand value (Fine and Leopold, 1993, cited by Skov, 2011). Until then, life-extending practices, such as alteration and repair, were part and parcel of owning clothing (Rissanen, 2011).

This was particularly evident in the UK between 1941 and 1949, when clothing was rationed with coupons during wartime and post-war resource shortages. The book ‘Fashion on the Ration’ (Summers, 2015), published to accompany a major exhibition at the Imperial War Museum in London, describes the changed attitudes toward mending. Within this time period, mending was seen as an act of patriotism rather than poverty, while extravagance was frowned upon. Mending was ‘raised to the status of respectable art’ and with a shortage of stock to sell in shops, repair services were offered in department stores and experienced high demand (ibid, p.133).

The aforementioned ‘Make Do and Mend’ campaign was aimed at middle and lower class women and girls, and it was later argued that the motive behind the campaign was to ensure women maintained perceived feminine, home-making skills for the post-war future (Summers, 2015). This demonstrates the gendered nature of repair and home dress-making, which is still evident today (Middleton, 2015).

Although mending is still an easy option physically (unlike electronic items, for instance), there are many obstacles to mending clothing. These are described by mending activist and artist Jonnet Middleton as follows (2015, p. 266-267):

- **Consumerism has made mending obsolete** – psychologically mending is seen as unnecessary ‘and even absurd’ as low-cost clothing is conveniently available. Furthermore, mending skills have been lost.

- **There is nothing to mend** – we no longer wear our clothing long enough to wear them out; furthermore, mending could be postponed through
careful care and maintenance of clothing.

- *Fast Fashion is not worth mending* – poor materials and garment construction, designed as short-lived fashion is often neither emotionally nor practically worth mending – ‘Why prolong the misery…?’

- *There’s no need to mend* – without the material or economic necessity to mend and an overabundance of clothing, mending can become ecologically or politically motivated. ‘Can we mend, not out of need, but out of desire?’

Despite the lack of economic, emotional and material incentive to repair garments in the age of low-cost fast fashion, Gwilt (2014b) argues that clothing repair can bring social, cultural and personal benefits. Initial findings from the study by Gwilt (2014b), which consisted of a survey and hand-on workshops, show that it is still socially unacceptable to wear visibly mended clothing; historically, it was a signifier of poverty. Interestingly, Gwilt's (2014b) survey results showed that invisible repair was preferred, though most participants opted for visible repair during the workshops, which the author presumed was due to the lack (or perceived) lack of skill, a key barrier to repair.

To learn about mending, people sought advice from family members and the Internet as opposed to books or short courses. The survey data showed that repair work was considered a time-consuming ‘chore’, which contrasted to the workshop data where participants expressed their enjoyment of the activities. In order to foster cultures of repair, Gwilt (2014b, p. 7) expresses the need ‘to start thinking of fashion existing within a community rather than an industry’, where designers’ decisions are informed by insights gained directly from users.

Currently mending is still a very niche activity but the nearly-forgotten skills are experiencing a revival, according to journalist Lewis-Hammond (2014), though
they are now expressed in contemporary aesthetics with techniques and inspiration shared through social media, videos and blogs. Brighton-based Tom van Deijnen, for instance, runs the Visible Mending Programme with the intention to strengthen the relationship between garment and wearer (van Deijnen, 2016); or as Middleton states, visible mending can be an act of activism as ‘to reveal is to make political’ (2016, p. 268). Van Deijnen also volunteers at Brighton Repair Café. According to the Amsterdam-based Repair Café Foundation, the number of Repair Cafés has doubled in 2014 with more than 700 now in existence worldwide (Repaircafe, 2016), providing evidence that despite the lack of economic incentive, people are nonetheless engaging in repair.

Interestingly, the aesthetics of repair were once again considered an artform when in April 2014, Somerset House in London held an exhibition displaying Japanese Boro textiles, which translates as ‘rags’ in English (Muncey, 2014). By piecing together discarded pieces of blue, black, grey and brown cotton, the impoverished pre-industrial rural Japanese communities created clothing and bed covers. These textiles are highly collectible in Europe but are still looked upon unfavourably in Japan today (ibid).

In an exploration of design-led approaches to promote the aesthetic of beauty that increases over time, van Hinte (1997) discusses the potential of product stories. There are three types of stories: those created by companies, those created among groups of users and individual stories and mementos. Stories created among users are suggested as the most powerful and could be supported through fan clubs (ibid). Nudie Jeans creates what can be described as a fan club atmosphere by offering a platform on their website, where customers upload images and stories of their worn jeans: each pair shows unique markings evidencing events, habits and lifestyles. The brand provides guidance on how to care for their garments, provides repair kits and also offers in-store repair services. Outdoor brand Patagonia also offer repair services and online tutorials to extend garment life.

While repair services may help extend the life of a garment, Middleton (2015) emphasises the importance of mending of one’s own clothes as this creates a more
visceral link between what ‘the wearer does’ and what ‘the cloth endures’ (p. 270). The author calls for fashion educators, students and those within industry to contribute to the transition toward a culture of lowered consumption levels and more mending.

**Critique of product-based approaches**

Fletcher (2012) critiques the efficacy of durability on both material and product-level, including the notion of emotionally durable design. The author cites evidence that suggests that attachment does not necessarily lead to reduced consumption (Evans and Cooper, 2010), that there are the limitations of designing for attachment (Chapman, 2010) and that products defying obsolescent do so rarely as the result of its design (Park, 2010). The point of departure for Fletcher’s ethnographic work (2012) is people and their behaviours rather than the objects themselves. She states: ‘Durability becomes embedded in the techniques and processes of use’ (Fletcher, 2012, p. 230). The focus shifts from makers of fashion to the wearers and their often-invisible clothing practices, which demonstrate resourcefulness.

Furthermore, Jack (2013) investigated ways to elicit reduced levels of laundering and concluded that the strategies with the furthest reaching social impact are those communicating new knowledge through swing tags or point of purchase education, rather than modifying garment characteristics. However, this does not mean that designers do not have a part to play in promoting extended garment lifetimes, though a reconsideration of their role may be required. It means that while other factors have emerged as influential and it is imperative that they are taken into consideration, the design of an object remains inseparable from the form of consequent use that results.

**A business opportunity**

Despite the dominance of fast fashion, there are alternative models which, according to a follow-up study coordinated by WRAP (2013), can be economically viable. The document entitled ‘*Evaluating the financial viability*
and resource implications for new business models in the clothing sector’ (Buttle et al., 2013) compares five approaches with the following models proposed as the most viable options: large-scale services for one-off hire (such as formal wear) and the buy back and re-sale model for pre-owned own-brand garments within retail stores. Other models (e.g. creating an online peer-to-peer clothing exchange, or for a national retailer to offer repair and upgrading services and workshops) were evaluated as not being able to generate sufficient profits (ibid). However, this study focused on large-scale retailers rather than smaller businesses.

Summary

There is a wide range of literature on design approaches for potentially creating longer-lasting products. The majority of these are product-based and rely on addressing the designable characteristics of a garment. How effective these strategies are in reducing consumption in practice, however, remains largely undocumented. On the other hand, durability can also be viewed as emerging from behaviours and practices of the users rather than from the products themselves (Fletcher, 2012, Gwilt, 2014b) – this viewpoint provides new avenues for exploring longevity in fashion.

However, the practicalities and complexities inherent to clothing use are not adequately reflected by viewing the approaches separately. For instance: the emotional attachment to a garment does not necessarily mean it is used frequently or for an extended time, due to material factors, such as fit, fabric quality or functionality. Social factors furthermore determine if the owner has the skills or desire to repair, alter, refashion or recycle the garment. A comprehensive investigation into the interconnected factors influencing garment lifetimes and how these can be addressed through fashion design was not found.

In summary, a gap in literature was found on the effectiveness of the durability strategies and the second gap was found in examining product-based approaches together with behaviour-based strategies for longevity.
Traditionally, designers are creators of products; the next section of the literature review examines the alternative roles of the designer in the context of sustainability.
Figure 2.7 Cut, Pleat, Shorten, Fit

*Designs developed in response to research of historical garments as part of the Local Wisdom project (Fletcher, 2016, pp. 118-199).*

*Photographer: Agnes Lloyd-Platt.*
2.5 The Role of the Designer

The previous section provided an overview of strategies for potentially extending the active life of garments. Typically, designers are not concerned with their products beyond the point of purchase. As garment longevity hinges on what happens in the use phase, it is necessary to reconsider traditional design practices, making way for new scenarios, such as user-informed design and participatory design practices.

*Human-centred design (empathic design and co-design)*

The concept of user-centred or human-centred design (HCD) is more established in other disciplines (e.g. medical, engineering and IT software contexts) than in fashion. Considering a garment’s lifetime relies on the behaviour of the user, it is only logical to place the user at the starting point of the fashion design process. Conventionally, however, the design process begins with research on fashion and lifestyle trends and by profiling the target consumer (Bye, 2010). Hethorn (2008), on the other hand, proposes to make the user central to the design process. She asks: ‘Instead of targeting the consumer, how about listening to them?’ (ibid, p. 57). The theory is, that if the garment provides increased satisfaction, they are more likely to be used intensively, thus reducing the need to consume.

The shift of focus from objects to people means that research in the form of observations, interviews, and online data analysis take place, and a system of direct user feedback is set up (Hethorn, 2008). Gwilt (2013) also proposes direct customer feedback for fashion micro-enterprises who typically rely on feedback from the sales team or retailer. Gwilt (2013) similarly considers conducting user studies during the garment design and testing phase as an opportunity for innovation. To begin with, designers can reflect on their own personal experience as a wearer to bring insights on use processes into the creative process; this is an approach in direct opposition to conventional processes, where the designer works to a brief and ‘typically keeps personal thoughts and emotions at a distance from the design process’ (Gwilt, 2013, p.
There are, however, tensions between the principles and the practice of HCD: when focusing on certain topics in an interview or workshop, one might overlook aspects of user experience which are important to them; people try to move toward the other and openness but in reality move toward the self and closure (Steen, 2011). Steen (2011, p. 79), therefore calls for ‘reflection (on the HCD process) and reflexivity (concerning one’s own role in this process)’ to mitigate these factors. In order to facilitate the HCD process, design consultancy IDEO have published a toolkit and within it, they named participatory co-design and empathic design as the two most common methods. Co-design involves people from the community to engage in the design process, which empathic design does not, though both approaches are grounded in deep understanding of local knowledge (IDEO, n.d.). The design approaches described by Gwilt (2013) and Hethorn (2008) can therefore be described as empathic design.

Co-design has received increasing attention in the context of fashion design in recent years and can be defined as any act of collective creativity shared by two or more people (Sanders and Stappers, 2008). Ballie (2012), for instance, has explored the potential of applying co-design methods for textile design though practice-led research. Her work positions the role of the designer as a ‘social change agent’ who is a negotiator providing tools and expertise in order to assist opportunities for learning. She has consequently developed a toolkit ‘in beta mode’ (p. 232), tools being a key requirement to allow anyone to participate in co-design (Ballie, 2012). An inclusive and open approach such as co-design means that the relationship between designer and consumer becomes more collaborative and symbiotic than in conventional contexts where they remain invisible to each other.

Fashion activism & hacktivism

Fuad-Luke describes a design activist as ‘a person who uses the power of design for the greater good for humankind and nature’ (2009, p. xxi). Design
activism can therefore be viewed as a philosophy for practice, or a role in itself when designers collaborate with NGOs (Fletcher and Grose, 2011).

Von Busch (2010) adopts the multiple roles of designer, facilitator, researcher and activist in his work as self-proclaimed ‘hacktivist (hacker and activist) by enabling users to become ‘fashion-able’ with skills to ‘hack’ and remake unwanted garments. The user can adopt a variety of roles in these contexts. Hirscher (2013) similarly considers design activism expressed in her practice and research through collaborative making, enabling the user to become an active participant and co-creator. Holroyd (2013) describes her own independent designer-maker knitting practice as a type of design activism: facilitated by the micro scale of her business, she is able to define her own practice, remain dynamic with the aim of disrupting the current paradigm of production and over-consumption through a consciously political approach. Vuletich (2013), on the other hand, proposes bringing the designer closer to CSR activities within an organisation and also closer to communities in which the business operates, providing opportunities for social innovation and systemic change. These examples demonstrate the shift from the designer exclusively engaging within the private sector to also populating the public and non-profit sectors as well as participating in research as described by Fletcher and Grose (2011).

Design for behaviour change

A further approach with potential to influence garment lifetimes, is design for behaviour change as found in product design literature. While design for behaviour change employs similar methods as user-centred design, its aim is not to create designs in accordance with the user’s needs but instead find ways to influence their behaviour. This can include, but is not limited to pro-environmental behaviour (Lockton et al., 2010). Lilley (2009) describes a range of interventions from ‘passive’ (‘informative’) to ‘assertive’ (‘persuasive’) and ‘aggressive’ (‘coercive’). The interdisciplinary Design with Intent tool suggests techniques for inspiring design solutions to achieve particular target behaviour (Lockton et al. 2010). The Interaction Lens, for instance, could
support the design of feedback mechanisms as proposed by Gwilt (2013) and Hethorn (2008); and the *Ludic Lens* may inspire thus far untapped potential for game-based approaches and help raise awareness around sustainability issues in fashion.

*Other roles*

Atkinson (2011) argues that the role of the designer is becoming increasingly varied. While the role of designer as activist and facilitator has been described in some detail above, Fletcher and Grose (2011) discuss also the role of the designer as communicator-educator and entrepreneur in the context of sustainable fashion. The authors describe the designer as communicator-educator as taking abstract information and makes it real by providing tools, examples, skills and language for understanding the ecosystem and interrogating the fashion system. This can take place in the shape of new business models, hands-on workshops, internet competitions, fashion artifacts or services that challenge current ways of thinking and offer visions for new ones (ibid). The role of designer as entrepreneur in the sustainable fashion context can, according to the authors, create prototypes for new types of products and models of commercial practices, built on a set of values that allow them to prosper within the ecological limits. Natalie Chanin, for instance, works with local artisans which inherently limits the material throughput due to the speed it takes to hand-craft the pieces; a business model not fixed on growth but with a commitment to the local community and traditional skills (Fletcher and Grose, 2011).

*Summary*

Designing for sustainability in fashion presents a broader understanding of the role of the designer. The involvement of the user varies with the context and approach adopted within a co-design process, while empathic design and design for behaviour change rely on the expertise of the designer to interpret data on user behaviour. While it has been theorised that user involvement can
create attachment to the product, longitudinal studies to support this have yet to be carried out. There are indicators that through these participatory practices, garment knowledge and know-how as well as skills to enact garment extension practices are strengthened (Hirscher, 2013, Holroyd, 2013). Having established that the designer operates on levels beyond traditional product creation, it is now necessary to examine alternative contexts within which these practices exist.

2.6 Post-growth Fashion and Wellbeing

The previous section discussed the diversifying role of designers’ and users’ roles and showed that alternative approaches so fashion design can challenge the conventional design process and the aims of fashion. Following this line of thought, this section examines alternative models for fashion with a focus on slow fashion and the relationship between fashion and individual wellbeing.

*Speed*

Modern culture is built on the assumption that more and faster is also better. Technological advances in fashion, such as just-in-time manufacturing, have led to the increased speed and volume of clothing produced and brings with it environmental degradation and oppression of workers (Pookulangara and Shephard, 2013). Modern industrialised cultures are built on the assumption that more and faster is also always better, a belief which underpins the growth-based economy (ibid). In 1972, The Club of Rome published ‘The Limits to Growth’, a research project that concludes that infinite growth on a finite planet cannot be supported (Meadows et al., 1972).

Modern day industry, including the fashion industry, continues to build on the principles of limitless growth and constant acceleration; according to Thackara (2005, p. 31), however, acceleration is a trend, not a law, and ‘a cultural paradigm whose time is up’. Grose (2013, p. 56) concurs and states that and it
is vital to seek alternative, more resourceful models of production and consumption - the designer’s role is hereby key: ‘creative responses by all designers to the challenges of sustainability help bring visual form to a completely different way of seeing clothes, the world of fashion and fashion practice itself.’

**Slowness**

In 1986, Petrini (2007) developed the Slow Food Movement in Italy as a reaction to the exploitative practices and homogenised flavours of the fast food industry. The ‘new gastronomy’ is marked by quality, which Petrini defines as ‘good, clean and fair’ (2007, p. 2) and furthermore, stands for the protection of factors that underlie biological, cultural, geographical, religious and productive diversity. Philosophies of slowness have since been adopted in many other fields, such as design. Fuad-Luke (2006), for instance, discusses slow design as a paradigm based on long-termism and designing within planetary boundaries.

Orr (2002) compares ‘fast knowledge’, which undermines long-term sustainability, with ‘slow knowledge’, which represents knowledge that is reliably and consistently effective and acquired through slow cultural maturation. The Hellenic concept of kairos was interpreted earlier as the duration and chronos as the ephemeral (von Busch, 2009), though Thackara (2005) offers a different view: chronos means linear, chronological and quantitative time, while kairos is qualitative time, time of opportunity and chance; the clash between the two can be experienced as disturbing. Chronos can in this sense be compared to the concept of fashion seasons, while kairos represents nature’s seasons or our own personal rhythms and sense of time. This leads to speculate that if chronos (fashion seasons) and kairos (our own sense of time) were in synch, this would lead to a more balanced experience of fashion – such is the aim of the slow fashion philosophy.

**Slow fashion**
In fashion, slow design and use practices have always existed, though with the overbearing dominance of fast fashion, their voices are easily overheard. According to Fletcher (2008), slow fashion does not literally mean the opposite of fast; instead, balance is the cornerstone of the philosophy and therefore incorporates both faster and slower rhythms of production and consumption. In contrast to the model of resource-intensive, wasteful and exploitative fast fashion, a slow approach (similar to the slow food principles) places importance on the quality of environment, society, working conditions, business and product. Fletcher (2008, p. 173) explains:

'It is about combining ideas about a sense of nature’s time (of regenerating cycles and evolution), culture’s time (of the value of traditions and wisdom), as well as the more common timeframes of fashion and commerce.'

The existing hierarchies of designer, producer, and consumer are hereby challenged (Clark, 2008), thus creating new roles for the designer and the user as discussed in the previous section. Furthermore, this paradigm questions the notion of fashion being concerned exclusively with ‘the new’ and fashion’s emphasis on the image (looking) as opposed to the making of actual clothes (ibid). There appears to be a gap in literature that investigates slow fashion design in practice, and studies on user aspects are also sparse. Only recently have exploratory studies begun to provide insights on user perceptions on slow fashion (e.g. Pookulangara and Shephard, 2013, Watson and Yan, 2013, Jung and Jin, 2014, Hyunsook et al., 2013).

Scale

Currently, slow fashion can be found in the niches of the industry and community. Clark (2008) sees the challenge of slow fashion in increasing its scale, while Fletcher and Grose (2011) consider small-scale production as inherent to the culture, offering benefits only possible at this scale, like the forging of relationships between fashion creators and consumers. Holroyd (2015a, p. 253), for instance, feels that her investigations into openness (relating to garments, practice and the wider fashion system) are most feasible
at micro scale as 'individuals are more able to reorient practices and explore radical alternatives than larger organisations with various vested interests'.

Schumacher’s seminal work *Small is Beautiful* (1974) discusses the need for smaller-scale businesses and organisations for the sake of balance in a world dominated by the large-scale. This is certainly the case in the UK fashion industry where economies of scale are most represented (Fletcher 2008, Farrer 2011). Williams (2015) concurs and states that in many, mainly larger fashion businesses, time spent developing relationships between designer, producer and user are viewed as an unnecessary cost, thus stripping back interaction is a gain. In smaller businesses, however, it is possible for problem solving to take place through dialogue and contact; contact can develop empathy and understanding, which in turn can create change (ibid). While global corporations may dominate market shares, small-scale businesses are populous, with more than 99% of all European businesses being micro-enterprises or SMEs (European Commission, 2003).

The slow philosophy can thus provide a philosophical framework for designers practicing on the fringes of conventional fashion design practice, including design for extended product life. Although literature discussing slow fashion specifically was sporadic, it is possible to build on texts from other disciplines. According to Fuad-Luke (2006, p. 14), slow design offers a ‘new way of life’ in which designers can re-examine the needs of people and the environment and that ‘wellbeing offers a useful starting point’. This leads to the next section, where fashion as a means to contribute to individual wellbeing is considered, with a focus on how garment life-extension practices may provide value beyond the economic.

*Wellbeing*

According to the New Economics Foundation (NEF), a London think tank, wellbeing is measured by people’s ‘experiences, feelings and perceptions of how their lives are going’ (Michaelson et al., 2009). This can be broken down into personal wellbeing, i.e. ‘people’s experiences of their positive and
negative emotions, satisfaction, vitality, resilience and self-esteem and sense of positive functioning in the world; and social wellbeing i.e. people’s experiences of supportive relationships and sense of trust and belonging with others’ (2009, p. 4). Currently, however, not much is known about the effect of life-extension practices on the wellbeing of either the users or the designers of fashion. According to Jackson (2005), author of Prosperity Without Growth (2009), sustainable consumption can offer a double dividend of environmental and personal benefits. How this may play out in the context of fashion is now explored.

Needs

At this point, it is vital to consider the concept of human needs in relation to fashion. The notions of needs is closely related to the previously discussed concept of sustainability-as-flourishing, which focuses on self-expression through actions rather than possessions; here, a systemic approach is adopted and root causes of unsustainability are addressed (Ehrenfeld, 2008). A root cause for the overconsumption in fashion is in part its overemphasis on materialism as a means for happiness and success (Walker, 2006). Individuals can satisfy their needs in different ways with so-called ‘satisfiers’, according to Chilean economist and environmentalist Max-Neef (1991). When needs are adequately addressed, this can lead to an emotionally rich and healthy life; the satisfiers for those needs are culturally determined, though the fundamental human needs (such as subsistence, protection, and identity) themselves are not (ibid).

Clothing in its most elementary function acts as a satisfier for subsistence and protection, though it can additionally address the need for identity, creation and participation and satisfy personal and social needs (Fletcher and Grose, 2011). Psychologist Maslow developed a hierarchy of needs theory (1943), which economist Max-Neef (1991) criticises and states: ‘With the sole exception of the need of subsistence, that is, to remain alive, no hierarchies exist within the system. On the contrary, simultaneities, complementarities and trade-offs are characteristics of the process of needs satisfaction’.
However, in industrialised contemporary cultures, fashion is experienced mainly through consumption and material wealth; attractive images are portrayed as markers of success and status. Psychologist Dittmar (2008) draws on a growing body of evidence, which indicates that adults who value materialism and appearance suffer from lower levels of wellbeing. Easterbrook et al. (2014) concur and state that promoting ‘materialism and appearance ideas conflicts with strivings that aim to satisfy more fundamental psychological needs that must be fulfilled in order for humans to flourish’. The negative effects of fashion, however, are driven by the current model which relies on ever increasing consumption, created by disappointment and unfulfilled desire (Svendsen, 2006); and a growth-based fashion system relies on dissatisfaction to flourish.

Lived experiences

In order to better understand how fashion can more adequately address human needs, research on the lived experience of clothing is examined. Guy and Banim (2000) argue that while the process of self-representation through clothes is complex and underlies a range of social constraints, it is nonetheless experienced as a positive force in women’s lives. Ethnographic accounts by Tseëlon (1995), Clarke and Miller (2002) and Woodward (2007), on the other hand, suggest that females in Britain experience these constraints as pressure, mainly in the form of anxiety over potential embarrassment. This duality is reflected in Holroyd’s doctoral research (2013) who found that both positive effects and anxiety was expressed by her participants, depending on the context e.g. a participant would feel anxious about dressing for a wedding but was comfortable in wearing everyday clothing chosen habitually.

Habermas (1987) attributes the anxieties in an increasingly differentiated society to modernity in general where people are faced with the task of creating their own rules to live by with the decline of authoritative institutions. This, however, may be a price worth paying for democratic liberty and equality,
estimate Clarke and Miller (2002). Another explanation for this anxiety, may be the clashing of kairos and chronos, as discussed in the previous section, where personal time flows are disturbed by those determined by outside factors. As Thackara (2005, p. 33) states: ‘Excessive social speed degrades social quality.’

*Alternative fashion practices and wellbeing*

While it may not be possible to eliminate the tensions between choice and anxiety completely, engaged ways of experiencing fashion may provide a more satisfying alternative. The literature in this area, however, is sparse. Von Busch (2010) discusses co-creation processes in relation to empowerment, which may contribute to the wellbeing of an individual, although wellbeing is not explicitly discussed. Holroyd (2013), on the other hand, specifically examined the potential of amateur re-knitting for personal wellbeing. The author found that the process of making offers many benefits and wearing homemade clothing could contribute to a sense of empowerment. However, it was also found that the participants were sometimes dissatisfied with their creations and lacked confidence to wear them; this is attributed to the marginalisation of homemade clothes within contemporary fashion culture. The research therefore reflects the inherent ambivalence in expressing identities through clothing.

Nonetheless, according to Reiley and DeLong (2011), new types of fashion practices based more on transformative acts and less on consumptive ones are required; these, according to the authors, will arise out of the desire for uniqueness. These alternative modes have the potential to improving ‘people’s experience qualitatively without necessarily growing the industry in qualitative scale’ (Fletcher, 2011 p. 165), thus providing new avenues for post-growth fashion systems.

*Post-growth fashion*

Alternative value systems, such as the notion of ‘post-growth’ are closely
linked to ideas around individual wellbeing. Post-growth fashion presents a
value system that does not measure its success purely in economic terms, but
values which ‘consciously promote... social structures and activities that
actually improve individual and community wellbeing’ (Hamilton 2004, p. 209,
Fletcher (2016) calls for a new vision of economics, namely one with less or
different growth and one that ‘develops a more integrated picture of social and
material aspects to facilitate holistic health’ (2016, p. 33). Economic historian
Avner Offner is cited as suggesting that wellbeing is facilitated not through
maximising of consumption but through pared back, moderate affluence
(Fletcher, 2016).

Wellbeing of the designer

Having discussed the wellbeing in relation to wearers of fashion, the focus
now shifts to the designers of fashion. Grose describes the emotional ‘burden’
or lingering sense of ‘dis-ease’ that a designer can feel in today’s fashion
industry, which focuses on speed, efficiency and volume, pushing against their
‘creative and often ethical threshold’ (2013, p. 54). The joy and satisfaction
practitioners can experience from seeing a design from the conceptual stages,
through to the sketching and draping, pattern-making and sampling is stripped
away in commercial contexts when the designer becomes a mere facilitator
between taking in daily trend feeds and putting out specification packages,
where success is measured by the units sold (ibid). This sense of
discontentment can, however, according to Grose (2013), also motivate a
sense of agency for change.

Emerging roles for designers as communicators, educators, facilitators,
entrepreneurs and activists in the context of sustainable fashion were
discussed in section 2.4. By operating across different levels, a more diverse
set of satisfiers are provided, potentially addressing a wider set of the
designer’s needs. Practicing activism through design, for instance, can
potentially be interpreted as satisfying the need for identity for a designer to
authentically express their ideas. A gap in literature was found here, as no
research to date investigated the connections between designers, their needs, and their individual wellbeing. As non-consumptive, participatory fashion practices are suggested to bring benefits to the user’s wellbeing, it leads to the question: is this also the case for designers? Particularly as the discussed roles for designers are more collaborative and participatory than within traditional design, it would be beneficial to study the synergies created between designer and user, and if the relationship becomes beneficial to both parties.

*Summary*

In summary, fashion can be both a negative or positive force in people’s lives and a certain level of consumption is necessary to meet our need for protection. In the industrialised world, however, societies consume far beyond this basic need and use material goods as an expression of their identities. The notion of ‘retail therapy’ shows that these goods are consumed in pursuit of happiness. Linking materialism to happiness, however, evidently has the opposite effect (Dittmar, 2008, Easterbrook et al., 2014, Wright et al., 2014). The growth-based system of fashion production and consumption therefore does not adequately meet people's needs for identity, due to its overemphasis on materialism. Many of the alternative practices do not rely on material throughput but focus on developing practical skills and knowledge, a key factor for extending garment lifetimes and potentially increasing individual wellbeing.

While alternative post-growth fashion practices may provide benefits to individual wellbeing (for instance by addressing the need for participation and creation), tensions nonetheless exist between satisfaction and anxiety. Furthermore, while there was a lack of research documenting the impact of the designer's diversified role on their wellbeing, it was speculated if perhaps more collaborative and participatory design practices contribute to a more satisfying experience, particularly if this course of action is motivated by a sense of agency for change. In the next section design toolkits are critically examined as a vehicle for knowledge transfer in order to assess their potential for
communicating design approaches for longevity from theoretical into practical contexts.

2.7 Design Toolkits

The theoretical underpinnings for design for longevity in the context of sustainable fashion design have now been established. However, academic research can only influence design practice or user behaviour if this knowledge is effectively disseminated and presented in ways that are useful for practitioners. This section therefore critically reviews toolkit theory and texts on the implementation of design toolkits in practice.

The term ‘tools’ is used to describe design strategies, methodologies or techniques for product development, in this case this means ‘systematic means for dealing with environmental issues during the product development process’ (Baumann et al., 2002, p. 415). These tools come in a wide range of formats e.g. deck of cards, matrix, smart-phone application or website, and can be used within workshops (led by an expert facilitator) or independently as a point of reference. Toolkits have become a popular vehicle for knowledge transfer from academia to industry and education. Their objective is typically to communicate complex theoretical concepts in concise, visual and tangible formats. These, however, are largely subjective descriptors as to what level of detail is adequate, which visual representation is appealing and which format can be considered practical.

Useful to practitioners?

Regarding the growing body of academic work in the field of sustainable design, Farrer remarks: ‘who reads these scholarly tomes? Not many fashion designers…’ (2011, p. 22). As toolkits are often designed by academics, one must ask: are these toolkits indeed useful and effective? While the need to bridge academia and practice is widely recognised, how this bridge is built will ultimately determine if the knowledge can be applied in industry or if the toolkit
finds its place on a bookshelf among the ‘scholarly tomes’ (Farrer, 2011).

In a study classifying and reviewing eco-design tools Bovea and Pérez-Beliz (2012) found that despite the variety of these tools, their implementation is rare, due to the tools’ complexity, the time required to implement them and the lack of environmental knowledge of those using the tools. Knight and Jenkins (2009) reviewed and adapted a selection of tools to suit the needs of a particular organisation and attribute the lack of tool uptake to the tools being neither generic enough nor immediately applicable; they typically require process-specific customisation prior to use. This, however, lies in conflict with the inherent issue that there is no one-size-fits-all solution for the wide range of techniques and requirements within industry (Knight and Jenkins, 2009).

It is clear that there are tensions between the level of specific information the toolkits may contain and the level of knowledge required to use them. In order to understand the functions of the various toolkit formats, these will now be reviewed.

A plethora of toolkits

A literature study on the use of tools for ‘green’ product development by Baumann et al. (2002) identified over 150 tools with the majority of these tools intended for use within the product development phase. The authors categorise the design tools as follows (p. 216):

• **Frameworks** contain general ideas about what should guide the environmental considerations in the product development process. Differences lie in the discipline, basic assumptions underlying the framework and the conceptualisation of ‘green’. Frameworks are often accompanied by a ‘toolkit’ and guidelines or technical strategies e.g. product life extension, materials intensity/dematerialisation, etc.

• **Checklists & guidelines** tend to be of a qualitative nature and typically list issues to consider when developing a product, enabling the user to check
whether requirements are met or not.

- **Rating and ranking tools** are generally quantitative tools of relatively simple nature. A product’s impact can be assessed against a numerical scale (e.g. 0-7). This type of tool can be an alternative to more complex and time consuming life cycle assessments (LCA). Different metrics can be combined in a Sustainability Radar that includes the dimensions of eco-efficiency, social productivity and sufficiency.

- **Analytical tools** are rather comprehensive quantitative tools for measuring the performance of products e.g. LCA, which can create the basis of other, simpler tools. ‘Combination tools’ attempts to integrate other aspects, such as technical and economic with environmental aspects to deal with trade-off situations. While this tool aims to help with difficult trade-off decisions through mathematical rigour, one can also evaluate these qualitatively.

- **Software and expert systems** can handle large amounts of information and aim to be able easy to use as simple tools. However, used by untrained designers, they are easily misapplied. Some deal with environmental aspects only, while others aim at integration.

- **Organising tools** provide directions on organising a sequence of tasks of business functions and stakeholders in the environmental product development process. Issues can be identified by interviewing potential customers; the identified issues are then places within a matrix. Alternatively, eco-design workshops can raise awareness or assess attitudes toward tools.

It has been stated by several authors (e.g. Baumann, Boons et al. 2002, Knight and Jenkins 2009, Bovea and Pérez-Belis 2012) that while a wide variety of tools exist, they are not being implemented by industry. This is echoed by Kimbell (2013), who reflects on the ‘plethora of toolkits’ she is ‘guilty of having contributed to’. She recognises that the issues relating to toolkit implementation, such as their purpose, relevance, productivity, viability and learning modes, are interconnected and complex. In order to aid the
process of selecting the appropriate tool for a particular context, Bovea and Pérez-Belis (2012, p. 70) developed the following key criteria:

• Early integration of environmental aspects into the product design and development process;
• The life cycle approach, which takes into account how the product can affect the environment in its different stages;
• And a multi-criteria approach (to balance environmental requirements against traditional requirements in the design process).

**Toolkit use in industry**

One of the main findings of the literature study by Baumann et al. (2002) is that there are too many tools and not enough tool testing. Since the publication of this study, however, there has been some research investigating the implementation of design tools. According to Bovea and Pérez-Belis (2012, p. 70), these tools should be ‘easy to use and not require too much time to be applied’. This sentiment is supported by Lofthouse (2006) as well as Knight and Jenkins (2009) who developed and tested a five stage ‘applicability framework’ to help identify a suitable tool suite for application within the product development process. These five stages are: 1. Investigation, 2. Compatibility Analysis, 3. Compatibility Peer Review, 4. Adaptation and Refinement, and 5. Validation. The approach is summarised as follows (Knight and Jenkins, 2009, p. 555):

‘Applicability = Compatibility + Adaption + Validation’

A further consideration for implementing design tools is how they work in conjunction with each other. Robért et al. (2002) state that tools are at times presented as if they were contradictory or in competition with each other. The authors propose a systemic approach and examine the synergies created by using tools that complement each other. A systemic approach is also supported by Byggeth and Hochschorner (2006), who analysed 15 eco-design tools. These authors also discuss the need for a strategic approach when
implementing sustainability. The need for drawing out interconnections between existing approaches for sustainable design is also proposed by Waage et al. (2005), a collaborative research paper by environmental, social, and sustainability-oriented researchers and practitioners on integrating ecological factors into business decision-making. Based on their findings, Waage (2007) proposes a ‘road map’ to guide product designers and product development managers. A subsequent account on if and how this roadmap has been applied in industry contexts, however, was not found.

Research by Goméz Navarro et al. (2005) with SMEs in Spain, on the other hand, found that the implementation of eco-design tools did not yield the expected results. This is attributed to the tools being inadequate in form or function as well as a lack of knowledge within the design team on how to effectively implement the tools. Therefore, the tools must be selected to suit the problem as well as the level of knowledge within the design team at hand.

A study by Lofthouse (2006) consisted of testing eco-design tools in two companies over several years to understand the requirements of industrial designers. It was found that holistic tools that include guidance, education and information are required; they must also be presented appropriately and be easily accessible. This framework (see Figure 2.8, p. 82) is suggested to benefit designers in disciplines other than industrial design, although testing would be required.
Figure 2.8 A holistic framework for Industrial Design focused ecodesign tools
Adapted from Lofthouse (2006, p. 1393)
In summary, it can be said that certain qualities can contribute to the utility of a design tool in practice. These characteristics include: ease of use, adequate presentation and approaches that are not time consuming (Lofthouse 2006, Bovea and Pérez-Belis 2012). Due to the wide range of available tools, it has become necessary to compare, evaluate and customise them in order to apply them in specific contexts (Goméz Navarro et al., 2005, Waage, 2007, Bovea and Pérez-Belis, 2012). Furthermore, taking a systemic view, it is suggested that tools are used in conjunction with each other to utilise the synergies created between them (Robèrt et al., 2002). Synergies are also created between the tools and the users of these tools: the level of knowledge should match the expertise required to operate the tool proficiently (Gomez et al., 2005). Furthermore, these methods should be implemented in a strategic manner (Byggeth and Hochshorner, 2006).

Having examined literature on factors, which can influence the uptake, use and success of toolkits by practitioners, the following section will now discuss the limitations and boundaries of toolkits.

Limitations and boundaries of toolkits

While the ‘applicability framework’ described in the previous section may help integrate a basic eco-design procedure, Knight and Jenkins (2009, p. 556) identified the following barriers as preventing the full integration of sustainable design:

- Strategy tools would usually be over-ruled by customer specifications
- Some tools are more appropriate than others
- Some tools represent common sense
- Ease of use, complexity and resource impact (i.e. staff time) are common themes
- Other pressures come to bear during the product development process

The authors also stated the need to adapt tools; however, as discussed earlier, the time required to adapt complex tools can in fact be a barrier to use
(Bovea and Pérez-Belis, 2012) as ‘time is always a limited design resource’ (Knight and Jenkins, 2009, p. 556). This presents a recurring problem inherent to the implementation of design tools in industry.

Regarding the content of tools, Byggeth and Hochschorner (2006) propose the inclusion of a support system to address trade-off situations, a life-cycle perspective and a framework for sustainability. Goméz Navarro et al. (2005, p. 12) state that there is generally a lack of tools for innovation within sustainable design for the ‘more ambitious’ approaches. A systems perspective is advocated by Baumann et al. (2002) who state that ‘it is not sufficient to deal with environmental issues on the level of the single company’ (p. 422). Knight and Jenkins (2009) concur and recognise that ‘broad adoption by industry’ is required for long-term change. Though in order to ensure broad adoption by industry, a reflective approach and testing is necessary to ensure the contents and formats of the toolkits are created in careful consideration of real world needs, rather than a purely academically informed endeavour.

According to an article by Thackara (2010), it is the lack of effective distribution that has led to many toolkits remaining unused by practitioners. He furthermore proposes that researchers collaborate with application software developers or publishers to improve their visual representation. The need for an attractive veneer, particularly for designers as they work primarily in the aesthetic sphere, is echoed by Baumann et al. (2002), Eskandarypur et al. (2009), Goméz Navarro et al. (2005) as well as Lofthouse (2006), who established that information is best presented to designers with maximum use of graphics and minimal text.

The visual aspect of toolkits, which can make them more approachable than scholarly papers can become a barrier to use when, especially in the emergent field of sustainable design, the tool’s aesthetics or its content becomes outdated. To help prevent this problem, a tool can be designed to be flexible, allowing it to evolve and develop over time. The social design toolkit by Kimbell and Julier is ‘in perpetual beta’ (2012) to mitigate this issue, and Information/Inspiration by Lofthouse (2006) was deliberately developed as a
working prototype to encourage discussion and provide further insights into designers’ needs. The website, however, has not been updated for several years and reflects an influential factor that has not been discussed in literature but most likely plays a large role in reality: the lack of time and resources to maintain these updatable toolkits. Finally, the term ‘tool’ or ‘toolkit’ itself may prevent use. This was Lofthouse’s (2006) rationale for naming her tool ‘Information/Inspiration’ which aims to reduce designers’ prejudice towards the known ‘tool’.

**Summary**

In summary, regardless of the discipline, most authors state similar beneficial characteristics for a toolkit, namely that the tool is user-friendly, visually appealing, non-disruptive, pragmatic and neither cost nor time-intensive. Lofthouse (2006) furthermore proposes combining education (information) with stimuli (inspiration). Moreover, many of the characteristics (such as ‘visually appealing’) are subjective and would require testing with the intended user group as there is no literature discussing design tool implementation in fashion contexts to date. Nonetheless, irrespective of the characteristics of a toolkit there are a range of barriers, such as lack of time and resources that pose a challenge to implementing toolkits in practice.

**2.8 Summary**

Following the exploration of the seven key topics of enquiry in this review, it is now possible to summarise what is known to date.

It is evident that extending the active life of clothing not only brings environmental benefits (Allwood et al., 2006, DEFRA, 2007) but can offer the greatest savings when compared with good practices in other phases of the clothing lifecycle (WRAP, 2012). Literature specifically addressing product extension strategies in fashion, however, is scarce. Most research comes from product design (e.g. van Hinte, 1997, Chapman, 2005, Mugge et al., 2005, Cooper, 2010) with more recent enquiries extending to fashion (e.g. Niinimäki
These studies are mainly conceptual in their propositions of how businesses can promote the extended use of garments, but have not been tested in practice. A variety of approaches for extending lifespans are discussed in literature but they are not fully considered. Furthermore, there are no tools or guides to support fashion designers implement strategies for extended use specifically.

The toolkit concept has become a popular vehicle for knowledge transfer in many disciplines, though in fashion this is still a relatively new concept. Texts evaluating the usefulness of toolkits thus only exist in other design disciplines (e.g. Baumann et al., 2002, Waage et al., 2005, Byggeth and Hochschorner, 2006, Lofthouse, 2006, Knight and Jenkins, 2009, Bovea and Pérez-Belis, 2012). In summary, from this review of the literature to date it is evident that there is a gap in knowledge regarding the practicalities of product life extension strategies in fashion and how this academic knowledge can be used to support practicing fashion designers.

The gaps identified in the research have led to the formulation of one overarching research question (RQ) which is informed by two sub RQs A and B:

RQ: How can designers be supported in designing garments with extended lifetimes?

RQ A: How do designers in UK fashion micro-enterprises implement strategies for garment longevity?

RQ B: How do users influence garment lifetimes?

The subsequent chapter will explore the methodologies for addressing these research questions.
Chapter 3 – Research Methodology

This chapter provides an overview of the approaches applied to investigate the research questions set out in the previous chapter. After an introduction providing an overview of this section, the philosophical foundation, in which the research is situated, is described. This is followed by a discussion of the adopted research methods and a description of the three consecutive fieldwork phases. Finally, the suitability of the chosen methods is critically reflected upon and summarised.

3.1 Introduction

Having provided a detailed account of the research questions, this chapter will now discuss the methodologies through which they have been addressed as well as the philosophical foundations underpinning these. The fieldwork can be broken down into three phases. Phase 1 addresses RQ A (How do designers in UK fashion micro-enterprises implement strategies for garment longevity?), Phase 2 tackles RQ B (How do their customers influence garment lifetimes?) and the overarching RQ (How can designers be supported in creating longer-lasting garments?) is answered through findings from all three phases of fieldwork.

The fieldwork phases will be described first in isolation and then in relation to the body of research as a whole. The appropriateness and relevance of the research methods will be explained and justified with regard to the particular chosen approach. These discussions are followed by a reflective account of the chosen methods and a short summary. The structure of the chapter is illustrated in Figure 3.1 (p. 86). First, the paradigm of inquiry within which this research is situated must be established.
Figure 3.1 Map of Chapter 3 Research Methodology
3.2 Philosophical foundations

The philosophical foundations of research represent a particular view of reality. A research philosophy or paradigm is ‘a basic set of beliefs that guides action’ (Guba, 1990, p. 17) and is characterised by the way one responds to the three basic questions: the **ontological**, the **epistemological**, and the **methodological**. Guba (1990, p. 18) describes these as follows:

- **Ontological**: What is the nature of the 'knowable'? Or, what is the nature of 'reality'?
- **Epistemological**: What is the nature of the relationship between the knower (the inquirer) and the known (or the knowable)?
- **Methodological**: How should the inquirer go about finding out knowledge?

Thus, the choice of methodology is a consequence of the researcher’s ontology (the ‘knowable’) and their epistemology (the relationship between the researcher and the ‘knowable’) (Gray and Malins, 2004). Between the two most prominent ends of the epistemological spectrum, namely positivism and relativism (Lincoln et al., 2011), there exist a variety of approaches (Crotty, 1998). Positivism is widely adopted in the natural sciences and holds that ‘meaningful reality exists [...] apart from the operation of any consciousness’ (Crotty, 1998, p. 8). A relativist paradigm, on the other hand, is frequently found within the social sciences and takes the stance that ‘[r]eality’ can be constructed only by means of a conceptual system, and hence there can be no objective reality’ (Robson, 2002, p. 22). Other belief systems include post-positivism, critical realism, constructivism and pragmatism.

This research is situated largely in the pragmatist paradigm, though it also draws on elements of constructivism. Constructivists, also called interpretivists or naturalists, consider the task of the researcher ‘to understand multiple social constructions on meaning and knowledge’ (Robson, 2002, p. 27). This ontology is linked to an epistemology in which the researcher ‘attempts to lessen the distance between himself or herself and that being researched’ (Creswell, 2007, p. 16). This lends itself to the research questions at hand,
which demand an in-depth understanding of the participants’ life-world and to understand the experiences from their perspective. A reflective journal was kept during the fieldwork in order to document this constant interrogation of ‘what we bring to the scene, what we see, and how we see it’ (Charmaz, 2006, p. 15). The research took place in naturalistic (as opposed to experimental) settings, an enquiry mode deemed appropriate for qualitative, interpretative research (Snape and Spencer, 2003).

Pragmatism is an approach whereby truth is ‘what works’ (Robson, 2002, p. 43) and seeks solutions to problems (Patton, 1990). The focus of this research paradigm is less focused on methods and instead emphasises the research problem; all available approaches can be used to understand the problem (Rossman and Wilson, 1985). Creswell (2014, p. 6, see Table 1) contrasts the pragmatist worldview with the constructivist paradigm as follows:

<table>
<thead>
<tr>
<th>Pragmatism</th>
<th>Constructivism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consequence of actions</td>
<td>Understanding</td>
</tr>
<tr>
<td>Problem-centred</td>
<td>Multiple participant meanings</td>
</tr>
<tr>
<td>Pluralistic</td>
<td>Social and historical construction</td>
</tr>
<tr>
<td>Real-world practice oriented</td>
<td>Theory generation</td>
</tr>
</tbody>
</table>

**Table 1** Pragmatism and constructivism

*Adapted from Creswell (2014, p. 6)*

The approach of taking a largely pragmatist view with elements of other research paradigms, such as constructivism within a multi-method, flexible research design reflects the values of a pragmatic worldview. In reference to Table 1 above, an understanding of the participant’s life-world was sought (constructivist) in order to answer the RQs, which are mostly problem-centred and real-world practice orientated (pragmatist).

Having established the paradigm within which this research is situated, the appropriate research methodology must now be determined. The following section describes the methods employed to address the RQs.
3.3 Research design

Research in the field of design is relatively young, one can therefore look to methodologies from other disciplines and create a ‘bricolage’ of methods (Denzin and Lincoln, 1994). While the three distinct and interlinked phases of research employ more than one type of qualitative method, all phases reflect the pragmatist research paradigm discussed in the previous section and contribute to answering the RQs.

Three phases of fieldwork were conducted: first, to investigate how strategies for longevity play out in practice; building on this knowledge, the second phase explores how these strategies are perceived by customers of a participating case study organisation; and the final phase examines how this knowledge can be put into practice. This chapter provides an overview of the research traditions in the field of sustainable design and fashion as well as the approach chosen for this PhD research. The next section will begin with explaining the differences between research for, through and into design and how this research relates to these categories.

Research for, through or into design?

Frayling (1993) distinguishes ‘research for design’, ‘research through design’ and ‘research into design’ and there has been debate on the exact meaning of these categories (Frankel and Racine, 2010). ‘Research for design’ is also called ‘research to enable design’ (Downton, 2003); it can be described as data that informs the design process and that designers can apply to their design project (Frankel and Racine, 2010). Phase 2, therefore, by examining use practices, can inform fashion design practice and according to the description fits the ‘research for design’ category.

‘Research into design’ also known as ‘research about design’ (Findeli, 1995) in contrast examines processes and the profession of design, such as
understanding the unique forms of designers’ knowledge and awareness (Findeli, 1995, Cross, 2007). The enquiries in Phases 1 and 3 can therefore be ascribed to this category as the insights into design processes are sought.

The third category, 'research through design' or 'research by design' (Sevaldson, 2010) places emphasis on creating design knowledge 'derived from and valuable for practice' (Sevaldson, 2010, p. 9). While the exact meanings of this category remain ambiguous, Downton (2003, p. 77) calls it: 'a vehicle for acquiring and shaping knowing to assist future design activities'. In that sense, future research leading on from this project, namely the concepts developed from the philosophical foundations towards clothing longevity (see p. 248) can be called 'research through design', depending on the remit of the work. Having defined the research as both research for and into design, the following section will discuss previous research conducted in this field.

*Previous research*

When seeking methods to address the RQs, it is logical to refer to methods used in previous research in this field. Inquiries into fashion design practice (Phase 1) have typically been conducted through case study research (e.g. Lundstedt, 2009, Nixon and Blakley, 2012, Curwen et al., 2013, Raebild, 2013). These usually employ participant observation, interviews and visual documentation through photography or video recording.

Investigations into use practices (Phase 2) conducted in the field of anthropology and sociology have been mainly in the form of qualitative ‘wardrobe studies’, using interviews, observations and photographic evidence (e.g Abbott and Sapsford, 2001, Woodward, 2007). In the fashion business and marketing arena, however, quantitative surveys are the norm (Gam, 2011, Joung and Park-Poaps, 2011).

Enquiries into use practices are also becoming more commonplace in the field of sustainable design. Chapman (2008), for instance examined the emotional attachment of users to their domestic electronic products through a
quantitative survey, while in the field of fashion Fletcher (2012) conducted ethnographic research into resourceful garment use practices and Holryd (2013) applied action research methods to investigate amateur re-knitting. These studies provide a precedent on which Phase 2 of fieldwork can draw on.

Regarding the third phase of research, action research methods were typically used to test design toolkits (Hur et al., 2013, Dusch, 2013, Lockton, 2013). Lofthouse (2006), however, created her tool prototype and created an eco-design tool framework based on qualitative data gained from testing existing eco-design tools in industry contexts through case study research. Other studies exploring the efficacy of toolkits through case study include Goméz Navarro et al. (2005) and Knight and Jenkins (2009). For this research, however, a broader approach was adopted, as accounts from the implementation of a range of toolkits were required to address the RQ rather than the testing of a specific toolkit.

*Chosen approach*

With regards to the methods discussed above and the aims of this research, the aforementioned ‘bricolage’ approach is called for as each of the three phases of research require a methodological approach that is best suited for answering each of the RQs respectively. Qualitative methods were chosen for all three phases to gain rich and detailed data (Snape and Spencer, 2003). The methodology map in Figure 3.2 (p. 97) visualises the fieldwork phases and methods employed.

Overall, Phase 1 follows the footsteps of previous fashion practice research by employing a case study approach. This phase aims to create a foundation rather than provide conclusive data to address all RQs, it is viewed as sufficient to examine three organisations for case study research. For Phase 2 of fieldwork, data is gathered through semi-structured qualitative interviews supported with photographic evidence, drawing on ethnographic methodologies. Finally, the third phase of this research examines the status
quo of design toolkit development and application through qualitative interviews with toolkit developers in the field of design for sustainability.

At this point is it necessary to explain the coding applied to research participants. The case study participants are given the prefix ‘C’ (i.e. C1, C2, C3) and the user study participants ‘U’ (U1, U2, etc.). It was not necessary to anonymise toolkit developers, they are therefore named.

Flexible research design

In line with a pragmatic research paradigm, a flexible research methodology was adopted. This allows the researcher to adapt the research design (Oliver, 2010), ‘typically anticipating that the design will emerge and develop during data collection’ (Robson, 2002). Splitting the research into three phases facilitates the flexible approach, with interim findings from Phase 1 informing the research design of Phases 2 and 3. The time frame for pilot study for Phase 1, for instance, required extension due to the participant’s unpredictable work schedule. This informed the time allocated for the case study investigations and provided a realistic prediction of the number of studies it was possible to conduct in the given time frame. Furthermore, the findings from Phase 1 led to focusing an investigation on the customers of one particularly interested and supportive case study business rather than including all three businesses in Phase 2.

Characteristics of ‘good’ flexible research design include: rigorous data collection procedures, a study framed within the characteristics of a flexible (qualitative) approach to research, informed by existing traditions of enquiry though several traditions and clear writing to reflect the complexities of real life (Creswell, 1998).

Having established the general approach to research design, the next section will provide an overview to the fieldwork, followed by a more detailed account of the three phases.
3.4 Summary of fieldwork

All phases of the fieldwork are underpinned by the overarching RQ, and the two RQs A and B. This multi-method research employs two different means of qualitative data collection, interviews and observations, supported by photographic evidence. All three phases are equally weighted in importance within the research design and are therefore given similar time allocations. The overarching RQ is answered through the amalgamating of findings from the outcomes of the three phases and supported by insights from literature.

Phase 1 addresses RQ A through case study with 3 UK-based small fashion businesses. Over a 6-month period the research was formulated, designed, piloted and executed. With each participant, an initial meeting, an interview and three half-day observations took place. These were documented through audio recordings, field notes and photographs. Data collection took place over a 6-week time window with each participant, after which the data was analysed and interpreted. Finally, a cross-case analysis was composed and a report with preliminary findings drawn up.

Phase 2 explores RQ B through interviews and photographic evidence that draw on ethnographic methods. The first phase allowed for the selection of one participating business, C2, who expressed particular interest in the research topic and felt they would benefit from further involvement in this research project. The participants were interviewed at their homes to discuss their garments by the brand as well as a selection of other pre-selected garments. The questions focused on garment life extension strategies and behaviours surrounding garment purchase, care, wear and disposal.

Phase 3 is based on a critical analysis of existing toolkits and tool theory and data is collected through interviews with toolkit creators. The interviewees were selected based on the most recent and relevant toolkits within the subject area with questions focused on the development, testing and implementation of the respective tool.

The first two phases of fieldwork are linked by the selected case study brand
Phase 1 allowed for an in-depth investigation of the brand’s practices, values and more specifically, how strategies for longevity are implemented. These findings shaped the questions discussed with the participants in Phase 2, investigating how the strategies for longevity implemented by the brand may affect the use practices of their customers. Insights on practices of designers and users which affect the longevity of garments, combined with findings from the toolkit study contribute to answering the overarching RQ. Table 2 (p. 100) provides an overview of the interviews conducted. The next section provides a more detailed account of the methodologies involved as well as an analysis and reflection on the fieldwork.
Figure 3.2 Methodology map with distinct but interlinked three phases of fieldwork.
<table>
<thead>
<tr>
<th>Interview</th>
<th>Code</th>
<th>Role</th>
<th>Interview format, location</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case study participant</td>
<td>C1</td>
<td>Designer and business owner</td>
<td>In person, studio in London</td>
<td>48 min.</td>
</tr>
<tr>
<td>Case study participant</td>
<td>C2</td>
<td>Designer and business owner</td>
<td>In person, studio in Leeds</td>
<td>60 min.</td>
</tr>
<tr>
<td>Case study participant</td>
<td>C3-A</td>
<td>Creative director</td>
<td>In person, work place in London</td>
<td>42 min.</td>
</tr>
<tr>
<td>Case study participant</td>
<td>C3-B</td>
<td>Designer and business co-owner</td>
<td>In person, studio in London</td>
<td>43 min.</td>
</tr>
<tr>
<td>User study participant</td>
<td>U1</td>
<td>Secondary school teacher</td>
<td>In person at U1’s home in London</td>
<td>1 h 32 min.</td>
</tr>
<tr>
<td>User study participant</td>
<td>U2</td>
<td>Fashion lecturer and PhD researcher</td>
<td>In person at U2’s home in London</td>
<td>1 h 21 min.</td>
</tr>
<tr>
<td>User study participant</td>
<td>U3</td>
<td>Textiles sustainability manager, global corporation</td>
<td>In person at U3’s home in London</td>
<td>1 h 27 min.</td>
</tr>
<tr>
<td>User study participant</td>
<td>U4</td>
<td>Shop owner, designer and research assistant (fashion)</td>
<td>In person at U4’s home in London</td>
<td>1 h 22 min.</td>
</tr>
<tr>
<td>User study participant</td>
<td>U5</td>
<td>Emergency medical doctor</td>
<td>In person at U5’s home in London</td>
<td>1 h 33 min.</td>
</tr>
<tr>
<td>User study participant</td>
<td>U6</td>
<td>Accounts manager, communications</td>
<td>In person at U6’s home in London</td>
<td>45 min.</td>
</tr>
<tr>
<td>User study participant</td>
<td>U7</td>
<td>Student, nutritional therapy</td>
<td>In person at U7’s home in London</td>
<td>54 min.</td>
</tr>
<tr>
<td>User study participant</td>
<td>U8</td>
<td>Fashion stylist, designer and PhD researcher</td>
<td>In person at U8’s home in Manchester</td>
<td>1 h 20 min.</td>
</tr>
<tr>
<td>User study participant</td>
<td>U9</td>
<td>Self-employed style consultant</td>
<td>In person at U9’s home in Halifax</td>
<td>1 h 21 min.</td>
</tr>
<tr>
<td>User study participant</td>
<td>U10</td>
<td>Lecturer in fashion marketing management</td>
<td>In person at U10’s home in Manchester</td>
<td>58 min.</td>
</tr>
<tr>
<td>Interview</td>
<td>Code</td>
<td>Role</td>
<td>Interview format, location</td>
<td>Duration</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------</td>
<td>-------------------------------------</td>
<td>------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>User study participant</td>
<td>U11</td>
<td>Health subject librarian</td>
<td>In person at U11's home in Cardiff</td>
<td>1 h 27 min.</td>
</tr>
<tr>
<td>User study participant</td>
<td>U12</td>
<td>Freelance animator</td>
<td>In person at U12's home in London</td>
<td>1 h 5 min.</td>
</tr>
<tr>
<td>User study participant</td>
<td>U13</td>
<td>Textiles lecturer and practitioner</td>
<td>In person at U13's home in Manchester</td>
<td>1 h 14 min.</td>
</tr>
<tr>
<td>Dr Bernhard Dusch</td>
<td>n/a</td>
<td>Toolkit developer</td>
<td>In person, Institute for Manufacturing, University of Cambridge</td>
<td>53 min.</td>
</tr>
<tr>
<td>Dr Dan Lockton Design with Intent Toolkit</td>
<td>n/a</td>
<td>Toolkit developer</td>
<td>Skype</td>
<td>1 h 3 min.</td>
</tr>
<tr>
<td>Dr Eunsuk Hur Sustainable Fashion Bridges Ideation Toolkit</td>
<td>n/a</td>
<td>Toolkit developer</td>
<td>In person, School of Design, University of Leeds</td>
<td>55 min.</td>
</tr>
<tr>
<td>Dr Vicky Lofthouse Information/Inspiration, Loughborough University</td>
<td>n/a</td>
<td>Toolkit developer</td>
<td>Skype</td>
<td>47 min.</td>
</tr>
<tr>
<td>Prof Rebecca Earley TED’s TEN, University of the Arts London (UAL)</td>
<td>n/a</td>
<td>Toolkit developer</td>
<td>In person, PLATE conference, Nottingham Trent University</td>
<td>1 h 3 min.</td>
</tr>
<tr>
<td>Barry Waddilove Whole System Design Tool for Business Model Innovation Towards a Circular Economy, Schmidt McArthur research fellow</td>
<td>n/a</td>
<td>Toolkit developer</td>
<td>Skype</td>
<td>1 h 34 min.</td>
</tr>
<tr>
<td>Prof Sandy Black Considerate Design Tool, University of the Arts London</td>
<td>n/a</td>
<td>Toolkit developer</td>
<td>Skype</td>
<td>1 h 1 min.</td>
</tr>
<tr>
<td>Interview</td>
<td>Code</td>
<td>Role</td>
<td>Interview format, location</td>
<td>Duration</td>
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<tr>
<td>-----------------------------------</td>
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<td>-----------------------</td>
<td>-----------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>Prof Kay Politowicz, TED’s TEN, UAL</td>
<td>n/a</td>
<td>Toolkit developer</td>
<td>Skype</td>
<td>43 min.</td>
</tr>
</tbody>
</table>

**Table 2** Overview of interviews conducted in three phases of fieldwork
3.5 Fieldwork Phase 1

The first phase of fieldwork spanned 6 months between March and August 2014. The research was formulated, designed, piloted and carried out during this time. The first phase addresses RQ A and consists of multi-method case studies. Here these episodes are discussed in more detail.

Research Design

The first phase of activity involved designing the research and assessing the most suitable methods for obtaining data to answer RQ A: How do designers in UK fashion micro-enterprises implement strategies for garment longevity? Case study was selected to help answer the ‘how’ and ‘why’ questions (Woodside, 2010) – in this case the ‘hows’ and ‘whys’ of contemporary fashion design practice and implementation of design strategies for longevity. A comparative case method with multiple cases is used to show the similarities and differences between the participants. As Yin (2014) states: ‘Most multiple-case study designs are likely to be stronger than single-case study designs’ (p. 26).

Apart from obtaining information from available secondary sources (e.g. the company website, their products and clothing labels) data was gathered through semi-structured interviews and observations of the participants in their professional environment. Within qualitative approaches, data is typically collected from the participants’ setting and used to explore and understand the meaning of individuals or groups (Creswell, 2014). The in-depth interviews coupled with multiple observations provided the researcher with both verbalised and experiential knowledge, contributing to a comprehensive understanding of the phenomena, improving also the validity of the data (Dewalt and DeWalt, 2002). Case study allows for detailed information to be obtained using a variety of data collection procedures over a sustained period of time (Stake, 1995, Yin, 2014) to establish the meaning of a phenomenon from the view of the participants (Creswell, 2014).

Contrasting two prolific case study research authors, Yin (2014) and Stake
(1995), the research method can have different aims, theory development implication, case utility and generalisability. Understanding cause and effect is the aim of the case study, according to Yin (2014); a priori theory is required to develop or test the theory in order to build theory through comparison with existing theory. Stake (1995), on the other hand, considers in-depth understanding the main objective of case study, which is achieved through inductive emergence. Its aim is not to test a theory but to study the particularity of a case; to understand a unique case is important in its own right as it contributes to understanding the complexity of reality. For this research, a stance between the two authors is taken: a priori theory has informed the research focus, though its aim is not to test a theory as such but to gain in-depth understanding of the particular cases. This makes it possible to generalise from a single case: 'studying the particular in depth can yield insights of universal significance' (Simons, 2009, p. 20).

Planning & piloting

The pilot study was conducted with a London-based women's wear designer. The interview allowed for the refining of the interview structure and questions. However, having launched her label only one year prior, her business was still in the process of taking shape and the participant also held down other part-time jobs. This meant that the participant was unable to provide clear statements regarding her practice. Also, her unpredictable work schedule made booking and keeping the appointments difficult. It was therefore decided that the case study participants going forward would ideally be somewhat more established fashion labels.

The pilot study also shaped the observations, adding more detail to the protocol and confirming the estimated required number of observations, namely three. During the first observation, the participant appeared uneasy with silent observing and suggested she verbalise her actions, acknowledging the researcher's presence, which also led to informal conversations exploring the interview topics in more depth and resulting in additional useful data. Supplementing participant observation with informal interviews is discussed by
Kvale and Brinkmann (2009) as a means of capturing implicit meaning and tacit understanding. This approach was therefore adopted for the case study observations.

Sampling

A purposive sample technique was employed. The participants were recruited by drawing on previously established professional relationships. Apart from being small UK-based businesses, a further commonality was a reflection of sustainable values in their company ethos, choice of materials and production methods; all three participating companies manufacture their garments in the UK.

One advantage of working with smaller businesses is that within a typical micro-enterprise, designers are key members of the team and/or also the business-owners. This places them in a position with much larger decision-making powers than in larger companies (Renfrew and Renfrew, 2009). This research is intended to benefit participants who have expressed their interest in the outcomes of the study; upon completion, the outcomes will be made available to them. Due to the extended participation with C2, for instance, a blog post summarising the findings relating to C2 was published on C2’s website upon the completion of the study (see Appendix H, p. 322). Furthermore, it can be speculated that the research interactions have sparked thoughts on extending garment lifetimes and may potentially inform future design or business decisions. Focusing on small businesses with a commitment to sustainability also allows for an in-depth analysis of fashion practice within these specific types of businesses.

The three chosen participants are part of a larger group and not the only representatives of this type of business within the UK. According to the Ethical Fashion Forum (EFF) online database, there are 35 UK-based women's wear companies that also produce in the UK and comply with the ethical credentials of the not-for-profit organisation with over 6,000 members worldwide (EFF, 2014). However, with only one of the case study participants being a member of this organisation, this figure acts only as a rough indication and the number
is very likely much higher.

Potential case study participants were contacted via e-mail with an outline of the research project. If the respective company was interested, an initial meeting took place to discuss details as well as the required time commitment. Six companies were approached and the three chosen participants transpired as the most suitable and interested in participating in the research. Prior to the first interview, the participants were sent an information sheet via e-mail to brief them on the project and outline their involvement.

**Participant profiles**

Each of the three participants commit to sustainable values but express them in different ways, representing the diversity of approaches found within the sustainable fashion design arena. Different levels of the market are also represented through the three brands who sell items at varying price points: C1’s garments are priced between £54 and £750, C2’s range between £25 and £85 while C3’s products cost between £25 and £450. The brands have been operating for a minimum of two years and are recognised by external bodies (e.g. Ethical Fashion Forum) and the press for their contribution to sustainable fashion.

C1: The first participant is the owner and founder of her fashion label based in East London. It was founded in 2008 and debuted in 2009 at London Fashion Week (LFW) as part of Vauxhall Fashion Scout’s ‘Ones to Watch’. The label exhibited thereafter for three seasons at LFW’s Esthetica (the sustainable fashion showcase). She was awarded the Innovation Award by the Ethical Fashion Forum in 2010. The garments are mostly one-off pieces made locally in London from predominantly second-hand fabrics, sourced from local flea markets and car-boot sales. The designer is also the business owner. She often uses traditional craft techniques, such as patchwork. She no longer participates in fashion shows, though she continues to sell her garments worldwide. One part-time seamstress is employed by the business. C1 is currently creating one-off pieces and mini-collections based on previous styles. She aims to open a studio-shop in the future and publish a craft book.
C2: Case 2 is a Leeds-based women's wear label founded in 2007 by the brand’s main designer. There are three other full-time employees but as many as 40 local skilled professionals that come through the studio at various stages of production. The brand focuses on ‘hyper-local’ sourcing and production using pre-consumer waste materials, such as end of roll, dead stock and misprinted fabric. This means small production runs of an identical product and high product variety. They also engage in a variety of community projects, such as the successful community clothes swap events they established 6 years ago. The garments are sold mainly by stockists in the UK and EU, but C2 is looking to expand its retail base and therefore exhibit at sustainable fashion trade shows.

C3: The third case study participant is co-owned by a Creative Director and a Managing Director. The brand was founded in September 2012 and offers multi-functional and trans-seasonal products from fabrics sourced within Europe and garments manufactured in London. In 2012, C3 were selected as one of ten sustainable fashion pioneers in the category ‘design excellence’ by the Ethical Fashion Forum. The brand takes three approaches to multi-functionality: the pieces are all either reversible, modular or transformable. While eco-friendly fabrics are preferred, durability is a priority when selecting fabrics and trims. One of C3’s collections has been presented at Berlin Fashion Week and the brand plans to sell its pieces wholesale in the near future. The owners of C3 have a vision to own a shop in London and in locations worldwide.

According to the Centre for Fashion Enterprise (2008, p. 4), within fashion micro-enterprises, one of the following approaches are typically adopted:

- **Artisan** – Designer driven purely by aesthetic motivation.
- **Creative Partnership** – Two creative people.
- **Solo** – Individual designer focused on growth.

While C1 and C2 could be described as adopting an artisanal approach, they do not fully fit the provided description as they are driven by both aesthetic
motivation and sustainability values. Solo Designer may be a suitable category, however, the designer-owners are focused on sustainability values rather than growth and as discussed in section 4.4 (p. 141). Thus, a newly defined category of Sustainable Solo Designer or Sustainable Artisan, who focuses on sustainability values, may be most relevant to participating businesses C1 and C2. C3, on the other hand, is co-owned by a Creative Director and a Managing Director and as ‘Designer and Business Partner’ thus occupies a category more commonly found in small businesses (with a turnover of £250,000-£2 million a year) (Centre for Fashion Enterprise, 2008).

Interviews

The first part of data collection involved interviews, which according to Yin (2014), are one of the most important sources of case study evidence. The interviews were between approximately 40 and 60 minutes long, took place at the participants’ design studios and were audio recorded and transcribed verbatim. The interviews were designed as semi-structured life world interviews which ‘attempts to understand themes of the lived everyday world from the subjects’ own perspectives’ (Kvale and Brinkmann 2009, p. 27). This is reflected in the interview structure which began with questions about the interviewees background, how being a fashion design professional and entrepreneur is experienced, their perceptions on sustainability and design as well as views on garment longevity and design toolkits (see Appendix I, p. 324).

A ‘funnel’ approach was taken, starting with more general questions progressing to more specific ones (Kvale, 2008). Furthermore, the initial informal meeting prior to the interview allowed the researcher to tailor the questions to the participant. An open approach meant that the questions and prompts were viewed as a guide and allowed the interviewee to discuss themes they found relevant to the inquiry.

After re-reading the information sheet and signing the consent forms (see Appendix A, p. 282), in accordance with the University of Brighton Ethical Research protocol, the interview was opened with a general question on the
interviewee’s background, their education, interests and how they came to run their own fashion label, professional developments and progressed into their current position, their company and garments they produce. The participant’s creative practice was also discussed i.e. what inspires their designs, factors influencing the designs and how they are produced. ‘How’ questions were favoured over ‘why’ questions as recommended by Yin (2014) and Kvale (2008).

While only loosely structured, the questions designed to address RQ A and the overarching RQ were focused on 6 key themes (the interview guide is included in Appendix C, p. 290):

- **The participant’s personal and professional background:** this is useful for creating a more complete picture of the participant, the participant’s design practice and interest in fashion, sustainability and motivation for starting a fashion business.

- **Design & decision-making processes:** to assess if the design process differs from the conventional design processes, what the motivation behind these decisions are and the possible impact on the longevity of the products.

- **The future of the business:** to determine the business model, goals, aims, values of the business, assess importance on growth and profitability.

- **The longevity of the garments:** to gather information on intended strategies to increase garment longevity, the participant’s attitude towards designing for longevity and the role of longer lasting garments within the business model.

- **Sustainable practices:** to gather information on the participant’s attitudes towards sustainability and how these are implemented within the business.

- **Design toolkits:** to assess if the participant had previously used one or was aware of existing design toolkits and to understand views on toolkits.

*Observations*
Observations were in this instance used as a supportive method in addition to the data obtained from interviews. This multi-method approach provided the researcher with both verbalised and experiential knowledge, contributing to a comprehensive understanding of the phenomena as well as improved validity of the data (Dewalt and DeWalt, 2002, Robson, 2002). Robson (2002, p. 310) identifies the directness of observations as a ‘major advantage’ by watching people’s behaviour rather than asking them about it. He cites Montaigne: ‘Saying is one thing; doing is another’ – a phenomenon also called the ‘social desirability response bias’ (ibid, p. 310). Woodside (2010) states that it is imperative to supplement direct questions with alternative data to gain a deep understanding of processes since most mental processes occur unconsciously.

For this research, an unobtrusive observation approach was adopted, which is non-participatory and only loosely structured (Robson, 2002). This loose or semi-formal structure for data collection, allowed for some parts of the data to be categorised into predetermined parts of the protocol (e.g. tasks being carried out, the people involved, which tools were employed). A formal approach where only certain aspects of the observed are documented leads to the loss of complexity and completeness (Robson, 2002).

For this reason, additional notes beyond the scope of the structured protocol were also taken; it allowed the observer freedom over what data was gathered while organising the information, easing the synthesis and organisation of data during analysis (Robson, 2002). The protocol was based on Spradley’s 9 dimensions of descriptive data (1980): space, actors, activities, objects, acts, events, time, goals and feelings. In addition, it contained specific themes which focused on the RQs.

There are several roles that the observer can adopt. The complete participant conceals that the researcher is an observer; while the participant-as-observer informs the group they are observing and take a dual role as observer and participant (Robson, 2002). The role adopted for this research is described as observer-as-participant, where the researcher takes no part in the activity and their status is made known to the participants (Gold, 1958). It is acknowledged
that while the researcher is not taking an active role in the activities, they nonetheless influence the scene with their presence (Robson, 2002).

Traditionally, in disciplines such as anthropology, observations take place over several years, but they can also be used as a supplementary method alongside interviews, justifying a much more condensed time period (Robson, 2002). Due to the scope of the study, the observations were limited to approximately three occasions for observation for each participating business.

During the preliminary informal meeting with each of the participants, it became clear that administrative tasks are typically performed in the mornings while the creative activities takes place in the afternoon. As the research is focused on design processes, three afternoon observations were scheduled. Conducting the interview prior to the observations made it possible to focus on certain aspects during the observations. Data was documented through field notes and photographs.

3.6 Fieldwork Phase 2

This phase of research addresses RQ B (How do their customers influence garment lifetimes?) through a type of wardrobe study using interview and photographic evidence. Data collection took place between March and June 2015.

Research Design

The second phase of the research was shaped by insights gained in Phase 1, reflecting a flexible research design. The chosen methods draw on ethnographic approaches, namely semi-structured interviews supplemented with photographic evidence of artifacts (garments). The interview questions are based on findings from Phase 1 as well as concepts from literature. A focal point of the enquiry is the link between C2 and their customers to discover if participants recognise and practice life-extending strategies and if C2 has influenced this behaviour.

This study cannot be described as ethnography in the traditional sense, which
typically spans several years in the field and is ‘highly unrealistic for virtually all real world studies’ (Robson, 2002, p. 187). There is no specific design for ethnographic study, an ethnographic approach that ‘is very much a question of general style rather than of following specific prescriptions about procedure’ (Robson, 2002, p.186). Within such approaches depth rather than breadth is typical with an emphasis on description and interpretation (Atkinson and Hammersley, 1994).

Furthermore, the focus of ethnographic study is a group who share a culture; the particular group selected for this study is defined as customers of C2. Therefore, data is collected from the participants’ setting, with the aim to understand meanings of the individual’s experiences (Creswell, 2014). Robson (2002, p. 188) suggests that, particularly when examining a group within one’s own society, as is the case here, treating the group as ‘anthropologically strange’ will help bring presuppositions to light.

Regarding the research paradigm within which ethnography is situated, Hammersley (1992) describes the approach to early ethnography as ‘naïve’ realism and calls for integrating a constructivist approach. He advocates the viable alternative of ‘subtle’ realism, which features the following key elements (ibid, pp. 50-4):

- Defining knowledge as beliefs about whose validity we are reasonably confident (accepting that we can never be absolutely certain about the validity of any claim to knowledge)
- Acknowledging that there are phenomena independent of our claims about them, which those claims may represent more or less accurately
- An overall research aim representing reality while acknowledging that such a representation will always be from a particular perspective which makes some of the phenomenon relevant and others irrelevant (hence there can be multiple valid and non-contradictory representations)

Planning & piloting

The pilot study was conducted with a C2 customer at their home. At this point
the interview was intended to be led mainly by the interviewee. Upon reflection following the pilot interview, it was decided that a more structured approach was taken, whereby first the garments by C2 were discussed and with each garment their provenance, age, fit, materials and care labels were examined. This led to a more prolonged interaction with each garment and in-depth discussions on various topics.

One month was dedicated to the planning and coordinating the study with C2 and a London-based stockist of C2 garments. The interviews took place within a 4-month time-window and the final month of this research phase was dedicated to the organising and synthesis of the data. While the interviews were no more than 2 hours long, the time involved in corresponding with each participant to organise the meeting, planning the trips and travelling to various places throughout the UK was considerable. Not limiting the study to the South of England, however, enabled a more authentic reflection of the studied group, who live throughout the UK.

Similar to Phase 1, the semi-structured interviews were led by but not limited to themes pre-determined within an interview guide (see Appendix E, p. 293). This was carefully designed to target topics that would address the research aims and RQs. The participants were asked to select garments that fit the criteria (e.g. an item by C2 and something that is frequently worn), creating starting points for conversation topics.

**Sampling**

A purposive volunteer sampling technique was employed at this phase. It must be taken into consideration that the characteristics of those who do not participate most likely differ to those who do (Robson, 2002, O'Leary, 2005). The participants were selected to reflect the RQ and were therefore all customers of C2 (irrespective of the frequency of purchases from the brand or how recent their last purchase was).

C2 was selected from the participants in the first phase of research as most suitable for continued collaboration. The business owner of C2 felt their
organisation would benefit from a continuation of research involvement and expressed willingness to commit the required time to support the researcher. There was no restriction on age or gender; however, one must reside within the UK and have purchased an item of clothing from the brand at least once. A £10 voucher towards a purchase from C2 was offered in return for the interview.

Within flexible research designs, data collection continues until ‘saturation’ is reached. In real-world research, however, external factors such as deadlines limit the amount of data collection possible (Robson, 2002). Here, the saturation point was reached within the given time window of four months allocated for interviews.

The research call-out was published by the brand to their entire customer e-mail database, promoted through their social media outlets (Twitter and Facebook) and the researcher composed an article for the company blog (see Appendix D1, p. 291). A London-based stockist also distributed printed flyers with every sold garment by the brand (Appendix D2, p. 292). The call for participation contained the researcher’s e-mail address to respond to and accepted participants received further information about the research involvement. This included the request to select the following garments prior to the interview: any items by C2, one garment they have had altered/mended/made by themselves or by somebody else, one garment they have kept for ‘a long time’, a piece they frequently wear and one they rarely or never wear.

Interviews

The interviews took place at the participant’s home and were audio recorded. After re-reading the information sheet and signing the consent form (see Appendix B, p. 286), the participant was asked to firstly discuss the garments they had selected. A photograph was taken of each item and factual information was noted (e.g. place of manufacture, fibre content, care advice). This was followed by questions on specifics to the garment (e.g. how and why the garment was purchased and what the participant liked/disliked about it
regarding design, care and use) to more general discussion on C2 and their approach to design, fashion and sustainability as well as the participant’s personal experiences of life-extension strategies in practice (see Appendix E, p. 293).

Similar to the approach taken to the interviews conducted in Phase 1, a semi-structured approach was taken, where the prewritten questions acted more as a guide than a structured protocol. In order to address the RQs, the following key themes were addressed:

- **The selected garments**: where, when and why they were acquired, how frequently they are worn, how they are cared for (washing, mending, altering), which qualities are liked/disliked, what care labels state and if they are regarded
- **Views on C2**: knowledge about the brand (sustainability, production, fabric choice, design, etc), impact of brand on behaviours around fashion consumption, use and disposal
- **Other garments**: how many do they own, how often are new items purchased, when are garments discarded, are items mended/altered/refashioned/dyed etc.
- **Scenarios**: proposing of other strategies to encourage garment longevity and gaining insights on attitudes towards these propositions

**3.7 Fieldwork Phase 3**

The final phase of research addresses the overarching RQ (How can designers be supported in creating longer-lasting garments?) through an interview study with toolkit developers.

*Research Design*

This phase of research involved finding the most suitable methods for obtaining data to address the overarching RQ. Phases 1 and 2 addressed the nature of the strategies for longevity as evident in practice of designers and users respectively, while this final phase investigated design toolkits as a
method to support designers. The study was based on insights gained from literature and aimed to provide a more in-depth understanding on the experience of toolkit developers in regard to implementing design toolkits. Data collection occurred parallel to Phase 2 as the research design was not intended to be informed by Phase 2.

Information on toolkits was gathered from online sources as well as literature, which shaped the contents of the semi-structured interviews. The interviews were one part of the toolkit study, which also include a critical analysis of toolkits and toolkit theory. The interviews were audio-recoded and the majority took place in person at the interviewee’s professional workspace. Skype was also used to engage a wider and more distributed sample.

**Planning & piloting**

The pilot interview was conducted with a postgraduate student who had developed a design toolkit as part of her final MA project. The interview questions were developed based on topics discussed within her thesis, providing a useful starting point for discussions. However, as this toolkit had only been recently developed, the author had not yet had the opportunity to attempt implementing the toolkit and was unable to provide insights on this key aspect. Going forward, it was thus considered imperative to include toolkit developers in the study who could share their experience with toolkit implementation.

Running parallel to Phase 1, this study spanned six months in total, where one month was dedicated to designing and preparing the interview questions, followed by the interviews which took place within a four-month time window and the final month consisted of organising and synthesising the data.

**Sampling**

A purposive sample technique was employed. All participants are recent developers of design toolkits, which relate to sustainability in the broadest sense. The toolkit developers are all design academics with varying
disciplinary backgrounds.

**Participant profiles**

Dr Bernhard Dusch has a background in industrial design and developed the ‘Cambridge Sustainable Design Toolkit’ during his PhD at the University of Cambridge. He currently works as a consultancy analyst and designer for the Institute for Manufacturing’s Education and Consultancy Services (IfM ECS) and is also Dean at the department for packaging, design and marketing at the Hochschule der Medien in Stuttgart, Germany.

Dr Dan Lockton has a background in industrial design and developed ‘Design with Intent’, a toolkit addressing design for behaviour change, for his PhD at Brunel University. He is currently Assistant Professor at Carnegie Mellon University in Pittsburgh, USA.

Dr Eunsuk Hur developed ‘Sustainable Fashion Bridges: Co-design Platform and Ideation Toolkit’ during her PhD at the University of Leeds. She is now a Teaching Fellow in Fashion Marketing in the School of Design at the University of Leeds.

Dr Vicky Lofthouse created Information/Inspiration, an eco design toolkit, as part of her PhD at Loughborough University, where she is Senior Lecturer.

Professor Rebecca Earley and Kay Politowicz co-developed ‘TED’s TEN’ with the Textiles Environment Design research group at the Chelsea College of the Arts, University of the Arts London. Earley is currently Professor of Sustainable Textile and Fashion Design and Politowicz is Professor Emeritus there.

Barry Waddilove designed a card game described as the Whole System Design Tool for Business Model Innovation Towards a Circular Economy. He is a Schmidt-McArthur research fellow with a longstanding background in product design.
Professor Sandy Black was principle investigator for a Designing for the 21st Century project, of which the Considerate Design Tool was an outcome. She is Professor of Fashion and Textiles, Design and Technology at the University of the Arts London.

Interviews

The open-ended questions allowed the researcher to be flexible, go in more depth or clear up any misunderstandings, encourage co-operation and rapport and enabled a truer assessment of what the participant really believes (Robson, 2002). Verbal information on data use and consent was given verbally, consistent with the University of Brighton ethics guidelines (2016, p. 9). The key themes discussed in the interviews are evident in the interview guide (Appendix I, p. 324) and are summarized as follows:

• **The participant’s professional background:** to create an understanding of the individual’s experiences that may have influenced the toolkit design.
• **Toolkit development:** to examine the participant’s motivation, rationale and process of developing a toolkit as well as how it has developed since it was first published.
• **Toolkit characteristics:** to assess boundaries and limitations, the contexts of use, the chosen physical or digital format and user feedback.
• **Future toolkit:** to determine the participants’ future plans for their toolkit and thoughts or speculations on the future of toolkits in general.

### 3.8 Approach to analysis for Phases 1, 2 and 3

In this section, the approach to analysing the data from all three phases is described.

The first step of analysis is for the researcher to immerse themselves in the data (Coffey and Atkinson, 1996), in this case, the interview transcripts, observation field notes and photographs. Additional data is in form of notes and e-mails written during the project. The data is then thematically coded allowing for meanings and themes to emerge, rather than associating the data
to a particular theoretical framework (Robson, 2011). Codes are terms or short phrases ascribed to summarise and capture the essence of language-based data (Saldaña, 2011). NVivo was used to facilitate the ordering and synthesis of information without losing the complexity of the original data (Snape and Spencer, 2003).

After transcribing the audio recordings (see Table 2, p. 98), notes were made and themes identified to create a preliminary list of codes i.e. categories which share particular characteristics and key themes (Saldaña, 2011). A constant comparative method was applied (Robson, 2011), which meant that several iterations of coding were conducted until saturation occurred, that is until the incremental improvement to the knowledge can be considered minimal (Coffey and Atkinson, 1996). A coded example of an interview transcript can be seen in Appendix G (p. 301).

During the observations, field notes and photographs were taken instead of audio recordings due to length of observations and the data being mostly activity-based. Based on data and preliminary analysis, several drafts of the fieldwork report were prepared, each becoming increasingly condensed and concise. Timelines of the case study businesses were created to help understand the chronological order of events from interview data, supplemented with information on the company websites. In line with a constructivist approach, direct quotes from the data was included in the discussion (Creswell, 2007).

3.9 Critical reflection and assessment of work

Ethics

The significance of research ethics has become increasingly recognised in recent years with the four pillars of ethical research being autonomy, beneficence, non-maleficence and justice (Beauchamp and Childress, 2012). ‘Informed consent’ of interviewees is hereby one of the key points of ethical interview conduct (Kvale and Brinkmann, 2009, p. 70). For this reason, an
information sheet with an overview of the project as well as a consent sheet was provided to the participants as well as the opportunity to ask any questions about the study. It was made clear to the case study participants that they were able to withdraw at any point of the study without explanation, though any data that was collected could be used for the project unless otherwise stated. Consent was also sought with regards to the photographs taken during the observations. The consent forms, information sheets and photography consent documents for both Phases 1 and 2 of fieldwork are included in the Appendix (see Appendices A, p. 282 and B, p. 286).

It can be appropriate to anonymise the involved participants (Lewis, 2003); therefore codes were used to replace participants’ names in the case study research (Phase 1) and user study (Phase 2). Because one participant preferred to remain anonymous, all participants were anonymised. Consent was given to publish details about the participating companies as well as photographs (which may identify the business) as long as the name was not included. Given the nature of Phase 3 of the research, where academics were questioned about their research project and therefore can be identified by their statements and research outputs, anonymity would have not been possible, though consent was nonetheless sought beforehand.

Phase 2 was carried out at the participants’ homes and therefore raised ethical issues. The researcher’s safety is at risk by entering a private space, though this was managed by verifying the participants' genuine interest and informing the researcher’s next of kin about the time and location of the interviews.

**Bias & Validity**

Interviews can be an enriching experience and a learning process for both participant and researcher (Kvale, 2008). To ensure this, addressing the second pillar or ethical research ‘beneficence’, the participants were questioned on their experience of the interview during the debrief. All participants expressed their satisfaction with the interview process. Within a constructivist paradigm, the researcher is recognised as an important part of
the research and part of the field. Hence, bias may occur when the interviewee (more or less deliberately) tells the interviewer what they want to hear, or withhold information (Kvale, 2008); this was taken into consideration during analysis.

One way of ensuring the quality of the study is to use multiple sources of evidence (Yin, 2014), particularly as the number of participants within the separate phases was small. For this study, semi-structured interviews, observations, photographic evidence and documents were chosen as sources of evidence. All three phases of research data contributed to answering the overarching RQ.

Kvale (2008) describes interviewing less of a method following explicit rules than pragmatically a craft: quality depends on the interviewer’s subject matter knowledge and craftsmanship. The researcher’s prior experience in interviewing and working within the fashion industry as well as additional research and pilot studies therefore contribute to the data quality. General quality criteria are: richness of answers, length of relevant answers, and clarification of interviewee’s statement (Kvale, 2008). While this varied somewhat within the individual sets of data, overall the data was shown to be of high quality leading to valuable findings.

On a broader scope, characteristics of ‘good’ flexible research design include: rigorous data collection procedures, a study framed within the characteristics of a flexible (qualitative) approach to research, informed by existing traditions of enquiry and clear writing to reflect the complexities of real life (Creswell, 1998). The study was designed and carried out with these criteria in mind and is reflected in the depth of data collected thought the research.

3.10 Summary

This section discussed the research methodologies adopted for answering the RQs. The empirical multi-method approach was based on a pragmatist research paradigm, drawing mainly on a constructivist worldview. The three
distinct but interconnected phases of research employed qualitative interviews and observations supported by photographic evidence. A detailed account of the research design, planning and piloting, sampling and analysis of the data were provided. Subsequently, a critical reflection and assessment of the suitability of the chosen methods were discussed. The following chapter presents the findings from the first of three research phases and their contribution to answering the RQs.
In the previous chapter, the methodologies used to address the research questions were discussed. This chapter presents the findings from the first of three interlinked phases of fieldwork. Here, case studies of three exemplar UK fashion micro-enterprises were conducted to address the RQA: How do designers in UK fashion micro-enterprises implement strategies for garment longevity? Each participating organisation is first described individually with a focus on potential strategies for garment longevity, then a cross-case analysis is provided and finally, the chapter is concluded, summarising the main findings.

This first phase of fieldwork consisted of an interview and three half-day observations with each of the three participating case study businesses. Verbatim extracts and images are included where appropriate. Although the company names have been replaced with C1, C2, and C3, it may be possible to identify the organisations with the information and images provided. The participants agreed to this level of anonymity. The first case study is now described with the aim to gain in-depth knowledge on how fashion micro-enterprises implement strategies for garment longevity as well as insights on the types of design tools used within these organisations.

4.1 Case study 1

The first participating organisation is a UK-based fashion micro-enterprise, which permanently employs less than 10 people, manufactures their garments locally in the UK (locally in London in this case) and demonstrates innovative ways of working toward sustainability; it therefore fulfils the criteria for participating in this study as laid out in the previous chapter. This London-
based label had previously regularly presented collections at London Fashion Week (2009-2011) and in 2010 was awarded the Innovation Award by the Ethical Fashion Forum.

In recent years, however, the brand had stopped presenting full collections every season. Instead, mini-collections or individual pieces are released throughout the year. Adhering to the traditional fashion calendar is according to the designer not a necessity: ‘there’s so many seasons, so many things going on in the fashion calendar, it normally just fits in quite well anyway’ (C1). At the time of the observations, for instance, the label’s designer was creating a custom-made wedding dress while running workshops and developing a limited-edition range in collaboration with a print designer. The label offers ‘staple’ pieces, which are repeated in new fabric combinations alongside seasonally changing styles. These ‘staple’ pieces are interestingly not what is conventionally perceived as archetypal classic items, but are the brand’s most iconic and unusual garments. For instance, the dress shown in Figure 4.1 (p. 127) features a large bear face on its front and is thus the opposite of a typical classic garment.

The designs by C1 are not inspired by passing trends but the designer’s personal interest in vintage garments, artefacts and photographs, found at car-boot sales and antique markets. Purchases from this brand would thus be motivated not by a desire to appear ‘trendy’ but as a means of individual self-expression as a garment from C1, according to its owner is: ‘not seasonal and … it doesn’t matter because it’s so ‘you’, you’re going to keep it and you’re going to keep on wearing it’. The notion of enduring appeal is supported through an interactive page on the brand’s website displaying photographs of customers wearing both previous and current designs by the label.

In the years when C1 was presenting collections at international fashion shows, the brand gained popularity and was steadily growing in terms of increased sales and press exposure. Growth is typically viewed as a desirable businesses trajectory and often inevitably requires changes to design and
production processes. The designer, however, felt uneasy with these changes and states:

‘It was becoming less and less hand-made and more manufactured. And it seemed like I was perhaps following more a mass-consumerist [direction] on a very small scale, but I felt like it was just going into a direction I didn't want it to go in... so each piece is a one-off and I want each piece to be a special piece, not just be one of many of the same.’ (C1)

While brand growth often leads to increased profits, C1 deemed brand integrity and job satisfaction more important. The decision to remain a small company allowed the designer to reclaim control, continue sourcing materials and cut garment pieces, rather than delegating these tasks to employees. Furthermore, this allowed her to continue working second-hand materials into elaborate patchwork garments, which according to the designer is also ‘impossible’ to copy by mass-manufacturers.

A further advantage of remaining a small business, is that a personal connection to customers can be maintained: ‘I would still like to remain the face of the brand, so people know that they can come and see me and talk to me and not to be scared of it, you know, intimidated by it’ (C1). There are plans to open a studio-shop in the future where visiting customers can become familiar with the design and production processes and material selections can be made from a ‘library of vintage fabrics’ for their custom-made garment. In this way, they can collaboratively ‘work together to create pieces they really want and really treasure’ (C1).

The longevity of their clothing is evidently important to the designer: ‘I definitely want my clothes to last and last. ... I want people to be able to say, there's a hole in it but let’s fix it and I can keep wearing it and love it even more’ (C1). Aware that changing lifestyles and progressing age influences personal style, the label also offers alteration services. However, neither custom design, nor repair or alteration services are advertised and durability is also not explicitly promoted.
The designer first began working with second-hand materials during an undergraduate degree. An interest in handicrafts, clothing alteration and the arts were present from an early age. The designer's use of second-hand materials was thus not a deliberate means for creating a sustainable brand per se: ‘I just seem to be working at the same time when this [sustainability] movement was in its full force. I'm quite happy to be part of it, it's a great movement’ (C1). The complexity and scale of the issues, however, makes her feel 'overwhelmed' and ‘annoyed’. It is made clear that the designs should be the focal point, with sustainability being inherent to her practice. The designer feels ambivalent about describing the brand as ‘sustainable’ and the garments as ‘up-cycled’ as she perceives negative connotations to the aesthetics of clothing described as such.

When asked about design toolkits, the participant stated she was unfamiliar with the concept, although the designer had previously utilised consultancy services at the Centre for Sustainable Fashion. In order to understand which ‘tools of the trade’ fashion designers use, one focal point of the observations was centred on the tools used in the process of developing a design. In this case, initial ideas were first discussed with the client and inspiration images collected on the photo-sharing website Pinterest. Design proposals were then developed through drawings in a sketchbook. Elements of designs were subsequently prototyped in paper and arranged in different ways on the mannequin and variations were photographed on a mobile phone camera. Consequently, the technique for recreating the effect in fabric was researched in a book and then tested in fabric as shown in Figure 4.2 (p. 128). This process shows that a range of tools types were used in combination with each other. These include physical making tools (e.g. mannequin, scissors, sketchbook, fabrics and paper) and information tools (e.g. books, websites, fellow designers, clients and consultancies).

The visual observations confirmed what the designer had described in the interview: collected second-hand and antique images, artefacts, furniture and clothing were on display in the studio as reference points. Images of the workspace are shown in Figure 4.3 (p. 129). The studio is
located in the room next to the designer’s living room; one can only access it by entering their personal space. This room, similar to the studio, is fitted with antique, repurposed and hand-made interiors. Personal interests and professional practice are thus intertwined and become almost inseparable.

A further observation was made in relation to the dynamics taking place during a collaborative design process to create a custom-made garment. In this case, the client had significant input during the design process by providing her own artwork to be incorporated into an embroidery motif. At times the designer felt conflicted between fulfilling the client’s vision while also expressing her own creative identity. It was important for the designer to develop elements she could take forward and use for her own future work. The project allowed her to test new design ideas, for which there is otherwise not much time. Working with the in-house seamstress, the designer collaboratively developed the garment, discussing technicalities. A 1920s slip dress acted as a reference piece for seam finishings. This commission took place over a total of eight months with the designer dedicating approximately one day per fortnight to it. In the remaining time, the designer developed and made items for mini collections and individual orders and updated her social media feed.

**C1 summary**

- Strategies for potential garment longevity were mostly not purposefully implemented but a result of C1’s design practice and business model

- Mini-collections or individual pieces are released throughout the year

- The brand’s ‘classic’ piece is iconic, not an established classic

- ‘Staple’ items are offered alongside seasonal designs

- Use of second-hand fabrics stems from the designer’s personal
interests, rather than a commitment to sustainability

- Designs are inspired by vintage books, photographs and artefacts (rather than current fashion trends)

- Keeping the business small provides the designer with job satisfaction and maintains the integrity of C1’s business model

- Custom design, sizing, alteration and repair services are offered but not advertised

- Most garments are one of a kind

- An online gallery with customer photographs wearing garments promotes enduring appeal

- Personal connection to the brand provides collaboration possibilities with customers and other designers

- C1 is unaware of toolkits from academia but uses own methodologies and tools
Figure 4.1 ‘Bear Dress’ by C1. Photographer: James Champion (2014).

The design is a ‘staple’ style offered season after season and an iconic design rather than archetypally ‘classic’. According to the designer, the garment is thus a means of individual self-expression as opposed to a reflection of current trends and therefore has the potential for enduring appeal.
Both physical making tools and information tools are used. Design proposals are first developed in a sketch book (top left), then prototyped in paper and pinned on mannequin (top right). The technique for recreating the effect in fabric is researched in a book and tested in fabric (bottom centre).
Figure 4.3 Observations of C1 – workspace

Collected second-hand and antique images, artefacts, furniture and clothing are on display and act as reference points. Overview of studio (top), collected second-hand fabrics (bottom left) and artefacts (bottom right) with collection of buttons, watch, images, suitcases and other objects act as design inspiration.
4.2 Case study 2

Case 2 (C2) was founded in 2007 by an entrepreneur who has been interested in DIY culture since her teenage years and had opened a cooperative selling local produce during her undergraduate degree. The brand was developed as part of a Masters degree and launched as a commercial enterprise in 2010. The organisation is based in a studio space shared with other creative entrepreneurs. Local skilled makers produce C2 garments in this studio.

The brand owner developed a reflective design process during her degree, an approach that the designer continues to use within the brand – it is used as a ‘research tool’ (C2). Similar to C1, monetary gain is not a priority: ‘it’s about the experimentation, that’s what I love’ (C2). The numbering of seasons (e.g. Autumn/Winter 14 is now Collection 8) is one such experiment to disconnect clothing from temporality. This experimental approach, however, was viewed as only possible within a small-scale operation. Scaling up is therefore not an option, instead the brand would ‘just have to communicate better about variety’ (C2).

Rather than drawing on up-to-date trends, design inspiration is underpinned by the owner’s aesthetics: ‘people, places, subcultures, the way people wear things on the street, DIY, use what you’ve got around you’ (C2). The design process also differs from conventional practice, where colour palettes are first determined, then fabrics are sourced accordingly. Instead, colours, fabrics and designs are all determined by locally available waste fabrics. Thus, design becomes a problem-solving process and is likened to ‘doing a jigsaw puzzle’ (C2). Furthermore, rather than developing new collections every season, the large majority of styles are slowly evolving ‘core’ pieces which are supplemented by seasonally varying items (see Figure 4.5, p. 135).

In order to avoid garments becoming obsolete due to changes in body shape, garments are made from either high-stretch fabrics or have a loose fit (see Figure 4.4, p. 134). Some less fitted styles are also marketed as unisex products. This approach also allows them to offer
garments in either one size or broader size ranges e.g. Size 1 fits UK size 8-10. It is furthermore possible to request custom sizing or fabric choices when placing an order. While the label had previously provided repair and alteration services within their physical shop in Leeds, the services were found to be no longer suitable for their current business goals. Nonetheless, the service was described as generally successful, though they encountered difficulties in altering low-quality garments.

While several strategies are in place to promote enduring appeal, the owner acknowledges the complexities inherent to designing for longevity:

‘There are durability issues within garments, but that’s not really the massive issue, I mean you can make a seam stronger. The massive issue is to make something so that someone actually wants to wear an item of clothing for longer’ (C2).

The increasing speed of fashion cycles is met with deep frustration: ‘That jumper is not going to go out of date… the debate’s happening in food now, taking the ‘best before’ display dates off but it’s not really being discussed with fashion’ (C2). Amongst other approaches (such as the numbering of seasons as discussed above), C2 tries to tackle this issue by publishing photographs of customers wearing previous seasons’ items alongside current pieces.

C2 not only maintains links to local mills and makers but also conducts outreach work in local schools, runs workshops at music festivals and collaborates with academic partners. Their possibly most successful project in this context is the community clothes swap, which has been running for six consecutive years and is now run by the community itself. In order to gain a deeper understanding of those attending the events, occurring garment failures and perceptions towards textile waste, the brand has collaborated with a researcher, who has collected three years worth of data from these events.

At the time of the observations, shortly before the studio moved site, the brand was creating garments by using up stock fabrics. A collaborative approach was evidently taken within the studio: studio manager, intern
and brand owner discussed design, material, fit and construction of a garment to reach a decision jointly. The studio manager and intern would then proceed with pattern and garment making tasks while the owner focused upon organisational and communication tasks.

In terms of the design process, the development of a new style is typically based on an existing style. In this case, the construction of culottes was based on a previously developed pair of shorts. The first prototype was developed within a day, where pattern and sample making was delegated to the intern and studio manager. The sample was consequently fitted on several women working within the shared studio space. These observations reflect what the brand owner had previously expressed, namely that the designs stem from their personal aesthetic rather than external trend sources and that one size can fit a range of sizes and body shapes. In this instance, it was evident that physical making tools (e.g. scissors, paper, fabrics and paper) and information tools in the form of fellow studio residents and co-workers provided feedback on the garment’s fit and style (see Figure 4.6, p. 136).

While the brand have not utilised a toolkit from academia to inform their business, they are currently trialing toolkits for two researchers. An iterative process of reflection for creating new designs was developed when the owner undertook a post-graduate degree and is now an integral part of the brand. The owner suggests that rather than adopting an existing toolkit, the organisation might develop their own. As C2’s work is pioneering in many ways, they receive enquiries from young designers, students and start-ups expressing an interest in C2’s business model. They are currently developing an open-source guide for their community clothes swap. The owner furthermore disliked the term ‘toolkit’, stating that it needed rebranding; she also felt that design toolkits might be most relevant to young businesses with a less established practice.

Similar to C1, the sustainable values of C2 are intrinsic to the owner’s worldview and being asked to design without sustainability in mind is: ‘the equivalent of asking a vegetarian to eat turkey on Christmas day because it’s
Christmas day, they’re not going to do it’. The brand’s website describes them as producing ‘ethical, sustainable’ designs. The clothing labels and swing tags, however, no longer state ‘Local and Sustainable’ but ‘Made in England’. This was a conscious decision by the owner, who prefers the garments to be bought for their design rather than based on sustainability attributes.

C2 summary

- Deliberate implementation of strategies for potential garment life extension
- High level of interest and knowledge on clothing longevity and sustainability
- Two collections presented annually: slowly evolving ‘core’ garments and seasonal styles
- Repair and alteration service no longer offered
- Collections are numbered to disconnect garments from transience of seasons
- Brand owner is involved in academic research project and uses brand as ‘research tool’
- Garments accommodate the fluctuating body shape through fabric or fit
- New styles are photographed alongside previous seasons’ to promote trans-seasonality
- Collaboration is key: local community projects and within the brand
- ‘Classic’ pieces are in bright colours, inspired by the owner's aesthetic and locally available waste materials
- Custom designs and sizing can be commissioned
- Experimental approach and local involvement only deemed possible for small company
This shows a garment made with high-stretch fabrics to accommodate changes in body shape and thus potentially extend the garment's useful life. This also allows the brand to offer broader size ranges, e.g. Size 1 fits UK size 8-10.
This image shows a slowly evolving 'core' style that was sold in Spring/Summer 2011 through to Autumn/Winter 2014. Their 'classic' item is evidently sold in iconic bright colours, rather than neutral shades. Furthermore, the message of enduring appeal is promoted by presenting this collection of photographs on the brand's blog.
Figure 4.6 Observation of C2 – workspace.

Overview of studio workspace with pattern-cutting table and sewing machine work stations (top). This is where garments are designed and produced. A previous season’s style acts as a reference piece for a new style (bottom left). The studio manager tried on the new garment sample for fit, which was discussed with owner and intern (bottom right).
4.3 Case study 3

The third and final case study brand C3 produces garments that are described as trans-seasonal and multi-functional, key features of the label. This organisation is co-owned by a Creative Director and a Managing Director, who are members of the Ethical Fashion Forum. Garments are made locally in London by small production units.

Their signature style, the Little Navy Dress as shown in Figure 4.7 (p. 141) is sold season after season and designed as a blank ‘canvas’ base onto which customers can zip decorative attachments. In contrast to the other two organisations, this brand’s base pieces are described by the Creative Director as ‘classic and timeless’ in neutral colours and conform to what is conventionally perceived as ‘classic’. The modular attachments, however, change seasonally and are trend-led.

The Creative Director views multi-functionality as an approach for sustainability and states: ‘you can mix and match them and then you reduce consumption because you just buy components instead of buying a whole new coat, you would maybe just buy a new pair of sleeves to update it’ (C3). The Managing Director, on the other hand, views it as an expression of existentialist ideals: the garments are intended to empower working women by providing them with increased choice and flexibility. There may also be financial benefits: ‘if you have many ways to use a garment, you use it more frequently, you get more cost per wear for it anyway, so it’s practical’ (C3). In addition, there is evidently pressure to create new collections every season, which can be difficult for young brands with low cash flows. Therefore, marketing themselves as a slow fashion label is ‘super handy, it dovetails nicely with being an SME’ (C3) as it alleviates creative and financial pressure.

The Managing Director and Creative Director met and started collaborating at University during their postgraduate degrees. The Managing Director describes her own values as 'more socio-economic, lifestyle and psychologically orientated'. The Creative Director, on the other hand, had
previously worked as a designer in a fast fashion company, where she learned ‘what not to do’. Aware of the environmental and social impacts connected to fashion, she soon pursued her own ethically minded fashion label rather than continuing work in the mass-market sector.

All C3’s garments are either modular, reversible or transformable with the goal to offer variety in style. The ‘transformable’ pieces are typically based on geometric shapes that can be worn in different ways, e.g. as a skirt, top or dress. ‘Modular’ means the garment offers detachable parts like sleeves, collars or decorative elements. ‘Reversible’ styles offer two colour and fabric options within one garment, increasing its versatility. From the outset, however, the brand’s founders conducted research on the key items of a women’s wardrobe; this data determined their first collection. Subsequent designs were informed by follow-up questionnaires with customers, allowing C3 to tailor their designs to their customers’ requirements.

The label does not currently offer post-purchase alterations or repairs, but rather it suggests visiting a local dressmaker. This way wearers can connect with specialists in their local area and potentially increase the active life of their garments. This introduces the concept of sustainable networks and communities.

Some pieces are more fitted than others; their ‘base’ item is a fitted shift dress. Despite its physical robustness, it may become obsolete should the owner change body shape over time. When asked about providing inbuilt alterability in their garments through larger seam allowances, the Creative Director was skeptical and felt that enlarging garments by ‘letting out’ seams may cause damage e.g. to delicate fabrics, as these would be weakened by the stitching.

Unlike the other two participating brands, C3 promote their garments as ‘physically and emotionally durable’. Emotional durability is hoped to be achieved through updateable garments, thus enabling it to potentially remaining relevant to the wearer who changes over time (Chapman,
Physical robustness is aimed to be achieved through their choice of trims and fabrics. Although they would prefer to use the most ecologically sound choices, the Managing Director explains: 'some specifically ethical fabrics aren't the most durable'. Materials are selected by price, origin, fibre, construction of weave or knit and resistance to creasing and pilling by testing of fabric swatches, i.e. how they perform when rubbed together for a several minutes. The Creative Director expects garments to last around 5 years, although it is acknowledged that this is dependent upon the frequency of wearing and how it is cared for. Thus, as manufacturers rarely include technical information regarding the robustness of fabrics, the brand relies on unscientific methods of fabric testing.

C3's growth plan includes creating a diffusion collection as well as bespoke couture pieces, having established the mid-market. Furthermore, the interviewees 'dream' of owning shops in London and worldwide. This would offer a range of opportunities for the brand and create physical touch-points for interacting with local communities. Unlike C1 and C2, the brand owners see no conflict between the size of their company and the integrity of their business model.

The observations showed that the Creative Director of C3 follows a more traditional design process than the other two participating brands. Here an inspiration board is compiled and trend research is conducted, designs are consequently developed through sketching as shown in Figure 4.8 (p. 142). The Creative Director is simultaneously designer and professional pattern-cutter and patterns are thus created in parallel to the design development process; garments are typically developed through sketching as well as toiling and draping. It also became clear that multi-functionality is key to the creative process and a determining factor for design development as shown in Figure 4.9 (p. 143). The Managing Director is responsible for marketing, PR, events and finances. Brand direction and final designs for production are jointly decided.
The brand had not previously used a design toolkit. However, they drew on advisory networks based at University, such as the Centre for Fashion Enterprise and the Designer-Manufacturer Innovation Support Centre when the company was in its first year of trading. In addition, the founders keep up to date with developments in sustainable fashion through newsletters from the Ethical Fashion Forum. As it was necessary to tailor advice to the brand's specific requirements, the Managing Director views a general framework as problematic, however the Creative Director expressed interest in the potential benefits of a design toolkit.

**C3 summary**

- Garments promoted as emotionally and physically durable
- ‘Base’ garments are offered every season; some collections feature attachments only
- ‘Classic’ base garments are in neutral colours; attachments are trend-led
- All garments are either modular, reversible or transformable
- Multi-functionality is a means to potentially reduce consumption, motivated by sustainability and a form of female empowerment
- As the youngest organisation, C3 have had limited opportunities to test approaches to date
- Strategies for longevity 'dovetail' with financial constraints of a micro-enterprise
- Fabrics and trims selection based on physical durability; however, information about materials is often lacking, hindering attempts to make fully informed choices
- Attempt to ensure their garments meet customer's needs through customer research
- Interest expressed in using design toolkit
This is a modular dress with interchangeable decorative attachments that can potentially increase the active life of the garment by remaining relevant to the wearer. However, the base garment is a close-fitting shape, which does not accommodate changes in body shape, leading to the garment potentially becoming obsolete. This illustrates the complexities regarding designing longevity into a garment.
Overview of studio workspace with pattern-cutting table, iron, sewing machine, desk, wardrobe with brand's garments (top). Inspiration images (bottom left) inform next season’s collection exemplifies the more traditional design process compared with C1 and C2. Illustrations (bottom right) show multi-functionality as a key design consideration and the consideration of garment patterns.
These images show the range of information and making tools the designer uses during the design process. A pattern-cutting book informed the construction of a sleeve (top). The garment fit is developed straight on the designer's own body (bottom right). A mannequin is also used to fit the garment (bottom left).
4.4 Discussion

Strategies for longevity are evident within all three businesses. An overview of the results are summarised in Table 3 (p. 150). By comparing the case studies, it becomes clear that there are variations in both the combination of used approaches and also the rationale for their implementation.

Some strategies were deliberately used as a means for potentially extending the life of clothing, while others emerged as by-products of design decisions based on other criteria. Interestingly, some approaches were not communicated to customers while others were also a means of product promotion. For instance, the patchwork designs by C1 can potentially become eternally mendable, similar to the traditional 'boro' garments described by Rissanen (2011). Using tradition craft techniques such as patchwork, however, stemmed not from the intention to potentially increase garment longevity but from the designer's personal aesthetic. C3, on the other hand, explicitly describe their garments as 'physically and emotionally durable' and view modularity as a means to reduce consumption levels. C2 also implement a variety of these strategies deliberately but only promote a selection of these to their customers through social media and blog posts.

What also emerged was that certain strategies for potential clothing longevity 'dovetail nicely', as C3 states, with the particulars of small-scale organisations. In literature, the strategies are currently not discussed with respect to business size. For instance, by providing a broader sizing range, the garments by C2 allow for changes in body shape while simultaneously enabling sales, thus aiding profit margins.

Similarly, the waistbands of their garments are made with stretch ribbing rather than zip fly openings which accommodates changing waistlines while not exceeding the brand's price range (as trousers with a zip fly are more cost intensive to produce than those with a ribbed waistband). The notion of the characteristics of a small business 'dovetailing' with strategies for longevity is also reflected through trans-seasonal items. Items that are sold season after
season can alleviate creative and financial pressure that small businesses evidently experience, while also promoting a sense of timelessness and encouraging a slower pace of consumption as suggested by Mugge (2002) and Fletcher and Grose (2011).

Literature describes that the role of the designer varies with the size of the business; within smaller businesses, the designer often takes on multiple roles (Renfrew and Renfrew, 2009). This was reflected within all participating organisations, where the designer also acted as business owner (or co-owner) and pattern-cutter (C3), while being responsible for sourcing materials, production, marketing and retail (C1 and C2). This means that the designer is in a position to exert a significant influence over decisions regarding domains beyond design.

Furthermore, while a smaller business may not have the financial stability of a large corporation or are able to compete with mass-market businesses on price, there are characteristics of micro-enterprises that can bring about a range of benefits. Two out of the three businesses indeed intend to remain small. This can be in part linked to the main principles of the brand, such as the use of second-hand materials, which would be compromised through business growth. It allows them, for instance, to offer custom sizing to customers. This is enabled through small, local production in contrast to high-street retailers who typically mass-produce standardised clothing in large volumes abroad. Custom-sizing and made-to-measure services create a more inclusive fashion offering.

Smaller quantities of identical stock or one-off items can in themselves render the items collectible and more treasured, according to van Hinte (1997). Maintaining a close personal connection to the brand allows the user to connect the object to its maker and can potentially strengthen the bond between object and user (Chapman, 2009). This bond can also be created through giving the customer a more active role within the design process (Mugge et al., 2005). In the case of C1 this is expressed in the option to select custom fabrics for a design. Allowing customers to repurpose fabric from an
item they already own (or other fabric of their choice) by integrating it into a
dress by C2 is a concept the brand introduced in November 2015. This
approach can give new life to a previously treasured but unused textile product
while embedding personal meaning to the newly made garment.

Hands-on participation in the creation of fashion, for instance through
C1's patchwork workshops, offer experiences that are centred on
'doing' rather than 'having' (Ehrenfeld, 2008). Through these
interactions, customers learn to become ‘fashion-able’ (von Busch,
2009) and practice their ‘clothing competencies’ (Tranberg Hansen,
2003). C2, on the other hand, through their community swap events
provide a platform that allow members of the local community to
interact with each other while engaging in a form of fashion
consumption that potentially extends the life of garments. This is a post-
growth model for fashion that goes beyond the mainstream and linear
consumer model (Fletcher, 2008). It does not bring in addition revenue
to C2 but allows them to collect data, which may inform future design
decisions and promotes clothing reuse.

C1 and C3 aim to offer physical spaces to interact with their customers in the
future. Events such as swaps demonstrate that creating touch-points are also
possible without owning these spaces. Out of the three case studies
examined, C3 is the only company that offers only the purchasing of products
rather than allowing customers to play a part in designing or making.
Diversifying their offering, for instance through workshops where customers
create their own modular attachments, may aid C3's goal to grow as a
company while increasing customer loyalty and potentially extending the life of
their garments as explained in the previous paragraph. In this sense, it may
also be beneficial for the participating companies to teach mending or
alteration skills, however, C2 and C3 felt that offering these services
themselves is not suitable to their business model. Alternatively, garments
could incorporate an in-built ease of alteration and repair as suggested by
Rissanen (2011).
The notion that one can design characteristics into products to extend their life is, however, contested. The tensions inherent to this approach are apparent when examining the case studies. In order to ensure a high-quality finish the inside seams of garments by C1, for instance, are typically bound. This also makes them difficult to open for alterations. For C2, on the other hand, physical durability is not a priority as they feel the real challenge is instilling the desire for customers to keep their garments for longer. On the other hand, disappointment is rife if a garment fails physically when the owner wishes to continue using it. This is something C3 aims to tackle through modularity and robust fabrics. Their designs, however, are mostly fitted which is problematic if the wearer's body shape changes.

Cooper et al. (2013, p. 14) state: 'the most important step to tackle this culture of disposability is to create an environment where longevity is a desirable attribute of the product' – a view that highlights the importance of changing perceptions on product longevity in order to direct consumption toward more physically robust items. The quote also implies that longevity is a characteristic that can be designed into a product, rather than placing importance on the way users care and maintain their belongings. Fletcher (2012), on the other hand, suggests that the social context in which a garment is located, rather than intrinsic garment characteristics determine their longevity. This is a notion termed ‘Craft of Use’ (Fletcher, 2012), which put simply means: where there is a will (to extend a garment's lifetime), there is a way; and fashion businesses are in a position to encourage these behaviours.

Throughout the interviews it became clear that all companies were reflective of the owner's personal world-views and values, which have not been compromised for financial gain. This creates a professional practice and a business model shaped by individuals who are fulfilling their visions of alternative fashion systems by creating their ‘own kind of walk’ (C1). This can contribute to a sense of fulfillment through their profession (Grose, 2013), creating a type of ‘double dividend’ of environmental benefits and increased personal wellbeing as described by Jackson (2005).
Furthermore, this puts them in a position as exemplars for graduates and young designers, providing a type of blueprint (or toolkit) for creating business models, which do not rely on ever-increasing rates of virgin material throughput. ‘A business model that can be scaled up may potentially produce larger impacts in the marketplace, while those relying on localised, smaller operations offer models that can be replicated by other brands and diversify the fashion landscape’ (Connor-Crabb et al., 2016, p. 36). Therefore, the question is perhaps not how to scale up these types of business but how to support them and make them more widespread.

Longevity is not only expressed through design approaches but also supported by the underlying business model and promoted through various communication channels, e.g. websites, blogs and social media. The numbering of seasons by C2 to instill a sense of timelessness, for instance, can be viewed as a marketing strategy informed by design and is promoted through various online communication channels. C1, on the other hand, shows old garments alongside new ones in photographs submitted by customers, displayed in an online gallery. Interactive platforms such as these, celebrate older products and can create a ‘fan club’ atmosphere. According to van Hinte (1997), this type of narrative created among users is particularly powerful in adding meaning to a product. The role of design-led marketing to promote pro-environmental consumption and use behaviours, however, is an under-researched area.

Another way of promoting enduring appeal is by embracing slower, and as Fletcher and Grose (2011) describe it, more natural rhythms of change. Many authors such as Siegle (2011) state that the fast turnaround of trends and high volumes within fast fashion leads to increased aesthetic obsolescence and therefore increased levels of consumption and disposal. In contrast, the participating organisations have trans-seasonal styles that are offered year after year, varying only in materials and colours. These designs are, unlike fast fashion products, not inspired by current trends but the designer’s own aesthetics, thus decoupling style influences from passing trends.
Each participating business displayed a range of strategies for longevity, which were used in different combinations with each other. They are either explicitly part of their business model or occur implicitly as a result of design decisions. Furthermore, there are significant differences between the set of strategies used within each respective business; as these reflect the individual business model, they differ from case to case. For instance, creating multi-functional garments is at the heart of C3's business and multi-functional products can potentially deepen attachment and remain relevant for longer (Niinimäki, 2011). C1 and C2, however, focus on the use of waste fabrics. The notion of offering trans-seasonal products, on the other hand, applies to all three organisations. This aspect of sustainability is currently not accurately reflected in literature, which typically discusses these approaches in isolation.

Sustainability was not only at the core of each business model but inherent to the practice and worldview of the designers. This interest and knowledge of sustainability, however, can be supported and developed further through external inputs, such as design toolkits, workshops or consultancy. To ensure their relevance, however, toolkits should be developed in close connection with practitioners, through industry collaborators or come from the practitioners themselves (such as the case with C2). According to the statements made in the case study interviews, toolkits are most likely to appeal to start-ups or young businesses as their practices are less established and more open to change. The practical implementation of toolkits is explored in more detail within Phase 3 of fieldwork.
<table>
<thead>
<tr>
<th></th>
<th>Case 1</th>
<th>Case 2</th>
<th>Case 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Seasonality</strong></td>
<td>Mini-collections or individual pieces throughout the year</td>
<td>2 collections a year</td>
<td>2 collections a year; some feature only attachments</td>
</tr>
<tr>
<td></td>
<td><strong>‘Staple’ pieces + seasonal styles</strong></td>
<td>Slowly evolving ‘core’ garments + seasonal styles</td>
<td>‘Base’ garments every season</td>
</tr>
<tr>
<td><strong>Multi-functionality / modularity</strong></td>
<td>n/a</td>
<td>n/a</td>
<td>All garments are modular, reversible or transformable</td>
</tr>
<tr>
<td><strong>Alterability / repairability</strong></td>
<td>Patchwork design: potentially eternally mendable</td>
<td>Previously offered repair and alteration service; currently only advice offered as not suitable with business model</td>
<td>Suggest visiting a local dress-maker</td>
</tr>
<tr>
<td></td>
<td>High quality finish can be difficult to alter</td>
<td></td>
<td>Removable parts can potentially be repaired separately</td>
</tr>
<tr>
<td></td>
<td>Alteration &amp; repair services</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Physical / emotional durability</strong></td>
<td>One-off pieces (second-hand fabrics)</td>
<td>Numbering of collections (vs. A/W15)</td>
<td>Modularity can offer higher variety in single garment</td>
</tr>
<tr>
<td></td>
<td>Customers upload photographs</td>
<td>Unisex styles, low fit points and high stretch fabrics</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collaborate on custom designs</td>
<td>Customers upload photographs wearing the brand</td>
<td>Fabrics, seams and trims selection based on physical durability</td>
</tr>
<tr>
<td></td>
<td>Highly personal brand connection</td>
<td>Connected in local community</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High quality finish</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Classic design</strong></td>
<td>Statement pieces</td>
<td>Bright colours and fabrics, brand’s own ‘classics’</td>
<td>‘Classic’ case garments + trend-led attachments</td>
</tr>
<tr>
<td><strong>Design inspiration</strong></td>
<td>Vintage books, photographs &amp; artifacts</td>
<td>Personal aesthetic &amp; surroundings</td>
<td>Design research &amp; trend-research for seasonal attachments</td>
</tr>
<tr>
<td></td>
<td>Second-hand materials</td>
<td>Pre-consumer waste materials</td>
<td></td>
</tr>
<tr>
<td><strong>Custom sizing</strong></td>
<td>Yes, free of charge</td>
<td>Yes, free of charge</td>
<td>No, visit local dressmaker</td>
</tr>
</tbody>
</table>

**Table 3** Cross case comparison of strategies for longevity adopted in practice  

(Connor-Crabb et al., 2016, p. 35)
4.5 Summary

Phase 1 of fieldwork addresses predominantly RQ A: How do designers in UK fashion micro-enterprises implement strategies for garment longevity? This chapter provides the first contribution to knowledge addressing a gap exposed in the literature, where these strategies are largely discussed as separate entities, taken out of context. By examining how these strategies play out in real-world situations, this study provides an in-depth understanding of their often multi-layered dynamics, which in turn additionally addresses the overarching RQ: How can designers be supported in creating longer-lasting garments?

In this chapter, it has become clear that due to the size of micro-enterprises, the designer embodies several roles: designer, marketer, CEO and product developer. This means they have significant influence over decisions in domains beyond design and that design decisions are closely linked to the business model and trajectory. The findings therefore do not only relate to what may strictly be regarded as design strategies but perhaps also fall into the category of broader business strategies. The findings can be distilled into the following nine key findings, providing philosophical foundations for clothing longevity:

IMPLICIT/EXPLICIT

Strategies for longevity occur both implicitly (as a result of the business model) and explicitly (for product promotion). Implicitly occurring approaches can benefit from being identified and developed further. Explicitly expressed strategies are the pillars of a business model but must be reviewed to ensure their effectiveness (to not result in coincidental ‘green-washing’).

Example: Implicit – C1’s patchwork-style garments have the potential to become almost eternally mendable. This, however, is a by-product of a business model based on creating garments using second-hand fabrics and traditional craft techniques and not an approach aimed to extend garment lifetimes. Explicit – Garments by C3 are be promoted as physically and
emotionally durable. The selection of robust materials (to achieve physical robustness) and the creation of multifunctional garments (for enduring appeal) are key characteristics of their business model.

SMALL IS BEAUTIFUL

Strategies for longevity dovetail with micro-enterprises and thus do not stand in conflict with their design practices or business models. Small businesses are flexible and adaptable, allowing for testing of radical approaches for sustainability. They are change agents who can inspire large-scale trends.

Example: Rather than presenting a new collection every season, all three case study organisations offer trans-seasonal styles alongside seasonal pieces. This can relieve both financial and creative pressure for smaller brands. Their size allows for flexibility, enabling them to provide low numbers of identical stock or one-off pieces that can become both treasured and collectable.

PROMOTION

Strategies for longevity are supported through design-led marketing and brand messages. A powerful tool to communicate brand values and promote extended use. Customers co-create this message by sharing and uploading their own photos and comments. Designers promote and teach skills of resourcefulness online and/or offline.

Example: The notion of enduring appeal can be promoted by publishing photographs of customers wearing the brand’s garments from previous seasons or by photographing pieces from the current collection alongside older pieces (C1, C2). These messages can be strengthened through blog posts, social media as well as workshops and events. This in turn, can link the customer closer to the brand, strengthening brand loyalty. The numbering of seasons by C2, for instance, is one such approach, which can be seen as a marketing strategy informed by design.
Strategies for longevity are deeply embedded at the heart of a business as part of a broader ethos of sustainability. Business models are created around these values rather than being retrofitted. Designers’ worldviews are reflected in all aspects of their work.

Example: Environmental sustainability is a central value for all three case study organisations. Their business model was created with these goals in mind, rather than being a concept that was introduced at a later stage. This renders these young businesses as exemplars in their field, displaying innovative ways of working and creating their ‘own kind of walk’ as C1 describes it. The business owner's personal worldviews on sustainability are reflected in their businesses. Additional skills and knowledge can be developed through external factors.

RETHINK DESIGNER

*Implies a more diverse role of the designer beyond a creator of objects.* A designer in a micro-enterprise may be simultaneously CEO, pattern-cutter, developer, marketer and creative director, but also educator, facilitator and activist.

Example: Designers in a micro-enterprise often have multiple roles, this means they have significant influence over decisions in domains beyond design. By offering services, workshops or by being involved in academic projects, designers are simultaneously researchers and facilitators. These activities may simultaneously strengthen the brand’s reputation and bring the brand's employees closer to their local community and other professionals.

PICK & MIX

*Strategies are used in combination rather than in isolation, creating a type of sustainability strategy portfolio.* The synergies created by combining different approaches are unique to each scenario, depending on context, locality and other factors.
Example: It was evident in all three participating organisations that strategies for longevity are used in combination with each other. This is not reflected in literature, where the approaches are discussed in isolation. C3, for instance, offers trans-seasonal styles made from robust materials that are also multi-functional, while C2 uses pre-consumer waste materials to product garments locally.

COMPLEX

A holistic view addresses the complexity of designing for longevity (including physical product, context, use and social implications). These approaches often present contradictions and trade-off situations.

Example: while the patchwork-style garments of C1 have the potential to become almost eternally mendable, the seams of these garments are typically bound for a high-quality finish. This makes them time-consuming to unpick for alterations. Does a garment with inbuilt alterability remain relevant to its user for longer than one robustly designed to withstand intensive use? It can be argued that while bound seams are more time-consuming to open, is it possible if the desire and the skills are present. The social context of the garment rather than the garment itself may determine its fate.

CONNECT

Manifest in a collaborative network of proactive participants of skilled makers, businesses, artists, and local communities. Grassroots initiatives may inspire business, set large-scale trends, and promote their ideas through social media.

Example: collaboration is key to C2. This is evident during the design process amongst employees, but most notably in their extensive local network of skilled workers and fabric mills. For this company, locally available waste fabrics and the specific skill sets of local producers determine designs.
WELLBEING

Practices of resourcefulness and reduced consumption can be linked to notions of personal wellbeing for both user and designer. These reflect personal values and individuals can express identities through experiences of fashion linked to ‘doing’ versus ‘having’.

Example: Both designer and user are connected to their local community and to each other through experiences of the product beyond consumption or production i.e. ‘doing’ versus ‘having’ through mending, alterations, making workshops or swap events. It allows designers to express their personal world-views in their professions and customers to express these views through purchasing, use, maintenance and divestment behaviours. The values of both customers and designers are thus largely reflected in their actions. For C2, working in mainstream fashion would be ‘the equivalent of asking a vegetarian to eat turkey on Christmas day.’
Chapter 5 – Findings from the User Study (Phase 2)

In the previous chapter, the results from the first phase of research addressing the RQ A were discussed. This chapter presents the findings from the second phase of three interlinked phases of fieldwork. Based on the results from the case studies, C2 was selected as the most suitable of the three participating businesses as they expressed an interest in continued involvement. Shifting from a focus on the producers of clothing, a user study with the customers of C2 aims to answer RQ B: How do users influence garment lifetimes? The participants are first briefly introduced, the most prominent and relevant themes emerging from the interviews are discussed, and finally the chapter concludes with a summary of the main findings.

The aim of this study is to better understand the lived experience of fashion and how user behaviour influences garment lifetimes. The underlying rationale behind practices of garment purchase, use and disposal will be explored. Part of this study examines whether design strategies implemented by C2 to extend the life of their garments were acknowledged by participants and acted upon accordingly. These insights will help contextualise the design strategies for longevity found in fieldwork Phase 1 to evaluate their potential effectiveness.

5.1 User study analysis

Participant profiles

All 13 participants were female and aged between 26 and 39, the median age being 32. The participants are anonymised and names were replaced with codes U1, U2, U3 etc. Six participants work in the fashion industry and/or fashion education and the remaining seven work in other sectors (see Table 4, p. 157).
<table>
<thead>
<tr>
<th>CODE</th>
<th>Profession</th>
<th>Age</th>
<th>Location, nationality</th>
<th>Living arrangements</th>
</tr>
</thead>
<tbody>
<tr>
<td>U1</td>
<td>Secondary school teacher</td>
<td>38</td>
<td>London, British</td>
<td>Own house</td>
</tr>
<tr>
<td>U2</td>
<td>Fashion design lecturer and PhD researcher</td>
<td>31</td>
<td>London, British</td>
<td>Rented house with friend</td>
</tr>
<tr>
<td>U3</td>
<td>Textiles sustainability manager, global corporation</td>
<td>32</td>
<td>London, Romanian</td>
<td>Own apartment with fiancé</td>
</tr>
<tr>
<td>U4</td>
<td>Shop owner, fashion designer and research assistant</td>
<td>32</td>
<td>London, U.S. American</td>
<td>Rented, shared warehouse apartment with husband</td>
</tr>
<tr>
<td>U5</td>
<td>Emergency medical doctor</td>
<td>33</td>
<td>London, British</td>
<td>Rented apartment with partner</td>
</tr>
<tr>
<td>U6</td>
<td>Accounts manager, communications agency</td>
<td>33</td>
<td>London, Canadian</td>
<td>Rented apartment with husband</td>
</tr>
<tr>
<td>U7</td>
<td>Student, nutritional therapy</td>
<td>31</td>
<td>London, New Zealander</td>
<td>Rented house with husband</td>
</tr>
<tr>
<td>U8</td>
<td>Freelance stylist, fashion designer and PhD researcher</td>
<td>34</td>
<td>Manchester, British</td>
<td>Rented apartment with partner</td>
</tr>
<tr>
<td>U9</td>
<td>Self-employed style consultant</td>
<td>34</td>
<td>Halifax, British</td>
<td>Own house with fiancé</td>
</tr>
<tr>
<td>U10</td>
<td>Lecturer in fashion marketing management</td>
<td>30</td>
<td>Manchester, German</td>
<td>Rented apartment with friend</td>
</tr>
<tr>
<td>U11</td>
<td>Health subject librarian</td>
<td>39</td>
<td>Cardiff, British</td>
<td>Own house with husband and two young children</td>
</tr>
<tr>
<td>U12</td>
<td>Freelance animator</td>
<td>26</td>
<td>London, French</td>
<td>Houseboat</td>
</tr>
<tr>
<td>U13</td>
<td>Textiles lecturer and practitioner</td>
<td>29</td>
<td>Manchester, British</td>
<td>Own house with partner</td>
</tr>
</tbody>
</table>

Table 4 Overview of Phase 2 participants
While the interviews were structured to investigate attitudes to clothing acquisition, maintenance and disposal, the individual themes were not a clear focus at the beginning of the research but emerged through iterative processes of analysis and thematic coding (Robson, 2011). It became apparent in the literature review that factors influencing garment lifetimes are currently not well understood. These factors have largely been examined separately at the different stages of garment ownership (purchasing, maintenance and divestment), whereby a lack of knowledge particularly regarding garment use became apparent.

This study in contrast provides a broader perspective by incorporating all three stages of garment ownership. All participants were asked to select the following garments for interview: C2 garments they own, items that have been altered and/or repaired, something they wear frequently, a garment they have owned a long time and something that have never worn or only rarely wear. It was anticipated that this selection of garments would provide valuable reference points during conversations regarding purchasing habits, garment maintenance and disposal behaviours as well as providing specific visual examples supporting the data derived from the interviews. A visual overview of these garments can be found in Appendix F (p. 294). Excerpts from interviews have been included where relevant. First, the garment practices as found in the primary research will be examined and then discussed with respect to the literature. The results are also summarised in Table 6 (see Appendix J, p. 325).

*Shopping experience*

The participants represent a wide range of shopping behaviours. While all participants were customers of C2, not all had purchased from the brand primarily because of their commitment to sustainability. These participants also represent various attitudes regarding the experience of shopping. U10 for instance described her enjoyment of shopping as a leisure activity, which is not necessarily tied to purchasing but includes watching other people and
spending time with friends. Trying on different outfits allows her to experiment with different looks while gauging the reaction of her shopping companions. On the other hand, one participant condemned shopping as a hobby as ‘superficial’ (U11). U2 describes her strong distaste for it:

‘I hate the shopping experience [on the high-street]. The horribly bright lights and music that I’d never want to listen to normally and just the crowded busy-ness of the shop and then also there’s almost too much choice. You go in and there’s too much, too many decisions and you end up getting stuff you don’t really want.’

This sentiment is echoed by U4, for whom shopping is similarly not enjoyable. This is one of the reasons she aims to keep her garments wearable for as long as possible, repairing them to avoid divestment and thus the need to go shopping.

Convenience crystallised as another key factor influencing where participants shop, particularly those who do not shop for leisure. This can lead to those with no steadfast values on ethics in fashion to unintentionally purchase locally and sustainably made clothing and learn about them. Conversely, a lack of convenience can also lead to individuals compromising their values and purchasing from companies that do not reflect their values.

For most participants, shopping for clothes is viewed as a necessary activity that is mainly enjoyable in smaller boutiques, shops that are ‘quiet and relaxed’ (U5) or second-hand shops. Shopping on the high street was perceived by over half of the participants as a largely negative experience: overwhelming, time-consuming, and stressful.

*Online shopping*

In light of the prevailing attitudes towards high street shopping, online shopping appears to provide an easy, fast and more convenient means of acquiring clothing from within the comforts of the own home. Surprisingly, only one participant preferred shopping online to visiting brick and mortar shops. Another participant (U11) had recently begun purchasing clothing almost
exclusively online, though this was less out of choice than the result of a year-long commitment to purchasing only from fashion brands with sustainability goals; the majority of these brands are only available online. She would prefer to touch clothing and therefore finds her situation problematic.

Material tactility and fit on the body were discussed as the two main issues associated with online shopping. However, once participants were familiar with the sizing and satisfied with the quality of a particular brand, trust was established and they were more likely to purchase from the same outlet.

It was interesting to note the difference within the selection process when comparing shopping online to traditional shopping, especially as many brands with a sustainability ethos are only available to purchase online and many second-hand garments are also purchased online. One participant (U5) described her reliance on photographs, customer reviews, and fibre and care information to evaluate the garment online, with tactility and aesthetics being the main selection criteria in physical shops.

Another participant (U13) described offline shopping as a more intuitive selection process, where garments are tried on even if they are not initially deemed attractive, practical or even the correct size. Online shopping therefore relies more heavily on rational decisions regarding the practicality of a garment and includes a risk factor with regard to the garment’s appearance, handle and fit off-screen. Browsing in shops, on the other hand, allows the senses to play a larger role; here, emotional and tactile responses can lead to serendipitous purchasing.

In summary, the process of online shopping with its reliance on 2D images and written information varies greatly from shopping in physical shops, where the evaluation process relies on tactility, emotion and fit. Despite the apparent convenience of online purchasing, most participants prefer selecting their garments in smaller shops to avoid the often-unpleasant experience of high street shopping.
Second-hand

Seven of the thirteen participants regularly purchase second-hand garments. Two participants purchase almost exclusively used clothing (U7, U13). While it may be difficult to shop for specific items when visiting charity shops, second-hand boutiques or car-boot sales, the notion of the unexpected appears to be part of the appeal, even if this often means returning home with empty hands. When seeking specific items, however, most participants prefer the online auction platform eBay. One participant (U12) shops almost exclusively there to save significantly on branded items. Another participant (U2) searches eBay for high-quality fibres, such as cashmere, merino or lamb’s wool, in addition to brand names.

Apart from economic factors, uniqueness was a key motivator for three participants to purchase second-hand clothing. For U7 it would be a ‘nightmare’ to encounter somebody dressed in the same clothing she was wearing. She described dress as ‘a form of expression’ and individuality. In addition, for those participants concerned with the environmental footprint of fashion items, second-hand offered a low-cost and low-impact option. The availability of charity shops on most high streets also makes this a highly accessible means of acquiring clothing.

For those participants who never or rarely shop second-hand clothing, a range of barriers became apparent. The participants perceive the unordered chaos and sheer volume of unwanted items as unappealing and time consuming. The notion of curated, styled shopping spaces was particularly important to U5, who explains:

'I'm quite a sucker for the styling of things, so when I go to one of the high-street shops and it's all a big mess, I don't really enjoy it... Whereas if you're selling me more of an aesthetic or a lifestyle..., when it's a bit more of an experience, then I'm more likely to spend my money. And I'm aware of that but I still know that's what makes me spend.'

For this reason, U12 would like to see retailers sell own-brand second-hand
items at a reduced price alongside their new items. She feels this would not only make them more desirable and easier to select but would also be a testament to the quality of their garments and the brand’s commitment to sustainability.

For U3, second-hand clothing is stigmatised by poverty and lack of hygiene. In Romania, where she grew up, she describes her mother’s physical rejection (shuddering) when simply passing a second-hand clothing shop. An exception was made for clothing from family members or highly regarded friends. As a skilled amateur dressmaker, she aims to overcome the ‘yuck factor’, and ‘for sustainability reasons’ she intends to reclaim and repurpose old garments in the future.

Overall, the benefits of second-hand shopping were the availability, uniqueness, low cost and low environmental impact of second-hand clothes. The volume of used clothing, however, was viewed negatively as it can be highly time consuming to find suitable items for purchase. Culturally imbued stigmas of used clothing also became apparent.

These perceptions, however, are not fixed and can change over time, particularly because second-hand clothing is increasingly viewed as environmentally positive. This raises the question: How can second-hand shopping be presented in ways that are more appealing to a wider range of audiences? This is a question for future research beyond the scope of this PhD.

Gifting / borrowing / swapping

Informal channels of acquiring second-hand clothing are evident through borrowing, gifting or swapping. Five participants had organised clothes swaps themselves and six had taken part in one. U11 and her extended circle of friends regularly host swap events at their homes. She describes them as enjoyable social events and a ‘nice feeling’ when unwanted garments find a new owner. Another participant (U5) had invited friends for a one-off swap
event and said that she would repeat the event in the future.

Public events, however, can be more chaotic. U13 has helped organise community clothes swaps and describes her frustration:

‘I think that’s a bit of a shame because it’s an opportunity for us to create a different kind of fashion experience where it’s not elbowing someone out of the way to get the last t-shirt on the rail in Primark, but it’s an opportunity to do something a bit more rewarding, an alternative to that kind of situation. But some of the people who go [to the clothes swaps] aren’t going because they care about the environment or the community or they’re looking for an alternative, they just want new clothes.’

This statement reveals that these events provide platforms that can appeal to a broad demographic range, including those who would normally shop at value chains. Another participant also described clothes swaps in London as unpleasantly competitive and was frustrated by the limiting rating system in place. U8 had set up clothes swaps at her university workplace, which some students had used as a ‘dumping ground’ but which she successfully mitigated by limiting contributions to no more than six items. She feels that the events have been positively received by students who would not normally purchase second-hand clothing. U9 has organised events amongst her fellow fashion bloggers in which items are selected and swapped online. Apart from extending the life of clothing, she feels they are also beneficial to extending her professional network.

Five out of the seven participants who had not taken part in clothes swaps were interested and would consider taking part in one in the future. One participant (U7), however, doubted that others would be interested in her unwanted clothing. Furthermore, she experiences divesting clothing as an emotional process whereby she typically removes the clothing from sight as soon as possible to avoid rebound.

Attitudes toward borrowing clothing were more divided. Two participants regularly borrow clothing from their sisters or friends for special occasions. U5 describes the advantages of borrowing her sister’s dresses for weddings; the
dresses are more expensive than those she would normally be able to afford, and while they may be different to the styles she normally selects, they allow her to experiment with different looks without spending money. U13 shares clothing with her male partner on a daily basis. For one participant (U9), however, borrowing is experienced as an encroachment on her identity. While most participants had received used clothing as hand-me-downs or gifts, the main barrier for gifting clothing to others is the fear they might not fit or be to taste. The context of a somewhat anonymous swap rather than an assigned gift avoids this issue as U11 observed:

‘It’s really lovely because you think of you and your friends as all different sizes but everybody’s got stuff that doesn’t fit, either too big or too small, so there’s usually something for everyone.’

Indeed, two participants (U1 and U7) described being gifted clothing that did not fit but were unable to divest because they would feel guilty doing so. On the other hand, several of the items of clothing that the participants had kept for an extended time and to which they felt an emotional attachment were gifted or inherited garments.

While gifting and borrowing of clothing seemed to take place mainly amongst close friends and family, approximately half of the participants had taken part in different types of clothes swaps because they offer a more neutral ground for clothing exchange. These events can be organised in a variety of contexts: online, amongst friends, at a workplace or publicly organised by a shop or community-led group. These exchanges take place outside of the resource-intensive formal and linear economies of clothing acquisition and disposal and form important opportunities for extending garment lifetimes.

Quality

Several participants expressed their frustration with the quality of high-street garments. U4 describes a ‘quality fade’ in most clothing. She struggles to find items she can afford and also match her expectations for quality. Another participant (U9) recognises that the business model of fast fashion may not be based on selling high quality garments, but she is nonetheless frustrated with
the inconsistency of their quality. U2, however, perceives the quality of high-
street garments as generally ‘bad’ and describes (‘good’) quality as follows:

‘For me, quality is about natural materials, I very much prefer that to
synthetics. I also will look at the seams and how well they’re stitched if
it’s sort of quickly overlocked or if more care has been taken. I think
quality is also about carefully considered design. Something that’s really
high quality for me is something which combines incredibly beautiful
material, amazing construction and very well thought through design.’

The garments that fit this description, however, are currently unaffordable for
her. The link between price and quality is echoed by five other participants
who aim to follow the principle of ‘buy less, buy better’ in the future. Three of
these participants want to purchase high-end designer clothing as ‘investment
pieces’ and to support young designers, though this is also currently
unaffordable for them. One participant (U3) felt that price is not a guarantee for
durability and observed that a jacket she has owned for ten years originated
from a value chain shop.

It was commonly perceived that garments made from natural fibres are of
higher quality and value than those made from synthetic fibres. Four
participants attempt to make a judgment on the quality of a garment by
examining the robustness of the fabric and checking seams for damage,
although they also recognise that making a judgment on the longevity of
clothing is only possible to a certain extent and often unpredictable long-term.

Quality is thus intangible, difficult to assess and is viewed as linked to
material, construction and cost. How the garments withstand wear over
time, however, is largely unpredictable and rarely seems directly linked
to the provenance and cost of a garment.

**C2 evaluation**

Three participants who had purchased their C2 item(s) from a physical shop
learned about C2’s sourcing methods and ethos through speaking with a shop
assistant, who in this case was also one of the shop owners. These
participants were previously unaware of the shop’s commitment to sustainable and local production but were drawn in by the window display. The other participants became aware of C2’s practices online when searching specifically for sustainable brands or through personal interactions with the brand owner. Those with the highest level of knowledge of C2 were, perhaps unsurprisingly, fashion professionals.

Apart from factors relating to local production and reuse of waste materials, participants note aesthetic descriptors concerning C2 items they purchased. As the waste materials originate from UK textile mills, they were perceived by knowledgeable participants as high quality materials normally unaffordable within new items. The use of these materials also means only a small number of identical items are produced. However, this was not typically viewed as a unique selling point since small production numbers are expected from small companies. For one participant, limited runs are an incentive to purchase the item instantly as they will quickly become unavailable.

Unfortunately, the provenance and exact fibre composition is often unknown, making it difficult to state precise washing instructions. In these cases, C2 care labels cautiously specify ‘hand-wash only’. U1, who prefers easy-care clothing, has avoided wearing her C2 garment because she is concerned about how it will perform when laundered. Some participants hand-washed their C2 garments while most machine-washed them at 30 degrees.

It is viewed as mostly positive that most of C2’s garment shapes evolve only slowly as new colours and fabrics provided variety:

‘I like the idea that it’s not going to radically change according to trend and that it’s going off what source materials are available… So it’s reassuring, I suppose; a garment design that works really well and that you find flattering to wear is always going to be available.’ (U8)

The C2 garments owned by the participants were between 1 day and 4 years old at the time of the interview, with an average age of 2 years. Many garments had undergone phases of intense use. While all pieces were still in
wearable condition, wear and tear had occurred in some, including fraying at the shoulder seam, moth holes and the unravelling of hems on leggings. However, the participants plan to mend their garments, have them mended professionally, or continue wearing them despite the damage.

C2 silhouettes were described as flattering and easy to wear. Six participants fluctuate between dress sizes, which C2 garments aim to accommodate through loose cuts and stretch fabrics. For one participant, however, a skirt by C2 was divested despite its forgiving waistband, as it became too tight fitting on the hips. The lower half of a dress was seen as somewhat revealing by one participant and is therefore only worn on ‘small bottom, flat stomach days’ (U5). For a petite wearer, the top on her C2 dress is slightly too long. Unfortunately, these participants were unaware of C2’s custom sizing service at no extra cost.

It became clear that those possessing knowledge on the environmental impacts of fashion had informed themselves of C2’s approaches to sourcing, production and design. For others, the main reason for purchasing their garments was the design and fit; the sustainability goals of C2 were merely a bonus. The extent to which the participants have become more aware of the negative impacts of fashion since their purchase of C2 garments and how this may have influenced their perceptions is unclear. It appears not to have significantly become more environmentally conscious to date. One can nonetheless speculate that their exposure to C2’s practices have increased their awareness of sustainable and desirable alternatives to mainstream fashion, particularly as C2’s designs appear to appeal also to high-street shoppers. The remaining question: How to change their consumption behaviour long-term?

*Sustainability*

At the time of the interview, two participants were undertaking yearlong projects to challenge clothing consumption habits. U3 aims not to purchase any new clothing for the year as she felt that she owned ‘too many clothes’,
which led to a ‘paralysis of choice’ when getting dressed. U11, on the other hand, had begun a year of purchasing clothing only from companies with a commitment to sustainability in addition to second-hand and home-sewn items. It was within the remit of this project that she encountered C2’s online shop. This participant consciously purchases local and organic groceries when possible to minimise her environmental footprint, yet she had not previously considered the impact of her clothing purchases. While she does not struggle to find a wide selection of clothing that appeal to her and match her sustainability criteria, there are specific product types she has difficulty sourcing. She also felt a deep frustration with the lack of products and the dilemmas she encounters in trade-off situations. She explains: ‘It’s like a Pandora’s box, it’s really hard to make these decisions’ (U11).

Five out of the thirteen participants felt strongly about the social and environmental impacts of the fashion industry; this is reflected in their clothing consumption and maintenance habits to varying degrees. For one participant (U13), the environmental impacts of clothing production are the main reason for purchasing almost exclusively buying second-hand clothing. Another participant (U2) purchases a mixture of second-hand and new items that meet her sustainability criteria. In addition to environmental reasons, this participant feels that the dominance of large-scale corporations does not allow for smaller independent companies to succeed. She also feels that high-street garments lack quality and depth of meaning: ‘It’s not about craft at all, there’s no sort of richness in the process of making clothes or appreciation for the garment, it’s quite crude’ (U2). The main rationale for purchasing mainly second-hand clothing for U7 is a concern for the exploitation of workers producing high-street clothing.

Nonetheless, for those who prefer to shop responsibly, aesthetics can at times take priority. U4, for instance, purchases garments from a high-street shop that sells items she deems suitable for work and flattering to wear, although she does not ‘believe in’ their ethical values as a company. These styles are not catered for elsewhere, and as an unconfident dresser, she will purchase similar items a number of times from this shop (shopping behaviour she
describes as ‘stereotypically male’).

U5 described clothing from sustainable fashion companies as ‘bohemian’ and ‘tie-dye’ and therefore feels that clothing from these brands, with the exception of C2, do not cater to her aesthetic. To her delight, a conversation with a shop assistant at a shop stocking C2, however, revealed that purchasing second-hand extends the useful life of clothing and therefore has environmental benefits, although her incentive for eBay purchases had been primarily financially motivated.

Participant U10 states provenance as more important than fibre composition, though it does not always determine the purchase of a garment. The factors that ultimately influence a purchasing decision are convoluted: at times the company credentials and ‘Made in…’ label play a role, at other times aesthetics are more important. This behaviour is recognised by the participant herself as ‘contradicting’ and problematic to rationalise. Three other participants expressed the importance of local and fair production when purchasing new clothing. U13 describes her wish to ‘live, work, grow and share in a small area’ but found it difficult to rationalise why this was important to her. Similarly, U11 states ‘my gut instinct is that I would prefer to buy British manufactured stuff’, but she considers international Fair Trade certified produce as an acceptable alternative.

The remaining participants are less concerned with sustainability and make up a similarly heterogeneous mixture of consumption habits and values. For U3, for instance, value chain Primark is unacceptable, yet for her own home-sewn creations she often uses low-cost fabrics, regardless of their impact during production. Another participant (U12) also boycotts Primark but shops at high-street shops such as GAP in addition to second-hand. U9 also condemns value chains but is simultaneously ‘a devout fan’ of H&M and purchases only from retailers she feels ‘good’ about. Another participant (U6) shops almost exclusively from the high-street and associates higher-priced items with higher quality and more ethical production practices. U1, who also typically shops on the high street, views sustainably produced clothing as ‘a good bonus’
justifying a somewhat higher price.

For U5, on the other hand, convenience is the key factor for purchasing clothing. Her wardrobe is made up of a wide-ranging mixture of second-hand, up-cycled, custom-made, swapped, value-chain, mid to upper high-street items and also several sustainable and locally produced items from the shop stocking C2 garments. While clothing from this shop makes her feel ‘good’ and ‘smug’, like when purchasing organic food, these purchases were made because of the shop’s proximity to her home and not because she was seeking out independent or sustainability-focused fashion outlets in particular.

Overall, a wide range of consumption habits and attitudes toward sustainability were documented. These do not fit into binary consumer typologies, such as the ‘responsible’ or ‘irresponsible’ consumer. Motivating factors were varied, nuanced, and at times contradictory or inconsistent. The seductive power of instantly available and affordable mainstream fashion led even those with otherwise steadfast values astray. This was in part attributed to the lack (or the perceived lack) of sufficient sustainable sources for clothing. Interestingly, those participants with no genuine interest in the impact of the fashion industry only purchased garments from C2 (and other sustainable brands) following a serendipitous encounter with the physical shop. This illustrates the reach of these retail spaces beyond what is possible within the digital world.

*Fit / Comfort*

Garment fit and body image emerged as important factors influencing the purchase, wear and divestment of clothing. Nine participants described their bodies as non-standard: an hourglass figure with a slightly shorter waist, petite, skinny frame, curvy, pear-shaped and tall, short torso, broad shoulders, short legs, an ‘awkwardly shaped’ body. The implication was that participants would avoid certain garment shapes, fits or lengths, and instead select those garments and outfits perceived as ‘flattering’ by accentuating certain parts of the body and drawing attention away from others.
Interestingly, these self-imposed rules were not always fixed. This was the case for U3, who deemed body-con (figure hugging stretch) dresses as unsuitable for her body type but who has recently started wearing them. Likewise, a certain hem length may be perceived as suitable at one point while at a later time a different length may be preferred. Similarly, the notion of the ‘timeless classic’ appears to be in flux. Jeans are often regarded as a wardrobe classic, but preferences for shape, fit, fabric, colour and styling change over time. U5 concurs: ‘I remember when skinny jeans came out and I was like, I’m never letting go of my boot cuts. Now I think they’re all gone’.

In the same sense, one participant criticised a jumper for being unflattering as it differed to other jumpers she owned, but through wearing it she became accustomed to its particular fit (U11). A common theme that emerged was the difficulty participants experienced in finding jeans that fit in the waist, hips and thighs. One such participant (U1) shared her experience on social media and received an overwhelming response of women agreeing with her. Fit is particularly important to this participant, who stated that at her age, fashionability was less of a priority. She felt that many shops do not cater for her petite shape, although she is ‘not really that far away from [the fashion industry’s] supposed ideal’.

Something rarely discussed in literature is the notion of clothing providing comfort and warmth. This is a key point as the focus in literature is on fashion rather than the functional aspects of clothing (Kawamura, 2005). In the interviews this was frequently discussed as an important and perhaps most basic requirement of a garment. There were garments that were appreciated for keeping their owner warm in cold offices, loose-fitting tops that keep them cool in the summer, or layer-able garments to help regulate body temperatures when commuting and transitioning between cold and warm.

Overall, most participants described their body shape as non-standard, making it difficult to find well-fitting clothing in the standardised offerings in mainstream fashion outlets. While there appear to be self-imposed rules as to which clothing is deemed suitable, these attitudes fluctuate.
Home-dressmaking

Of the nine participants who had sewn or knitted clothing themselves, only two regularly make their own clothing. One participant mainly sews for her daughter, while U3 documents her creations on her blog and wears them with pride despite technical imperfections. This has allowed her to widen her social network with like-minded sewers online. She also refashions items she considers unwearable. She is committed to her hobby and states:

‘I couldn’t live without sewing, it’s my life… It’s therapy, it’s a creative outlet, I can’t even explain how much fun it is and how happy it makes me. …I sew for fun and I sew for pleasure and I sew loads of things… And when you want something new, I just sew myself something new and I have something new instead of buying something new.’

For U4, home-dressmaking allows her to use vintage dress patterns with details that are not available in shops. However, she feels frustrated with the fabrics available for home sewing, which she considered sub-industry standard, resulting in items that do not perform as well as shop-bought garments. She also finds fabric choice generally challenging. While other participants would like to sew more but cannot commit the time it takes to make an entire garment, some use their skills for repairing and altering items and experience a similar satisfaction from these activities.

Of those who are currently unskilled in dressmaking, two participants are keen to take sewing classes in the near future, allowing them to alter their garments and connect with likeminded people in her local community. The remainder of the participants, who do not wish to learn sewing, state that alteration services are sufficiently convenient and economic, or have acquaintances who can make or alter clothing for them. For them, there is no incentive to learn sewing; social commitments and other hobbies take priority.

Thus, home-dressmaking is perceived as a time-intensive but satisfying hobby. In contemporary contexts, when it is often cheaper to buy a new garment than make one, up-cycling and mending unwanted garments provide
alternatives for cost-conscious and environmentally aware makers. Sewing classes and online platforms allow participants to enhance skills and widen their social circle. Other participants draw on repair services and skilled friends and family.

Trends

None of the participants consider themselves early adopters or dedicated followers of trends but acknowledge that their clothing choices are influenced by external factors, such as what people around them wear and what they are exposed to in the media.

One participant (U7), however, actively attempts to avoid following trends to set herself apart from the crowds and for this reason purchases almost exclusively second-hand garments. Another participant similarly describes her clothing choices as reflecting her personal identity rather than influenced by trends. Several participants feel that they acted upon style changes more at a younger age, with only the more established, longer-lasting trends now influencing these participants. For these participants, aged between 26 and 39, following the latest trends is in fact viewed as undesirable, as it may seem that one is ‘trying too hard… because it would just look like I’m a bit deluded’ (U1). This is echoed by a participant who feels that many styles are ‘too young’ and therefore avoids clothing that has ‘too much of a radical style’ (U8).

The same participant feels that a trend ‘tends to recycle itself so often that it loses meaning’ and thus experienced ‘trend fatigue’ (U8). Another participant felt jaded by the constant change of style, which she feels is closely linked to capitalism and increasing profits rather than ‘a natural progression to what people want to wear’ (U1). There are, however, a number of participants who take interest in emerging fashion trends less as inspiration for their own style and more as a spectacle in its own right. For participants working in the fashion industry and education, keeping up to date with current fashions is an integral part of their profession.
Two participants use fashion imagery from magazines and online sources to collect ideas for new additions to their wardrobe. Friends and family are then often used as barometers to gauge the suitability of new garments. This notion reflects what another participant described as being more influenced by ‘tribes than trends’ (U12). Here, trends do not trickle down from the runway but instead develop from the bottom up, or perhaps develop synergistically, emerging as ‘organic trends’ (U1).

It becomes clear that trends can come in different guises and can affect the longevity of the clothing to varying degrees. Often, longer-lived trends as opposed to fads are adopted. These styles embodied by others are hereby typically more influential than those shown on the catwalk. These items are then carefully selected to be incorporated into their existing wardrobe, with consideration to the image of themselves they hope to project.

Fibres

As previously described, tactility is a key factor when purchasing garments. For U7, fibre composition is less important than the emotional response a garment’s tactility evokes. While eight participants state that they prefer natural fibres, exceptions are often made when synthetic garments feel ‘silky’ rather than ‘plasticky’, and if the piece is sleeveless or a loose cut it is less likely to become uncomfortable in the heat. Participants discussed advantages of synthetics as robust, resistant to fading, pilling and creasing and being easy to care for. Their ‘clinging’ to other garments or tendency to become static were viewed as disadvantages. Several participants perceive synthetics as lower value compared with natural fibres. One participant feels that wool items can withstand dirt better, thus requiring less laundering than cotton jersey items. For two participants, however, pure linen garments quickly look ‘sloppy’ (U6) and ‘scruffy’ (U9).

For environmentally conscious participants, fibre content plays a significant role when purchasing new items (preferring organic cotton and recycled polyester, for instance) but less so when purchasing second-hand items.
Another participant checks a garment’s care label to ensure it is easy care while fibre information is largely irrelevant.

One can therefore conclude that fibre choices are typically made based on their performance on the body (comfort during use and creasing), the garment’s fit and cut, tactility, ease of care and environmental impact. Garments made from natural fibres are generally viewed as higher value, while synthetics are perceived as easier to care for and more durable.

**Tailor-made**

Only one participant (U5) has had clothing tailor-made. She acquired several dresses when living in The Gambia where it is less expensive than ready-to-wear clothing and thus the norm. Customers would choose the fabrics from the local market, and based on an image from a magazine, a tailor would create the garment. U5, however, described the fabric selection process as problematic (similar to U4 when selecting fabrics for home-dressmaking). While this led to the creation of several unwearable dresses, it was not considered a problem due to the low cost involved and the enjoyable process. However, the participant no longer wears these dresses as she has since lost weight and also describes them as styles that are unsuitable to wear in London. She had another dress tailor-made in Birmingham by a local designer (cost £150), which was co-designed. She described the process as ‘exciting’ and the resulting dress as well fitting. This notion was echoed by U6, who had her wedding dress altered to fit and was amazed that the garment could be ‘sculpted’ to her body.

One participant (U1) who is frustrated with the fit of clothing, particularly trousers, would like to get a pair of tailored trousers to fit her. She feels she could not afford it and was unsure whether this service is available for women. Another participant is considering having a shirt made by an acquaintance who is a tailor on Saville Row, ‘not just for the end product, ... [but] for the experience as well’ (U2). Though the discussed tailor does not currently produce women’s wear.
Once commonplace, tailor-made clothing is now a niche market and often a costly means of acquiring clothing. Those who have used tailoring services are positive about the experience. Regarding the difficulty participants expressed in finding well-fitting clothing, one may ask how the niche for modern-day bespoke women's wear may be addressed.

**Confidence**

Most participants feel relatively confident in putting together outfits, an activity that was described by three participants as enjoyable. Three participants, however, find dressing in the mornings for work difficult, while U4 finds dressing problematic on a daily basis, often leaving her unhappy with her choice of outfit. Her solution is to wear similar pieces as a type of ‘uniform’ (according to the participant, half of her wardrobe is navy) and to keep suitable garments intact for as long as possible by repairing them. Two participants discussed colour-coordination as a type of ‘obsession’, perhaps a means of coping with the pressures of dressing.

Most participants said their clothing choices have changed significantly since their early twenties, when they wore more revealing and more daring outfits. U8 previously wore ‘really crazy’ clothing that attracted attention, though she now prefers ‘safe’ options that blend in. U1 describes that when she was younger, she would dress in ways to attract attention and to get people to talk to her as she was more reserved. For U10, however, her self-declared ‘quirky’ dress sense means she can continue wearing clothing she has owned for an extended period, ensuring their relevance through new outfit combinations. While she still aims to look ‘different’, her clothing choices were more unusual in younger years.

There was no obvious link between those with a professional connection to fashion and their confidence in selecting outfits, exemplified by U4 who is a designer but described herself as insecure in her clothing choices. The less confident dressers tend to have guidelines for themselves, wear similar styles
repeatedly or maintain clothes carefully to avoid purchasing new items. Some participants, however, enjoy the process of selecting clothing and choose outfits that stand out. The change of clothing preference over time shows how closely dress is linked to representing ever-changing identities.

Fit on the body

Five participants had experienced changes in body weight in the last five years, and consequently their dress size. For one participant (U9) who had lost weight, more figure-hugging styles that were previously deemed unsuitable, had become part of her wardrobe. The larger garments are not disposed of or altered, but rather stored as future maternity clothing. In contrast, another participant had gained weight and has disposed of most of her smaller clothing. She also alters certain garments:

‘Although I tend to think about my wardrobe quite pragmatically, I do really love my clothes, so if I can’t wear them anymore, that’s just really sad… So generally, the thing that I would do is just to get rid of it. Because it makes me too sad. But with this particular garment, I just really, really like it. I love the colour, and I love the style of it, so… I potentially would alter it’ (U13)

One participant fluctuates rather dramatically between three dress sizes throughout the year and stocks a range of sizes in her wardrobe. She describes her wardrobe consisting of mainly draped, jersey items that can accommodate weight fluctuations to a certain extent (similar to C2’s designs). While this participant has recently divested herself of pieces that are too small for her, another participant keeps her smaller-sized garments as motivational pieces she hopes will fit her in the future.

Different to other product groups, clothing is worn on the body and thus can loose its usefulness if the body shape changes. On the other hand, textiles and seams can be manipulated and changed if so desired. However, this is a time-consuming and potentially costly activity and may not be considered worthwhile. Typically, clothing that does not fit is either stored or disposed of.
Laundry

Participant U13 described herself as ‘anti washing’. During a yearlong project to raise money for Water Aid, she washed her clothing only by hand, thus also reducing the volume she washed. This was a response to her perception of the unnecessarily frequent washing habits of the general population. For this reason, she avoids synthetics, which are less breathable and thus require increased laundering. She links laundering to fabric deterioration and reduced longevity. U13 experiences this mainly with underwear, which degrades particularly rapidly due to frequent washing.

Two other participants also made the connection between garment durability and laundering. U4 hand-washes approximately half of her clothing because feels machine-washing natural fibres will lead to colour fading. She machine-washes only underwear and jeans. Although she acknowledges that hand washing is time-consuming, it has become part of her monthly routine and not viewed as particularly bothersome.

Another participant owns several items that are very rarely hand-washed (a silk skirt and a silk velvet dress) or have never been washed (a wool dress, see Figure 5.4, p. 206). She feels this has preserved the durability of these items, which have been regularly worn for 10 years or more. Tops are typically worn beneath these dresses and experience the ‘hardcore’ washing (U11). U2 similarly layers a long-sleeve top as a type of base-layer that is more frequently washed than the upper layer. This participant attributes woollen garments with being able to withstand dirt better than other fibres.

U6, however, feels that it is unhygienic to follow the manufacturer’s recommendation of her recently purchased jeans to wear them for a year before laundering them for the first time. This participant also feels that hand washing does not clean clothing thoroughly.

Four participants routinely check and follow care instructions, though many suspected that companies might be overcautious in their washing instructions
to avoid returns. For this reason and for convenience, the majority of participants’ hand-wash items that are labelled dry-clean, and they machine wash items labelled ‘hand-wash’ on a gentle cycle. Two participants describe themselves as risk-takers and machine-wash all clothing at 30 degrees, regardless of the instructions. For U3 this has resulted in permanently damaging an inherited 1950s silk taffeta dress with petticoat. To avoid washing a garment after each wear, all participants admitted performing a ‘sniff test’ (except undergarments and socks) or examining the item for stains to ascertain whether it requires laundering.

Yet laundering is not always linked to cleaning: one participant washes a stretch skirt to restore its shape (U2). Other maintenance practices included using a bobble-comb to revive a garment with pilling. To preserve the condition of their work-clothes, three participants change into more comfortable home clothing, which ‘take a beating’ (U8) when worn for cooking, household chores and gardening. To refresh their work attire, they often air their garments or steam them in the shower.

The frequency of washing is dependent not only on the care label but also the participants’ perceptions of hygiene, garment type, fibre composition and lifestyle (often highly idiosyncratic). Some participants link the longevity of their clothing to washing frequency and have various practices in place to prevent certain items from the effects of frequent laundering. For others, however, convenience is key even if this is at the cost of their clothing.

*Repair*

All participants have undertaken minor repairs, such as replacing missing buttons. Emergency medical Doctor U5, however, states:

‘I once sewed a button on a coat and it ruined the whole coat… So after that I’m not even going to touch it… Even though I sew people up for a living, I’m too scared of the material.’

The main barrier to mending was a lack (or perceived lack) of skills and time.
U3 (from Romania) feels that darning looked ‘not neat’ and ‘horrible’, while another participant typically considers a garment fault, such as holes or a broken zip or seam, a reason for discarding, particularly as professional services are not convenient to access. One participant has garments repaired by her mother. Another participant only has treasured garments professionally mended, while two participants use professional services regularly to replace zips and repair broken seams.

Seven of these participants repair larger damage, such as rips or holes, themselves. There is a broad spectrum of abilities and practices amongst these participants. U4 states that every garment in her wardrobe has either been mended or requires mending; she is frustrated with how ‘hard’ she is on clothing. For her, mending is also motivated by the desire to keep an item wearable for as long as possible – she finds it difficult to find suitable new items. She considers the mendability of a garment when purchasing and describes a dress in an advertisement as follows:

‘The perfectness of the surface and the sheen of that fabric is what that dress is all about, so you would never mend it. And there’s something about that being completely closed-offness that drives me completely crazy.’

U13 similarly states that around 90% of her wardrobe consists of altered or mended garments and feels that mended items can be ‘beautiful’. She also experiences enjoyment from the activity of mending. U2 similarly considers mending ‘therapeutic’ and has carried out visible and transformative mends. Four participants have carried out smaller repairs, including creative and visible repairs (Figure 5.2, p. 204), but some feel they lack the equipment (sewing machine) or skills (such as darning). U13 owns a dress, which is worn at least once a week and requires mending nearly every time she wears it as the stitching quality is low and the seams break. This constant need for repair does not, however, deter her from wearing it. There are also larger repairs or remaking projects, which take her several years to complete, though this is not a problem for her. Her partner sews, too, and they repair clothing together in the evenings. For her, mending is a ‘creative outlet’ similar to dressmaking,
albeit less time-intensive.

With the exception of one participant, most of those who have the skills consider mending an enjoyable practice that makes clothing useful again but they also view it as a satisfyingly creative activity. The majority of the other participants undertake minor repairs themselves and utilise professional services or skilled family members, though holes are often seen as a reason for divestment. While mending still appears to carry a stigma of poverty, some participants are subverting this and celebrating their repairs through creative visible mending techniques.

**Alteration**

Six participants feel they have the skills to carry out alterations and do so themselves. U3 is the exception. She carries out only transformative alterations herself as she sees smaller ones as tedious and delegates these to professional services. Interestingly, she prefers to up-cycle items that are beyond usability and to donate or gift usable but unwanted items. The remaining participants have friends or family who help them with alterations or use professional services. One participant describes utilising an in-store alterations service at an upmarket high street chain store: ‘They just make it so easy, so I’ve therefore bought stuff I wouldn’t have normally’ (U5).

A range of alteration types were discussed at the interviews. U2 had added decorative embroidery to a plain sweatshirt while U13 has enlarged several items, due to weight gain. This participant made the observation that some vintage garments feature unusually large seam allowances, allowing the garment to be enlarged if required, as is her case. For U11, alteration has become a ‘dress-making outlet’ as alterations are less time-consuming than making entire garments. She takes pride in her projects, enjoys ‘troubleshooting’ and learning new skills from online video platforms (see Figure 5.1, p. 203). One participant has hems regularly taken up at a local dry-cleaners while another participant has travelled across London to have a garment altered at reputable alteration services.
Unlike sewing, dyeing clothing to restore or change their colour requires no additional equipment or skills. Those with a professional background in fashion were nonetheless more likely to dye their clothing, while others either had not typically considered dyeing clothing as a means to restore a garment to usefulness or were concerned the outcome would not be as expected. Indeed, three participants described unsuccessful outcomes in which stitching remained the original colour or the dyed item resulted in a different colour than expected. For some participants this was a reason to avoid dyeing clothes. Others would take a calculated risk. Participant U12 had dyed some items with onion skins, a low-impact alternative to synthetic dyes, a technique she learned about from speaking with a local shop owner.

What became apparent was that those with skills to alter their clothing themselves often take a creative approach to alteration, similar to mending, changing the garments more radically, while the garments taken to be altered professionally often required minor adjustments. This may be linked to a participant’s knowledge of what is possible. As U5 said: ‘I just don’t have a dress-maker mind at all’. Another consideration is the increased cost of more complex alterations. Dyeing is hence an easy option but also a higher risk when updating or restoring clothing colour.

*Sentimental value*

Eleven participants own garments they keep for sentimental reasons. For most, these garments are mementos of a person or a certain time and kept as a ‘personal archive’ (U8). These items are either deemed unwearable and simply stored (‘a bit like having old photographs’ said U11), while other pieces are part of the active wardrobe and worn regularly. One participant has a tendency to keep clothing she associates with positive memories, discarding those with negative memories attached. Another participant avoids wearing a top she has worn during a happy moment, afraid that she will taint it with negative experiences (U6). Memory can thus become an impediment to use. U9, for instance, prefers to focus on the here and now:
‘A couple of years ago, I got rid of all my Pacha t-shirts because I thought I’m not that person anymore, that was a phase of my life and I don’t need those clothes to assert that memory. No, I don’t have a lot of clothes to keep for memories. There can be a danger of remembering too much from your past about who you were and not who you are now.’

Two participants own many garments they feel emotionally attached to and therefore find it difficult to dispose of clothing. One participant regrets some clothing she has divested but simultaneously recognises the physical limits of her wardrobe. She describes herself as a ‘hoarder’ and does not replace items unless they break.

On the other end of the spectrum, are participants who do not normally keep garments for sentimental reasons. While most participants with wedding dresses in their possession store these for sentimental reasons, U4 is considering dyeing hers, so she can continue wearing it; she would rather sell it than preserve it. Two participants described themselves as more pragmatic than nostalgic about clothes but realised in the course of the interview that they were more emotionally attached to an item under discussion than they had previously realised.

Garments can also be valued for their symbolic meaning, the item’s design, its materials, craftsmanship or quality. The stitch types used within a traditional Aran cardigan symbolise specific meanings, for instance, a stitch signifying safety. U2 explains:

‘It’s nice to feel like there’s a story or meaning sort of stitched into it… it does, I think, make me value it a lot more than if it was just sort of a machine-knit garment’.

U13 is a knitwear designer and therefore values a printed knit top, as printed knitwear is apparently unusual. This participant also owns a hand-embroidered Indian tunic with mirror work and admires its craftsmanship. For this reason, she aims to repurpose the embroidered cuffs and neck panel one the main body of the garment becomes worn beyond repair (Figure 5.3, p. 205). Garments can also be valued and kept for their monetary value, such as designer items, or in the case of vintage garments, for their historic
significance and rarity.

Emotional attachment to clothing can occur at various levels and can lead to divestment or storing. The participants owned at least one such item, and some owned many garments with sentimental value, making divestment of unworn clothing difficult. Clothing is thus valued for a range of qualities, such symbolic meaning, monetary value, technical characteristics, craftsmanship, age, materials, or design.

Disposal

Wardrobe audits typically lead to unwanted clothing being disposed of to make space for new items. These can take place seasonally, annually, every 5 years or less, or when moving house. Most participants approach this pragmatically, some feel it is ‘liberating’ (U6) and others describe it as a difficult process causing anxiety. The latter group of participants tend to describe themselves as hoarders and have emotional attachments to many clothes. They avoid divestment as they feel there is potential for the garment to be worn in the future and therefore only rarely dispose of clothing.

Criteria for divestment were similar for all participants: garments that have not been worn in over a year, or clothing they do not see themselves wearing in the future, is damaged, worn out, or no longer deemed suitable for their lifestyle. Exceptions to their self-imposed rules, however, seem to be made frequently. One participant stores vintage clothing as a type of ‘fashion archive’ (U8) and another collects designer clothing she does not wear. Another participant has purchased colourful clothing specifically to make her wardrobe look more visually appealing, although most of these items have never been worn.

The relationships the participants had with their wardrobes varied greatly. One participant felt ‘embarrassed’ and ‘guilty’ about the amount of clothing she owns (U3). As a coping mechanism, she stores clothing in boxes; these are occasionally re-circulated into her active wardrobe. While four participants feel
they own ‘too many’ clothes, two participants feel they have reached an ‘equilibrium’ (U8) with their wardrobes; these are ‘well stocked… there’s lots of choice but it’s not overwhelming’ (U13). The amount of clothing participants own is typically influenced by the amount of space available: a houseboat or small flat in London, for instance, require more rigour. One participant with limited living space stores clothing at her parents’ house, these items are regularly re-introduced into her current wardrobe (U2).

All participants donate unwanted clothing to charity. For four participants this is their main method of getting rid of unwanted clothing. This is convenient and creates a sense of ‘doing good’ rather than guilt. Several participants have sold items on eBay, although not all experiences were positive and often financial gain was not considered sufficient in comparison with the time invested in advertising, packaging and posting items. Thus, participants sell mostly high value items in good condition, while other items are gifted, sold at car-boot sales or jumble sales, swapped and donated to charity.

It was interesting to note that participants are more likely to purchase items from eBay than sell items on the platform, as the financial return is often not deemed worthwhile. The process of parting with clothing was either fraught with mixed emotions of relief and anxiety or was perceived as a pragmatic sorting process. The notion of a smaller active wardrobe and storing garments elsewhere to ‘rediscover’ them and re-circulate as ‘new’ garments was described as a means of coping with owning many clothes and a lack of space, while simultaneously extending the useful life of the garments.

Scenarios

Each interview was concluded by discussing four possible scenarios for garment life extension: classic, lifetime guarantee, modular and co-creation.

Four participants described ‘classic’ as the archetypal garment: styles that their mother or grandmother would be comfortable wearing or would recognise, though one participant noted that ‘everybody would have their own
definitions’ of classic (U4). One participant describes items that are made every season as classic, something she associates with luxury fashion brands. Classic was described by two participants as personal classics: certain shapes that have been established to flatter the body. Some fabrics were additionally deemed ‘timeless’ e.g. corduroy (U7). U13, on the other hand, does not identify with this concept and states:

‘I really disagree with this classic idea. Probably because I don’t own a single classic garment in my entire wardrobe. And I keep things and love them and wear them because they’re interesting and individual or have something exciting about them or they’re colourful or they’re patterned. And I just don’t connect with that classic idea at all.’

Six participants are interested in purchasing garments with lifetime durability guarantees. Many participants were aware of brands offering durability guarantees or had first-hand experience of products with durability guarantees. Nonetheless, all participants viewed guarantees as generally positive and were prepared to pay a premium as it encourages the extended use of higher-quality items. These participants feel less capricious in their fashion choices than when they were younger (as previously described). This concept may thus be more relevant to a certain customer group and specific garment categories, such as coats or jeans that are intended to be used over longer periods. One participant envisioned a guarantee linked with a service that not only repairs but also modernises the garment to ensure it remains relevant.

However, some concerns regarding the viability of this concept were raised. One participant owned a pair of shoes with a lifetime guarantee and was frustrated when the company replaced the shoes rather than repairing them because it was more cost effective to the company (but created more waste). Another participant questioned the convenience and cost of posting items to the manufacturer as opposed to utilising a local service. Three participants were sceptical this could be a viable business model. One participant stated: ‘it would be like giving an insurance to somebody who lives on a flood plain’ (U4). Furthermore, there were doubts about younger companies outliving the
duration of the guarantee. U11 feels that wear and tear should be expected and would prefer manufacturers to offer fee-based services rather than a guarantee as this would vouch for the company’s commitment to quality and longevity.

Participants felt divided about modular garments: seven were interested in the concept while four felt it would not be relevant to them and two participants were unsure. One participant felt a modular garment might reduce stress-levels when getting dressed for work. This participant, however, had recently gained weight and was concerned about the base garment allowing for changes in dress size. While U2 deeply regretted not purchasing a shirt with detachable cuffs and collars, which is no longer available, she stated: ‘I also think that there’s a fine line between designing something that’s really practical and functional and something that can be slightly gimmicky.’ Modularity also means that damaged parts can be easily replaced, observed one participant and commented that these parts could be washed separately and thus postpone wearing out the main body through frequent washing. A similar comment was raised with regard to the ability for companies to offer modular components for years to come, after having bought into this system.

For the two participants interested in learning to sew, a co-creation process was considered of benefit. Here, an expert could support them selecting suitable fabric, such as U11, who is currently selecting custom fabrics for a dress by C2 and states: ‘It’s a perfect end-result for me really. I get a say and have somebody else make it, so the project gets finished.’ For those with little to no sewing experience this concept received mostly positive responses and made-to-measure services were attractive to those who have difficulty finding well-fitting clothing. One participant, however, had doubts about translating her ideas into a specific design, while another participant was concerned the bespoke garment (which was assumed to cost significantly more than off-the-rail clothing) would no longer fit in the case of weight loss or gain.

5.2 Discussion
For this part of the chapter, the topics discussed are grouped into three main themes: acquisition, use and divestment. Findings are discussed in relation to the literature.

**Acquisition**

In order to reduce consumption levels in fashion, it is important to understand what motivates new purchases. Alternative means of acquiring clothing through home-dressmaking and re-making, gifting, borrowing and swapping emerged in this research as additional informal avenues of clothing acquisition that are largely undocumented in the literature to date and provide valuable insights into clothing behaviour and their impact on clothing longevity.

How the process of clothing acquisition was experienced largely depended on the context. Shopping on the high street was viewed either as a necessary but unpleasant chore or a leisure activity not necessarily focused on purchasing but rather on spending time with friends and experimenting with different looks. Attitudes toward shopping are flexible as it can become more enjoyable when integrated with socialising (Holroyd, 2015), though social shopping was described as a rare event and a more common leisure activity for younger women (Abbott and Sapsford, 2001). The social aspect of clothes swaps (particularly those amongst friends and colleagues) and sewing classes also emerged as significant. This can be linked to the preference of purchasing clothing from physical shops as opposed to online outlets, due to the lack of the tactile dimension, trying garments on for fit and interacting with shop assistants. Gorowek et al. (2012) recommends that consumers could be persuaded to change their behaviour in relation to sustainability through encouragement and being enabled to reflect on their behaviour. There is potential for this to take place in these physical interactions with shop assistants, though it would be interesting to explore how this may play out in the online scenarios.

Furthermore, for clothing inspiration participants look to fashionable friends, siblings or colleagues rather than to de-personalised images in the media.
Style characteristics of a geographic region can also influence sartorial choices. U12, for example, described being more influenced by local ‘tribes than trends’, a notion described by Polhemus (cited by Steele 2000, p. 7) as ‘style tribes’. U5, on the other hand, felt that her colourful garments from The Gambia were unsuitable to wear in England. While the rapidly changing fashion cycles may play a more significant role with younger groups, this study indicates that style influences are in fact wide-ranging and often embodied by other individuals as opposed to fashion images, which only play a small part. Thus, what is considered ‘fashionable’ is largely refracted through social networks, and though the individual sense of style may seem entrenched, it is in fact open to change (Woodward, 2007). However, it is interesting to consider that fashion may have been a more influential factor than the women may have admitted due to wanting to be perceived as sensible, rational consumers who are confident in their clothing changes (Laitala and Klepp, 2011).

The social and embodied aspect of fashion is evidently highly influential in clothing choices. The significance of fashion innovators to amplify aesthetics of repair, reuse, home-dressmaking and extended garment use is therefore key. By definition, this group of women have to be the minority: they want to look ‘different’, act within parameters of their own aesthetic, and break away from preordained ‘rules’ (Woodward, 2007). Fletcher’s Craft of Use project (2012, 2016) has documented stories of resourceful garment use, and many examples discussed in this study indicate the development of an alternative consumer culture, challenging the mainstream high-impact model of fast fashion. It is therefore of utmost importance that these stories reach far beyond academic circles to influence and shape consumer culture.

In the large-scale quantitative study coordinated by WRAP, consumers rank value for money as their top purchase criterion when purchasing clothing (Gracey and Moon, 2012). Authors such as Allwood et al. (2006) consider price a key barrier to ‘ideal’ (i.e. sustainable) consumer behaviour as it is assumed that clothing made with environmentally and socially responsible production methods cost more than those made without such considerations.
Conversely, this does not apply to second-hand clothing and it was also found that C2 garments were similarly priced to the clothing participants purchased from mainstream fashion outlets. While this may depend largely on the age and income bracket of the consumers, it was also interesting to note that the C2 customers who normally shop from mainstream retailers purchased their C2 garments from a physical shop rather than online. Therefore, a barrier to purchasing clothing from brands with sustainability goals is the lack of visibility and availability, not price. Interactive spaces, whether temporary ‘pop-up’ or permanent formats, can offer physical touch points for fashion retail and may also include services as well as opportunities to socialise during swap events and workshops (e.g. for clothing [re]making, mending, alteration).

Value was described as a key motivator for purchasing second-hand clothing, particularly when purchasing from online auction website eBay. Uniqueness and ethical considerations were additional benefits. The serendipitous nature of browsing these outlets contrasted with the negative experiences described on the high street. Some participants, however, found that charity shops, flea markets and eBay are chaotic and difficult to navigate. Selecting second-hand clothing can indeed be more demanding as there is greater choice compared to new clothing and more imagination is required to assemble outfits, an act of inscribing meaning (Tranberg Hansen, 2000). Used clothing is thus not defined by pre-existing biographies. Personal narratives are not fixed in the clothing. Instead, the owner can create new clothing identities themselves (Tarlo, 2010).

In order to significantly extend garment lifetimes and reduce waste, it is essential that second-hand clothing shopping becomes appealing to a wider audience. Retailers can offer ‘buyback’ schemes and sell second-hand items in store alongside their new styles. This can extend the life of clothing while simultaneously allowing companies to highlight the aesthetic longevity and robustness of their designs. Research has indicated strong consumer interest in these schemes, particularly for women aged 14-32 (Gracey and Moon, 2012). This is echoed by Laitala and Klepp (2011) who found that informants aged 40 and under expressed positive attitudes towards second-hand clothing
and several younger female individuals were regular second-hand shoppers, likening the purchasing process to a treasure hunt.

Clothes swaps were a popular means of both disposal and acquiring ‘new’ clothing amongst participants: swaps involve minimum economic outlay and can be an opportunity for socialising. The guilt of spending money on clothing (Woodward, 2007) is hereby circumvented, and unwanted clothing is re-circulated. Clothing gifting and lending amongst friends and family, however, can therefore be emotionally fraught. Woodward (2007, p.101) explains: ‘women’s identities through clothing are intrinsically bound up with these connections to others’. Thus: ‘in choosing what to wear, and what to simply keep, women are not just selecting which styles they like, but are considering the relationships and person these embody’ (ibid, p. 116).

Organised clothes swap events therefore provide a less personal platform for clothing exchange, which appears to appeal to a wide range of individuals, particularly those who would not normally consider purchasing second-hand clothing. Negative experiences of swap events were also discussed, though with the maturing of these events it would be possible to tackle the problems to improve the experience of these events and increase their popularity.

One of the top criteria for buying clothing, besides value, is that it is ‘made to last and look good for longer’, yet most users are unsure of how to measure quality (Gracey and Moon, 2012). Laitala and Klepp (2011) similarly found that the majority of informants would use their clothes for longer if ‘the clothes were made of better quality in general’. Several participants voiced a frustration with the decreasing quality of high-street clothing. Most attempted to make a judgment on the robustness of a garment by inspecting its physical properties and found that making a sound assessment was in fact problematic. Assumptions about durability and fibre type were mainly based on experience and were inconsistent. The encouragement to purchase fewer but higher quality garments as often propounded in literature (e.g. Allwood et al., 2006, WRAP, 2012) is thus fraught with uncertainties. Providing a guarantee against faults or a ‘durability index’ as suggested by Gracey and Moon (2012, p. 24)
appears to be an attractive concept for users (though perhaps problematic for manufacturers to implement). For instance, a lifetime guarantee was viewed as most relevant to garment types (e.g. coats) that remain in use for longer than a party top, for instance.

Several issues were raised with regard to the viability of this concept for both businesses and customers. It was suggested that a fee-based mending and alteration service would be equally if not more attractive than a guarantee. This conveys a message of confidence from the company that their product deserves to be repaired and maintained for many years to come. Options for modernising the garment by the manufacturer were also discussed. This service could be offered by manufacturers themselves, by recommended local services, or the required skills could be taught in workshops for users.

According to Tseëlon (1995), there is ample evidence that women have a more distorted body conception than men. Women perceive their bodies as heavier than they actually are. While the participants of this study identified ‘problem zones’ of their bodies that could be addressed by adhering to certain styles, these guidelines were not fixed. These perceptions can shift due to actual body shape changes or by changed attitudes towards what is considered wearable. The choice of clothing is then more likely to be influenced by a woman’s own aspirational image, rather than the ideal fashionable body represented in the media (Woodward, 2007).

This was illustrated by U3’s attitude toward skin-tight body-con dresses: these were at first rejected but later worn frequently. Her body had not changed but her perception toward this style had. Despite the abundance of clothing available, many participants felt frustrated about the fit of clothing, particularly jeans. This could be addressed through in-store alterations, made-to-measure, custom sizing services (such as C2 offer), independent alteration services or home-sewn alterations.

Once commonplace, tailor-made clothing is now a niche and an often costly means of acquiring clothing. Today, tailoring services are mainly available for
menswear. The participants suggest that there may be a gap in the marketplace for affordable, bespoke women's work wear. This would provide an opportunity for a rich and personalised fashion experience, which not only would result in a perfectly fitting garment but also one that is typically constructed in ways that allow for alterations.

Bespoke tailoring services enable users to be part of the design process. Fashion 'hacktivist' von Busch (2012, p. 12) states ‘fashion is an addiction to powerlessness’ where we are ‘bluntly locked out of any decision making’. He asks: ‘How can fashion facilitate social agency, and not undermine it?’ Various levels of co-design can address different skill levels while increasing ability and confidence; in this way, individuals who are insecure about their ability to make the adequate choices would be adequately supported. The insecurities voiced by participants confirm von Busch’s notion of fashion as undermining social agency. Such bespoke fashion companies may consider additionally offering workshops in repair and alteration to empower consumers and offer them a satisfying fashion experience that is slower and less resource intensive than mainstream fashion.

Holroyd (2015b) states that frustration with the quality and fit of ready-made clothes can lead to an increased interest in home-dressmaking or knitting. The motivation for home-dressmaking has changed over time: formerly it was driven by economic factors and now it can ‘instead address questions such as individual accomplishment, creativity, self-confidence, independence, self-reliance and development of skills’ (Scholfield-Tomschin, 1999, p. 57).

The enjoyment experienced from home-dressmaking as a hobby and the notion of making as ‘therapy’ (U3, U2) was also reflected in Holroyd's (2015b) accounts of amateur knitting. This hobby can bring about a feeling of ‘flow’, which is described by Csikszentmihalyi (1990) as an activity offering total absorption, focus and enjoyment. Several participants described social benefits stemming from interactive online groups and sewing classes; others deeply regretted not having enough time to pursue their sewing projects. There were also problems with home sewing: the availability of and ability to
select suitable fabric and the required level of skill.

Apart from the apparent material benefit of (usually) receiving a wearable garment at the end of a project, there are also less tangible benefits that can contribute to an individual’s wellbeing when the process of making becomes intrinsically rewarding (Holroyd, 2015b). With regard to the frustrations expressed by participants regarding their experiences of shopping on the high street, ‘making therapy’ as a slower and more engaged way of experiencing fashion could substitute ‘retail therapy’.

**Use**

On average, a British person owns £1800 worth of clothing, of which 30% has not been worn in the past year because it no longer fits (57%), is worn out (46%), is clothing for formal occasions only (44%), or the owner had not got around to disposing of the item (41%) (Gracey and Moon, 2012).

While the size of the wardrobe typically depends on the available living space, the dynamics of the participants' wardrobes varied greatly, with fast and slower metabolisms of storage, use and disposal. All wardrobes contained a mixture of garments that are habitually, rarely and never worn. According to Woodward (2007), the wardrobe is full of contradictions and features a range of clothing items, including those representing former selves and fantasy selves; this helps women consider questions of identity.

Contradictions become apparent when examining the complex relationship between clothing and memory. Due to the close relationship between clothing and identity, memories make these garments cherished, while negative memories may lead to their disposal. Some of these memory-imbued garments are carefully stored as archive pieces like ‘old photographs’ (U11), some are part of the active wardrobe, while some feel attached to many of their garments and therefore feel anxious about discarding clothing.

These behaviours are less dependent on the garment’s physical properties than on individual idiosyncrasies. The direct link between memory, treasuring
an item and therefore utilising and carefully maintaining it for an extended period is highly complex.

While attached memories can influence the fate of a garment, the maturing of an individual and changes in body, lifestyle, taste as well as prevailing trends can mean that clothing as a representation of identity becomes obsolete. The notion of wearing less revealing and often less conspicuous clothing compared with a woman's younger self was a reoccurring theme. This conflict between standing out and blending in creates an ambivalence in women that is described by Tseëlon (1995) as an age-old concern between chastity and sexuality. It is a fine line that women are constantly negotiating. The choice of less eye-catching outfits may be due to feeling more assured (rather than a lack of confidence) as they do not need clothes to attract attention.

Fashions are not usually adopted in a ‘head to toe’ look within this group of participants. Instead, items, which might represent former selves, are combined with newer items and acquire different meanings (Woodward, 2007). For one participant, for instance, a dress has remained relevant for 10 years: first it was a short dress worn with tights while now it is combined with jeans and worn as a long top. This notion of restyling existing items in the wardrobe to create updated looks to remain relevant is an important means of reducing new purchases and extending garment lifetimes.

And yet, multi-functionality as a means of extending the life of garments appears to be the least discussed in the literature. Gracey and Moon (2012) suggest that a significant 25% of consumers would be more likely to wear clothes they have not worn if they were able to update their appearance, for instance with accessories or tailoring services in high-street shops. However, the report does not discuss multi-functional or modular clothing, perhaps as only few companies currently offer these. Many participants were intrigued about this concept, but having never been exposed to modular clothing they were unsure how to imagine these designs. For those insecure in their clothing choices (manifest in participants resorting to a type of uniform, repairing garments to avoid shopping, or obsessively colour-coordinating), this concept
may provide variation in style without garment owners needing to experiment with new garment shapes.

Participants were concerned with the fit of modular garments over time and the availability of modular components for years to come. In order to mitigate these issues, modular garments can be imagined with a durability index and/or a repair and alteration service for the ‘base’ garments and co-designed modular attachments.

Another resource-saving approach, which also appears particularly suitable for less confident dressers, is the notion of ‘classic’ design. Reports by WRAP (2012) and Allwood et al. (2006, p. 69) suggest this strategy would ‘support consumers in moving towards the purchase of fewer, higher quality and longer lasting products’. While according to Allwood et al. (2006) the notion of ‘classic’ is ‘well understood’, the research showed that ‘classic’ was understood in different ways: it could be archetypal or a style that has become a personal favourite. The true longevity of a classic design is particularly questionable considering that items such as trench coats and jeans are still subject to fashion cycles.

Styles described as personal classics are in flux due to ever-changing identities and bodies. It is interesting to note that personal classics may be the result of anxiety (Woodward, 2007, p. 11) resulting in participants resorting to a ‘uniform’ as described above. The notion that the more unusual and original pieces defy obsolescence instead (Rissanen, 2011) was echoed by one participant who cannot identify with the idea of ‘classic’ and prefers ‘interesting and individual’ designs (U13). While what is understood as ‘classic’ does not remain unaffected by the passing of time, the notion of slowly evolving designs (e.g. the styles offered by C2) can potentially promote slower consumption patterns. These can be combined with other strategies, such as durability guarantees or maintenance services. The notion could also be entertained that a more inclusive fashion culture may inspire those lacking in confidence (thus resorting to safe, ‘classic’ options) to explore more unusual styles that deviate from the mainstream.
Laundering cleans clothing and can restore their shape, but paradoxically it also contributes to their deterioration (McLaren et al., 2015). This paradox is recognised by most participants and influences their laundering behaviour. Overall, laundering behaviours are difficult to understand. Rigby (2015) describes these as ‘complex, erratic and unpredictable’. Indeed, participants’ ranged from being ‘anti washing’ (U13) to dedicated hand-washers, to risk-takers who disregarded any care labels. The majority of participants rarely followed the care label instructions beyond the first wash. The assessment of care was instead based on experience and knowledge of fabrics and fibres, which was reflected in the findings of a study by McLaren et al. (2015). Participants attribute this in part to the over cautiousness of companies when providing care instruction.

Furthermore, garments are often laundered to remove odours rather than stains. Allwood et al. (2006) criticises that apart from washing there is no alternative ‘freshening’ process to remove odour. Some participants describe airing their garments or steaming garments in the shower. Recommendations for reducing machine-washing include educating consumers (McLaren, 2015). Designing clothing that requires less cleaning, however, was criticised by Rigby (2015, p. 8) as ‘a logical, but misinformed approach’ due to the great variability of factors beyond cleanliness (e.g. social auditing, garment aesthetics, cultural norms and spatial household arrangements), which lead to laundering clothing. One approach to reducing washing and thus the deterioration of clothing was to simply to change from daytime clothing or work attire into clothing at home which ‘takes a beating’ (U8).

Repair is probably the least discussed garment maintenance practice in literature and also a niche activity in practice (Allwood et al., 2006, Gwilt, 2014b). While Allwood et al. (2006) describe repair services as expensive in the UK, several participants in fact regularly utilised professional services, which they viewed as economical and convenient for mending minor issues. Holes, however, were typically seen as a reason for discarding. For the other group of participants in possession of sewing and knitting skills, mending was
viewed largely as an enjoyable leisure activity and a less time-intensive alternative to garment making. Holes and worn-out cuffs became opportunities for creative problem solving. ‘Aesthetic repair’ (alterations, remaking or customisation) to change the fit, look or function of a garment was also evident in varying degrees and was similarly viewed as less of a commitment than creating an entire garment, satisfying, and less resource intensive.

Gwilt’s survey results (2014b) indicate that garment repair is considered a time-consuming chore at the outset, but when actually engaging in repair activities, participants expressed their enjoyment. Holroyd (2015b) shows that is possible to overturn negative perceptions by linking mending to making. Von Busch (2012) similarly encourages creative ‘hacking’ of clothing and promotes the notion of clothes as open and changeable. In order to extend the life of garments, Gracey and Moon (2012) suggest that organisations increase styling, repair and alteration services and raise customer awareness where they already exist.

Allwood et al. (2006) additionally propose ‘design for repair’, such as technology that enables easy repairs, repair kits and spare parts. Fletcher (2012, p. 236) on the other hand, suggests focusing on the social, user-based dimensions of clothing maintenance by fostering ‘clothing competencies’. In this sense, how mending/remaking is culturally perceived plays a significant role in its aesthetic acceptance and its appreciation as a satisfying leisure activity. Designers in their role as facilitators, educators and activists, but also users as innovators can potentially contribute to this shift.

Disposal

Clothing disposal is typically the result of wardrobe sorting. It may be a regular occurrence (usually seasonal or annual), part of preparing to move house, or intended to make space for new items. This is echoed in research by Laitala and Klepp (2011). Clothing often graduates from work clothing to weekend clothing to casual home clothes and finally to cleaning rags before they are finally disposed of.
Several participants described a wardrobe ‘equilibrium’ (U8), while others felt that an overabundance of clothing led to a ‘paralysis of choice’ (U3). Here choice does not equal greater freedom but rather an inability to choose, a post-modern phenomenon preventing the free exertion of agency through clothing (Woodward, 2007). The frequent re-evaluation of ‘is this me?’ (which is dependent on time and context) shows the self as dynamic rather than a fixed identity (Tseëlon, 1995). A fluid distinction between present and former identities is reflected in the way participants re-circulate items from storage into the active wardrobe. This notion of rediscovery within one's own wardrobe was described by Holroyd (2015b) as providing the individual with ‘new’ items and potentially reducing the consumption of new clothing through shopping.

Some items are not considered suitable for future wear or repurposing and are consequently selected for divestment. There is a range of divestment behaviours: donating to charity, selling, gifting items to friends and family, or throwing garments in the rubbish (as also described by Gracey and Moon, 2012). Divestment may be emotionally laden (feelings of anxiety, relief, regret) as discarding clothing is often connected with discarding a part of a woman’s identity (Woodward, 2007). Perhaps for this reason, or for reasons of practicality, clothing is often first reassigned prior to disposal.

How a garment is disposed of depends on the attitudes of the individual as well as the perceived condition and value of the garment. The main method for divestment was donating to charity, which is time-effective (compared with selling items) and instils a sense of ‘good doing’. Higher value items in good condition are often considered for selling on eBay or flea markets, or exchanging at clothes swaps. One participant described engaging with vintage clothing shops that buy, sell and exchange. Here she is able to resell unwanted vintage items and receive store vouchers for ‘new’ items. This system for contemporary items could manifest itself in the form of ‘buyback’ schemes as previously discussed. Since only 14% of unwanted clothes are sold for reuse in the UK and more than double that amount is destined for landfill (WRAP, 2012), it is essential alternative disposal routes are considered
in addition to charity bins.

5.3 Summary

This second phase of fieldwork set out to explore *RQ B: How do users influence garment lifetimes?* An analysis of the interview data revealed the overlaps between the tightly interlaced factors influencing garment practices. The factors affecting clothing practices and an overview of the discussed clothing practices are illustrated in Figures 5.5 (p. 207) and 5.6 (p. 208). The discussion of these findings in relation to previous studies demonstrated the complexity of the interdependent elements and contributes to the corpus of knowledge about the lived experience of clothing, a largely under-researched area of fashion.

Several key insights were gained regarding alternative means of clothing acquisition in addition to or replacing purchases from mainstream fashion outlets. Shopping, clothes swaps, home-dressmaking, repair and alteration were revealed as social and identity-defining activities and as such can be reframed in the context of garment life extension. Resourceful garment practices bring not only environmental benefits but also benefit individuals through widening their social circle and learning new skills. Stigmas are broken down by re-contextualising second-hand clothing in clothes swaps, for instance, while creative clothing alterations or repairs are experienced as absorbing and rewarding activities. Skilled participants viewed clothing repair as an enjoyable creative challenge, but there were also negative connotations attached to the aesthetics of repair. Though these perceptions may seem entrenched, they are in fact in flux and can be overturned by users as innovators and designers. Furthermore, to different extents, participants recognised clothing as the flexible and changeable entities that they are and as items, which can experience multiple ownerships.

It was interesting to note that while fit and style are often quoted in literature as reasons for divestment, this study revealed that these perceptions are determined by individual attitudes as well as external factors (e.g. trends).
Perceptions of what is fashionable, however, is often not determined by fashion imagery propounded in the media so much as it is influenced by fashion embodied by people and by individuals or social groups within the participant's immediate environment. The perception of identity is thus closely linked to their connections to others. This highlights the importance of social settings.

Exposure to physical spaces that raise awareness on the impacts of fashion production, consumption and disposal as well as the promotion of alternative experiences of fashion are therefore essential. This is exemplified by C2 customers who happened by chance upon the shop stocking C2 garments and who learned about the brand’s practices by engaging with staff. Literature to date has largely focused on the technical and physical dimensions of product life extension, often overlooking the potential impact of events, spaces, visual cues and interventions in daily life that have the potential to influence perceptions and behaviour. Garments with their intrinsic physical properties (e.g. a visibly darned jumper) as well as the explicit promotion of garment longevity (e.g. through brand messages) can spark thoughts, bring about conversations and inspire a change of attitudes and behaviour – thus positively influencing garment lifetimes.

Memories attached to garments can influence what we keep, discard or store, though this is largely idiosyncratic and makes the connection between memory, emotional attachment and longevity more convoluted than is often portrayed in the literature. The close connection between identity and clothing makes this a particularly difficult territory to navigate and rationalise. Our ever-changing identities determine how clothing is perceived and can lead to intense use but also to the garment being preserved, stored or divested. Emotional attachment cannot, in this instance, be directly linked to continual and extended garment use. A garment esteemed for nostalgic reasons, imbued with symbolic meanings, for its physical characteristics (such as craftsmanship), or monetary value, appears to influence not only its use but also how it is divested.
This study has shown that garments of value (e.g. monetary, emotional, symbolic, aesthetic, technical) are more likely to be refashioned, stored (potentially for future recirculation into the active wardrobe), gifted, swapped or sold and thereby experience extended garment lifetimes. These routes of divestment are also more likely to be considered by those who acquire clothing in one or more of these ways or who engage in activities of repair and reuse. These forms of clothing divestment overlap with clothing acquisition and form symbiotic and informal systems of divestment and acquisition that can provide environmental, social and individual benefits. More frequently, however, garments are donated to charity for resale or destined for landfill. It is thus vital not only to educate users on the impact of clothing divestment but also to encourage resourceful alternatives.

Discussing potential scenarios for garment longevity has confirmed what became evident through Phase 1 of fieldwork, namely that the strategies should not be viewed in isolation but in combination. This enables the complex issues of longevity to be more adequately and effectively addressed. While there was generally an interest and openness expressed toward design-led solutions, this research brought to light practical concerns and problems regarding their application. Furthermore, concepts assumed to be unambiguous in the literature were often displayed different interpretations by users.

These insights show the importance of building user research into the development of design solutions for clothing longevity to ensure their relevance and effectiveness. The investigation of C2 garments (provenance, properties and design strategies for longevity) showed that some design strategies for longevity are more effective than others; overall, however, the behaviours and attitudes affecting the lifespan of C2 garments were largely reflective of individuals’ treatment of their clothing in general. The evidence suggests that physical garment properties, symbolic meaning, brand narrative, individual attitudes as well as cultural context all play a role in influencing the longevity of garments.
Figure 5.1 Repaired dress by U11

The dress had ripped at the centre back. The participant used a decorative bias tape and a button to creatively transform the tear into a design feature. She learned how to apply bias binding from YouTube videos.
Figure 5.2 Wool cardigan darned by U4

The garment was caught in the participant’s bicycle wheels, damaging it. She used foraged sheep’s wool to visibly mend the holes.
This dress is worn at least once a week and requires mending nearly every time it is worn, as the stitching quality is low and the seams break. For U13, mending is a creative outlet similar to making a garment, albeit less time-intensive. Once the main body of the garment is beyond repair, the handcrafted cuffs and neck panel will be salvaged and repurposed into a new garment.
Figure 5.4 No-wash 1960s wool dress owned by U11

A friend’s mother gifted this dress to the participant 10 years ago. The dress has never been washed since it has been in her ownership. She wears it layered with a long-sleeve top, which is regularly washed to preserve the longevity of the dress.
Figure 5.5 Factors affecting clothing practices
Clothing practices

Online shopping
Independent shops
High street
Tailor-made
Home-dressmaking

Repair
(service or DIY)
Alteration
Home-dyeing
Laundering
(machine, dry-clean, or hand-wash)
Ironing
Drying
Storage

Household waste

Care label/information

Storage

Swapping
Vintage shops
Borrowing/lending
Gifting
Ebay
Second-hand shops
Charity shops
Carboot sales

Figure 5.6 Overview of clothing practices
Chapter 6 – Findings from the Toolkit Study (Phase 3)

In the previous two phases of fieldwork, factors affecting garment lifetimes were investigated: first from the perspective of the makers of fashion and then from the perspective of the wearers. In order for these factors to be of use to practitioners, dissemination is crucial; design toolkits have become a popular format for knowledge transfer. Based on a review of literature on toolkits and interviewing toolkit developers, this phase of research aims to illuminate the effectiveness of toolkits in practice, thus addressing the overarching RQ: How can designers be supported in designing garments with extended lifetimes? This chapter begins with a brief introduction of the interviewees and their toolkits before discussing the summarised results.

Seven of the most recent and relevant toolkits within the subject area of sustainable fashion and design were selected for examination in this study. The toolkit developers were interviewed and their publications were reviewed in order to examine the effectiveness of the design tools in practice. The aim is to assess if they are a useful method for knowledge transfer from academia to practice; and in this case, what can be learned from existing toolkits for supporting designers on extending clothing lifetimes to fashion practitioners.

6.1 Analysis

Of the seven examined toolkits, five were developed as part of doctoral research (Waddilove, Dusch, Lockton, Hur and Lofthouse) and two were part of funded research projects (Politowicz & Earley and Black). Three of the toolkits were developed within a fashion and textiles context (Hur, Politowicz & Earley, and Black) and the rest were developed by industrial or product
designers. Two of these (Lockton and Waddilove) were designed to be applied within any design discipline while the others are discipline-specific. All toolkits can be situated in the field of sustainable design, though they may not be limited to this subject area. The individual toolkits are listed in chronological order in Table 5 (p. 224) and are now individually discussed before comparing the toolkits and discussing them in respect to the literature.

**Toolkit overview**

TED’s TEN (see Figure 6.1, p. 229) provide ten approaches to sustainable design for fashion and textiles by the TED (Textiles Environment Design) research team at Chelsea College of Arts. These were initially developed as a set of strategies to identify the team’s research aims, first formulated as six strategies in 2006 and ten strategies in 2010. The strategies are split into ‘soft’ (conceptual, philosophical and systemic) and ‘hard’ (eco-efficient materials, dyes, colours, cut, construction, technology) approaches. Information on the cards is kept to a minimum as more in-depth information can be obtained from the workshop facilitator (a member of the TED team) or their website. When developing the tool, Earley trained herself and her team in management consultancy techniques, tools and methods (e.g. facilitation and consultancy skills, webinars and ‘brilliant thinking’).

The toolkit was developed with textile and fashion designers in mind, but Politowicz has also used TED’s TEN within other art and design disciplines within the College (i.e. interior design, fine art, textiles and graphics). She felt that while students from other disciplines can benefit from this toolkit, a discipline-specific tool would be more relevant, and she hopes to explore how the toolkit can be adapted in the future.

The outcomes of Lofthouse’s PhD (2006) included a tool called Information/Inspiration (see Figure 6.2, p. 231) for Industrial Designers as well as a top-level framework (see Figure 2.8, p. 82), which relates to toolkits in general and can be applied to other design disciplines. In her experience, discipline-specific design tools are the most useful as irrelevant information
within generic toolkits will not keep participants engaged: ‘How your fashion designers work will be so different to how my industrial designers will work’, she states. Information/Inspiration was developed as a response to eco-design tools, which were mostly engineering-focused at the time and thus too technical for designers. Lofthouse collaborated closely with industry partners to create a tool that was considered visually appealing while containing an appropriate level of information with relevant case studies. She stresses the importance of developing toolkits in response to the requirements of companies by working together with them. Furthermore, Lofthouse highlights the significance of tool suites, ‘because nothing does everything’.

The Considerate Design Tool (see Figure 6.3, p. 232) is a fashion-specific tool that was developed in 2009 under the Designing for the 21st Century scheme, a cross-disciplinary project between the Arts and the Humanities, funded by the EPSRC (Engineering and Physical Sciences Research Council) and the AHRC (Arts and Humanities Research Council) with Sandy Black as lead investigator. The aim was to provide an accessible, self-guided and self-evaluating qualitative tool enabling designers to assess the sustainability impact of their proposed designs (Eskandarypur et al., 2008). A spider-diagram allows designers to visualise the proportion of a product’s impact in specific areas, identify opportunities for minimising impacts in certain areas and consider trade-off situations.

While the tool does not accurately quantify a product’s impact in the way a life-cycle-assessment is able to do, it is easily accessible and thus particularly suitable for small fashion companies with limited time and resources available. It was important to Black to develop a discipline-specific tool that speaks to the fashion audience. She feels that generic tools can be helpful only if they are easy to comprehend and intuitive to use. She states: ‘Just as fashion is a special case, everything is a special case’.

The Design with Intent toolkit by Lockton from 2010, in contrast, was not designed for a specific design discipline but based on the rationale that there are recurring principles in every type of design (see Figure 6.4, p. 232). The
cards have even been used beyond the field of design by a professor of political science who was enquiring into the ethical or political implications of applying design for behaviour change, for instance. The starting point for Lockton’s project was developing a set behaviour change strategies for sustainability. However, now the cards cover a broader scope and represent an entire catalogue of strategies for behaviour change – even those, which may not be socially or environmentally beneficial.

Lockton drew on the Oblique Strategies cards and I Ching, which are deliberately vague but applicable to any situation. By omitting detailed information from the cards, they provide users with ideas rather than concrete suggestions about their implementation. While Lockton is aware that the cards may be too abstract to apply to everyday work situations, he aims to ‘broaden people’s thinking about a subject’. It was criticised that the tool includes all types of behaviour change strategies without further classification or evaluation. But this, he feels, would be too restrictive. He states:

‘Teasing out those assumptions behind what is embedded or what models of human nature or assumptions about people’s motivations are embedded in the strategies or techniques, you can almost use the cards as a way of prompting designers to reflect on their own assumptions about the people they’re designing for.’

The Cambridge Sustainable Design Tool Kit by Dusch (Figure 6.5, p. 233), on the other hand, specifically aims to support product design practitioners develop sustainable design concepts in the early idea development stage (Dusch et al., 2011). Dusch highlights the importance of tool testing through 'stress tests' in order to identify the suitability of the tool in various contexts. He states: ‘The longer I’ve done tool development, the more I became a friend of clear boundaries’. The toolkit was tested in a facilitated workshop context, which allowed the author to implement didactic learning concepts and guide participants through the process while also collecting data. This enabled Dusch as expert facilitator to tailor the workshop to different ability levels rather than simply providing knowledge.
However, the tool is unable to address trade-off situations, i.e. assess how a design strategy at a particular stage of the product life cycle can potentially negatively influence another aspect of the product at a later stage. Nevertheless, according to Dusch, identifying these limitations is key to the successful implementation of a tool, particularly when it is part of a tool suite, such as suggested by Lofthouse.

While Hur acknowledges that all design disciplines are linked, she echoes Black's statement that they nonetheless vary with regard to direction, needs and aspirations and therefore found it more appropriate to focus on a specific discipline when developing her tool. The Ideation Toolkit Supporting Sustainable Fashion and Consumption from 2013 (see Figure 6.6, p. 234) therefore includes a fashion-specific approach for sustainability, while simultaneously encouraging a co-design approach between users and designers. Similar to the toolkit by Dusch, it was developed for a facilitated workshop setting and designed for implementation during the early ideation stages of design. This toolkit, however, involves both users and designers to co-develop the design while simultaneously raising their awareness about sustainability.

Different to the previously discussed tools, The Whole System Design Tool (see Figure 6.7, p. 235) by Waddilove (2015) does not aim to directly educate its users but to support them in describing the current business system of their company. During the game, participants document their comments on post-it notes, which also allows Waddilove to collect data for further evaluation. Based on these findings, the participants identify and select suitable Circular Economy approaches. The game is designed to be played with any employee within a company, regardless of their seniority or area of expertise. This tool is not limited to a specific discipline and has been applied in a clothing context (namely Tesco’s F&F clothing line). One criticism the author has encountered is that the game does not educate its participants. From his point of view, however, this highly participatory approach allows participants to take ownership of the game, particularly as the selected Circular Economy solutions are based on the problems they have identified themselves. He
states:

‘You want people to own the system. You want people to feel like they’re having a creative day where they’re describing something quite complex in a lot of detail and at the end of the event it’s theirs. All of that on the table is theirs.’

In summary, the discussed tools can provide design support during the ideation stage of product development to create designs centred on sustainability goals or Circular Economy approaches. Design with Intent (Lockton, 2010), however, is an exception as it also includes morally questionable strategies with the aim to encourage reflection and discussion. The Considerate Design Tool is similarly focused on raising awareness than developing designs. It has become clear that discipline-specific tools allow practitioners to instantly apply the tool as here the visual language is designed to speak to them and the case studies should be relevant. Generic toolkits potentially have a wider reach but often require individual tailoring by the user or by the facilitator in a workshop setting. It is interesting to note that two toolkits (Hur, Waddilove) are also intended for users who are not designers.

A toolkit’s physical manifestation

All toolkits were tested by their developers, underwent several iterations and often changed their visual and/or physical representation as well as their content during these processes. The final version of the toolkits to date are presented either on websites, cards, or both and can be categorised as tools that support design concept development. Black’s Considerate Design Tool is the exception as it aims to visualise the impact of a proposed design rather than develop new design concepts.

Not all researchers had begun their projects with the intention of creating a toolkit; Dusch, for example, had initially used cards with imagery as visual prompts during interviews with designers. Due to the positive responses to these cards, he used these as a basis to develop a business support tool, which became the main outcome of his PhD. Dusch states: ‘Tools need to look
very simple but all this complexity needs to be hidden behind a very attractive veneer.’ The format of cards compared with information printed in a booklet, for instance allows users to select cards that are relevant for the situation or project at hand. Furthermore, it is possible to manipulate and sort the cards, allowing users to order and prioritise the cards as well as group and compare them. In addition to the cards, he has developed a matrix to develop suggested design concepts.

Waddilove similarly identified gamification in the form of cards as an effective means to engage participants. The cards contain a ‘very sketchy illustration’, which he hopes encourage participants to add their own ‘sketchy’ ideas. Lockton had tested several different forms of visualisation (e.g. decision tree and circle diagram) before deciding on the format of cards, a format which he admits ‘is fairly obvious, it’s not an unusual format. I seem to remember, when I decided to do these cards almost thinking, not another pack of cards! … but then they turned out very useful.’ Based on user feedback, the cards require some improvement, such as through numbering or grouping the cards and reducing the number of cards overall (as there are 101 in total).

He acknowledges that the graphic design of the cards and the digital examples are now out of date, which makes the cards less credible. Furthermore, the inclusion of references and footnotes may be useful from an academic point of view but this would make the cards inaccessible for other users, supporting Dusch’s view that toolkits should provide an ‘attractive veneer’. While digital formats have become more appealing over time, such as through the availability of iPads and apps, Lockton believes some functions, such as laying the cards out on the table and sorting, are still preferable in physical card format.

Lofthouse, on the other hand, developed a web-based tool to reinforce its global accessibility and updatability. A disadvantage of the online format, however, is that it requires regular updating. While the Information/Inspiration website from 2006 is still accessible, the case studies and design are, as Lofthouse herself states, clearly outdated and would require ‘some kind of
body behind it’ to maintain. Had the technology existed at the time, she would have preferred the content to have been interactive and user-driven, similar to the Pinterest website.

Hur drew on the toolkits by both Lockton and Lofthouse to develop a set of cards as well as a website, providing both a physical workshop tool and a web platform. Similar to Lofthouse, however, as an individual researcher with work commitments beyond the PhD, she had neither the time nor the resources to maintain her website beyond the scope of her research project and has consequently removed it from the Internet. Dusch concurs that time and resources are of the essence when publishing a toolkit as part of a PhD project to avoid losing momentum. Often, upon completing the PhD, journal publications take priority over promoting the tool as these are key for developing a researcher profile and increase employability.

TED’s TEN (Earley & Politowicz) sets itself apart from the above cases in the sense that their strategies were developed over a significantly longer time period and were developed by a research team rather than an individual. Earley initially translated the strategies into a ‘digital table cloth’ with three ‘wheels’ as a type of visual tool to improve the sustainability profile of a product. In 2006, the team had developed six strategies, which were fleshed out to its final ten strategies in 2010 and subsequently developed into cards. Earley links their ‘luxury of creative freedom’ of not having to meet publishing targets directly to ‘the freedom of funding’. Enabled by a continuous stream of funding and a team of diverse researchers, TED’s TEN now boast an online presence which features video clips to illustrate each of their strategies, supplemented with case studies, research publications, teaching resources and a regularly updated blog. According to Politowicz, the wording is deliberately generic and interpretable so that the information on the cards is not quickly outdated.

Funding therefore emerges as a key factor in the continued development and availability of a tool. In contrast to TED’s TEN, individual researchers struggle to maintain, update and promote their toolkit beyond the remit of their project.
due to lack of funding. Black concurs: ‘Of course things can only go to a
certain point and then the funding runs out as it were, and you have to decide
whether you can take it any further.’ For this reason, Waddilove has attempted
to monetise his game by avoiding a final conclusion during this initial game;
rather, it is designed as a starting point for subsequent paid consultancy
sessions. Though only few companies appeared to be interested. He states:

‘It’s quite hard to start out approaching someone as an academic, and
then kind of reach a point where you say, ok if we’re going to do more of
this, it needs to be consulting. If you’re doing a PhD, companies will
probably be quite happy to talk to you more than once because they’re
not paying for your time. But PhDs are very cheap research.’

Dusch, on the other hand, has licensed his toolkit to the Education and
Consultancy Services (ECS) at Cambridge University. With a new post at a
university in Germany, the author’s priorities no longer lie with the toolkit; he
has therefore allowed ECS to utilise his toolkit as part of a tool suite for
workshops and make it available to purchase online.

Overall it becomes clear that there is a range of factors influencing continued
toolkit development and availability. Their physical manifestation plays a role
to some extent: online formats may be more accessible and easier to update
but require regular maintenance. Time and funding are often scarce,
particularly when the tool was developed as part of a PhD project or a short-
term project. Card formats are popular as they allow for easy manipulation and
have shown that they can be used in many different ways. However, these can
also become quickly outdated, particularly when they contain specific
examples and are not as easily updated as digital formats. A minimum amount
of information may be supplemented by a secondary source of information,
such as through a facilitator in a workshop or a website.

*Application in practice*

The examined toolkits were developed within academia and typically initially
tested within an educational setting. Hence it is not surprising that they
perform particularly well there. Lofthouse describes ‘the student environment as the idealised environment’, which is set up for learning and does not face the same resource and time pressures as industry settings. This is echoed by Dusch and Earley who describe students as typically being more interested in the radical sustainability strategies compared to industry partners. Students are also a readily accessible group of participants for tool testing in universities. It is interesting to note the popularity of toolkit development in academia despite the demonstrable limited potency for most in practice, particularly in industry. Furthermore, it can be speculated that design researchers who have been or are practitioners themselves feel the need not only to visualise theoretical ideas but also to produce a tangible object (including digital formats).

Hur had initially conceived her Sustainable Fashion Bridges toolkit for a professional design context, but had tested it almost exclusively within educational settings and continues to use it within her own teaching practice on BA Fashion Marketing, enabling her students to apply systems-thinking. Lofthouse also recognises the potential for tools in design education. Since developing Information/Inspiration in 2005, she has created several tools specifically for higher education and trained students to use and select appropriate tools, as toolkits are ‘not a natural thing for designers to use’. Equipping future designers and decision-makers with the ability to apply toolkits is key as it can contribute to long-term change toward sustainability in industry (Lofthouse, Politowitz).

The examined toolkits have also been tested to varying degrees in industry. Lofthouse states that there are fewer barriers to tool implementation leading to real projects within smaller companies due to the lack of complex corporate hierarchies. She stresses the importance of developing tools in tandem with companies in a type of co-design process to ensure they truly address the needs of the company and context in mind.

Earley concurs that smaller business are more often better able to implement change than large-scale companies; they ‘really understand the soft strategies
and get really excited by them’. In contrast, large companies, such as retail giants H&M and the VF corporation, with whom TED have previously worked, can achieve a much larger global impact by implementing a single small change (Politowicz), though this requires a willingness to change in the first place. While executives can be ‘secretive, competitive, closed, aggressive’ (Earley), in this instance, unusually they shared issues in the workshops. The toolkits thus facilitated a more open and collaborative approach – key values for sustainability. For the design workshops, the TED team were briefed to use only those cards that contained eco-design strategies rather than those addressing more radical systemic change.

While feedback suggested that the workshops had succeeded in inspiring the participating designers, how these ideas had been translated into products remains unclear as the company refused to provide feedback beyond the scope of the workshops. A PhD researcher who was an engaged scholar with TED for 6 months concluded that a tool such as TED’s TEN had in fact been unsuccessful in achieving institutional change (Andersen and Earley, 2014). Earley argues that their aim was to inspire designers, which was achieved. She states that it is very difficult to measure any changes that may have taken place, such as those which may have led to a longer-term shift in the designers’ thinking.

Dusch similarly discusses the difficulty of measuring the impact of his workshops. They may have provided participants with new ideas or sparked a genuine interest in sustainability, but measuring or controlling how this interest manifests itself in practice would require complex longitudinal studies. According to Dusch, testing a tool relates to the importance of acknowledging a tool’s limitation and managing expectations. Through tests in multiple companies of different sizes, it emerged that his toolkit performed better within design consultancies than in SMEs or large companies.

Consultancy designers are familiar with responding to briefs from different clients, making them ‘quite adaptive in the mind’. For many SMEs the level of knowledge was too advanced and designers in large corporations perceived
the information that was provided as too superficial and lacking concrete information for product development. For this group, the toolkit by Dusch was viewed as being more useful for team-building exercises or for training new employees than for developing new designs.

Based on approximately 300 feedback surveys to date, *Design with Intent* by Lockton is mainly used within educational contexts, with a quarter of respondents from industry and the rest consisting of users from charities or individuals. It is a self-facilitated and inter-disciplinary toolkit that has been used at institutions worldwide. In some cases, the users tailored the toolkit to meet their needs, such as at a university in Mexico where students adapted the toolkit by adding a culturally relevant element to the cards (namely religion). Lockton has also used the toolkit in a range of companies (e.g. Landrover and Philips) to help develop products and interfaces. The comparatively high level of uptake of his toolkit may in part be due to its broader aim of changing behaviour rather than addressing sustainability specifically, which challenges dominant design approaches and business models as a whole.

Waddilove, for instance, struggled to engage companies to participate in a second session, where the proposed projects would be developed in more depth. He attributes this in part to the nature of games in general, i.e. they are seen as ‘time off’, or participants are unwilling to engage more deeply with the Circular Economy beyond a ‘taster’ session. Additionally, the cost of a second workshop may also be a barrier for further engagement. Nonetheless, he sees tools as having ‘huge power’ to integrate systems-thinking into everyday company-wide processes, possibly as a tool within a tool suite. However, as an individual researcher, he found gaining continued access to companies very challenging.

It becomes clear that educational settings are ideal for tool implementation as there is the time and willingness to learn, unlike many industry contexts. By training students on tool use, they are more likely to enter the professional realm with this knowledge and can draw on these skills in the workplace.
There appear to be fewer barriers to tool implementation in smaller companies compared with large corporations, though in both cases it may prove beneficial to develop the tool in tandem with a company to ensure it meets the needs of practitioners. Whether a tool can truly create change is difficult to assess since complex longitudinal studies and continued access to companies would be required. Toolkits may be 'a way to open doors' (Earley), but continued dialogue and collaboration is key. It must be kept in mind that implementing long-term change toward sustainability will most likely require long-term solutions rather than a single workshop.

**Facilitated or independent use**

Many tools are designed to be used within a workshop setting, allowing the researcher to contextualise the tool and simultaneously allowing them to collect data. Further, a self-facilitated toolkit may have broader appeal by being more widely accessible.

According to Dusch, a facilitated workshop allows for the tailoring of the tool, adjusting it to meet the level of user expertise. Furthermore, by facilitating ‘intensively’, it is possible to work around aspects of the tool that are not addressed purely in its physical form, such as prioritising strategies and evaluating trade-off situations. These would otherwise depend entirely on the level of knowledge and experience of the user; an inexperienced user may therefore, according to Dusch, make the incorrect decisions. A didactic process, on the other hand, can address people’s attitudes rather than simply providing knowledge. Waddilove similarly described his role as ‘scene setting’ enabled through his particular set of skills and experience.

It becomes clear that in a facilitated scenario, ‘it’s about more than the tool’ (Earley). TED’s TEN, for instance, have been used in a variety of ways, depending on the situation and participating group. The cards can support discussions and provide the researchers with a sense of expertise when navigating through the broad and complex topic of sustainability. The specific approach to using the cards in a workshop is rarely planned: Earley's
approach is intuitive and based on the ‘temperature of the room’.

Lofthouse states that while facilitated workshop settings are more likely to engage participants, they are also difficult to organise: ‘The best case scenario that you get everybody in and everybody’s got the same mindset and they get with it and create a beautiful thing. But that really doesn’t happen very often.’ She also points out that designers very rarely use tools, even if they are in possession of them. Lockton believes that many tools remain unused not because they are not useful to designers in industry but simply because they are unaware of their existence. As it is unlikely for professionals to encounter design toolkits through academic channels, Lockton has mitigated this by actively promoting the toolkit at various industry events and conferences and has designed the toolkit to be used independently.

There are advantages and disadvantages to independently used toolkits and those designed for workshop contexts. Most of the discussed toolkits were designed for workshop settings but can also be used independently, though this may require additional information beyond what is printed on the cards. The workshop setting lends itself to researchers because it allows them to easily collect data on-site and tailor the workshop to the group, thus enabling them to contribute their own expertise and didactic skills. Workshops can be difficult to organise, and independent use of tools allows for greater accessibility and freedom. In either case, it is key to promoting the tools outside of academic circles to increase their potential uptake.
<table>
<thead>
<tr>
<th>Participant and toolkit</th>
<th>Current role</th>
<th>Toolkit format</th>
<th>Reference texts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prof Rebecca Earley and Prof Kay Politowicz ‘TED’s TEN’</td>
<td>Textile Design; Earley: Professor of Sustainable Textiles and Fashion Design at UAL, Lead Researcher at Textiles Environment Design (TED) and Director of the Textile Futures Research Centre (TFRC), UAL Politowicz: Professor of Textile Design, co-founder and Project Director at TED research group, Research Fellow at TFRC, UAL</td>
<td>Cards &amp; website</td>
<td>Andersen, K.R. and Earley, R. (2014) Design Thinking for Sustainability: A Case Study of a Research Project between Hennes &amp; Mauritz and Textiles Environment Design. Politowicz, K. and R. Earley (2013) We Shape Our Tools, Then They Shape Us.</td>
</tr>
<tr>
<td>Dr Vicky Lofthouse ‘Information/ Inspiration’</td>
<td>Industrial Design; Senior Lecturer at Loughborough University</td>
<td>Website</td>
<td>Lofthouse, V. (2006) Ecodesign tools for designers: defining the requirements.</td>
</tr>
<tr>
<td>Participant and toolkit</td>
<td>Current role</td>
<td>Toolkit format</td>
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**Table 5** Participant profiles for Phase 3 of fieldwork
6.2 Discussion

This part of the chapter aims to tackle the questions that emerged during the literature review by examining findings from literature in relation to those from the interview study. Several toolkits have been developed with the aim of influencing design practice towards sustainability by raising awareness and providing designers with the means to implement change. The toolkit has potential to create impact in the real world, though it is questionable whether this vehicle for knowledge transfer is at all effective, particularly as so few are used in industry contexts beyond the academics who develop and test them. This section will examine the study findings in relation to the literature, to critically assess the suitability of a toolkit in the field of fashion.

According to a description by Baumann et al. (2002), most of the examined toolkits fall into the category of frameworks containing general ideas guiding environmental consideration in the product development process. The exception is Black's Considerate Design Tool, which is a rating and ranking tool; though qualitative, it allows for a product's impact to be assessed in terms of proportional scale. The toolkits by Dusch, Politowicz and Earley also include organising tools in the shape of a matrix (Dusch) or a timeline with short and long-term goals (Politowicz and Earley) to provide directions for organising a sequence of tasks or business functions.

While this selection of toolkits is not reflective of all available toolkits in the field of sustainable fashion and design, it becomes apparent that they share many similarities, such as their format of cards or being used during the ideation stage of design. As such, they may be regarded as part of a tool suite including tools that address other stages of the design process, e.g. qualitative LCA tools or checklists. Several interviewees mentioned tool suites, though they did not discuss how their tool might fit into such a suite. The synergies created by using tools in combination with each other and whether they complement each other or stand in competition with each other thus requires
further examination (Robèrt et al., 2002).

One may therefore deduct that it would be beneficial for design researchers to explore the potential of tool suites by combining and adapting existing tools rather than adding yet another tool to the ‘plethora of toolkits’ in existence (Kimbell, 2013, Baumann et al., 2002). However, the notion of ownership and authorship may be one reason tool development is more popular. Dusch states: ‘this is in the nature of people, designers just love developing new tools, you can put a label on it, it’s yours in a way.’ Using your own tool can be a means of displaying your expertise, of communicating complex ideas in a simple and visual way (Earley, Dusch, Waddilove). Furthermore, it allows researchers to adopt the role of consultant and monetise their skills while applying their toolkit.

An advantage of presenting a tool as part of a tool suite, however, is that it allows a user to address design from different angles, which is essential regarding the complex nature of sustainability. This was recognised by most interviewees, including Earley, who states: ‘it’s an “and, and, and” [approach]… which is why I don’t reject research that isn't in line with my own thinking. I see it within the landscape.’

Bovea and Pérez-Beliz (2012) criticise the complexity of many tools. The interviewees described a facilitated workshop as a means of supporting the users to cope with complexity inherent to this subject area as well as help them navigate complex tools. Dusch explains:

‘It’s always [about] trying to balance complexity against the ease of usage. But to a certain degree, things are not simple… people need to be prepared to cope with complexity. If you see a complex pattern and somebody guides you through this complexity, chances are quite high that this person will be able to cope with complexity.’

In this way, expert facilitators are able to customise their workshops according to the participant’s level of knowledge, especially if knowledge of the topic area is basic. Skilled and experienced facilitators like Earley are intuitively able
to evaluate the group dynamics and can spontaneously design the workshop accordingly. Customisation by the facilitator can thus address the lack of user knowledge, which was described by Bovea and Pérez-Beliz (2012) as a barrier to tool use. Further, clearly establishing and communicating the boundaries of a tool can help the user select the most appropriate tool for the task at hand (Dusch). This may help avoid situations as described by Goméz Navarro et al. (2005) in which the implementation of eco-design tools did not yield the expected results.

Interestingly, the importance of toolkit aesthetics is described both in toolkit theory (Baumann et al., 2002, Goméz Navarro et al., 2005) and by toolkit developers (Eskanydpur et al., 2009, Lofthouse, 2006, Dusch, 2013) as expressed through appealing graphics and minimal text. Knight and Jenkins (2009), however, criticise tools as being neither generic enough nor immediately applicable and therefore requiring customisation, which is time-intensive and makes tools unfeasible for industry. The balance between complexity and ease of use as described by Dusch thus lingers as a contentious issue. Lockton admits that his toolkit, which is designed to enable reflection and discussion, may be too abstract to apply to everyday work situations as detailed practical information is lacking.

While the use of a tool in a workshop setting allows for customisation by the facilitator, most interviewees acknowledge that not all organisations have the time and resources for workshops. A website can in this case provide more in-depth secondary information (Earley, Hur). Users can also adapt toolkits to fit the local cultural context (Lockton). Alternatively, a tool can be developed in collaboration with a business by responding directly to the company’s requirements, as discussed by Lofthouse. This shows that although no tool offers a ‘one-size-fits-all solution’ (Knight and Jenkins, 2009, p. 557), there are various options for individual customisation.

Minimal specific information contained within the toolkit prevents it from becoming outdated too quickly; an issue, which was flagged by several toolkit developers, including Lofthouse and Politowicz, but was not discussed in the
literature to date. Digital formats allow for regular updating, though this also requires regular maintenance to avoid the web content from looking outdated. Thackara (2010) suggests that researchers collaborate with application software developers or publishers who can provide a format that is easily updatable.

In any case, the continued development and updating of a tool is dependent upon funding, which emerged as a key factor in the interviews. The scope and funding of a project may also be the reason tools are not more extensively tested, as critiqued by Bauman et al. (2002). Lockton and Thackara (2010) attribute the lack of tool use to the lack of effective distribution. However, as Lockton confirms, promotion similarly requires a significant amount of time and resources. The Internet 2.0 may in this case provide novel ways of attracting funding through crowd-sourcing and promotion through social media as well as easily-updatable website templates.

The lack of designer’s knowledge and time to effectively select and adapt tools effectively was discussed as key barriers to tool use in literature (e.g. Knight and Jenkins, 2009, Bovea and Pérez-Beliz, 2012). Several approaches were suggested to help tackle this issue, such as taking a life cycle approach to design (Pérez-Beliz, 2012) or using an ‘applicability framework’ (Knight and Jenkins 2009). One approach which was not discussed in the literature is training students in tool selection and application as part of the design curriculum at university (Lofthouse). Students were described as particularly receptive (Hur, Dusch, Earley, Lofthouse) and therefore in the long-term, this approach could equip future designers with the skills for using tools in industry, increasing tool uptake and successful implementation. Waage et al. (2005), on the other hand, proposes a roadmap to guide designers. Together, these approaches can support tool implementation for sustainability in a strategic manner (Byggeth and Hochschorner, 2006).

6.3 Summary

The third and final phase of fieldwork addressed the overarching RQ: How can
designers be supported in designing garments with extended lifetimes. The popular toolkit format was examined with regards to its suitability for transferring knowledge from academia to industry in fashion. Interviews with toolkit developers revealed insights about toolkit creation, testing application and feasibility. While it became clear that measuring the long-term impact of these tools in practice is complex and time-consuming, fundamental factors influencing the uptake of a tool by practitioners were revealed and are summarised in this section.

- **Limits** – Each tool has a specific focus, and concomitant limitations. The more clearly the application and limitation of a tool is described, the more likely it is to be successfully implemented in practice. This can be assessed through in-depth testing.

- **Synergies** – In order to tackle complex sustainability issues, it is crucial to view a tool within a landscape of tools, each tackling different facets of the problem. Rather than developing new tools, more extensive tool testing, tool adaptation and investigations into synergies created within a tool suite are needed.

- **Customise** – A certain degree of customisation is required for most tools. This can be achieved in various ways and to varying degrees. Tools can be adapted within a facilitated workshop, independently by the user, or in collaboration with companies.

- **Aesthetics** – The visual appeal of toolkits is particularly crucial in the field of design. With an emphasis on graphics rather than text, additional information is typically required from a secondary source such as a website, a workshop or a booklet. The format of the tool determines its updatability; the more specific the information, the more quickly it is likely to become outdated.

- **Funding** – Tool testing, customising, updating and promotion are
dependent on time and resources within the scope of a project. A research body or centre may be more capable of providing resources and monetising the tool than an individual. While most tools are available for free, implementing tools independently or in a workshop nonetheless requires at the very least an investment of time on behalf of the user.

- **Training** – Expert facilitators are able to contextualise toolkits and bring their own unique set of skills to a workshop setting. In contrast, when used independently, the correct use of tools depends on the user’s level of knowledge. Training design students and designers on tool selection and application can develop this knowledge.
**Figure 6.1** TED’s Ten (Earley and Politowicz)


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**Figure 6.2** Information/Inspiration (Lofthouse)

Figure 6.3 Considerate Design Tool (Black et al.)

*Source: Eskandarypur et al. (2009, p.74)*

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Figure 6.4 Design with Intent (Lockton)

*Source: http://designwithintent.co.uk [Accessed 2.7.2013]*
Figure 6.5 Cambridge Sustainable Design Tool Kit (Dusch)

Source: http://www.cambridge-sustainable-design-toolkit.com

[Accessed: 13.4.2013]
Figure 6.6 Sustainable Fashion Bridges (Hur)

Source: Hur et al. (2013, p. 94, p. 96)
Figure 6.7 Whole Systems Design Tool for the Circular Economy (Waddilove)

Chapter 7 – Cross-phase discussion

In the previous chapters, the three distinct but interlinked phases of fieldwork have been analysed, the factors affecting garment lifetimes have been described and design toolkits have been interrogated as a method for disseminating these findings on garment longevity. In the following section of the thesis, the key insights from each phase are synthesised and discussed in relation to the RQs.

7.1 Introduction

The aim of this thesis is to better understand approaches to fashion design relating to resourceful user behaviour, contributing to knowledge on extending garment lifetimes and to explore how fashion designers are best supported in designing longer-lasting garments. In order to fulfil these aims, it was necessary to assess the status quo: how do designers currently implement strategies for garment longevity? How do users influence garment lifetimes? Furthermore: are garments designed for extended use in fact used in that way? Can designed characteristics of clothing persuade us to change our habits and become more resourceful? And how can this knowledge be made useful to practitioners to create much needed change in the real world?

The unique aspect of this thesis is that the topic is approached from three viewpoints that provide three interlinked sets of data from the makers of fashion, wearers of fashion, and how this knowledge can be communicated back to practitioners. The ‘weaving together’ of the findings from the three phases of fieldwork creates a composite understanding on fashion design for longevity.

7.2 Discussion
In order to address these questions, a review of the literature was undertaken in Chapter 2 and gaps were revealed relating to the practical implementation of strategies for longevity in fashion design practice. While research has documented the fashion design process, few have focused on sustainability and very few on design for garment life extension in particular. Regarding clothing use, some studies have described the lived experience of clothing but only more recently have researchers started conducting user studies or wardrobe audits from a sustainability perspective (e.g. Laitala and Klepp, 2011, Fletcher, 2012, 2016, McLaren et al., 2015, Whitson-Smith, 2016). Similarly, there are several investigations into the effectiveness of design toolkits, yet those with a focus on sustainability in fashion are sparse (e.g. Politowicz and Earley 2013, Andersen and Earley 2014).

**Insights from case studies (Phase 1) and user study (Phase 2)**

Valuable insights were revealed through the case study research of exemplary fashion micro-enterprises (Chapter 4). Case study research has thus provided a suitable methodology for addressing RQ A: How do designers in UK fashion micro-enterprises implement strategies for garment longevity? These findings contribute to a more complete understanding of how considerations for garment longevity play out in practice and contribute empirical evidence to the design strategies propounded in the literature. While each participating business has its own unique sustainability focus and design practice, it was possible to distil nine key points relating to all three participating businesses and their approaches for longer lasting clothing. These were summarised under the following headings: Implicit/Explicit, Small is Beautiful, Promotion, Embed, Rethink Designer, Pick & Mix, Complex, Connect and Wellbeing. It becomes clear that these approaches are multi-layered and intertwined and that synergies are created by combining different approaches that are unique to each scenario, depending on context, locality and a range of other factors.

In order to assess the effectiveness of the strategies for longevity as found in the literature and within Phase 1 of fieldwork, it was necessary to investigate how users influence garment lifetimes (RQ B). Qualitative interviews with
customers from C2 proved a successful means of obtaining in-depth data that elucidate factors affecting clothing lifetimes and that create links amongst maker, product and user. Fletcher (2012) questioned the efficacy of product-based approaches to durability, the limitations of which were also acknowledged by other researchers (Evans and Cooper, 2010, Chapman, 2010, Park, 2010). Studies by Rigby (2015) and Whitson-Smith (2016) found that the way a garment is used and laundered is influenced more by individual factors than garment characteristics.

This is consistent with the findings from the user study: C2 garments, which were designed with longevity in mind, were for the most part not treated very differently to other garments in the participants' wardrobe. Certain design features, such as the garments fitting across several sizes and the designs not being trend-led, may have positively influenced the longevity of the garment, but these were not described specifically as such. Rather, the way C2 garments were used reflected the participants' overall clothing practices. These clothing practices were found to be largely idiosyncratic, often contradictory and changeable, dependent on economic and social situation, age, body shape, social environment and more. The physical characteristics of a garment were hereby shown as not the single deciding factor but one of many influencing the garment's lifetime.

A further case in point is the notion of classic design. This was manifest as iconic items in the case of C1 and C2, while C3 'base' items were what can be described as conventional classic items (e.g. their 'little navy dress', a plain shift dress). In the user study, several participants fully rejected the concept of classic, describing instead stand-out garments that have become 'personal classics' while others were in agreement with the conventional classic and preferred muted colours and clean lines for everyday dressing (as described by Niinimäki and Hassi 2011). It is important to note that for these participants this clothing was often selected out of a desire to appear professional and mature at work, because they lacked confidence in experimenting with different styles, or because of feelings of anxiety, described also by Tseëlon (1995), Clarke and Miller (2002) and Woodward (2007).
Many participants described wearing less revealing and more conservatively styled clothing now than they did in younger years. Inevitably the current classic is therefore likely to lose relevance in years to come and be replaced by an up-to-date classic, which suits the participant's age and lifestyle. 'Classic design' may thus postpone the point at which a product is considered unfashionable (Mugge et al. 2005), though iconic designs may fall beyond the realm of fashion altogether (De La Haye 2000, Rissanen 2011). This supports the argument that while the design of a garment can contribute to its longevity, it is difficult to define specific characteristics, as these differ from individual to individual and are changeable.

There are material elements (fabric and garment characteristics) and immaterial aspects (brand messages, incentives and events) which can impact garment longevity. This was evident to within all participating case study businesses. The majority of research has previously centred on physical robustness, leaving the interplay between material and immaterial factors as a largely underexplored in literature to date. It is hereby key that user behaviour is included in design considerations in order to foster cultures of resourcefulness.

C1, for instance, is leading by example and publishing inspirational imagery that promotes cultures of resourcefulness by featuring photographs of mending on their social media feed (see Figures 7.1 and 7.2, p. 241). Additionally, the message could be strengthened by offering mending workshops or online tutorials (run by them or a collaborator). This would help both the development of skills and reduce the stigma surrounding clothing repair as evident in the user study and described by Gwilt (2014b) and Middleton (2016). A scenario where users also contribute with their own images and messages provides a type of 'fan club' as described by von Hinte (1997) – product narratives created amongst the users themselves are suggested to be the most powerful (ibid). According to Gorowek et al. (2012), rather than a profit-making venture, this can provide opportunities for positive publicity for fashion companies.
Another valuable way of extending clothing lifetimes is through alternative means of fashion acquisition (e.g. clothes swaps) that typically take place alongside mainstream shopping and are mostly experienced as positive within the user study. C2, for instance, is exemplary in establishing a longstanding community clothes swap, though unfortunately it is currently not visibly promoted on C2's website or social media. As suggested by Allwood et al. (2005) and Gracey and Moon (2012), fashion brands have the opportunity to promote informal channels of clothing acquisition and resourceful clothing use and make them more widespread.

Within Phase 1 of research, it became clear that employees of fashion micro-enterprises often lack time and resources to conduct user studies themselves. While C3 consider user feedback when creating new garment designs, this is often limited in scope. It is therefore interesting to note that while C2 customers could be classified as 'sustainable fashion consumers', an under-researched group of consumers (Bly et al., 2015), the findings clearly demonstrated a more diverse range of opinions and behaviours than one can legitimately place within a single grouping of this description. For many participants, beliefs and actions were not in accordance with each other and even within individuals with desirable pro-environmental behaviour, a broad spectrum of practices and rationales became apparent. This is in accordance to findings by Gorowek et al. (2012), who describe clothing consumption and use behaviour by environmentally-aware participants as influenced primarily by economic and personal factors alongside considerations for sustainability. Thus, presumed knowledge or commitment to sustainability cannot be assumed and fashion businesses can tailor their brand messages accordingly.
Figure 7.1 Image of darned woven garment on social media by C1

It was published with the caption: 'I think #darning should be added to the #schoolcurriculum #darn #makedoandmend #slowfashion #loveyourclothes'

Figure 7.2 Image of mended knitwear on social media by C1

The image included the comment: 'My mum knitted this beautiful cardigan [...] but the #moths got to it. Except for the different dye lot it would be #invisiblemending but I like that it can be seen'
Insights from case studies (Phase 1) and toolkit study (Phase 3)

Fashion designers traditionally design and produce clothing; therefore, changing garment characteristics appears the most obvious approach to extend garment lifetimes (a product-based approach). As previously discussed, however, it is necessary to integrate immaterial factors concerning the garment. Phase 1 of fieldwork shows that the definition of designer has already begun to broaden to include roles such as facilitator, teacher and activist (as described by Fletcher and Grose, 2012). It is therefore of utmost importance that knowledge aimed at fashion designers reflects this shift from the traditional understanding of the designer's role.

A parallel can be drawn when examining the popularity of design toolkits in academia. Design researchers with a background in design practice or practitioners themselves may feel the need to create a visual and often tangible output of their thesis in the form of a toolkit, a product, intended to be implemented in industry (as described by interviewee Dusch in the toolkit study). To create an impact, it is indeed important that knowledge does not remain in the academic realm but rather is disseminated in a format that is inspiring and useful for practitioners. However, following a review of the literature, the researcher came to question the suitability of the toolkit format. Conversations with the case study participants, none of whom had previous used design toolkits, raised further questions. It became clear that the unique characteristics of each business means that extensive tailoring of a toolkit is required to make it relevant (costing time and resources). Interviews with toolkit developers provided valuable insights, together with findings from Phases 1 and 2 of research to address the overarching RQ: How can designers be supported in designing garments with extended lifetimes?

Rather than adjusting the physical toolkit per se, the process of customisation could take place during a workshop, whereby facilitators apply their expertise and experience to adapt the interaction to the specific participant(s) and situation at hand (such as described by interviewee Earley). But finding time for such a workshop is difficult. Furthermore, a one-off event may be seen as
informative but may not provide enough depth and support for day-to-day workings and initiating real change (as described by interviewee Waddilove). Ideally, a toolkit could be kick-started in a comprehensive workshop and provide continued support while evolving to keep up to date with developments in the field.

Co-designed toolkits developed in collaboration with an exemplary business can provide real-world grounding and authority to what may otherwise be idealistic academic artifice. The data indicates that these guides or toolkits may be more attractive to relatively young businesses, start-ups, or to educational institutions. In these settings, the participants are open-minded to new ideas as their design practice is still taking shape.

It became clear that within micro-enterprises, design and business decisions were often inseparable, an aspect not previously considered within most design toolkits. Small business owners are therefore more open to radical change because they are in control of many facets of their own business that reach beyond the design of their products. Designers in fashion micro-enterprises are thus often able to implement change and display an understanding of the interlinked components of their business (design, fabric choice, production etc.).

This notion was confirmed by case study participants and toolkit developers. Earley (during interview and in Earley and Andersen, 2014) discussed the lack of decision-making power of designers within large corporations as a barrier to change. Politowicz states 'one small change in H&M is worth a million labels at London Fashion Week, it’s got to be the best way we can work'. Conversely, smaller organisations have the advantage of being able to implement change more easily, thus making them trailblazing innovators who diversify the fashion landscape, enabling them to inspire corporations to more radical approaches to sustainability in fashion2.

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2 The owner of C2, for instance, was invited to speak at Microsoft about her innovative approach to hyper-locality within her business.
As suggested by the owner of C2 and toolkit interviewee Lofthouse, perhaps the term 'toolkit' in itself is problematic. It may create the expectation that one can simply apply a tool to a problem and fix it, which clearly is not the case in the field of sustainability, a field peppered with 'wicked' problems.\(^3\)

In summary, interviews with toolkit developers elucidated that irrespective of the format in which the knowledge is packaged and disseminated to practitioners, certain factors (as identified in Chapter 5) can increase the likelihood of the success of a tool or guide. The mindset of the participant plays a large role, as does the way in which the knowledge is adapted to suit the specific context.

Amalgamating findings from Phase 1 of research with practitioners and the interview study with toolkit developers (Phase 3) has uncovered new, valuable insights into the realities of toolkit implementation and knowledge transfer. Trade-off situations and the complex interplay between business model, design and values when designing for longevity would be difficult to capture within a self-facilitated toolkit. As such, a visually compelling representation of academic knowledge does not present a solution in itself, but it can be an effective way of drawing the attention of designers and the first step to beginning a dialogue in which academics and practitioners work together towards more sustainable fashion design futures.

*Insights from user study (Phase 2) and toolkit study (Phase 3)*

Apart from making a contribution to academic knowledge, this thesis aims to benefit designer-owners of fashion micro-enterprises. Findings from Phase 2 of fieldwork provides the participating case study participants and other designers within UK-based fashion micro-enterprises with valuable insights into the behaviour and attitudes of their consumers. Investigating the direct link

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\(^3\) Curtis (2010) calls these conundrums ‘wicked issues’. ‘A wicked issue,’ he says, ‘is a social problem in which the various stakeholders can barely agree on what the definition of the problem should be, let alone on what the solution is.’
between product and consumer behaviour provides a new angle to garment life extension as most user research in this field examines a broader sample (e.g. Gorowek et al., 2012, Gracey and Moon, 2012, McLaren et al., 2015). Furthermore, as garment lifetimes are determined by what happens past the point of purchase, it was important to include use and disposal habits, unlike the majority of marketing studies which focus on consumption (e.g. Hyunsook, Ho Jung et al., 2013 and Lundblad and Davies, 2016). Making user feedback central to the design process has been suggested by Hethorn (2008) and Gwilt (2013) as a means to create garments that are appropriate to the wearer, providing satisfying experiences and thus potentially reducing the need to consume.

In this sense, understanding how C2 garments are used has shaped the way design strategies for longevity are understood. The knowledge, which can be subsequently disseminated to designers, is a result of empirical research rather than assumptions on factors affecting clothing longevity. This study additionally provides a user-centred methodology for toolkit developers going forward.

7.3 Summary

All in all, the research design proved to be appropriate to fulfilling the aims of this research. Dividing the research into three distinct but interlinked phases of research was a successful strategy to produce in-depth and focused results, while the different phases enriched one another and contributed to knowledge about garment life extension and about how to support designers in implementing this knowledge. As this chapter has demonstrated, the ‘weaving together’ of the three stands of fieldwork has created new insights through the amalgamation of the initial findings.
Chapter 8 – Conclusions

In the previous chapter, findings from the three phases of fieldwork were discussed in relation to the RQs. This final section of the thesis will describe and justify the conclusions drawn from the research. This chapter is divided into the following five parts for greater clarity: Introduction, Conclusions, Contributions to academic knowledge and practice, Limitations, and Future research.

8.1 Introduction

This research was borne out of the researcher's motivation to better understand approaches to fashion design relating to resourceful user behaviour, with the aim of supporting designers to extend garment lifetimes and consequently contributing to more sustainable fashion futures.

In 2010, the author developed a collection of garments as part of an MA degree in Fashion and the Environment at the London College of Fashion (UAL). The design concept was in large part based on the notion of emotionally durably design developed by Jonathan Chapman (2005, 2015). By drawing on the aspects of 'narrative' and 'attachment' from his 6-point experiential framework, the garments were designed to encourage users to manifest their memories into garments, making them personal and constantly evolving, increasing personal value over time. This doctoral research is a continuation of that practice-based enquiry, investigating factors potentially leading to extended garment lifetimes from a design perspective.

In 2013, WRAP (2012) had published a large-scale government-funded study championing clothing longevity as the most significant approach to reducing environmental impacts in fashion. It stated: 'Extending the average life of clothes by a third (based on an assumed reduced need for new clothing) would reduce each of the carbon, waste and water footprints by more than 20%' (ibid, p. 2). Various approaches to encourage extended garment lifetimes were discussed in the literature review (Chapter 2) and investigated in more
depth through the fieldwork.

Clearly, extending garment lifetimes can play a significant role in reducing environmental impacts, though Fletcher suggests this is less linked to the design of a product than to the social context within which garments exist: '...durability is an outcome and not an aim of using products' (2012, p. 234). The link between design intention and actual use thus required deeper investigation. Further, if the designable characteristics of clothing are limited in influencing user behaviour, what is the role of fashion designers within this context and what is the role of users?

Additionally, how can we as designer-researchers influence design practice? The question of knowledge transfer emerged from the author's experience of an inspiring wealth of knowledge within academia and the lack of this knowledge reaching practitioners. The three interlinked phases of research have tackled the issues outlined above. The conclusions drawn from these findings are discussed in the following section.

8.2 Conclusions

In Chapter 4 it was shown that the way designers in UK fashion micro-enterprises implement strategies for garment longevity are multi-faceted and that the various approaches are closely intertwined. Furthermore, within smaller businesses the design approaches cannot be viewed in isolation from other components of the business (e.g. marketing, fabric sourcing, the business model). As such, these designers have influence within areas beyond design and often also occupy less traditional roles such as educator, facilitator and activist. Within these contexts, designers are in a position of greater power and are more able to implement change than a designer in the traditional sense. Buckminster Fuller concurs: 'As you get more and more over-specialized, you breed in specialization (and) breeding in specialization also breeds out adaptability' (cited in Fletcher and Grose, 2012, p.155).
However, approaches intended to extend garment lifetimes often present contradictions and complexities, leading to trade-off situations. As the participating case study businesses are unable (and unwilling) to compete with low-price, high-volume offerings of value chain retailers, designing for extended lifetimes provides a viable approach to fashion entrepreneurship; strategies for longevity were found to often dovetail with the existing values and practices of fashion micro-enterprises.

Furthermore, the findings from the user study clearly showed that the way users influence garment lifetimes is largely idiosyncratic, often contradictory, and changeable over time. Chapter 5 discusses alternative means of clothing acquisition such as clothes swaps as a means of re-circulating and giving new life to unwanted items. Home dressmaking, alteration and mending are ways of slowing down the speed of consumption while simultaneously providing benefits to personal wellbeing. Going on a yearlong 'fashion fast' in which no new clothes are purchased (U3) or a year of hand-washing to raise money for Water Aid (U13) were ways of kick-starting new habits, while inspiring others to consider their clothing practices, particularly when these initiatives are published on social media sites.

The findings showed that while the physical characteristics of a garment can influence the length of a garment's active life, these characteristics often play out in unexpected ways due to the user's habits (such as laundering), knowledge (e.g. on fibres and environmental impacts), skills and time (to mend or alter a garment), and lifestyle (hobbies and work). This result stands in contrast to previously propounded product-based design approaches to sustainability and reflects more recent research highlighting the social dimension of fashion. In this study it was found that physical characteristics, such as garment construction and fabric quality, impacted the duration of active use as much as individual and cultural factors – the extent to which varied from person to person.

In Chapter 6, the factors affecting toolkit use were identified and discussed under the following headings: limits, synergies, customise, aesthetics, funding
and training. It became clear that the proposition of a one-size-fits-all toolkit is problematic when proposing a way of disseminating knowledge on garment life extension to fashion designers. Each participating case study business displayed similarities with regard to their design practice and business model as well as many unique characteristics. As the toolkit format is largely unknown within fashion, it became clear that toolkit implementation should be taught in educational contexts in order to make budding fashion designers toolkit-literate. It is also important to acknowledge the limits of a toolkit (particularly if it is self-guided) and that is it unlikely to solve problems as such; it can only act as a guide for practitioners. The 'rebranding' of the term toolkit was also recommended to reduce prejudice. This exploration into the efficacy of toolkits have led to a foundation for highly detailed work beyond the scope of this thesis.

To answer the overarching RQ, it can be said that a type of guide co-developed with a business such as C2 that reflects the collective findings of all three phases of fieldwork is likely to most adequately support designers in designing for extended lifetimes. The close connection with academia can be beneficial to both parties as demonstrated by C2 who utilises her business as a 'research tool' to test new approaches to sustainable fashion and regularly collaborates with researchers.

A key finding is that 'design' must be viewed beyond the traditional sense of designing products. Designers within micro-enterprises have the opportunity to implement design-led initiatives promoting extended use, through events, workshops and brand messages, for instance. This allows companies with sustainability values at their core, such as the participating case study businesses, not only to communicate their principles through the design of their products but also for their ethos to infiltrate every aspect of their business, particularly the outward-facing ones which involve their local and online-based community. As the research has shown, these above-mentioned immaterial aspects linked to fashion production and use are arguably more important than the designable characteristics of a single garment as they can foster cultures of resourcefulness, influencing behaviour patterns beyond
fashion.

The key conclusions from the three phases of fieldwork have been discussed. The following section specifies the contributions to knowledge this thesis has made, these are split into practice-based and academic contributions to knowledge.

8.3 Contributions to Knowledge

Practice-based contributions to knowledge

The three core contributions to knowledge concerning sustainable design practices for industry made by this thesis are:

(1) Philosophical foundations towards clothing longevity
(2) Evidence supporting factors affecting clothing lifetimes
(3) Factors affecting toolkit uptake and success.

(1) Philosophical foundations towards clothing longevity

These nine facets distil the findings from this research into nine categories, describing ways of framing design for extended garment lifetimes. The findings were developed into a graphic to provide the basis for a practical format for fashion design practitioners in British micro-enterprises. The graphic with supporting annotations and questions intends to provide a starting point for fashion companies to examine how their practices align with the aims of extending clothing lifetimes and identify opportunities going forward. As such, the prism provides a philosophical foundation for companies wishing to integrate or deepen design-led approaches to extended clothing lifetimes as part of their sustainability portfolio. This analysis provides the basis for the development of a strategic action plan for clothing longevity and can be applied within a consultancy scenario or as part of a workshop with business start-ups.
The approaches and questions visualised as a prism of philosophical foundations towards clothing longevity in Figure 8.1 (p. 254) are described as follows:

**IMPLICIT/EXPLICIT**

*Strategies for longevity occur both implicitly (as a result of the business model) and explicitly (for product promotion). Implicitly occurring approaches can benefit from being identified and developed further. Explicitly expressed strategies are the pillars of a business model but must be reviewed to ensure their effectiveness (thus not resulting in coincidental ‘green-washing’).*

Can you identify existing strategies for longevity? Do they work? Can they be developed further?

**SMALL IS BEAUTIFUL**

*Strategies for longevity dovetail with micro-enterprises and thus do not stand in conflict with their design practices or business models. Small businesses are more flexible and adaptable than larger ones, allowing for testing of radical approaches for sustainability. They are change agents who can inspire large scale trends.*

How much growth is necessary and to which end? Which advantages can be gained from being a small business? Which approaches to longevity are possible within a small business?

**PROMOTION**

*Strategies for longevity are supported through design-led marketing and brand messages, presenting a powerful tool to communicate brand*

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1 Greenwashing is the 'misleading consumers about firm environmental performance or the environmental benefits of a product or service' (Delmas and Burbano, 2011, p.64)
values and promote extended use. Customers co-create this message by sharing and uploading their own photos and comments. Designers promote and teach skills of resourcefulness online and/or offline.

How can you promote resourceful consumer behaviour? How can you communicate garment care and maintenance? How can customers participate in promoting resourceful behaviour?

EMBED
Strategies for longevity are deeply embedded at the heart of a business as part of a broader ethos of sustainability. Business models are created around these values rather than being retrofitted. Designers’ worldviews are reflected in all aspects of their work.

Does your business model support longevity? Are your worldviews reflected in your practice? Can strategies for longevity enhance your business?

RETHINK DESIGNER
Implies a more diverse role of the designer beyond a creator of objects. A designer in a micro-enterprise may be simultaneously CEO, pattern-cutter, developer, marketer and creative director, but also educator, facilitator and activist.

Which responsibilities do you have? Do you gain satisfaction from your work? Are you also educator, facilitator or activist?

PICK & MIX
Strategies are used in combination rather than in isolation and create sustainability strategy portfolios. The synergies created by combining different approaches are unique to each scenario, depending on context, locality and other factors.
Which approaches form your sustainability strategy portfolio? What is their order of priority and why? Which approaches support clothing longevity?

**COMPLEX**

*A holistic view is applied to address complexity of designing for longevity (including physical product, context, use and social implications). These approaches often present contradictions and trade-off situations.*

Which trade-off situations are there regarding longevity? How can these be resolved or rationalised? How can the design of your products contribute to extended use? How can systems around your product extend its lifetime?

**CONNECT**

*Manifest in a collaborative network of proactive participants of skilled makers, businesses, artists, and local communities. Grassroots initiatives may inspire business, set large-scale trends, promoting their ideas through social media.*

Who is in your supply chain? Can you source more locally? Can you connect with local/online communities?

**WELLBEING**

*Practices of resourcefulness and reduced consumption can be linked to notions of personal wellbeing for both user and designer. These reflect personal values and individuals can express identities through experiences of fashion linked to ‘doing’ versus ‘having’.*

Can you provide non-consumptive fashion experiences? What will make both you and your business flourish? How do you want your customers to feel?
**Figure 8.1** Prism of philosophical foundations towards clothing longevity
(2) Evidence supporting factors affecting clothing lifetimes

Phase 2 of fieldwork uncovered a range of insights relating to clothing acquisition, use and divestment with a focus on clothing longevity for sustainability. The findings as summarised in the conclusions section are significant in relation to the development of design concepts and products linked to garment life extension. Most importantly, it was found that the physical characteristics of a garment constituted one factor amongst many influencing the garment's lifetime, rather than being the single most influential factor.

This finding may appear incompatible with the current dominant business model based on material throughput, but it actually opens up new design opportunities within alternative economic models, including post-growth systems (Thackara, 2015, Fletcher, 2012) and circular economies (Bakker et al., 2015). Also, it allows for new dynamics between the fashion designer (activist, entrepreneur and educator) and pro-active user, providing satisfying experiences of fashion beyond consumption. These findings, particularly in their visual representation as a prism of philosophical foundations towards clothing longevity, give rise to emergent knowledge of fashion design for sustainability. These insights contribute to a better understanding of the everyday use of clothing and as such can be used to inform user-centred fashion practice while contributing to sustainability in fashion.

(3) Factors affecting toolkit uptake and success

In addition to an analysis of design toolkits, an interview study with toolkit developers allowed for a deeper understanding of toolkit development and uptake. Limitations and factors for success were identified. It was found that a guide reflecting the collective findings from all three phases of fieldwork and co-developed with an exemplary business such C2 could help support designers in their concepts concerned with extended lifetimes, particularly in educational contexts or start-ups. In line with the aims of this thesis, these findings provide rigorous underpinnings to develop and test a practical guide.
for fashion designers.

The key findings from Phase 3 of fieldwork are illustrated in Figure 8.2 (p. 258) and summarised below:

- **Limits** – Each tool has a specific focus and concomitant limitations. The more clearly the application and limitation of a tool is described, the more likely it is to be successfully implemented in practice. This can be assessed through in-depth testing. Measuring the long-term impact, however, is complex and time-consuming.

- **Synergies** – In order to tackle complex sustainability issues, it is crucial to view a tool within a landscape of tools, each tackling different facets of the problem. Rather than developing new tools, more extensive tool testing, tool adaptation and investigations into synergies created within a tool suite are needed.

- **Customise** – A certain degree of customisation is required for most tools. This can be achieved in various ways and to varying degrees. Tools can be adapted within a facilitated workshop, independently by the user or in collaboration with companies.

- **Aesthetics** – The visual appeal of toolkits is particularly crucial in the field of design. With an emphasis on graphics rather than text, additional information is typically required from a secondary source such as a website, a workshop or a booklet. The format of the tool determines its updatability; the more specific the information, the more quickly it is likely to become outdated.

- **Funding** – Tool testing, customising, updating and promotion are dependent on time and resources within the scope of a project. A research body or centre may be more capable of providing more resources and monetising the tool than an individual. While most tools are available for free, implementing the tools independently or in a workshop requires at least an investment of time on behalf of the user.
• **Training** – Expert facilitators are able to contextualise toolkits and bring their own unique set of skills to a workshop setting. In contrast, when used independently, the correct use of tools depends on the user’s level of knowledge. Training design students and designers on tool selection and application can develop this knowledge.
The more clearly the application and limitation of a tool is described, the more likely it is to be successfully implemented in practice.

It is crucial to view a tool within a landscape of tools, each tackling different facets of the problem.

Expert facilitators are able to contextualise toolkits and bring their unique set of skills to a workshop setting. This knowledge can be developed by training designers.

The visual appeal of toolkits is particularly crucial in the field of design; with an emphasis on graphics rather than text. The format of the tool determines its updatability.

A certain degree of customisation can take place within a facilitated workshop, independently by the user, or in collaboration with companies.

Tool testing, customising, updating and promotion are dependent on time and resources. Implementing the tools requires at the very least an investment of time.

Figure 8.2 Toolkit Impact Factors
Methodological contributions

The unique aspect of this thesis is that the topic is approached from three viewpoints that provide three interlinked sets of data from the perspective of makers of fashion, wearers of fashion, and how this knowledge can be communicated to practitioners. In the emergent field of fashion design research for sustainability, there are not many examples of research designs to invoke, though many draw on more than a single data set. This specific research design was developed with a pragmatist approach. The research thus provides a methodological contribution with regard to research design in this field. The multi-angle approach allows for an in-depth understanding of sustainability issues and takes into consideration the practical aspect of implementation and change in the real world.

Beneficiaries

The methodological process is transferrable to other research settings for developing case-specific design knowledge to address sustainability in fashion and other design disciplines. Doctoral students and researchers can apply the 3-phase research design to similar enquiries, contributing to knowledge on product life extension. The reach of this thesis can be widened through the publication of journal papers and dissemination within academic conferences. Furthermore, a contribution by the author to the book entitled Opening Up the Wardrobe: A Methods Book (Fletcher and Klepp, 2017) describe the methods applied within the user study.

It is anticipated the findings are relevant to designers in British fashion micro-enterprises, who either already show a commitment to sustainability or aim to set up a business embracing sustainability values. While some findings may be relevant to other industry sectors and product groups, a process of critical evaluation and adaptation is certain to be necessary. Practitioners can be reached within industry conferences, through collaborative research projects and in consultation scenarios.
8.4 Limitations

As with all research, some limitations are inherent in this study. The sample sizes within each of the phases of research are small. Phase 1 consisted of three case study businesses, Phase 2 of thirteen participants, and Phase 3 of seven participants. The results therefore cannot be regarded as generalisable, as would be the case with all qualitative research. The advantage of qualitative over quantitative research, however, as justified in Chapter 3 is the quality and depth of the data gathered. The chosen approach proved as successful judging by the strength of results produced in each phase of research.

A further consideration is that the selected case study businesses were selected as exemplary in alternative and more sustainable approaches to fashion rather than representing mainstream fashion business. Nonetheless, they display characteristics similar to most British fashion micro-enterprises (i.e. they produce clothing and need to turn a profit), which make the findings applicable to a large extent. While more research would be required to assess the relevance of these findings to larger companies, this research recognises the important role that small businesses play as innovators that are in a position to inspire global trends and large-scale change.

While the participants from Phase 2 fit into a similar demographic in terms of ethnicity, gender and age, the group may be at least in part representative of the demographic of C2 customers. One could also argue that customers of C2 are not representative of the population, being more likely to display pro-environmental behaviour. While this may be true, the findings showed a diversity of opinions and behaviours within C2 customers alone. These insights contribute to a more nuanced understanding of this heterogeneous group of 'sustainable fashion consumers'. For this reason, the sample may have more in common with the average fashion consumer than one may assume, it brings to life the joys, anxieties and challenges faced in the everyday acts integral to the lived experience of fashion.

Participants from Phase 3 consisted of toolkit developers in the field of fashion
design for sustainability. This section could have consisted of a more in-depth study and provided enough data for an entire PhD thesis. However, as just one out of the three research phases, it fulfils its objective of providing sufficient insights to draw conclusions on the efficacy of toolkit implementation in this particular case.

The conclusions of this chapter demonstrate that this thesis has fulfilled its aim to contribute to knowledge on garment lifetimes and how fashion designers are best supported in designing longer-lasting garments. The research also provides a starting point for developing future enquiries, which are discussed in the following section.

**8.5 Future Research**

Due to the universal nature of clothing, it would be beneficial to conduct comparative studies beyond the context of this thesis. This means examining customers of other brands and conducting user studies that include demographic groups not covered in this study (e.g. men, other age groups, ethnicities and nationalities). Furthermore, studies in countries outside of the UK may reveal culture-specific insights and allow for cross-referencing as well as a more extensive data set.

The findings from this study examine design approaches for garment life extension in their entirety. A further opportunity for research would be an in-depth study of a single design strategy for longevity (such as modular design). Such a study would provide an even more in-depth understanding of the topic.

The prism of philosophical foundations towards clothing longevity provides an accessible visual representation of the findings that can be developed further into an open-source website or phone application. This can subsequently be applied within consultancy scenarios (such as by the Centre for Fashion Enterprise) or within fashion micro-enterprises directly.
Rather than develop a design toolkit from the outset, the gaps in knowledge found within the literature review revealed the need for an investigation into the underlying factors impacting clothing lifetimes as well as the efficacy of design toolkits in general. It became evident from the findings that a guide co-developed between an exemplary business and a design researcher (or preferably a team of researchers) would most likely produce a successful output, given it is thoroughly tested. Based on the findings of this thesis, it would also be possible to create a user's guide to garment life extension.

Fashion micro-enterprises have the potential to take ownership of strategies for longevity as part of their brand identity and communicate these strategies effectively in order to foster cultures of resourcefulness while altering how wearers perceive, value and treat their garments and other material possessions. Designers have the opportunity of facilitating this philosophical shift toward appreciating fashion that reflects the energy, labour and resources that are embodied in clothing. Not only does longer-lasting clothing mean reducing environmental impacts but it is also opening up opportunities for increasing individual wellbeing for both the wearers and the makers of fashion.
References


Chick, A. & Micklethwaite, P. 2011. *Design for sustainable change: how designers can drive the sustainability agenda*. Lausanne, Switzerland: AVA.


265


Lockton, D. J. G. 2013. Design with Intent: A design pattern toolkit for environmental and social behaviour change. PhD, Brunel University.


Thackara, J. 2005. *In the bubble: Designing in a complex world.* London: MIT.


WRAP. 2012. *Valuing our Clothes – the true cost of how we design, use and dispose of clothing in the UK* [Online]. Available: www.wrap.org.uk/content/valuing-our-clothes [Accessed: 23.11.13].


Appendix

A: Phase 1 consent form, information sheet and photography consent form

A1: Consent form

Participant Consent Form for research project:

The future shape of design
- a toolkit for designing longer-lasting material experiences

◼ I agree to take part in this research which will examine designer and user practices in fashion.

◼ The researcher has explained to my satisfaction the purpose, principles and procedures of the study and the possible risks involved.

◼ I have read the information sheet and I understand the principles, procedures and possible risks involved.

◼ I am aware that I will be required to answer questions and that I will be observed.

◼ I understand how the data collected will be used, and that any confidential information will normally be seen only by the researcher and will not be revealed to anyone else.

◼ I understand that I am free to withdraw from the study at any time without giving a reason and without incurring consequences from doing so.

◼ I agree that should I withdraw from the study, the data collected up to that point may be used by the researcher for the purposes described in the information sheet.

◼ I agree that data collected may subsequently be archived and used by other bona fide researchers.

Name (please print) ...................................................................................................................................................................................................................................................................................
Signed ...........................................................................................................................................................................................................................................................................................
Date ............................................................................................................................................................................................................................................................................................

Contact

Researcher:
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Information Sheet for research project:

'The future shape of design
- a toolkit for designing longer-lasting material experiences'

Participants

I am inviting fashion businesses to take part in a research project 'The Future Shape of Design - a toolkit for designing longer-lasting material experiences'. I will be focusing on people involved in design & development process.

About the research

I am a PhD researcher at the University of Brighton. Previously, I worked as a designer and hold an MA Fashion & Environment with distinction from the London College of Fashion. At LCF I also worked for the Centre for Sustainable Fashion.

The aim of the project is a toolkit to inspire and support designers to create clothes that are used for longer. This investigation begins with looking at how designers work in order to find propositions that are as practical and useful as possible. This will involve observations and interviews. The purpose of this is not take a critical view but to gain an insight to how things work.

What's involved

The study involves approx. 4 occasions where I observe and take notes of what I see - I will try to be as unobtrusive as possible. Furthermore, I anticipate one or two interviews with you and/or your employees.

Benefits

This project is intended to be as useful to the company as it is to the researcher: this is an opportunity for the company to gain insights to their own workings. The final toolkit will be made available to you where a custom-made proposal for longer lasting products will be included. Happy customers mean loyal customers - I endeavour to find opportunities for deepening this relationship. You will also be invited to an inter-disciplinary creative design workshop in late 2015.

Commitment

This part of the project involves interviews (1-2) and observations (about 4) in a time window of 4-6 weeks. We will agree the days on which these events will take place.

However, ethical research depends on your consent. If you wish you withdraw from the project at any time, you can do so without giving any reasons why you no longer wish to take part.

Data: consent to use information

The nature of this research project means that many types of data will be gathered, including:

- Some personal details.
- Audio recording of interviews.
Photographs and drawings of your workplace to which you can give specific consent (if appropriate).

This data will be used and shared in different ways:

- Personal information, such as your phone number, is confidential and will not be disclosed to anyone.
- Audio recordings will only be shared with individual researchers who agree to preserve the confidentiality of the information. They will not be shared in public.
- Other data (words quoted from the audio recordings, photographs, visual material, demographic information) will be used in research outputs, such as my thesis and website. They may also be used by other researchers in the future.
- You can choose whether I use your actual first name or company name in relation to this data, or a pseudonym.

If you withdraw from the project I assume that you agree for me to use the data I have already collected unless you state otherwise.

Name (please print) ..........................................................................................................

Signed .......................................................................................................................

Date .........................................................................................................................

Contact

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University: Prof. Jonathan Chapman

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Photography Consent Form for research project:
The future shape of design
-a toolkit for designing longer-lasting material experiences

♦ I give consent to the researcher Anja Crabb to make use and/or retain image/s as detailed below that may identify me.

♦ I understand that by giving consent, the researcher Anja Crabb and the University of Brighton can use the images for research and educational purposes.

♦ Any confidential information will normally be seen only by the researcher and will not be revealed to anyone else.

♦ I understand that I am free to withdraw from the study at any time without giving a reason and without incurring consequences from doing so.

♦ I agree that should I withdraw from the study, the images collected up to that point may be used by the researcher for the purposes described in the information sheet.

♦ I agree that the images may subsequently be archived and used by other bona fide researchers.

Name (please print) ........................................................................................................................................

Signed ...........................................................................................................................................................

Date .............................................................................................................................................................

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The future shape of design
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- I agree to take part in this research which will examine designer and user practices in fashion.

- The researcher has explained to my satisfaction the purpose, principles and procedures of the study and the possible risks involved.

- I have read the information sheet and I understand the principles, procedures and possible risks involved.

- I am aware that I will be required to answer questions and that photographs will be taken.

- I understand how the data collected will be used, and that any confidential information will normally be seen only by the researcher and will not be revealed to anyone else.

- I understand that I am free to withdraw from the study at any time without giving a reason and without incurring consequences from doing so.

- I agree that should I withdraw from the study, the data collected up to that point may be used by the researcher for the purposes described in the information sheet.

- I agree that data collected may subsequently be archived and used by other bona fide researchers.

Name (please print) .................................................................
Signed ......................................................................................
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B2: Information sheet

Information Sheet for research project:
‘The future shape of design
- a toolkit for designing longer-lasting material experiences’

Participants

I am inviting customers to take part in the PhD research project ‘The Future Shape of Design - a toolkit for designing longer-lasting material experiences’.

For the interview please have ready the following items: all pieces you own, something you have owned for a long time, something you wear frequently, something you never or rarely wear and a piece you have altered or mended or had altered or mended by somebody else. We will be discussing how you purchase, dispose of and wear and care for your clothing.

About the research

The aim of the project is to understand how customers buy, wear, care and dispose of clothing. This will contribute to an understanding on the experiences and opinions of customers of pioneering brands with sustainable values, such as. This will involve an interview with you and photographs of your garments. The purpose of this is not take a critical view but to gain an insight.

I am a PhD researcher at the University of Brighton. Previously, I worked as a designer in industry and hold an MA Fashion & Environment with distinction from the London College of Fashion. At LCF I also worked for the Centre for Sustainable Fashion.

What’s involved

The study involves one or two audio-recorded interviews with you. I will also take photographs of your chosen garments.

Benefits

This project is a collaboration between the researcher, Here Today Here Tomorrow and The findings will therefore be shared with the collaborating companies. In August 2015, the study will be featured on the blog.

Commitment

This part of the project involves interviews (1-2) and photographs of garments. The interview date will be agreed on in advance.

Data: consent to use information

The nature of this research project means that many types of data will be gathered, including:

♦ Some personal details.
♦ Audio recording of interviews.
♦ Notes on the interviews.
♦ Photographs of your garments to which you can give specific consent.
This data will be used and shared in different ways:

♦ Personal information, such as your name, phone number and address, is confidential and will not be disclosed to anyone.

♦ Audio recordings will only be shared with individual researchers who agree to preserve the confidentiality of the information. They will not be shared in public.

♦ Other data (words quoted from the audio recordings, photographs, visual material, demographic information) will be used in research outputs, such as my thesis and website. They may also be used by other researchers in the future.

♦ You can choose whether I use your actual first name in relation to this data, or a pseudonym.

If you withdraw from the project, I assume that you agree for me to use the data I have already collected unless you state otherwise.

Name (please print) ............................................................................................................

Signed .................................................................................................................................

Date .....................................................................................................................................

---------------------------------------------

Contact

Researcher: Anja Claire Crabb

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Photography Consent Form for research project:

The future shape of design
- a toolkit for designing longer-lasting material experiences

❖ I give consent to the researcher Anja Crabb to make use and/or retain image/s as detailed below that may identify me.

❖ I understand that by giving consent, the researcher Anja Crabb and the University of Brighton can use the images for research and educational purposes.

❖ Any confidential information will normally be seen only by the researcher and will not be revealed to anyone else.

❖ I understand that I am free to withdraw from the study at any time without giving a reason and without incurring consequences from doing so.

❖ I agree that should I withdraw from the study, the images collected up to that point may be used by the researcher for the purposes described in the information sheet.

❖ I agree that the images may subsequently be archived and used by other bona fide researchers.

Name (please print) .................................................................................................................

Signed ........................................................................................................................................

Date ...........................................................................................................................................

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C: Interview guide Phase 1

'The future shape of design - a toolkit for designing longer-lasting material experiences'

Researcher: Anja Claire Crabb

Phase 1: Interview at fashion business case study

Name:
Date:

INTRO
◆ Read & sign consent form
◆ Explain use of recorder & photographs
◆ Plan for interview: talk a bit about your background (personal & professional), then about working for this specific company, design processes and then some specific topics (longevity, toolkits, sustainability)
◆ I’m looking for experiences & opinions to understand your point of view

ABOUT YOU
◆ Tell me about yourself
  o Age
  o Occupation
  o Professional & personal background (where from, education, experience)
  o How did you end up working for this company?
  o Where do you see yourself in 5 years time?

ABOUT YOUR WORK
◆ Tell me about your job
  o Describe the company you work for (ethos, size, products, customer)
  o How long have you worked here?
  o Describe your day-to-day tasks
  o Describe the design process & decision-making (research, fabrics & colours, creation of concepts, collections designed & developed, feedback, prof. development)

GOING FORWARD
◆ Further involvement / sustainability / longevity
  o Describe what you know about the company’s stance on sustainability
  o What is your opinion on sustainable fashion/ sustainability?
  o What do you think about longevity as an approach to sustainability?
  o Do you think your company creates garments that are used for a long time?
  o What feedback do you get from customers (if any) e.g. online (tumblr, twitter) or through e-mail, returns, etc.?
  o Do you have any experience/knowledge of design toolkits?
  o Would you be interested in a collaborative, trans-disciplinary design workshop where you work with a design toolkit?
Have collaborated with Here Today Here Tomorrow and Anja Crabb, a designer and PhD researcher from the University of Brighton, who would like to interview you about your clothes - which pieces you have owned the longest, wear most frequently and treasure most.

We want to know more about YOU, so that we can continue making clothes you love and keep wearing season after season.

To say thank you, you will receive a £10 voucher for Here Today Here Tomorrow.

Up for it? Just e-mail Anja at A.Crabb@brighton.ac.uk with ‘HTHT study’ in the subject line. Please also feel free to send her any questions you have regarding the study.
D2: Call out for participation Phase 2 blog post

Be part of a wardrobe study! in the comfort of your own home & in exchange for a small cash reward. The study will also be featured on the blog in August.

When was the last time you had a look into the depths of your wardrobe? Narnia may not be waiting on other side but there are certain to be some stories waiting to be told.

In my wardrobe there’s an old favourite, a dress right at the bottom of the pile. It’s been scrunched up against the back wall for a while now, though it’s seemingly uncreaseable. It is not destined to leave the wardrobe though as it holds far too many precious memories of some nights out with good friends. There’s also the beautiful caplet top with delicate beading. An exciting charity shop find, possibly 1970s, which I painstakingly mended the beadwork on, but now I hardly dare wear it out in case it falls apart. And then there's this super-warm woolly cardi that I got a few months back when I was conducting research at their studio. It’s become an essential winter survival item which has been worn almost every day this winter. It features many shades of greeny-peachy-bluey colours – in a good way – and it is also magical because no matter how much I wear it, it never seems to need a wash.

Why do these stories matter?

As you probably know, people are buying and either throwing away or storing more clothing than ever before. What you might not know is that extending the active life of garments can offer the biggest savings overall in carbon, water and waste footprints. Even when compared with best practices in production and fibre choice, laundry and re-use and recycling, see the graphic below from a report by WRAP. This report also tells us that extending the life of clothing by an extra 9 months can reduce these footprints by 20-30% each. That’s a lot!

So why do the stories matter then?

Insights into how people use their clothing can help challenge our throwaway culture in fashion and find solutions. As part of my PhD research in sustainable fashion at the University of Brighton which follows on from my MA work at the London College of Fashion, I am conducting a ‘wardrobe study’ with customers. I want to know how you use your clothing: which pieces do you love to bits? Which ones do you rarely or never wear? Which ones do you wear all the time? What do you do with the unfortunate ones you fall out of love with? What if it’s broken? What if it doesn’t fit? Or is it just looking like it’s well beyond retirement age?

How can you take part?

This is the first study of its kind focusing on the customers of a pioneering sustainable fashion brand. Until June I will be travelling across the country to your homes to collect the stories of your clothes.  

Simply click here to drop me a line via e-mail and if you are selected to participate I will send you more detailed information.

Please also feel free to contact and ask me any questions you might have.

Oh, and apart from bringing cake, I will also provide you with a £10 voucher!

Look forward to hearing from you!

~Anja Crabb
Interview Guide

‘The future shape of design - a toolkit for designing longer-lasting material experiences’

Researcher: Anja Claire Crabb

Phase 2: Interview with C2 customers

Name:
Date:

Age & occupation

C2 knowledge - made in UK, waste fabrics, same shapes (get bored?), generous to weight fluctuation (applicable?)
Sustainability important?
Important where it’s made?

Where do you shop
Experience of shopping
Confidence
Second hand
Online
Swap/borrow/gift

Fit on body (jeans)
Identity, lifestyle - how has it changed over time
Trends
Uniqueness

Disposal
eBay
Wardrobe (full? how ordered?)
Sentimental value

Durability/quality
Fibre/fabrics
Tactility, comfort
Moths?

Dyeing
Repair, alteration, making

Scenarios:
- classic
- guarantee
- mending/alteration service
- modular
- swap event
- co-creation
<table>
<thead>
<tr>
<th>C2 garment(s)</th>
<th>U1</th>
<th>U2</th>
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<tbody>
<tr>
<td>Owned long time</td>
<td><img src="image1.png" alt="Image 1" /></td>
<td><img src="image2.png" alt="Image 2" /></td>
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<tr>
<td>Frequent wear</td>
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<td><img src="image4.png" alt="Image 4" /></td>
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<tr>
<td>Alter/repaird</td>
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<tr>
<td>Never/rare wear</td>
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<td><img src="image8.png" alt="Image 8" /></td>
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<tr>
<td>U3</td>
<td>C2 garment(s)</td>
<td>Altered/repairs</td>
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<td>C2 garment(s)</td>
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<td>C2 garment(s)</td>
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<tr>
<td>Altered/repairs</td>
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<td>Frequent wear</td>
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<td>Rare/never wear</td>
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G: Interview transcript Phase 2, U11

User study interview - U11, Cardiff

U11: I am 39 and I'm a librarian, health subject librarian.

AC: Perfect. So you said your C2 garment is still in commission?

U11: I've got one here.

AC: So we'll start with that one.

U11: I just bought it this week. It's the new collection. I'm a bit mad about herringbone. So I saw it on the sneak peek and then got it.

AC: So you're on the mailing list are you?

U11: Yeah.

AC: How did you come across C2 then?

U11: I've just started a personal project to shop more ethically and just internet searches really and found them that way.

AC: What drew you to the garments?

U11: I just liked the way they're put together, I like the fabrics they use, I like the ethics, I like the fact that they're in Bristol, they're quite local. It was good all-round really.

AC: So did you have a proper read through about who they are and what they're about?

U11: Yes.

AC: And was it particularly what you thought that impressed you, that you liked about them?

U11: Their sustainability really. I think the fact that they're using reclaimed materials was a big one for me, the fact that they're made in the UK, so both of those things are the strongest things. Although having said that, I like the look of what they've put together. I wouldn't purchase from someone if I didn't like what they make. I like the finished articles as well.

AC: So the designs as well?

U11: Yeah.

AC: You said you bought this online! So no means of trying it on or feeling?

U11: No. I was quite interested and I did wonder about the way they describe their materials actually. I feel that they could give a bit more information about handle. I'm a bit obsessive about handle.

AC: So what was it like when you got it then?

U11: It was fine. But I'm the sort of person who walks around the shop with her hand out. It's really important to me the way something feels. That makes shopping online harder, which is difficult for the project obviously.
AC: Because there are more sustainable brands online?

U11: Yeah.

AC: That is tricky. And you don't normally shop online?

U11: No, I wouldn't have before the project. Before I started the project, probably the only things I would have bought online are things from people tree.

AC: So you had already bought for them previously.

U11: Yeah. But then they use mainly natural materials anyway.

AC: And I guess with them they just say sustainable, reclaimed fabric…

U11: Organic, yeah.

AC: Because they can't say 100% themselves what it is, they can probably only say, 'that's probably 80% wool'.

U11: But I was happy with that, a wool mix and I thought, 'ah it's herring bone, I love it'.

AC: Can you tell me a little bit about your project?

U11: I suppose, I was always interested in fashion, I've studied fashion myself and always drawn to companies who try to do things ethically. In every sort of walk of life, food, I try to make those decisions, the way that I've brought up my children and reusable nappies and stuff like that. I'd never given it that much attention in my own clothing. I don't know what the trigger was but I just thought… I tell you what it was. One of the last straws was the fact that, when I consider making myself something, I feel like my skill has been so devalued that it takes me so long to make something that it's not comparable to what you can buy on the high street. And the frustration of feeling that. And although I can make things for my daughter, and somebody actually asked if I can make something for them and I just thought, if they'd commission a piece, I'd have to charge them so much that it would be embarrassing. And you think, 'hm, shit, there's a lot a construction in it'. And the incongruity between how much things are... I've got a friend who brought something home recently and said, 'guess how much I paid for this? It was a pound! I just thought, it's not right. So all of that was sitting uneasily with me and then I thought, what changes when I start to shop ethically? Would I start to create more of my own things anyway as a kind of side effect, will that start to happen? It's not just about the money, it's about choosing the fabric, knowing what you're wearing has been made, knowing the back story is, no one else has got one all of those things. That's the story of how I started on the project. And the project's sort of evolving a little bit. The project was to try starting shopping ethically.

AC: And you started that...

U11: In June. And so, I would look at are where was it made, the fabrics that were used, preferably kind of made in the UK is really what I wanted but I'm kind of having to reshuffle that little bit I think. And second-hand clothing is OK, I'm letting that in, clothes swaps, I've done them for ages, they're great fun. And it's sort of evolving out of that.

AC: And did you say you're just going to do that for a year and see how it goes?

U11: Yeah. And then, I wasn't planning on doing a massive shop on the high-street, I hope that it will change my habits.
AC: It’ll be interesting to hear what happens. And so far you’ve been able to get brands and clothes covered apart from the sports-bra?

U11: Yes.

AC: But other than that you’ve found quite a few different…

U11: Yeah, I feel like there’s plenty on offer, I don’t feel like I’ll be totally stuck if I had to go to a wedding or I needed something new of if I needed new leggings something like that. I feel like there’s enough on offer. I was worried about underwear and tights. Tights is still, I’m thinking, maybe I shouldn’t wear tights anymore, they’re quite a disposable item aren’t they?

AC: I struggle with tights.

U11: I’ve read that Aristock (?) are quite good? I think they may be manufactured in the UK. I’m not sure, don’t quote me.

AC: Are you writing a blog or something?

U11: I am, yeah. I haven’t written for ages, it takes quite a long time. The blog’s called ragstoen-rich.me if you want to look it up. Tights and sports-bra. I was worried about underwear but I found underwear and I found knickers.

AC: Fab. And this is the first sustainable brand garment that you bought since you started your project? Or have you purchased other things?

U11: I’ve bought some knickers and I’ve bought another top from People Tree as well. That’s all I’ve bought since I started in June.

AC: And you haven’t worn this top yet?

U11: No, no. It’s new.

AC: What did you have it in mind for when you got it?

U11: I expect to be able to throw it on with everything really. And easy to wear garment, yeah.

AC: I suppose when you bought it you noticed it was only in one or two sizes, did you find that tricky or not?

U11: I don’t know yet, I’ll see how it wears. My first reaction when I first saw it in the flesh was that it looks quite big, especially because I’m quite small-framed and I might change it. In terms of I might alter it.

AC: You might alter it yourself. I suppose from the cut, it’s quite simple, so you might be able to do it yourself.

U11: Yeah, that’s what I thought. I was thinking of just putting in a pleat [at the shoulder].

AC: So you also alter things yourself. Quite regularly?

U11: Probably yeah. And it’s usually fit.

AC: So you buy something and it’s not quite right.
U11: Yeah, and I’ll change the fit. I’m probably capable of changing things around. And I’ve probably got a project on the go where I had skirt for about 15 years, I wore it and wore it and wore it to death and had a box pleat at the front, where the join was for the box pleat and it just wore away because it was so old, so I’m trying to change that into a mini skirt but I haven’t finished it. And that’s classic me really, that I never get around to finishing.

AC: Do you ahem a big alterations and mending pile?

U11: Not really but I have bigger things than I can chew. But if it’s a mending pile, I’ll probably mend it and do it straight away. Or alterations.

AC: So you do things like darning as well?

U11: Darning, no, I’ve lost the darning skill, I don’t know who to darn. I’ve never darned. My mum darns, I keep on meaning to ask her to show me how to do it. I did feel like I did have a hole, pesky moths, in a cardigan in a cashmere cardigan that I have. It was just a tiny tiny hole and I just stitched it up and it was OK in a kind of what I though was a darning-fashion, but I don’t think it would pass the test.

AC: It can get quite technical…

U11: I would have liked to have done it properly. But not enough to have looked it up on a youtube video.

AC: Is that something that you might go into in the future?

U11: Probably.

AC: And you make stuff yourself as well you said? Is that sort of self taught?

U11: Well I taught myself, I was given a sewing machine when I was about 11 and I self-taught and I made a lot of my own clothes as a teenager and then it sort of dropped off in my early 20s.

AC: And now you’re getting back into it?

U11: I started to sew for my daughter, because she’s small, it’s easier to make something quicker and it’s more practical in terms of time spent where you can make something small quite quickly. Over the last 2 years I’ve been making stuff for her, a dress and a couple of skirts and things.

AC: Perfect. Just to get back to C2, you said you had a commission for them, what was it?

U11: The first thing that drew me to them was they folk dress. And I think they were sold out of the pattern way and the colour way that I really liked and I thought, they’d done a photograph on their Instagram account where I saw they’d completed a commission for someone else and I thought, I’ll do that. So I started the dialogue with them, looking in to fabrics and colours and things. That’s the next thing form them.

AC: So you saw a fabric and asked them to put it in a folk dress?

U11: No, I asked them. I’ve given them some specifications, things I think I’d like and they’ve come back, we’re having this back and forth dialogue at the moment. And they’ve made some suggestions which is quite nice. I don’t know that I’m the easiest customer necessarily. I’m trying to be nice with them. They’ve given some really pretty suggestions but I’m the sort of person who wants to go through everything to make sure I’ve got the best one [laughs].
AC: I'm sure that's fine.

U11: And on the other hand, digging things out to speak with you, there's a dress that I'll show you, that I haven't worn for at least 15 years that maybe we should use that fabric, it could be nice. It would be chopping up a dress to make a dress. But at the moment it's not being used because it's got some stains on it.

AC: That sounds like a good candidate then for chopping up.

U11: Yeah. I should pebbly go see them.

AC: Another thing I was talking about with Lizzie was that many of the garments are really stretchy or aren't very fitted and she said it's partly to do with women who fluctuate in shape. Would you say you change sizes quite a bit?

U11: No, not really. I know a lot of my friends do but yeah, I'm pretty stable.

AC: OK. Just to go back to the point you said about swapping. Is that something that's organised in the community or something you do with your friends?

U11: Something I set up with some friends. And it works amazing. If anybody who doesn't do swapping should do swapping. It's really lovely because you think of you and your friends as all different sizes but everybody's got stuff that doesn't fit, either too big to too small, so there's usually something for everyone, it's really rare... actually in one of the swaps somebody said 'ooh so and so doesn't have anything' and it's like, right, let's see what we can find and we rifled through everything. It's a really good feeling seeing something that you've bought, never worn or worn a long time and no longer wear, pass onto someone else and it looks good on them and they're really pleased. So it's just a really nice feeling to be able to do that. I suppose on a even less organised scale, I've done it with my sister in law or my mum and just be like, 'I think this will fit you, why don't you try this on.' And I suppose I've always done that my whole life. I can't remember how we first had the idea to set up a swap. But it ended up whole evenings and cocktails and drinks.

AC: So a social fun thing?

U11: Yeah, and it's got quite massive.

AC: Really? Like how many people?

U11: Well, there's a bank of about 20 of us. So it's never all 20 of us. There was one held here one year, last year and I got some rails from my husband's work and I set up the whole back rooms and then we had a party in the rest of the house, it was really nice. But there are other swapping events in Cardiff as well. I think there's one in two weeks time that I've signed up to go to but I've never been to one that's properly organised like that. So it'll be interesting to see how that works because with friends we've always just said, 'bring along anything that you're not precious about, you've got to be happy to give it away and at the end the host will take the clothes to go to a charity or chooses what happens to them. At the moment that's what we're doing with them. They could go onto another company to be reused, what I never thought of before C2 and speaking with you but yeah, it's a possibility.

AC: Or they could turn into project for you for remaking?

U11: Yaah, possibly.

AC: It'll be interesting to see how the community-run one works, there seem to be different systems.
U11: I've kind of been put off by those. You take a coat and you get 5 tokens, I don't know. But on the other hand you can see why, you might not be happy giving away your Whistles dress and coming home with something that's deemed to be less valuable. I don't know. I think you've just got to be into the idea of it really, that you're happy to give something away and you may or may not come home with something.

AC: It would be interesting to see how it compares with a familiar setting with friends to strangers.

U11: I'm interested in becoming more officially involved in stuff but we'll see.

AC: Do you ever find with the stuff you get from swaps that they're more easy come, easy go because you got them for free?

U11: No, not really. I've had quite a lot of practical stuff that I've worn daily and I've been really grateful to swap that and then I've had quite a smart dress that I wore for a bit. And then it did sort of... a lot of the things are quite transient. I got an aran cardigan from the swap and possibly I took it because I knew the value of the item rather than knowing that I would wear it, which is a bit naughty. And I've since given it to my mum, so she wears that a lot. But I wouldn't throw things away. A lot of times what happens is they go back into the swap pot. And we've noticed that, me and my friends, things will come back to the swap numerous times.

AC: Everybody gets to have a go!

U11: It fits in quite well with things I'm interested in, I work in a library, I'm interested in things like that are reusable and I'm interested in, nobody's really thought about kitchen things and make up. What happens to make up that you don't use? And also kitchen things like bread makers and toaster. I think we should have a kitchen library.

AC: I mean think there's a clothing library in Sweden. You get a pass and take 5 items out a month.

U11: I love that. Oh my god, that sounds fab.

AC: You should start one in Cardiff.

U11: So how's that funded?

AC: I don't know, I need to find out more. Shall we go onto the other garments.

U11: If I show you the things that I've altered first. And generally, there is a mend actually, this dress is a mend. I bought this dress a couple of years ago, I wore it and wore it and wore it like made. And then one day, I sat forward in the car... it's Cupro and Viscose, I sat forward in the car and it ripped at the back. So I put the bias binding on the back.

AC: That's an excellent mend. Very creative.

U11: Luckily I just made the skirt for my daughter and I just used bias binding, I'm the bias binding queen now.

AC: That's a good skill to have. You can see here, that's where it ripped.

U11: It was quite bad, I had to cut it quite far.
AC: Did that take you a long time to do or was it a three minute job?

U11: Anything I do has to be speedy. Otherwise it doesn't really get done.

AC: So do it in one sitting basically?

U11: Yeah. It's got to be one sitting.

AC: Do you try and fix things first or if it's going to be too much effort not?

U11: No, I would consider the garment I think and how much more I'm going to wear the garment. It's a good question because I've got a shift dress upstairs that the zip's broken on. At the time I was wearing the shift dress a lot and the zip broke and I haven't replaced the zip because I thought I'm not going to wear it anymore anyway, I was wearing it just after I'd had my daughter and I was bigger than I am now and it fitted me at the time, it doesn't anymore. I should probably take it to the swap. It's a balance I suppose between time and whether I think I'm going to wear it.

Shall we move onto the next one? This is one I bought from a vintage flea market thing. And somebody had cut off the straps. So I put some new ones on, because it wouldn't stay up without any on. And I suspect that's why it was there.

AC: And you turned it into a design feature as well by making them orange. Fantastic.

U11: With that I considered it quite a lot what I would do. I thought about putting more elastic in and then I thought clash it up and make it. It was easy, just a couple of stitches.

AC: Do you ever buy things and think, 'ooh I could just alter this or that or is it only when you buy things and then realise they're not quite right?

U11: Yeah, I'd be unlikely to buy something and think, 'I will alter that.' I think I would wear it a few times and then notice and probably have some ideas about what I wanted to do with it.

AC: Looks like you quite like enjoy creative mending as well, it's not just about getting the job done but having a bit of fun with it as well.

U11: Yeah, definitely. And I suppose that's my dress-making outlet. It's funny because it's usually time spent in front of the tele or something, everyone thinks they haven't got time but you've just got to make time. And I'm hoping that this project means I'll think, I'll have a couple of evenings dress-making. At the moment this is more achievable for me, changing clothes.

AC: That's great. This one's from a vintage flea market and this one's White Stuff. So you get clothes from quite a few different outlets it seems. Where did you used to get clothes from before your project started?

U11: Before my project started, I was a high-street shopper, car boot sale, anything goes really. And there wasn't any shops I probably wouldn't go in. So any I would perceive I would be too old for I probably would bother but yeah, a really wide range.
AC: With the wide range, you’d go out to get clothes or was it mainly a social activity to go shopping?

U11: Both. It’s a bit of a hobby for some people isn’t it. In my 20s, going into town, meeting up with friends, going for a coffee before or something. And now I’m sort of cringing about the fact that it’s quite a superficial activity.

AC: I think it’s kind of underrated the whole shopping thing, it’s not just about the stuff, you go for a coffee and a browse, it’s quite a social activity…

U11: You can see what’s happening, yeah, see what’s new, coming up.

AC: Now with your project, you don’t shop on the high street…

U11: No…

AC: But you can go to car boot sales…

U11: Yeah.

AC: Would you feel like you’d be missing out on the experience at all?

U11: I don’t feel like it’s a negative thing. So I’ll get the same thing from a car boot sale. It was quite funny, it was really sunny, we went to a car boot sale last weekend and I think if I were to meet somebody in town, I haven’t done that yet since I’ve been on the project, I would still meet someone for a drink in town, it wouldn’t stop me from doing that. But maybe my socialising habits have changed anyway, so yeah. It’s just different.

AC: And what about with the touching, you said you like to touch things with most of the brands being online, is that something that you miss a little bit?

U11: Yeah. From certain brands, other brands like people tree, I say I know the handle’s going to be OK, but I have sent something back because of the handle of something on people tree, it was printed and it felt wrong, so that had to go back but generally with people tree I think because the type of fibres that they use are safe.

AC: With type of fibres you mean natural fibres?

U11: Yeah. And that is mainly what the handle is about for me.

AC: So this one is…

U11: … cotton.

AC: Does it say, yeah, 100% cotton. And that one was…

U11: Cupro. Feels like silk though doesn’t it?

AC: Yeah, amazing. So you tend to go for natural fibres. Because of how it feels on your skin?

U11: Recently I bought a recycled polyester top and I think that’s the first polyester top I bought for year and years. And I get really static, I’m just one of those people and it drives me mad. My friend says if you put loads of body lotion on that helps and it does, or hairspray but I don’t like the idea. Or bounce that goes in the tumble-dryer, just wipe yourself down. So it’s mainly the static that bothers me, if I wear something it will cling to me and I’ll get electric shocks.
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AC: So where was that from?

U11: That was from H&M, that was before the project.

AC: But it was recycled polyester.

U11: I know, but I’m not that happy with the company really, the way they do their fashion. Which is a big change for me really, I used to buy a lot of things from H&M.

AC: Because of the style?

U11: Yeah, the style, the fit, the price, yeah, I love them.

AC: Is that going to be hard for you?

U11: Yeah, I think so.

AC: Weaning yourself off H&M?

U11: Yeah, that’s the one thing. But I’m finding stuff elsewhere so it’s OK.

AC: Are you looking on eBay as well?

U11: Less so. I would use eBay. I haven’t had that many successful purchases off eBay.

AC: Right. Shall we look at that one?

U11: This one is from Toast and 100% cotton. And the alteration… spot the alteration. It’s at the back.

AC: Is it that?

U11: So I’ve had a friend who worked for Toast and I was lucky enough to get a few things from her but I find their shapes are quite large, baggy kind of tent-like. And that one is kind of tunic shaped and I just wanted to bring it in a bit at the waist. So that’s a good one, I was quite pleased with it. So I just stuck the elastic in.

AC: So where do you find ideas on how to do that? Do you just think of them or do you look online?

U11: No, I just think, ‘hm, what could I do?’ and it’s troubleshooting ideas really, like this dress, I thought about putting more elastic in, putting more shearing in, so one of my options was to shear it all the way because there’s a panel in the back where it’s not shears and that would have given it more hold and stretch. But I thought for security, and I could add a bit more colour, it’s just trouble shooting really.

AC: So you enjoy that part of it, figuring out the best solution?

U11: Yeah.

AC: Fab. Has it ever not worked out and ruined the garment?

U11: No, only to the extent if I’m going to make it into something new, like the skirt that I was talking about earlier is in tatters at the moment and I don’t know if it’s ever going to come back. It needs a Saturday one day.
AC: And are you quite happy taking those risks or are you a bit anxious about it?

U11: Well, with that one, it was at the stage where I wasn’t going to wear it anymore anyway. I think I’d already mended it and the mend had broken again, so it was gone really, so it had to be something else. I hope it does come back because I love the fabric. I’ll show you. I’ve chopped it up, so it’s got to come back from that [laughs]. I haven’t decided yet. It’s a lot softer than it used to be. I’ve had it a long time. Yeah, I enjoyed that, that’s when I learned about bias binding.

AC: And then put bias on everything?

U11: Yeah.

AC: How did you learn about that, did you just give it a whirl?

U11: I think I looked for a youtube video online, because I’d never used bias binding before but I really like that little bit of trim, I like that touch and detail. It was nice to find out about that.

AC: How old was this dress?

U11: That one’s probably 2 years old and it was given to me. That one I bought this Summer from the flea market. First of all I tried to wear it with a padded bra and I wore it a couple of times. And then I wore it as a skirt, not worrying about the top and finally I altered it and I’ve worn it since, been happy with that.

AC: So you said you have quite a few clothes?

U11: Yes.

AC: Would you say mostly old or mostly new.

U11: I don’t know how often I buy new clothes. Like this skirt I still wear very regularly. Not necessarily weekly but I’d wear it through the year. And I bought it 10 years ago.

AC: And that’s been worn throughout the 10 years?

U11: Yeah. The belt buckle is starting to wear. I bought it in an independent shop in Norberth in West Wales.

AC: It says it’s a Danish company but made in China.

U11: It’s silk.

AC: And hand wash only. Do you hand-wash it?

U11: Yeah. So yeah, the belt buckle’s gone so we have to figure something out for that.

AC: But other than that....

U11: Other than that it’s in really good nick. And I would say that’s probably because it gets hand-washed. And I don’t hand-wash it very frequently. Clothes don’t get that dirty really. That’s what I tell myself. I know I’ve had it 10 years because I got it on my 30th birthday. This is another one that I wear regularly...
AC: Yeah, you like your prints.

U11: I love prints. That's 100% cotton.

AC: Presumably that's just machine wash. Yeah, 30 degrees. Made in the EU.

U11: Well, Avoca is an Irish company, so I bet they probably make in Ireland. And this is funny one because this is the first thing I bought that didn't fit me and I've not altered it, I just wear it low down on the hip. I liked it so much, I didn't mind.

AC: And they didn't have it in your size?

U11: Yeah, I just needed to have it.

AC: And that's something you've had a long time as well?

U11: About a year, two years maybe. These are things I've had a long time, I never wear that. These are things that I've had a long time.

So this orange one is a fab one because my friend's mum gave it to me and she's French. And I think, she told me it's an original 60s dress.

AC: It just has the size written on it.

U11: Yeah. And I assume it's wool. It's really warm to wear. And I don't wear as often as I wear that other skirt but I do wear it through the winter.

AC: And that's hand wash?

U11: I've never washed it because I always wear a top underneath it, it doesn't need washing.

AC: So you only wash stuff when you need to basically, you don't bung stuff in the washing machine?

U11: Well, there's stuff like leggings and things that I would wash after I've worn them, just like you do with underwear really but outer garments I only wash them as I saw necessary.

AC: And you check labels?

U11: Not necessarily, for wash. I just judge it.

AC: So knowing it was silk, you knew to hand-wash it basically?

U11: Yeah. So that was a good one. So that was given to me about 10 years ago and I was told it's an original 60s dress. I don't know if it is or not.

AC: It would be, judging by the finishings, like today they'd just overlock those together because it's quicker but the older finishings tend to be like that.

U11: So that's come from France, so that's a nice one.

AC: Why did she gift it to you?

U11: Well, she wanted to give it to her daughter but it didn't fit her daughter and I house-shared with her daughter at the time. She just said 'this is made for you.'
AC: And it was hers previously?

U11: Yeah.

AC: And you wear this quite frequently in the winter then? And layer it up?

U11: Yeah, yeah. I usually wear a brown top underneath. I felt really lucky to get that. It was one of those things. I think she knew, I think that was part of it as well, I think she knew that I would appreciate it and I always tell her whenever I’m wearing it.

AC: It looks really well made as well.

U11: Yeah. It’s really nice item. On the other things that are old. I bought this, I probably wore this when I was 18.

AC: And it still fits?

U11: Yeah, I wore it recently. Although I’m not quite as happy with the fit of it these days. This is probably a probably a departure from my natural fabrics because it’s clearly not a natural fabric but I got it in a charity shop when I was about 17 or 18.

AC: It looks like it could be hand-made.

U11: I reckon it’s a home-made, yeah. There’s no labels or anything in it. And it washes brill, it wears brill. It’s amazing. So that was a find as well.

AC: Does it not get a bit hot?

U11: I don’t wear it very often. I wore it once recently because I got it out the wardrobe and thought ‘I’ve got to wear this again’ but I’d probably give that to my daughter. It was the sort of thing that I wore a lot when I was 16, 17, 18. And I wouldn’t really wear it now.

AC: So you’re saving that for your daughter?

U11: Yeah. I’ve got a photograph of me wearing it somewhere at a party and I’ll give her that as well.

AC: And I guess the good thing about polyester is, is that it does actually keep.

U11: It’s a bit of fun really, it’s not what I’d normally wear but it’s a little cocktail dress.

AC: Yeah. So you shop in charity shops as well and have done for a while then?

U11: Yeah, always.

AC: And you enjoy the treasure hunt aspect?

U11: Yeah, and you never know what you find. Even at the time you don’t know if it’s something that you’ll value later, or something that will pass through but yeah, that was one that stuck. I never knew at the time but now I’m obviously emotionally attached to it.

AC: So you’re hanging onto that one.
U11: Yeah, yeah. And then this one I bought... I wore to my prom at University. So I've had that for 20 years. But this is the one that I was saying has got stains on. So it's silk.

AC: Where did you get it from?

U11: It was from a Chinese shop. There used to be a market.

AC: There are no labels are there?

U11: No, it just says 36. And yeah, I think I have worn it stained, even as it is, it's not that noticeable. And I have had dry-cleaned but they don't come out.

AC: And you still wear it now?

U11: No, I haven't worn this for years. So that's a classic keep but not working for me.

AC: And keeping it because you've had it so long already?

U11: Yeah, and I love the fabric. It's the value. But it's not doing anything. So this would be a classic: this is the item that I'm thinking of maybe taking it to C2 and turning it into another dress because the back is fine. Just noticed a spot there. A cocktail must have been flying around. So that's a bit sad really.

AC: So you're hoping to be able to rework this one?

U11: Maybe. I'm beginning to think of that. That's new, that's a new development.

AC: So previously you were hanging onto it because you'd had it for so long already and had memories attached to it?

U11: Yeah, yeah.

AC: And otherwise if you can't rework it, you'd store it in a box somewhere and just keep it?

U11: I don't know, I haven't decided. It's unlikely anybody else is going to wear it with the marks on it, even if it is... so I don't really know. I think now that I'm giving it some time to think about, I'll probably try to move on with it. I don't think I would store it away.

AC: So you don't have things that you just sort of keep for memory?

U11: Yeah, I've got 2 dresses that I've kept for memory. And they are stashed away for memory and I don't expect anybody else to wear them. A bit like having old photographs really. There's a black dress there, and it's not even made from very nice material, it's like a polyester mix from Topshop but I wore it a lot at the time and I can't throw it away.

AC: And you can't wear it.

U11: No, and nobody else would. It's all pilled. It's in no fit state for anyone. It's also quite small. It's the thin edge of the wedge maybe but you know, I don't do with too many things.

But with this it would be a shame to throw away. Even inside out, it's beautiful. And the weight of it and everything. And I don't think I paid a lot of money for it. It's a good one isn't it. And then I've got... This one I never wear but I love the design of it.
AC: Longer grey dress, that feels like silk.

U11: Yeah, I love the design of it.

AC: How long have you had that for?

U11: About 7 years and I've never worn it very much. I could probably count on my hand how often I've worn that.

AC: And where did you get it from?

U11: Form Monsoon, I think.

AC: How come you don't wear it much?

U11: It's just a bit, it's quite formal, I bought it in the sale and I love it. I do love it but it feels quite... too much for everyday wear, it feels a bit too formal. And not dressy enough, it's not the kind of thing I'd wear for a night out. I think I started to wear it to work and it did better at work, so maybe I should just do that again but it's for summer. I love the design of it. I don't know if it's too long, its just feels like, I love the design details and I love the pockets. It's too long but if I took it up a bit, I think I would change the shape a lot.

AC: So has that one still got potential where you think you might do something with it?

U11: Yeah, especially now I'm on the project, if I'm not buying things and replacing things then I need to look at how a I can use them and make them work for their place in the wardrobe if you like.

AC: That is true. And it is lovely material, so...

U11: Although I don't think I would use the material for anything else, because it's not got a... or maybe I would. And then this one I bought it art Christmas, how many years ago... about 4 years ago and over winter I wear it frequent.

AC: So this is a frequent wear item. It's quite dressy though being velvet?

U11: It started off being my special occasion dress and now I just wear it.

AC: Every day?

U11: Not quite every day, I wouldn't do the dishes on it.

AC: But for work.

U11: Yeah, it's nearly graduating to work. But probably at weekends.

AC: So it comes down in ranks, first it's special occasion and then weekends and then...

U11: Work's the last stop usually. I do buy office wear but I try and keep my wardrobe separate. So I wouldn't wear the same things on weekend. Because I like my home things to feel nice and special. Whereas work's kind of a bit more, work's a bit tamer probably.

AC: Does it feel a bit more like uniform almost?
U11: Yeah. I probably still dress quirkier than any of my other colleagues but yeah, in my head.
AC: At home you then want to put things on that are more...

U11: ... expressive maybe. Yeah.

AC: To me this looks quite dressy because of the fabric but I guess it depends what you combine it with.

U11: Yeah, exactly. It's stunning dress, I love that dress.

AC: Hand-wash, do not soak, do not tumble dry. Silk.

U11: Does it say where it's made?

AC: Vietnam. So this one you've had for how long?

U11: About 4 years, maybe 5.

AC: And is it quite hard to care for being velvet? It looks like it's held up pretty well.

U11: Yeah, it's hand-wash, so I hand-wash it infrequently. And again because I wear a top underneath it. It's the top underneath it that gets the hardcore washing. And because it's crushed velvet it seems to wear pretty well. The thing that I'm worried about with that dress is moth. I do get moths and every time I look at that dress it terrifies me that I'll find a moth hole. But so far so good.

AC: Do you have trouble with moths then?

U11: Yeah. When we've moved in the last few years, we had them quite badly and I wonder if they got brought in, I don't know how they got brought it but I would say we were pretty infested really.

AC: Oh no.

U11: I don't know. Anyway, when we moved, we didn't have them at all and then I noticed them starting to appear again.

AC: So you get holes in your jumpers and things as well? How do you deal with that?

U11: So the last thing, I tried to darn myself. I wouldn't call it darning and even, I might have to do it and undo it again because I'm a bit of a perfectionist. And that's the only thing that I think I've repaired in that way. I think other things have gone by the wayside if they're too far gone. I think there was something that I took out. And it was just in tatters. Total tatters. And from then on, I can't remember what it was, it was wool and there was nothing left. I'd never seen anything like it. And all the eggs were laid in there and everything was really horrid. So I had to throw that away. I just remember the moths now, I can't remember the garment which is really funny for someone who gets really attached to things. Once it's gone it's gone. And since that incident I pack stuff away now. So now all my jumpers are in plastic bags like grandma used to.

AC: Wow. And has that worked so far?

U11: So far, so good, although I haven't done it with my dresses, which I think I probably should. I think a piece of research needs to be done. Because I don't know why. Is it people who use a tumble dryer don't get them? Is it from line drying? Is it from having natural fabrics?
AC: I know they're drawn to wool but they have to be there to get in there first.

U11: Or is it shopping in charity shops or anything. The reason I knew we were infested when we moved out, I moved a pin board from the hallway and they were behind the pin board, I never knew it was wool pin board, it was a felt pin board. And they were in the carpets. Because everything I choose is natural fibres.

AC: So that's the problem with natural fibres then. Oh no. There's got to be something to be done.

U11: My dad keeps on giving me cedar wood cubes and things to keep in the wardrobe. But they just evidently don't work. So I don't know what the answer is with that.

AC: I'm afraid I don't have the answer either.

U11: These blankets have a bit of a hole, these are made by Mellintor Gwint and I think they're 100% wool, so I'm going to have to learn to darn with those, because they're lifelong things aren't they. They're not going to be something that you're ever going to throw away, so yeah, I don't know if that's moths or what. I wouldn't really wash those blankets either, so then you're between a rock and a hard place because you need to wash them to get rid of the moths.

AC: And does that get rid of the eggs?

U11: Freezing. So I've frozen this, I've had it in the freezer. Just to make sure. I've got a green coat upstairs and that's got moth eaten on the shoulder. So it's like duffle coat and it's just got a bit of a patch here. That's been in the freezer. I don't think it'll get mended because it's just the down has been eaten, it's got a bald patch, so the weave is still there. I could put a patch on it couldn't I? 'Say no to moths'.

AC: Where was this dress from?

U11: They sell online Bella-ju, I looked them up but I bought them from another independent shop in Northberth, the Wheat-sheaf gallery in West Wales. I was surprised that it was made in Vietnam.

AC: So when you go into shops and buy things do you ever look at labels?

U11: Generally no, I think I've got a good hand.

AC: Yeah, you have quite a lot of silk and wool items, so yeah.

U11: So now I would look at the label but not necessarily to find out what it was made from, I think I would just look to look where it was made. So I do look at labels now but for different reasons.

AC: What about caring for things, I guess hand-washing doesn't seem to put you off? Dry-cleaning?

U11: Dry-cleaning, so if said, it depended on what it was made of. I might have a go at hand washing it myself. And some things, like a silk item that said dry clean only, I might not take the risk because of water marking. I'd be quite put off buying something that said dry-cleaning.

AC: Because of the cost and the faff?

U11: Yeah and the faff. I just don't take things to the dry-cleaners. A coat goes to the dry cleaners. I love that dress though, it's a good one.

AC: It's quite loose as well, is it quite comfortable?
U11: It’s really comfortable. It’s so funny. I went into the shop. The person running the gallery is really clever because they deck out all of their staff in them and they do them in all different colours and just seeing them move, it just looks beautiful. The way that it wears, it looks like they are just sort of scheming around the shop. I was like, ‘I’ve so got to have one of those!’ I might even have another one one day. I think they’re designed in the UK, so it should be pretty easy to trace and contact them about where they’re made.

AC: So comfort is an important thing for you as well?

U11: Yeah, it’s quite high up there I would say.

AC: It has to be something that feels good on your body. And fit-wise do you go sort of for more tailored things or loose things?

U11: I don’t know, it’s quite hard to say isn’t it from what I’ve shown you. Fit and look is important. Don’t know the answer to that. Not completely tent. With the C2 jumper that I’ve bought, I might wear that with a pencil skirt if I wanted it to look more formal or fitted.

AC: So the styling and combination as well?

U11: Yeah. And I have another jumper that I bought last year which is a box shaped jumper. And I suppose that lead me to think that this box shape jumper would be OK, so it’s from People Tree. I bought it and got it out. Loved the colour on the wool. I wrote a review straight away, criticising them for being a box shape, saying this is inflating for anyone, etc and then I wore and wore it and wore it, I loved it. I got back them and said ‘can you edit this because I’ve completely changed my mind and they were laughing. I’m a convert to a box jumper. But part of it was that it had shorter sleeves.

AC: So it has shorter sleeves than this one?

U11: I don’t know, I’m not sure yet.

AC: Have you tried it on?

U11: No.

AC: No? When did it arrive?

U11: This afternoon, this morning just before I came to pick you up.

AC: No way! Fresh out the box.

U11: Easy to wear isn’t it.

AC: So they stick to a few shapes; like the box jumper has been running for 5 years or something.

U11: It’s fab, I love it.

AC: What do you think about them having the same shapes over the years?

U11: I think that’s what makes them a sustainable company as well, that they’re able to get… they don’t have to relook their patterns, their designs are quite simple. So from their perspective I probably understand why they’re doing it that way. I think it’s interesting how different they can make things look with just the choice of fabrics and things. So you know, this looks totally different to the summer ones which were sort of disco fabrics. So I think maybe if you sympathise with
where they’re coming from, then you understand about their shapes and why they’re doing it that way and then they can make them look different. It’s hard to say, ow often would you shop with C2, you’d probably only buy a couple of pieces a year and then might not buy anything from the for a while.

AC: I suppose that’s the dilemma almost. Would you have ten box jumpers or…

HM: Exactly, yeah.

AC: I mean they have the odd seasonal style, like the culottes this summer, which I don’t know if they’re continuing. But it’s all based on previous style.

HM: Maybe they’ll… I love the purses that they did. So maybe as a company they could use accessories to keep customers coming in and out while they’re not purchasing a box jumper every season. That’s my suggestion for C2, do more accessories! I would definitely buy one of those purses but they’re out of stock.

AC: They were made from swatches in Leeds, so I don’t know if they’ll come back.

HM: That’s of interest to me as well, where the fabric was made. It’s not always transparent, it’s never on your label where something was woven. And what happened to British industry with clothing? It used to be absolutely thriving, now I don’t know. People tell me that there are factories in Bradford.

AC: There was a sweatshop discovered in Manchester making knitwear for Primark, can you believe it.

HM: Whoa. Oh my God. That’s really awful. There’s an industrial estate just outside of Cardiff and they print fabrics there, so that’s the only part of the textiles chain that I know I’ve seen, but I don’t know where the fabric’s from, probably woven somewhere else, isn’t it?

AC: I guess you’d have to dig deeper.

HM: Such a lot of work though isn’t it?

AC: It is. And there are many dead ends. It depends on your standards.

HM: One of the companies I’ve looked at since I’ve been doing the project is called Snowballs and all their stuff, their stuff is made from Bamboo, they quote that as an ethical fibre, I don’t know, since reading more about it, you need to find out where it was grown, has somewhere been deforested and how much has it been treated to make it into a spinnable fibre and all those sorts of things. I also read that although it’s a British company, they’ve got warehouses or workshops in Portugal which are making the clothes for them. And you think, well… presumably they’ve got trade unions in Portugal, so they would have better conditions than they might have somewhere in India, for example but I don’t know that for sure. Like you said sweatshops have been discovered in Manchester, anything can happen.

AC: Do you find that quite tricky?

HM: Really tricky, it’s horrible, really horrible. You thing you’ve found something, then you go deeper and actually it’s like a Pandora’s box. It’s really hard to make these decisions.

AC: Were you quite glad when you found C2 and could be like ‘yup, ticks all the boxes’?

HM: Yeah totally, it’s really nice when you find a company like that. People Tree are a big go to. Although I felt initially, my gut instinct is that I would prefer to buy British manufactured stuff,
although I understand that ramifications for pulling out of places in India, Bangladesh and so Fair Trade is a way as well.

AC: So you would prefer things that are made in Britain?

HM: Yeah, I would. That goes for what I eat as well.

AC: For environmental and social reasons?

HM: Yeah, definitely. I'm not saying no to bananas but if I can buy British milk and British cheese, then that's what I would buy, so I do. I don't like the idea of things having travelled for miles. In terms of clothing or food.

AC: Do we have any more garments?

HM: This one I've had a long time and still wear.

AC: You've got quite a few garments that you've had along time and still wear, fantastic.

HM: This one I've bought in a charity shop and I wear it a lot but it's an evening thing. It's at least 3 years ago, I just put it in the washing machine, it's the sort of thing I wear to gigs, so it needs washing. But yeah, it's wearing well and I still love it and it's got a really nice shape. So that will be a staple for a while.

AC: When you do get rid of things. So obviously some things go in the swap, do you sell stuff as well?

HM: I've tried to sell on eBay and it's never made any money, so I stopped. So now either swap or charity shop.

AC: Ok. So at the end I do a what-if scenario. There are a few brands that make garments with modular pieces, detachable collars or things you can zip on to add a big frill in the middle or more simply collars and cuffs so you can wash or replace them. Have you come across those brands?

HM: No.

AC: And what do you think about that concept?

HM: I like the idea. I don't know if practical I would buy into it really. I love contrast zips, so when you said zips, I thought 'ooh I love contrast zips' but I can't imagine a way in which I would use a contrast zip to add anything on. A bag maybe? Not necessarily in my clothing.

AC: So you can't necessarily imagine what it might look like.

HM: I can imagine the frills and things and I can imagine the cuffs but not necessarily stuff I would wear. At the moment anyway.

AC: And then you are co-creating a garment with C2, is that something you've done before?

HM: No. I've never done it before but I saw it on their Instagram account, so I hope that comes to fruition.

AC: So you like having a say and it being a collaborative process?
HM: Yeah. It's a perfect end-result for me really. I get a say and have somebody else make it, so the project gets finished.

AC: And then, you do a lot of mending and altering yourself but would it be of interest to you if there was more of a service, if brands offered to mend it for you?

U11: I think it's not something that I would go to, but I think it's a really good thing for a brand to offer. And it gets my attention when I see a brand offers that, so I recently noticed there's a company that make shoes and they're shoes for life and you can send the shoes back for a fee and they will refurbish the essentially. And you just think, that's a testament to the quality of the shoe, so I like that idea and I wouldn't necessarily use it with a piece of clothing myself because I would probably fix it myself and change it myself. Darning is another story. So if for example Melissa Gwint said they would take blankets in for darning and refurbishment, I would do that, definitely. I think it's a really good idea.

AC: So if there was like a guarantee as well, if you get a hole in it...

U11: It doesn't need to be a guarantee and I don't think it should be because wear and tear is expected, so I think it should be a paid for service but I think by offering that service, it's like a guarantee, it's showing the value the company believes the garment has got.

AC: That makes sense. And what about the concept of classic pieces, the notion of classic designs that endure over time?

U11: I would say that I have personal classic pieces, like that skirt, the paisley one. I can't imagine feeling it's not in fashion, it's not out of fashion, it's just on its own really. And I would say that goes for a lot of the dresses, they are quite A-line that I wear, and that works for me. I like that sort of shape, so that would be a classic design for me. And I'd always go back to those. So yes in principle but as long as it's the right classic shape.

AC: Great, so unless you have anything to add.

U11: No, not from me.

[recorder off]
H: C2 blog post: interim findings

Why?

I wanted to know what it was people particularly liked about [C2]. Clearly, their clever designs and colourful prints were the main draw. Two participants only found out that [C2] uses locally sourced waste fabrics during a browse around the [C2] shop. Most participants, however, know this well and put their purchase down to a combination of the ethos, ethics and aesthetics of [C2], describing them as fun, timeless, graphic, bold and versatile. Quality is important, too: clothes made here in the UK from such high-end materials would normally be unaffordable. Also, the small production runs mean customers can set themselves apart from the crowd with unique statement pieces. One interviewee was so impressed with [C2]'s creative use of waste fabrics that it inspired her to salvage donated wedding dresses to make her own.

“It's a bit Mighty Boosh. I imagine it's something you'd wear at a festival. It's definitely something you put on if you're expecting to have fun.”

Continuity vs change

In an interview, [C2] owner Lizzy had previously expressed her frustration with the speed of fashion cycles: garments, unlike food, don’t go off after all. That is why [C2] are selling slowly evolving garments, rather than reinventing the wheel every season. But how do customers feel about this? Indeed, the interviewees like the fact that most garments' shapes aren't constantly changing. They find it reassuring to be able to find the same styles year after year, while new colours and fabrics provide variety. Some participants were so happy to have found something that flatters their body shape and would want to own the same garment in a range of colours. However, a few people thought there could be a slightly wider variation of styles or accessories available.

“I like the idea of the slowly evolving design, so it's definitely something that I would come back to buy again. It's reassuring that you know a garment design is flattering and is always going to be available.”

Shop jumpers ➔
Made to last?

The average garment is on average 2 years and 3 months before it is thrown away. The cherished garments owned by participants were between 1 day and 4 years old, with an average age of about 2 years - and many more to come. Many garments had undergone phases of intense use and while most pieces are still in good nick, wear and tear has occurred in some. This includes fraying at the shoulder seam, moth holes and the unravelling of the hems on a few pairs of leggings. On the upside, these faults are not typically a reason for discarding! Most participants plan to mend or alter their garments or have them fixed professionally - clothing often spends some time in a 'mending mountain' first though.

"I once sewed a button on a coat and it ruined the whole coat. Even though I'm an emergency room doctor and I sew people up for a living, I'm too scared of material."

Shop Dresses

Does it still fit?

Research shows that the reason a third of the clothing in our wardrobe remains there for at least a year is because it does not fit or no longer fits. Indeed, about half of the participants fluctuate between dress sizes - something garments accommodate through their loose cuts and stretch fabrics. Garments were described as comfortable, flattering and easy to wear by most interviewees. The skirt on the folk dress, however, is seen as a little revealing by one participant and is therefore only worn on 'small bottom, flat stomach days'. For a petite wearer, the top on the dress is also slightly too long - if only she had known about a custom sizing at no extra cost!

"It doesn't dig in at all and I can eat as many cookies as I want! It fits really snuggly actually, it holds everything in slightly, which is quite nice."

Shop Panel Pencil Skirt

So I’ve discussed just a few of the many, many insights gained from the in-depth interviews. It showed that not only appeals to those seeking out a sustainable fashion brand but has drawn in high-street shoppers and inspired them with exciting alternatives to mainstream fashion. Custom sizing provides an inclusive offering, while limited runs and bespoke designs create a sense of uniqueness. Despite the masses of clothing available, many participants said they found it difficult to come across clothes that fit properly – therefore, once they found a flattering style (such as the box jumper), customers appreciated its availability throughout the years. I was also delighted to hear that the conversations during this study were of benefit to the interviewees, allowing them to become aware of their own clothing habits. All in all, these insights will help us build a set of design strategies to support designers create clothes that will be worn and loved for longer.

It has been an absolute pleasure talking with you interesting people. If you’re interested in keeping up to date with the project or fancy being involved in any future studies or workshops, drop me a line and I’ll keep you in the loop.

I can’t say it enough to my wonderful participants: * THANK YOU! * It’s been truly enlightening.

– Anja Crabb
(a.crabb@brighton.ac.uk)
I: Phase 3 interview guide

The future shape of design - a toolkit for designing longer-lasting material experiences

Researcher: Anja Claire Crabb

Phase 3: Interview with Toolkit Developers

Name:
Date:

INTRO

♦ Explain use of recorder, verbal consent
♦ Introduce plan for interview
♦ I'm looking for experiences & opinions to understand your point of view

ABOUT YOU

♦ Tell me about yourself
  o Professional background

ABOUT YOUR TOOLKIT

♦ Tell me about the toolkit
  o how was it developed (initial ideas, testing)
  o the tool after conception (application)
  o strengths/weaknesses
  o physical format
  o content
  o user feedback
  o discipline-specific?

GOING FORWARD

♦ Future of this toolkit & toolkits in general
<table>
<thead>
<tr>
<th>Acquisition</th>
<th>Use/wear</th>
<th>Disposal/storing</th>
<th>Scenarios</th>
</tr>
</thead>
</table>
| **U1**      | *High street, occasionally sustainably produced clothing ('a good bonus')*  
*Gifted clothing by friends and acquaintances*  
*Fit is more important than fashionability*  
*Feels that many shops do not cater for her body shape*  
*Would like to have trousers tailor-made* | *Previously dressed to attract attention*  
*Uses professional alteration services to shorten trousers* | *Difficult to divest unwanted gifted clothing (guilt)*  
*Donates unwanted clothing to charity* | *Classic: feels like she dresses in more simple classic styles for work, would like these tailor-made*  
*Guarantee: interested, particularly outerwear*  
*Modular: potentially ‘fun’ but all options would have to look good or be functional e.g. cycling clothing*  
*Co-creation: open to idea though not a priority (perceived as time-consuming)* |
| **U2**      | *Second-hand and new items that meet sustainability criteria;*  
*eBay for high-quality fibres and branded items*  
*Strong distaste for high-street; unpleasant experience, too much choice, seductive;*  
*Lack of depth and meaning of high-street garments; ‘quite crude’*  
*Would like to have shirt tailor-made* | *Good quality= natural fibres, considered seam finishes and thoughtful garment design*  
*Garments layered to help regulate body temperatures when commuting*  
*Long-sleeve top worn as base-layer that is more frequently washed than upper layer*  
*Wool viewed as being able to withstand dirt better than other fibres*  
*Items washed to restore shape*  
*Has carried out visible and transformative mends; considers mending ‘therapeutic’*  
*Alteration: decorative embroidery added to sweatshirt*  
*Items valued for imbued symbolic* | *Limited living space: clothing stored at parents’ house, items regularly re-introduced into current wardrobe*  
*Donates unwanted clothing to charity* | *Classic: positive about trans-seasonal classic pieces about C2, styles always available*  
*Guarantee: only trustworthy within larger companies*  
*Modular: can be worth investment, but ‘there’s a fine line between designing something that’s really practical and functional and something that can be slightly gimmicky’, has to be well-done and functional*  
*Co-creation: planning to have shirt custom-made, for the experience and a high quality fitted end product* |
| U3 | *Project: no new clothes for 1 year  
 *Home-dressmaking & refashioning main source of new clothing; *Second-hand clothing linked to poverty and lack of hygiene;  
 *Price is not a guarantee for durability; *Primark is unacceptable, other high-street shops 'ok'  
 *Garment gifting or hand-downs only within family or close friends | *Deemed figure hugging stretch) dresses as unsuitable for body type but has recently started wearing them  
 * Colour-coordination as a type of 'obsession'  
 *Overwhelmed with overly full wardrobe; 'paralysis of choice' when dressing in the morning  
 *Laundry 'risk-taker', machine-washes all items; has resulted in damaging items  
 *Negative perception of mended items  
 *Non-transformative/creative alterations delegated to professionals  
 *Guilt and embarrassment about amounts of clothing owned | *Refashioning of clothing deemed unwearable  
 * Garment faults e.g. broken zip, seam or hole lead to disposal  
 *Donates or gifts unwanted items  
 *Items stored in boxes to recirculate in active wardrobe occasionally | *Classic: items that last physically and style-wise e.g. leather jacket from 10 years ago back in fashion  
 *Guarantee: would 'love' to have guarantee on certain items e.g. winter puffer jacket or cashmere jumper ('investment piece, made to be passed down)  
 * Modular: sees the appeal for non-sewers, however participant would rather alter and remake own garments  
 *Co-creation: n/a as makes her own clothing as hobby |
|---|---|---|---|
| U4 | *Shopping not enjoyable; is reason for extended garment use and repair  
 **Quality fade' in high-street clothing  
 *Struggles to find high-quality affordable items;  
 *Purchase from high-street shops, despite not agreeing with their ethical values;  
 *Occasional home-dressmaking; finds fabric choice challenging  
 *'Mendability' of garment | * finds dressing problematic on a daily basis, often leaving her unhappy with her choice of outfit; therefore wears similar pieces as a type of 'uniform'  
 * Is a designer but insecure in clothing choices  
 *Hand-washes half of her laundry as machine-washing linked to colour fading of natural fibres  
 *Every garment in wardrobe has either been | *Does not store items that do not hold potential to be worn again  
 *Donates unwanted clothing to charity | *Classic: 'everybody would have their own definitions';  
 *references styles which my mother or my grandmother would have been comfortable, or would recognize'  
 *Guarantee: 'love it' but sceptical of viability of business model  
 * Modular: yes in theory but not seen any designs that are appealing  
 *Co-creation: potentially interested |
considered at purchase  
*Taken part in clothes swaps; items are ‘easy come, easy go’, perceived as competitive and unpleasant  
*mended or requires mending  
*Feels she is ‘hard’ on clothing  
*Aims to dye wedding dress to make it wearable again  

U5  
*Convenience is key purchasing factor  
*Mixture of second-hand, up-cycled, custom-made, swapped, value-chain, mid to upper high-street and sustainable items; some tailor-made items  
*Prefers smaller shops;  
*Second-hand shopping: unappealing and time consuming;  
*Held one-off swap event;  
*Regularly borrows sister for special occasions;  
*Has had clothing tailor-made, views experience and end-product but difficult selecting appropriate fabrics  
*Boots-cut jeans regarded as wardrobe classic until skinny jeans became fashionable  
*Feels she lacks any skill for clothing repair (including attaching button)  
*Used in-store alteration service of upmarket high street chain store  
*Uses professional alteration services  
*No longer fitting tailor-made clothing currently stored  
*Colourful garments kept to make her wardrobe look visually appealing, although items have never been worn  
*Donates unwanted clothing to charity  
*Feels guilty about disposing of unwanted gifted items  
*Classic: equated to expensive investment pieces  
*Guarantee: chance of taking advantage of concept is slim due to cost and time involved  
*Modular: never seen but interested, especially regarding occasion wear  
*Co-creation: has repeatedly taken advantage of this service, positive experience and outcome  

U6  
*Mainly high-street purchases  
*Associates higher-priced items with higher quality and ethical production practices  
*Linen quickly looks ‘sloppy’  
*Has had wedding dress altered to fit  
*Perceived not washing items regularly (e.g. jeans) as unhygienic  
*Feels that hand-washing does not clean clothing thoroughly  
*Avoids wearing a top she has worn during a happy moment, afraid that she will taint it with negative experiences  
*Clothing disposal viewed as ‘liberating’  
*Donates unwanted clothing to charity  
*Classic: views simple designed garments as classic, versatile  
*Guarantee: interested if by reputable brand  
*Modular: interested but not sure  
*Co-creation: if affordable  

U7  
*Mainly used clothing;  
*Views dress as ‘a form of expression’ and individuality;  
*Disposing clothing is an emotional process; clothing removed as soon  
*Classic: personal classics, certain fabrics ‘timeless’ (e.g. corduroy)
| Reason for purchasing second-hand: individual looks and concern for worker’s rights |
| * fibre composition less important than tactility |
| Planning to take up sewing lessons in near future |
| Planning to take up sewing lessons in near future |
| *Unable to divest unwanted gifted clothing, guilt (especially gifted items) |
| *Donates unwanted clothing to charity |
| Reason for purchasing second-hand: individual looks and concern for worker’s rights |
| * fibre composition less important than tactility |
| Planning to take up sewing lessons in near future |
| *Unable to divest unwanted gifted clothing, guilt (especially gifted items) |
| *Donates unwanted clothing to charity |
| Guarantee: a good thing, would spend more on item with guarantee |
| Modular: ‘futuristic’, likened to accessorising, interested in vintage garments with removable collars and cuffs |
| Co-creation: interested, though not a priority |
| Modular: great idea, adaptability, owns adaptable cycling jacket |
| Co-creation: depending on available styles |

<table>
<thead>
<tr>
<th>U8</th>
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<tbody>
<tr>
<td>Set up clothes swaps at workplace</td>
</tr>
<tr>
<td>Many clothes on high-street too fashionable and radical in style</td>
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<tr>
<td>Experienced ‘trend-fatigue’, recycling of trends</td>
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<tr>
<td>Previously wore clothing that attracted attention, now prefers ‘safe’ options</td>
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<tr>
<td>Fluctuates between three dress sizes throughout the year: stocks a range of sizes</td>
</tr>
<tr>
<td>Wardrobe consisting of mainly draped, jersey items to accommodate weight fluctuations</td>
</tr>
<tr>
<td>Work clothing changed out of at home to preserve quality</td>
</tr>
<tr>
<td>Garments aired outside or steamed in shower to refresh</td>
</tr>
<tr>
<td>Reached ‘equilibrium’ with wardrobe</td>
</tr>
<tr>
<td>Mementos of person or a certain time and kept as a ‘personal archive’</td>
</tr>
<tr>
<td>Vintage garments never or rarely worn but stored for their historic significance</td>
</tr>
<tr>
<td>Donates unwanted clothing to charity</td>
</tr>
<tr>
<td>Guarantee: relevant to certain products e.g. jackets; though might be simpler to get it mended locally or mend yourself</td>
</tr>
<tr>
<td>Modular: great idea, adaptability, owns adaptable cycling jacket</td>
</tr>
<tr>
<td>Co-creation: depending on available styles</td>
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</tbody>
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<table>
<thead>
<tr>
<th>U9</th>
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<tbody>
<tr>
<td>Organised online clothes swap event; Mix of second-hand and high-street purchases</td>
</tr>
<tr>
<td>Condemns value chains e.g. Primark; Borrowing experienced as encroachment on identity</td>
</tr>
<tr>
<td>Linen quickly look ‘scruffy’</td>
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<tr>
<td>Longest owned item inherited fur</td>
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<tr>
<td>Frustrated with the inconsistency of quality of high-street garments</td>
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<tr>
<td>Too large garments stored as future maternity clothing</td>
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<tr>
<td>Items not stored for memory ‘There can be a danger of remembering too much from your past about who you were and not who you are now.’</td>
</tr>
<tr>
<td>Donates unwanted clothing to charity</td>
</tr>
<tr>
<td>Guarantee: for investment lifetime pieces, would pay more for these</td>
</tr>
<tr>
<td>Modular: great for people who find shopping hard but not ‘into it’ herself</td>
</tr>
<tr>
<td>Co-creation: difficult to envisage and communicate</td>
</tr>
</tbody>
</table>
| **U10** | *Shopping as leisure activity, not always tied to purchasing;*  
*Provenance more important than than fibre composition (as sustainability criteria)* | *‘Quirky’ style enables her to continue wearing clothing for extended period*  
*Clothing choices more unusual in younger years* | *Donates unwanted clothing to charity*  
*Classic:*  
*Guarantee:* great but doubts about business viability  
*Modular:* enthusiastic about idea, knows brand with versatile items  
*Co-creation:* interested depending on expense |
|-------|----------------------------------------------------------|-------------------------------------------------|------------------------------------------------|-------------------------------------------------|
| **U11** | *Project:* year of sustainable, second-hand and home-sewn items;  
*Perceives shopping as a hobby as ‘superficial’;*  
*Frustrated with lack of sustainable fashion labels in brick & mortar shops and sustainability trade-off situations;*  
*Regularly hosts swap events with friends;*  
*Prefers British-made and fair-trade* | *Jumper initially viewed unflattering, but later became accustomed to fit*  
*Some items never or rarely washed to preserve durability (items aged 10 years+); tops worn beneath are washed regularly*  
*Alteration as creative ‘dress-making outlet’ as less time-consuming than making garments; learns new skills from online sources* | *Sentimental items stored (‘a bit like having old photographs’)*  
*Donates unwanted clothing to charity*  
*Classic:* personal classic pieces: ‘it’s not in fashion, it’s not out of fashion’  
*Guarantee:* would prefer manufacturers to offer fee-based services rather than a guarantee as this would vouch for the company’s commitment to quality and longevity  
*Modular:* likes idea, not sure about practicality, depends on design  
*Co-creation:* currently commissioning C2, ‘perfect end-result’ |
| **U12** | *Shops mainly on eBay (financially motivated; sustainability a bonus);*  
*Boycotts Primark but shops on high-street*  
*More influenced by local ‘tribes than trends’*  
*Special occasion clothing: sisters lend each other items*  
*Rarely exchanges clothing with friends* | *Dyed items with onion skins, a low-impact alternative to synthetic dyes*  
*Living on houseboat: rigorous about amount of clothing owned*  
*Donates unwanted clothing to charity and gifts items to sister*  
*Has sold items on eBay but often financial return is often not deemed worthwhile* | *Classic: ‘timeless’ styles, high quality*  
*Guarantee: brilliant but experienced replacement in case of guarantee: ‘I didn’t want them to give me a new one, I wanted to get mine fixed’*  
*Modular:* not as interested, could have to buy into entire concept  
*Co-creation:* depending on process and expense |
| U13 | *Prefers offline shopping: intuitive selection process  
*Purchases almost exclusively used clothing (for environmental reasons);  
*Helped organise community clothes swaps;  
*Shares clothing with her male partner |
| --- | --- |
| | *Anti-washing’ stance; avoids materials which are less breathable and thus require increased laundering (some synthetics); laundering linked to fabric deterioration  
*90% of wardrobe consists of altered or mended garments; mended items can be ‘beautiful’  
*Mending is a leisure activity conducted together with partner  
*Owns dress that requires mending nearly every time it is worn  
*Has altered too-small items to fit; particularly items with larger seam allowances  
*Items valued for craftsmanship  
*Wardrobe is ‘well stocked’ |
| | *Disposes of most unfitting garments, except valued items with potential of altering  
*Classic: disagrees with notion of ‘classic’ wardrobe items; wears items for their individuality and character  
*Guarantee: concerned with environmental vs economic: items replaced rather than mended  
*Modular: likes idea for work clothing especially  
*Co-creation: n/a as makes clothing for herself, though does not always have the time |