Design Sprint Camp 2021

Research Toolkit







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Introduction

This Research Toolkit has been developed to support the Design Sprint Camp 2021, run by Design Thinkers Academy London in collaboration with the Carbon Trust. The research was undertaken by the research unit of the strategic design consultancy DK&A.

"As a mathematician and lover of numbers, I appreciate the empirical certainties that business leaders look for in research. But my many years working with innovators have led me to depend on an ethnographic "worm's eye" view of the world. As we confront complex problems, this is how we find new starting points.

Our research team at DK&A are delighted to support the Carbon Trust with this Research Toolkit. It's been designed to support all the participants on the 2021 Sprint Camp. We've also published it under Creative Commons, as we hope the fresh views from consumer-citizens can be helpful to anyone trying to innovate in this challenging sustainability arena.

We defined our scope tightly and worked with a small sample of respondents. Nevertheless, the results reveal some potentially valuable themes. From the data you'll see, we have extrapolated insights, shaped some Personas, journey maps and suggested some possible opportunity areas. If your goal is to find new ways to address the problems of the take-make-waste society, I hope you find this a useful toolkit."

Mel Taylor, Head of Research, DK&A



Climate emergency

The formation of the Design Sprint Camp 2021 challenge was guided by the increasing severity of rising emissions and the impact that will have on the planet.

- Climate change is widespread, rapid and intensifying. The IPCC's latest report suggests emissions of greenhouse gases from human activities were responsible for approximately 1.1°C of warming between 1850–1900, and says that, averaged over the next 20 years, the global temperature is expected to reach or exceed 1.5°C of warming. If that did happen, there would be increasing heat waves, longer warm seasons, shorter cold seasons and destabilised water cycles. At 2°C of global warming, heat extremes would more often reach critical tolerance thresholds for agriculture and health, the report shows. That is why the Paris Agreement aimed ideally for a global rise no bigger than 2°C, but ideally nearer to 1.5°C.
- The <u>UNEP Emissions Gap Report</u> also says current commitments are not nearly enough to prevent catastrophic heating. Even if implemented effectively, those net-zero emissions pledges would only limit warming to 2.2°C.
- <u>UN Secretary-General António Guterres</u> has now classified this crisis as "Code Red for Humanity" saying that we are already at 1.2°C warming, and that we must act decisively. He says limiting the global temperature rise to 1.5°C by the end of the century is still possible, but it will require rapid, immediate, and economy-wide greenhouse gas (GHG) emissions reductions, as well as the removal of carbon from the atmosphere.
- <u>Systems Change Lab</u> suggest systemic transformations are needed to limit the temperature rise to 1.5C. To halve GHG emissions by 2030, and achieve deep decarbonization by 2050, leaders across society must accelerate systemwide transformations across nearly all major sectors. This decade is therefore our make-or-break opportunity to limit warming to 1.5°C and steer the world toward a net-zero future.



The alarm bells are deafening, and the evidence is irrefutable: greenhouse-gas emissions from fossil-fuel burning and deforestation are choking our planet and putting billions of people at immediate risk. Global heating is affecting every region on Earth, with many of the changes becoming irreversible. The internationally agreed threshold of 1.5°C is perilously close. We are at imminent risk of hitting 1.5°C in the near term. The only way to prevent exceeding this threshold is by urgently stepping up our efforts and pursuing the most ambitious path. If we combine forces now, we can avert climate catastrophe. But there is no time for delay and no room for excuses.

António Guterres, UN Secretary-General



Sprint Camp focus

During Sprint Camp 2021 you'll be learning about Design Thinking and getting practical experience in it by applying its methods and techniques to a real challenge. The challenge is sponsored by the Carbon Trust and was scoped with them.

Together with the Carbon Trust, we set out to:

- Explore the interconnections between wasteful business/consumption models and greenhouse gas emissions
- Harness collaborations within and across sectors
- Consider systemic change, rather than individual business approaches
- Develop solutions to contribute towards net zero
- Select an important climate action challenge







Achieving net zero means accelerated change in the way we live. In every country, in every business, in every home. Climate Action isn't one challenge. It's a myriad of interconnected challenges. Humankind has thrived off carbon – now in under a decade we need to re-invent our global operating system. We have to redesign our way of life – our everyday products and services. We have to find, test, and apply new discoveries. At speed. That's why this Sprint Camp is so important. We are looking for breakthrough ideas and have a focused project challenge to address with you. We look forward to sharing our know-how and learning together on this Sprint Camp.

Emma Copham, Manager, Breakthrough Team, Carbon Trust

Climate change is an existential challenge for humanity. It is also a daunting one: because we need to develop not one solution but many – and to achieve that, we need an army of innovators to help us innovate faster and better than ever before, change agents who can think systemically about the climate challenge. On Sprint Camp, we come together from around the world. Different disciplines. Diverse views from a wide range of business sectors. We have access to research and to users. We gather top experts in innovation and sustainability. The magic arrives through the social technology. It is through doing, through observing and learning from each other, that we all collectively raise our game and become faster, better, agents of change.

David Kester, Founder and Managing Director, Design Thinkers Academy London



Challenge statement

"How might we accelerate a shift to business models that enable people to use less wasteful products and services, so that we reduce climate impact?"

We are looking at solutions that:

- 1. Lead to meaningful emission reductions in line with <u>Net Zero targets</u>, while remaining consistent with other <u>Sustainable Development Goals</u>, such as responsible production and consumption.
- 2. Have near-term impact (0-5 years).
- 3. Result in products that are long-lasting, repairable and reusable becoming the default for business and the natural choice for consumer-citizens.
- 4. Provide industry with the economic case for business model change (e.g., other models of ownership, etc.).
- 5. Begin with a UK market focus and allow for global scalability.
- 6. Start with a sector focus (e.g., electronics; fashion) and allow for scaling across sectors.

Research question

To help investigate the challenge, we asked ourselves the following research question:

What changes do consumer-citizens want to see in current take-make-waste business models to help reduce climate impacts and resource use?

We set out to talk to a diverse demographic representative of UK citizen-consumers who make their own purchasing decisions and have a mix of attitudes towards buying and sustainability.

Who: Consumers of fashion and electronics in the UK

To discuss:

- Information needs, influences and how they balance their decisions, frustrations and concerns with existing products and services
- Explore attitudes and behaviours around obsolescence and waste, including: buying and hire/lease; new vs reconditioned/used/vintage; repair/re-use/re-purpose



Circular Economy

Despite recent progress, too many business models are still based on a linear system of production: Take-Make-Waste. New raw materials are extracted (take), processed into consumer goods (make), distributed, used, and then dealt with at end-of-life (waste).

Much of the focus has been on how to tackle the last stage of end-of-life, in particular on addressing the amount of materials ending up in landfill. Experts agree that there has been far too much emphasis on recycling: a strategy that can easily be incorporated into existing supply chains with only limited reconfiguration. In reality, less than 20% of waste material is successfully recycled globally. This may be due to several reasons such as problems in collecting recyclable materials, rejection of recyclable materials at waste handling facilities from contamination of recycling streams etc.

By doing a full assessment of its environmental costs and considering the impact of collection, cleaning, reprocessing, re-manufacturing, and re-distributing, it is clear that the emphasis must shift to strategies and business models that move us away from our linear economy and towards a circular economy.

Building on the <u>circular economy model</u> by the Ellen MacArthur Foundation and the so-called <u>R-Ladder</u>, DK&A has developed a <u>Design Intervention Ladder</u> to help innovators develop concepts that will accelerate a shift to business models that enable people to use less wasteful products and services, leading to reduced climate impact.



"Many people don't appreciate that recycling isn't a 'good' – it's a 'less bad'. There is a common belief that recycling improves the environment. Of course it's better than putting waste in landfill, but the energy used to recycle waste materials and the transportation required means that recycling still has a negative environmental impact. We need to reduce waste by having longer lasting consumer goods. People need to understand that recycling is only part of the solution."

Tim Cooper, Professor of Sustainable Design and Consumption, Nottingham Trent University.

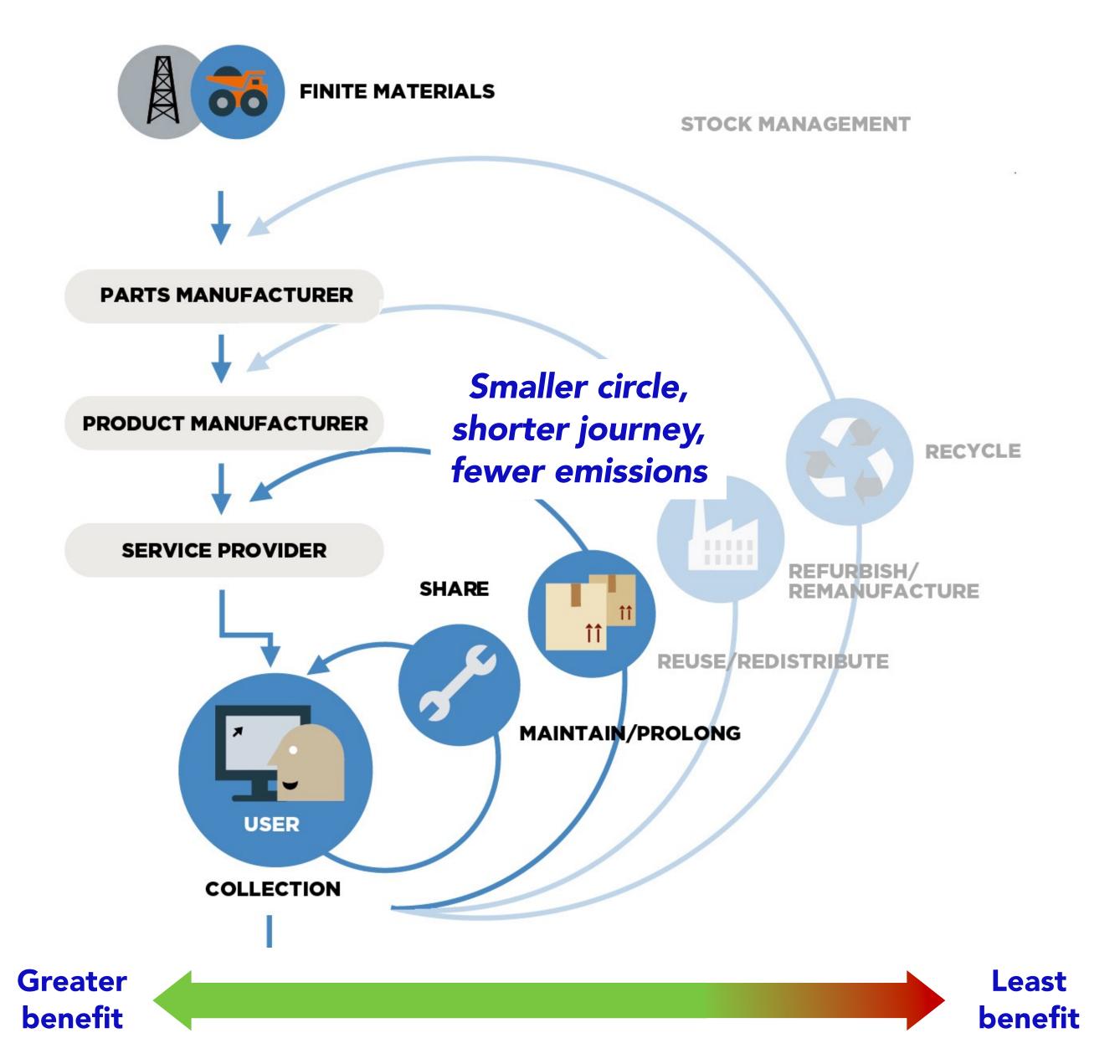
"The consumer is tasked with using a product and then once it becomes obsolete, taking action, and usually that's bringing it to a location where it can either be taken into a reuse system or taken into a recycling system. So, in essence the role of the consumer is not dissimilar whether it's in reuse or recycled.

Anouk Zeeuw van der Laan, a Researcher Associate at Imperial College, London, specialising in material flows.



Circular Economy

Whist repairing a product or recycling may appear similar to consumers in terms of resource outcomes – since in both cases material stays in the loop and doesn't end up in landfill these different journeys have very different impacts. Looking at greenhouse gases impact, larger circles (i.e. longer journeys with more stages) lead to higher emissions. A product designed and built to be repaired easily at home will have a smaller impact than one that needs to be disassembled, reprocessed, remanufactured and transported.

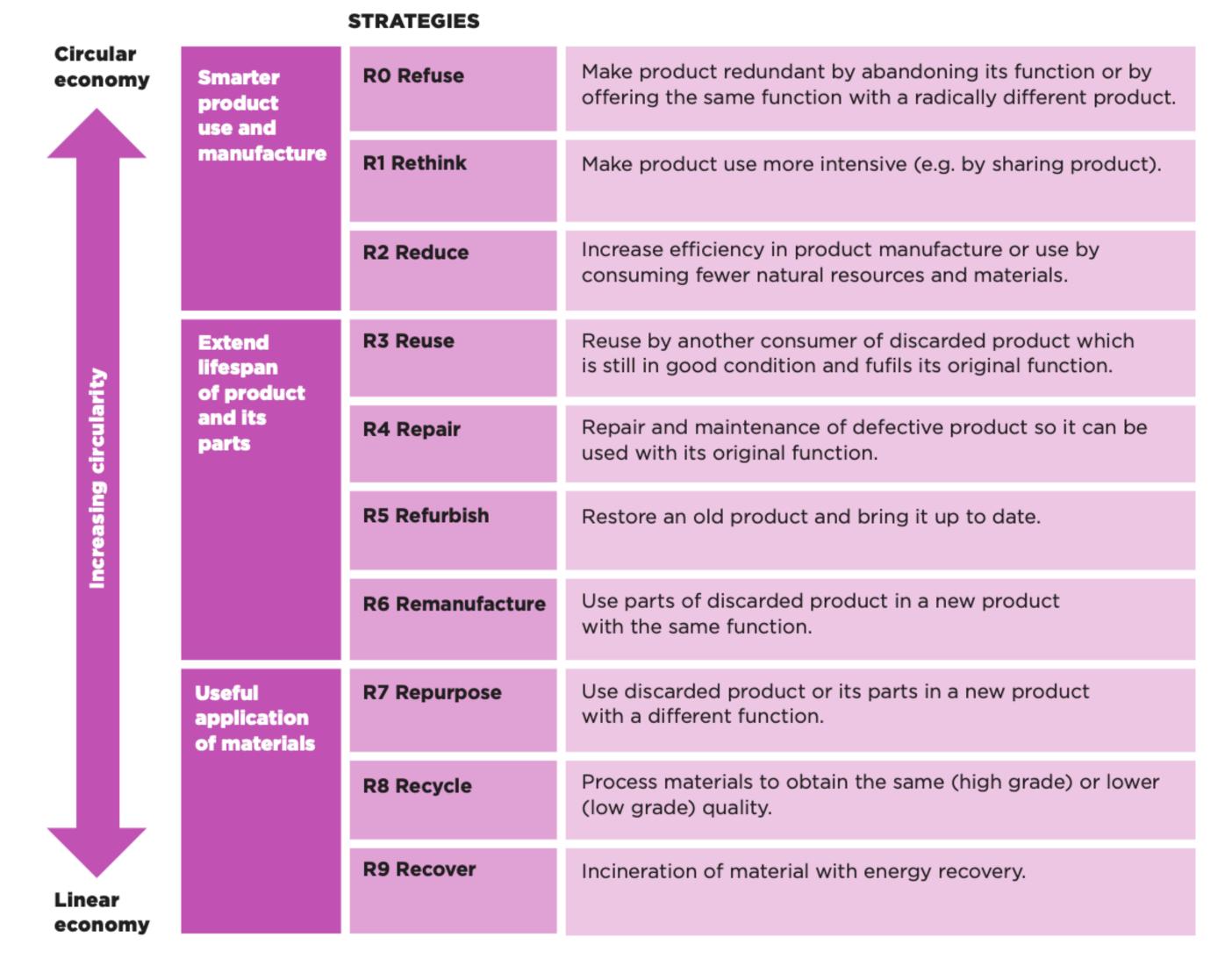


Source: Adapted from Ellen MacArthur Foundation. For full model go to Circular Economy Diagram.



R-Ladder

Circularity is moving away from linear models based on Take-Make-Waste. Prioritising different ways of reducing resource use, pollution and environmental damage is often illustrated as a hierarchy, or ladder with actions higher up the scale being preferable. This view of prioritising was developed initially to inform waste management strategies and policies. Circularity goes further – aiming to design out waste, to create fully regenerative and restorative systems.



ADAPTED FROM: CIRCULAR ECONOMY: MEASURING INNOVATION IN PRODUCT CHAINS. POTTING, J. ET AL. PBL NETHERLANDS 2017



Circular business models

Different circular business models are referred to throughout this report. Each business model works within the circular economy and delivers a different impact based on where they stand upon the R-ladder.

Business Model	Description	Case Study Example
Product as a Service	Products are used by one or many customers by means of a lease or pay-for-use arrangement.	Phillips: Transforming lighting so it's offered as a service
On Demand Production	Limiting production to only produce what is required and not creating excess	Opendesk: On demand, bespoke approach to fashion
Sharing Platforms	A sharing platform that means products can be used by multiple consumers	Meadows Share: A sharing online community that provides sustainable, affordable alternatives for Edinburgh
Product-Life Extensions	Resale Platforms: enabling the resale of used products to give them a new owner, whilst simultaneously reducing the demand for "new"	MusicMagpie: Bringing electronic goods back to life through buying, selling and renting
	Extending products' lifecycle through initial product design and refurbishment or remanufacture enabling the resale of products	<u>Fairphone:</u> The modular answer to phone landfill that customers can repair themselves
Circular Inputs	Redesigning products and supporting operations so that they can live longer, use renewable energy or use recycled materials	<u>Patagonia</u> : Creating new products using recycled materials and using renewable energy
Resource Recovery	Upcycling or recycling products	Freitag: Recycling tarps to create something unique that lasts

Systemic Solutions

The greatest impact comes from when these business models work together, creating more systemic solutions. As individual business models they all provide an important circular service, however when the services combine the impact is greatly increased.

For an example of how this works on a smaller scale, read about **ReTuna in Eskilstuna**, Sweden – home to the first shopping mall in the world that only sells repaired, restored, and recycled goods:

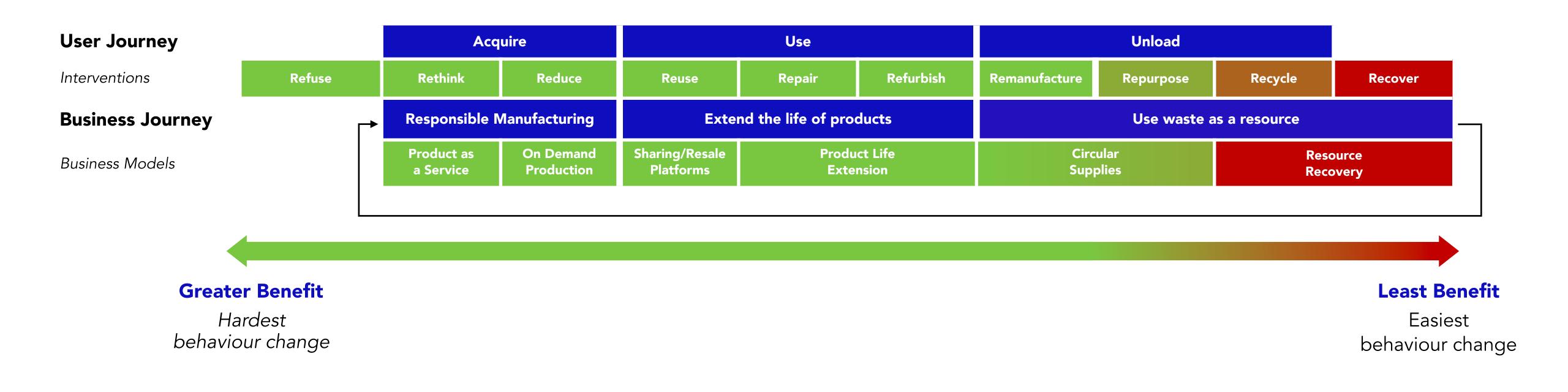
How a Systems Thinking
approach helped reinvent a
Swedish Town by Paul Simpson

Full case studies to be shared on the Design Sprint Camp



Design intervention ladder

The journey of a product or service, and the many opportunities along the way for businesses to support consumers in minimising impact, was reimagined into this Design Intervention Ladder. It brings together the previous models and was led by the question: how might we as innovators work together to develop strategies that deliver greater resource and climate benefits?



All this means that sectoral collaboration is essential. It is about bringing the right people across business together.

"Resource flow is never going to be owned by one stakeholder in the system. Everyone has a different part that they are responsible for."

Anouk Zeeuw van der Laan, a Researcher Associate at Imperial College, London, specialising in material flows.

"The value chain partnership or coalition, that's the first step. So, just bringing recyclers, designers, brands, retailers in the same room."

Ke Wang, Knowledge Lead, Platform for Accelerating the Circular Economy (PACE



Sector focus

Following the advice of expert interviews, the evidence in the desktop research, and scoping workshops with the Carbon Trust, the sectors of **fashion** and **electronics** were prioritised and set as the focus for the Design Sprint Camp 2021 challenge. As per <u>Circular Economy Action Plan</u>, textiles are the fourth highest-pressure category for the use of primary raw materials and water, and fifth for GHG emissions. Electrical and electronic equipment continues to be one of the fastest growing waste streams in the EU, with current annual growth rates of 2%. The climate impact of fashion is greater than international aviation and shipping put together, whilst the information computer technology (ICT) sector is already responsible for 3.5% of the world's carbon footprint (compared to 1% in 2007). If nothing changes, that figure could soar to 14% by 2040. In both sectors, the Take-Make-Waste model was particularly evident, which links directly to our challenge.

Fashion

Learn more

- Made to Last The New Fashion by Daniel Boettcher
- Innovation for Climate Action by Paul Simpson

On <u>one estimate</u> from the United Nations Environment Programme (UNEP) it takes 3781 litres of water to produce just one pair of jeans, and 20% of the world's industrial waste water comes from the dyeing and treatment of fabric. The same pair of jeans accounts for as much carbon dioxide equivalent (CO2e) as would be produced by driving 111 kilometres. While we are often told to fly less to reduce our personal climate impact, the effects of our clothing choices are perhaps less well understood.

In some countries, the World Bank estimates, that four out of ten items of clothing we buy are never worn. As per one <u>BBC report</u>, around 85% of all textiles are thrown away in the US – roughly 13 million tonnes in 2017 – are either dumped into landfill or burned. And globally, an estimated 92 million tonnes of textiles waste is created each year and the equivalent to a rubbish truck full of clothes ends up on landfill sites every second. By 2030, we are expected as a whole to be discarding more than 134 million tonnes of textiles a year. Globally just 12% of the material used for clothing ends up being recycled. Compare that to paper, glass and plastic PET bottles – which have recycling rates of 66%, 27% and 29% respectively in the US – and it is clear clothing lags behind.

The average consumer now buys 60% more clothing than they did 15 years ago. More than two tonnes of clothing are bought each minute in the UK, more than any other country in Europe. Globally, around 56 million tonnes of clothing are bought each year, and this is expected to rise to 93 million tonnes by 2030 and 160 million tonnes by 2050.

When it comes to Gen-Z, data from the market research firm Mintel suggests that Gen Z out-consumes older generations when it comes to fashion purchases: 64% of British 16 to 19-year-olds admit to buying clothes they have never worn, compared with 44% of all adults surveyed.

Producing one pair of jeans is CO2e to driving 111 kilometres

Around 85% of all textiles are thrown away in the US





Sector focus

Electronics

Smartphones account for 11% of carbon footprint emissions caused by ICT sector, far outweighing the individual contribution of PCs, laptops and computer displays. The full lifecycle of smartphones is responsible for 14 million tonnes of CO2e emissions in Europe, larger than the entire carbon budget of Latvia in 2017. Yet if we extended their lifecycle by just one year it would, the European Environmental Bureau (EEB) estimates, reduce those emissions by 2 million tonnes of CO2e, equivalent to taking one million cars off the road. 80% of those emissions happen before it's even left the factory.

According to a UN report the 50 million tonnes of e-waste generated every year will more than double to 110 million tonnes by 2050, making it the fastest growing waste stream in the world. This e-waste contains hundreds of different materials and toxic substances and this list includes lead, arsenic, cadmium, mercury and flame retardants. All of these leach into the environment during e-waste disposal with primitive methods, posing serious risks to environmental and human health.

Only 19% of e-waste is recycled globally. On top of that, in the UK alone, nearly 500,000 tons of electronic waste goes unaccounted for every year. So huge quantities of hazardous waste are being illegally disposed of. Most of it is being exported to developing countries through the black market. Small items like cameras and vacuum cleaners, are the worst offenders, with 17.4 million tonnes becoming waste in 2019.

5 billion streams racked up by the video for Despacito by Justin Bieber featuring Louis Fonsi consumed over 250,000 tonnes of carbon dioxide. This is as much electricity as Chad, Guinea-Bissau, Somalia, Sierra Leone and the Central African Republic consume together in a single year.

One iPhone X will create 79kg of CO2 in it's lifetime, roughly the same as burning 9 gallons of petrol. 80% of those emissions happen before it's even left the factory



Image © <u>Stephan Ridgway</u> <u>Flickr</u>

Learn more

- The True Cost of Smartphones by Paul Simpson
- The Story of Electronics



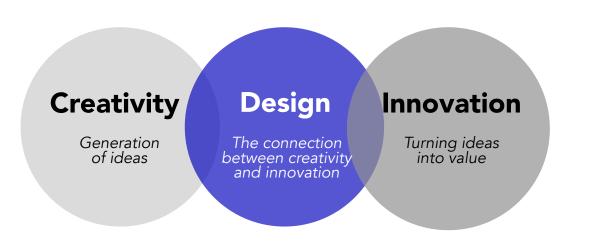


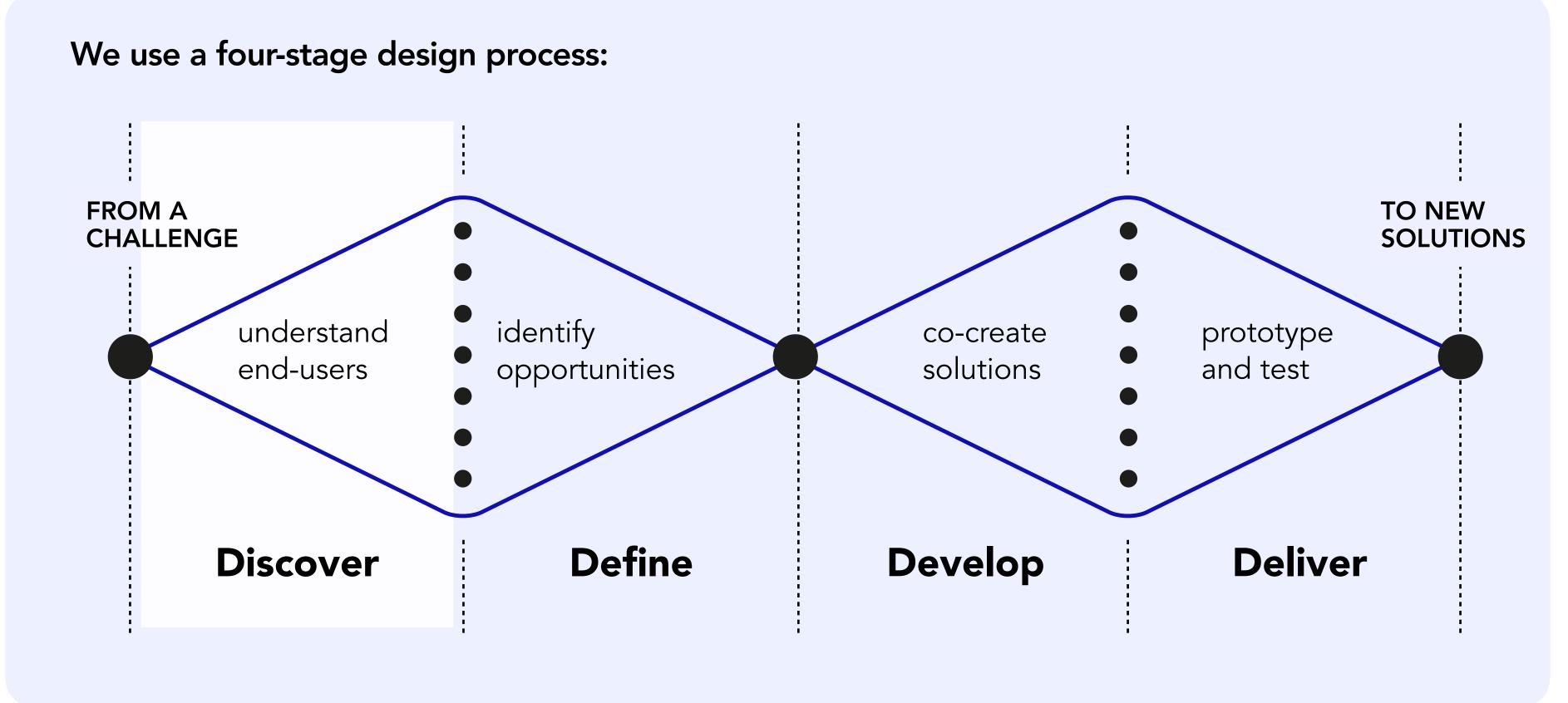
Our approach: Design Thinking

Our approach is based on Design Thinking methodology which is:

- User-led
 based on user
 insight, input and
 engagement
- Collaborative
 brings together
 multiple
 stakeholders
- Iterative
 reshapes concepts
 based on insights
 and testing
- Visual
 makes ideas
 tangible so that
 they can be easily
 interrogated
- Agile
 using open easy to-communicate
 tools to speed
 delivery

We define design as the means to translate fresh ideas into innovation around the needs of users. It is the connection between creativity and innovation.







Discover stage: multiple perspectives

Shallow dive

Desktop research

What do we know already?

• What information is already published?

Workshop with the Carbon Trust

What are the big challenges to focus on?

What are hypotheses?

 Workshop with small team from the Carbon Trust

Deep dive

Desktop research

What other innovations can we learn from?

 Search and collate examples of business models and wider systemic initiatives

Expert interviews

What are the experts saying?

• 10 online interviews with experts in the Carbon Trust and externally across business, academia and policy

Ethnographic research

What do real people think and do?

 Working with 13 members of the public to get a snapshot over a couple of weeks of their attitudes and behaviours around buying/caring for and offloading items

Empathy & inspiration

Discovery tools

Where are the areas of opportunity?

- **Key themes** key information and insights to build context and understanding
- Business case studies examples to inspire
- Personas descriptions of common types of people and their motivations and behaviours to create empathy
- User journeys stories of common real experiences to show pains and areas of opportunity



Deep dive methodology

Desktop research

Desktop research was carried out to understand existing and innovative business models, with detailed analysis of over 25 different businesses that either reduce waste, encourage repair and reuse or provide alternative forms of ownership. An analysis of these demonstrated their successes and their weaknesses, which later guided the ethnography.

Examples include musicMagpie, Patagonia, Fairphone and ReTuna in Eskilstuna. Visit the appendix to access the desktop research.



Stakeholder interviews

A key part of the research input for the Sprint Camp was a series of interviews carried out with stakeholders from NGO's, academia and business, to provide detailed and specialist insights into the subject. In the first instance these were used to develop themes, help shape the ethnographic research, and guide the challenge statement. The interviews were semi-structured, drawing on each contributor's area of expertise.

The stakeholders:

Laura Timlin, Director of Business Services, the Carbon Trust **Pauline Op de Beeck**, Head of Sales Europe – Fashion sector lead, the Carbon Trust

Aleyn Smith-Gillespie, Director, Circular Economy and Business Model Innovation, the Carbon Trust

Julie Hill, Chair, WRAP

Tim Cooper, Professor of Sustainable Design and Consumption, Nottingham Trent University

Anouk Zeeuw van der Laan, Research Associate, Imperial College London Deborah Drew, Social Lead, Business Centre, World Resources Institute

Ke Wang, Knowledge Lead, Platform for Accelerating the Circular Economy (PACE)

Charlie Thorneycroft, Senior Change Designer, Forum for the Future **Sofia Bystedt**, Manager, Retuna, Sweden



Deep dive methodology

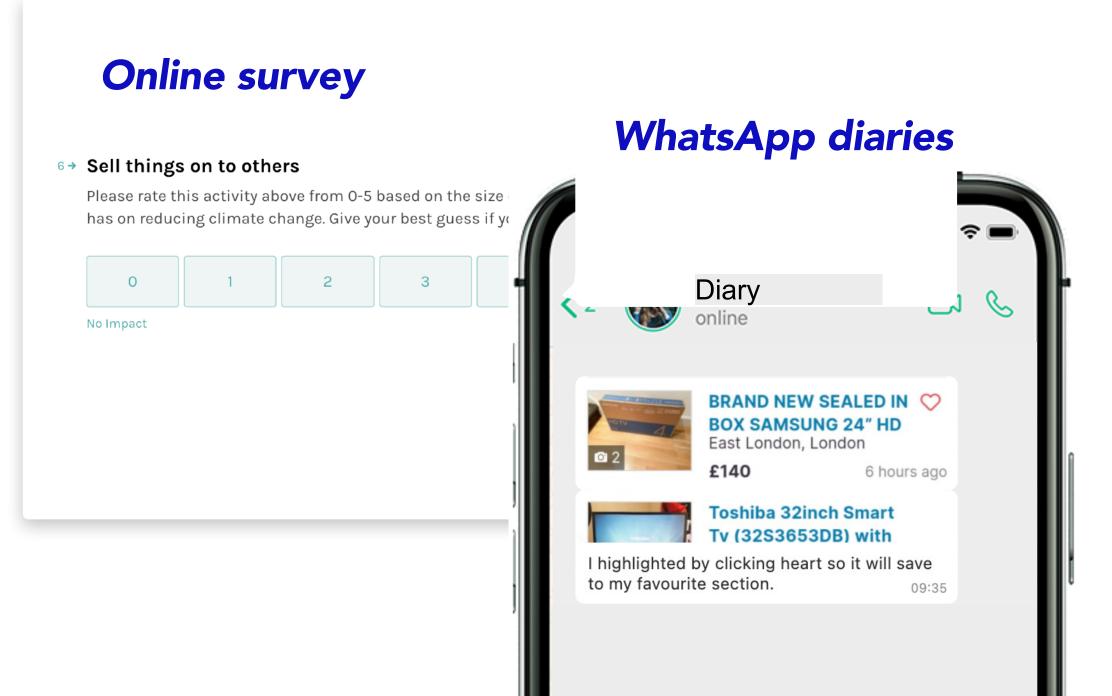
Ethnographic research

13 consumer-citizens took part in the ethnography in order for us to understand their everyday behaviours around clothing and electronics. They were recruited from a diverse demographic group of consumers to participate in our research, representing different life-stages, sex, social grades and ethnicities. The research targeted consumers across UK who were planning to 'buy/mend/offload' clothes and/or electrical goods. The ethnography consisted of:

- Zoom interviews to explore attitudes and behaviours around buy/ mend/get rid of – for clothes & electrical goods
- Virtual tour using the things in their home as a prompt to show and tell us about real habits and past decisions
- WhatsApp diaries to report and reflect on their choices and behaviours in real time for 1 week +
- Online survey to start to specifically explore understanding and influence of environmental concerns on their behaviours (the participants had not been told that this was the focus of the research before this point)
- Follow up interviews for final reflections on their own behaviours and what they, business and government can do to help reduce climate impact and waste

*To understand and observe real behaviour, initially consumers were not told that this research related to environmental issues



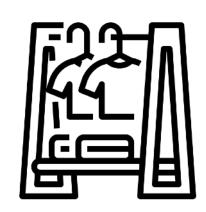






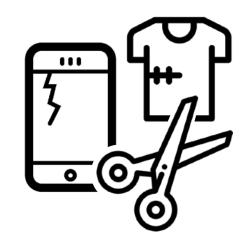
Key Themes

From the research, data was collected in the form of quotes, photos, videos, and WhatsApp diaries. This was synthesised to establish patterns and these 6 themes emerged:



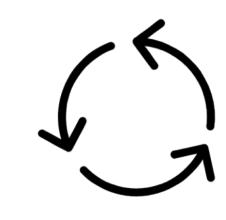
LOVE VINTAGE, FEAR SECOND-HAND

People are often very happy to buy pre-owned clothes, yet there is a sense of compromise and lack of trust of pre-owned electronics – despite the fact many people sell their old electronics.



MEND FOR THE RIGHT MONEY

Repair only happens when people can do it themselves, or see that it offers them the best option financially or a product has emotional resonance. Otherwise they will replace.



EASY SELL, EASY BUY

Many are happy to buy, buy, buy, knowing there are easy, environmentally friendly ways of selling on or getting rid of stuff – without realising the impact of their consumerism.



STAYING ON TOP OF THE TRENDS

Wanting the latest technology or fashion is a big driver to purchase, especially in electronics, and people will often sell old products in order to justify upgrade to the latest fashion or tech.



QUALITY FOR THE RIGHT ITEM

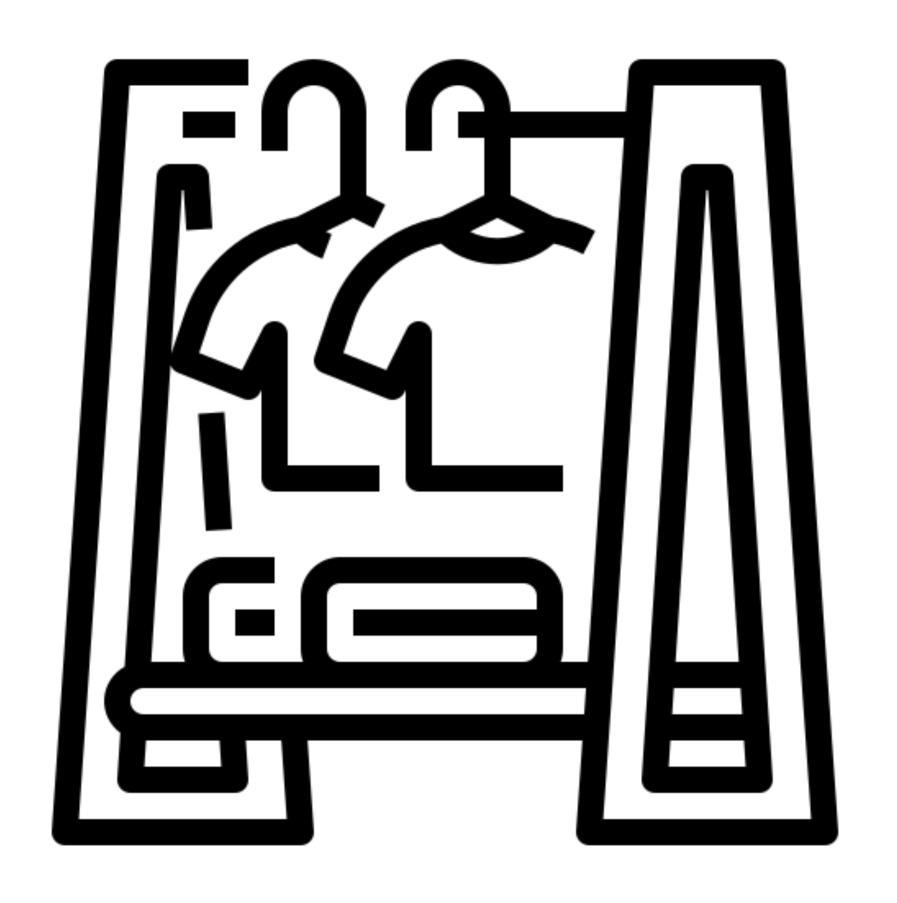
People do want that extra quality or durability but only for key items and this is driven by the financial benefits, not environmental. For other items they want discounts or cheaper alternatives.



ENVIRONMENTALLY FRIENDLY A BONUS

Environmental concerns are often secondary to other drivers of buying behaviours like price, speed and quality. The cost of enviro-friendly products and limited info around them are big barriers.





LOVE VINTAGE, FEAR SECOND-HAND

People are often very happy to buy pre-owned clothes, yet there is a sense of compromise and lack of trust of pre-owned electronics – despite the fact many people sell their old electronics.



Love Vintage, Fear Second-hand

Stakeholder research highlights



Perception

- Consumers reluctant to buy goods that have belonged to someone else.
 Concerns over quality, trust and social stigma attached to buying second-hand.
- For electronics there are buyer fears over functionality. For sellers there are issues around personal data that may be left on the device.
- Consumers warming to ways in which goods can be kept in use for longer, particularly with resale of clothing.

"The various reasons people gave in the past for not wanting to wear second-hand clothes seem to have been overcome in the younger generation."

Tim Cooper, Professor of Sustainable Design and Consumption, Nottingham Trent University.

Trust

- Resale struggles with trust particularly for electrical goods.
- Warranties could influence this.
 Some online marketplaces are also moving towards guarantees for refurbished goods, for example Amazon Renewed.
- Sellers have to show that products have been tested, that they work like new, look like new and are supplied with all the necessary accessories.

"You can create a level of transparency for customers shopping online that doesn't exist when they are in a physical setting."

Aleyn Smith-Gillespie, Director, Circular Economy and Business Model Innovation, the Carbon Trust.

Resale Online

- Second-hand sounds like second best, but call it vintage, or pre-loved and the story becomes one of desirability. Reuse itself becomes fashionable.
- Through online marketplace apps like Depop, launched in 2011, reselling clothing has become increasingly popular, particularly with Generation Z consumers.
- Second-hand fashion, already estimated to be a \$30-40bn market globally is forecast to grow by 15-20% over the next three to five years.

"Trading online is modern and new and exciting and perfectly acceptable"

Laura Timlin, Director of Business Services, the Carbon Trust.

New Resale Experience

- Charity shops are changing their shopping experience with layouts more akin to boutiques.
- One example of how the resale experience can be transformed is ReTuna, in the Swedish city of Eskilstuna. It is home to the first shopping mall in the world that only sells repaired, restored, and recycled goods. Read more here.
- Influencing conventional retailers. IKEA expects sales of second-hand furniture in Sweden to grow four times faster than sales of new furniture.

"What we are trying to do here is not just to save the world and advance the circular economy but prove that this is a good business model."

Sofia Bystedt, Manager, Retuna, Sweden



Love Vintage, Fear Second-hand

Consumer-Citizen Insights







<u>Video link</u>



Love Vintage, Fear Second-hand

Consumer-Citizen insights



"There's been such a huge explosion of second hand...we always used to buy stuff new but now discovered this is an option. If you can get such good quality stuff for such cheap prices, why not?... Still, I'd always buy new white goods, you want these to last."

Etka, 40, homemaker with son in South East. From India originally

"I wouldn't buy secondhand electronics. Safety is the main reason, my Dad was an electronic... I do get secondhand clothes though."

Dinah, 43, Lives with daughter, Teaching Assistant

"I might get a camera from CEX but I wouldn't get a phone. I would always have that seed of doubt"

Ashleigh, 24, Patent attorney trainee – living in Westminster with boyfriend and another couple.

Learn more

• For more consumer-citizen insights, visit the appendix

WhatsApp diary



BRAND NEW SEALED IN 💙 **BOX SAMSUNG 24" HD** East London, London £140



Toshiba 32inch Smart Tv (32S3653DB) with

I highlighted by clicking heart so it will save to my favourite section. 09:35

If it will work properly. Why are they selling it. What consumer rights do I have if anything goes wrong. 09:36

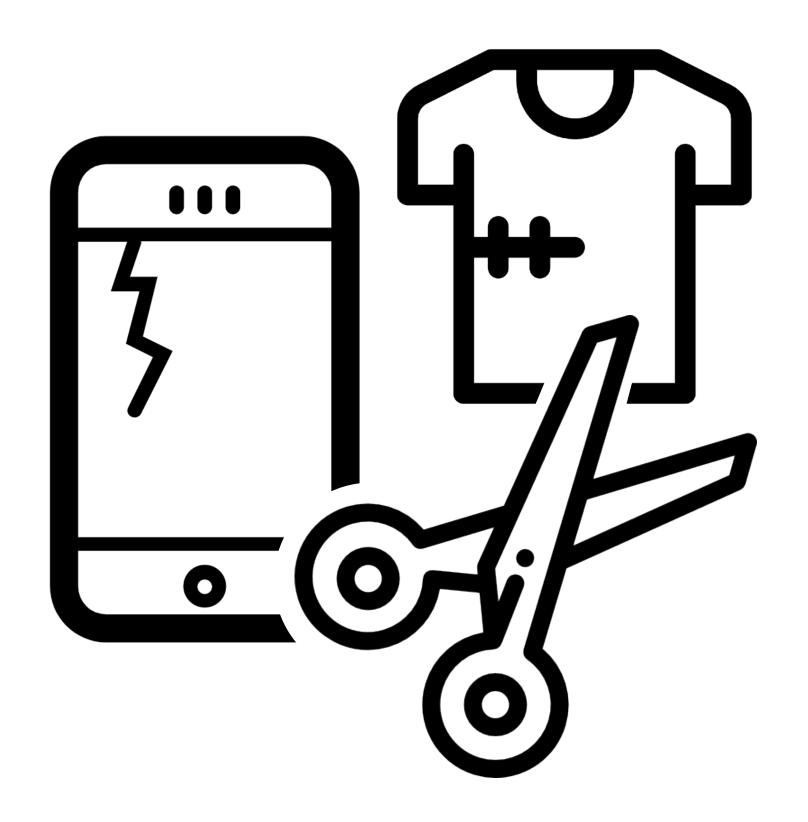
The potential advantages are I can purchase for a much cheaper price and it will save me time and effort. 09:37

I also worry if I buy second hand how long will the microwave or TV last for.

6 hours ago

09:37





MEND FOR THE RIGHT MONEY

Mending and repair only happens when people can do it themselves, or see that it offers them the best option financially or a product has emotional resonance. Otherwise they will replace.



Mend for the Right Money

Stakeholder research highlights



Mending Culture

- For older generations with values forged by rationing and post-war austerity principles of mend and make do are self-evident.
- Anecdotal evidence suggests the COVID-19 crisis, and living in lockdown, has also led to a resurging interest in mending and reusing.
 People have had more time, less money, and limited access to retail. There may also be an element of nostalgia involved. Though encouraging, it may also be temporary.

"I'm not sure how much that behaviour change has stuck yet... I'm not sure if it translates to individual lifestyles."

Charlie Thorneycroft, Senior Change Designer, Forum for the Future.

Education and Skills

- A key factor preventing consumers carrying out repairs is a lack of training. This starts with school, where even home economics courses teach few, if any, practical skills in household repairs, sewing or the use of basic tools.
- For clothing, basic repairs are simple.
 However, with the cheapest clothing,
 consumers may feel it is not worth the bother.
 Pride in a repair job may give a clothing item a different form of value, sending a virtue signal.
- For electronics, self-repair is limited by design and manufacture. In the case of electrical white goods, safety is a limitation.

"More education around skills I think would really, really, bridge quite a fundamental gap."

Laura Timlin, Director of Business Services, the Carbon Trust.

Professional Repairs

- Professional repairs for electrical and electronic goods are often controlled by the manufacturers themselves, with only approved operators permitted to carry them out.
- Unauthorised repairs invalidate warranties, and access to spares and components may also be restricted. Control of repairs also allows manufacturers to determine the costs, particularly for labour.
- Suggested solutions include networks of nonexclusive repairers authorised by manufacturers but able to compete on price; tax breaks for labour costs on repair (as already happens in Sweden); and, as is now happening, mandated wider access to spares.



Mend for the Right Money

Stakeholder research highlights



Right to Repair

- In June of this year the UK government introduced legislation which includes sections that have been referred to as "Right to Repair" regulations for some electrical goods. They require manufacturers to make spare parts available for a set period of time and to provide technical information to support repairs. The regulations implement EU rules, though there is no certainty that future amendments and additions to the EU framework will also be transferred, including proposals to cover more products such as smart 'phones and laptops.
- The move has been widely welcomed, but it only requires that spare parts are made available to "professional repairers" rather than to consumers directly. Manufacturers are also able to determine what counts as a component. For example, if just the bearings of a washing machine are worn out, if they are sealed within a drum mechanism the whole drum needs to be replaced. Furthermore, the costs of spares are not capped.

"It is not the availability of spare parts that is the problem, it's to do with the fact that too many goods now are relatively cheap to buy new, relatively expensive and hard to have repaired- that does include a design component as well."

Tim Cooper, Professor of Sustainable Design and Consumption, Nottingham Trent University.

Design for Repair and Durability

- The new regulations do include a requirement that products are designed to be repairable, though for campaigners they do not go far enough. They have long argued that as well as making products easier to repair, manufacturers should make key components modular to allow for upgrades. For example, for mobile 'phones if better batteries or higher quality cameras become available it should be possible to retrofit to older models (Read this article for details on Fairphone's modular design).
- Desire for interoperability- components from rival manufacturers to be compatible. E.g. in chargers for electronic devices The European Commission is proposing a single standard (USB-C) for all smartphones, tablets, cameras, smart speakers, and handheld games consoles. Some progress has been achieved through voluntary agreements, but manufacturers say that forcing them to adopt common standards stifles innovation and may run into issues of intellectual property rights.

"People find it very difficult not to buy new phones when new products with new benefits have been launched. How do you upgrade your current one to have all the benefits that the new version has? I think if somebody could tackle that, that would be very powerful."

Laura Timlin, Director of Business Services, the Carbon Trust.



Consumer-Citizen Insights









<u>Video link</u>



Mend for the Right Money

Consumer-Citizen insights

"I always tend to mend it if it's worth doing it"

"Has a Shark hoover not working. "Waiting to hear back from the company. I love it but it's just not working, not even had it a year. I thought they'd send an engineer out but you have to troubleshoot it all yourself. I had to buy a handheld hoover in the meantime until I get it fixed."

F, 41, Married with 3 kids (14, 12, 15) living Ayrshire, Rural Scotland.

"If I can fix something I'll sew it up, but if its something that's had its day I'll sell it on for the money."

F, 30s, Teaching Assistant in Primary School for 9 years

"My dad fixes things for me, he's handy on a sewing machine. Together we fixed my grandad's old radiogram. Took about a week, did it ourselves, watched YouTube videos. Was too expensive to go to the shop."

F, 24, Patent attorney trainee – living in Westminster with boyfriend and another couple.

WhatsApp diary

Today I went to the repair shop but they were unable to repair my microwave. So I was disappointed and upset about that. Then I came home and went online to search for a new replacement microwave I spent 20 minutes doing research on the beans name, price, features, colour and size of the microwave.

Today I got 3 jeans and trousers zips and top bottom repaired.

These were nice jeans so I was happy with the £10 I spent to get them repaired. I hope they can last for a few more years as they are comfortable to wear.



Couple more updates: got battery replaced on gf Samsung s9 at a shop. Have taken items of clothing to be repaired.

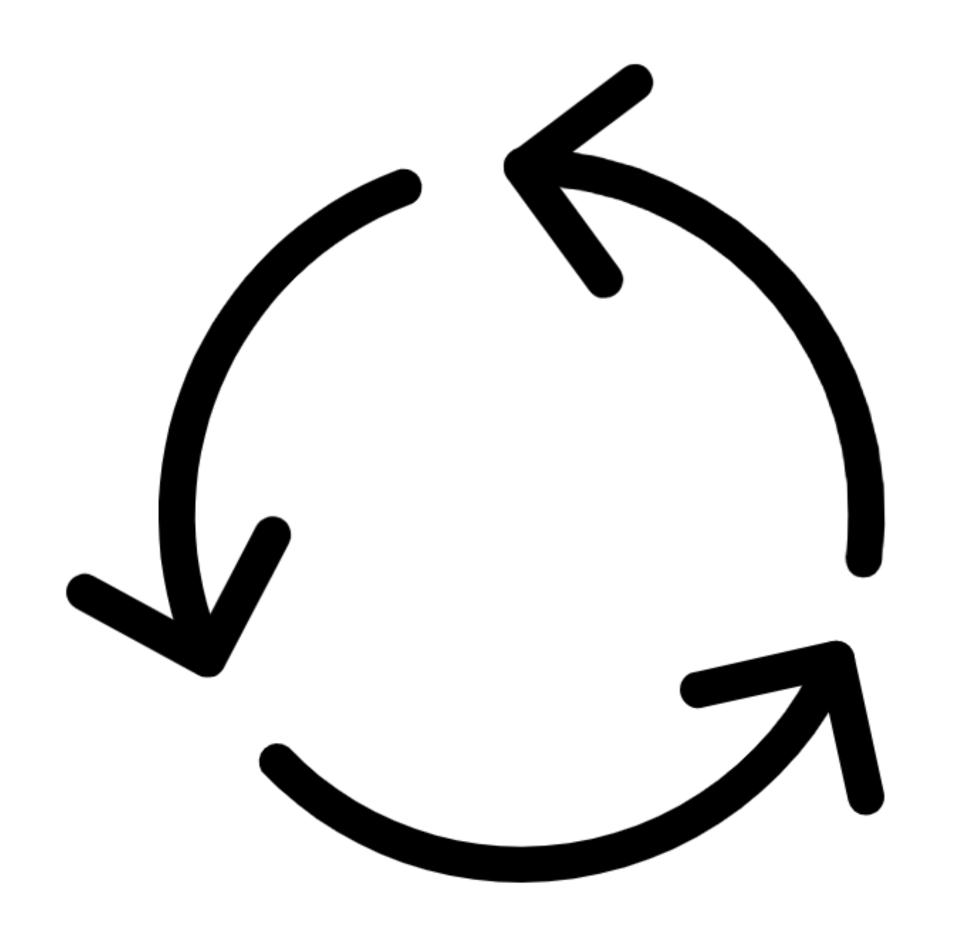




£50. Out of warranty. Spending £400+ on a new phone was justifiable over the cost of repair.

It's an official samsung part, so I dont expect any issues. I think the phone will be replaced if the battery fails again though.





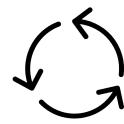
EASY BUY, EASY SELL

Many are happy to buy, buy, buy, knowing there are easy, "environmentally friendly" ways of selling on or getting rid of stuff – without realising the impact of their consumerism.



Easy Sell, Easy Buy

Stakeholder research highlights



Displacement

- Strong evidence that people believe once a product is out of their hands they have also passed on responsibility for its environmental impact. If that is an easy process for example by using an online resale platform consumers feel less guilty about buying in the first place.
- There is little evidence that resale of clothing reduces total goods bought.

"If people sell or buy second-hand clothes, are they buying less new clothing or are they just getting a bigger wardrobe with more second hand? So, displacement of a new product is where the environmental benefit is actually delivered."

Ke Wang, Knowledge Lead, Platform for Accelerating the Circular Economy (PACE).

It's OK, it's recyclable

- Recycling is still seen too much from a waste perspective and consumers are largely unaware of the carbon emissions impacts.
- General lack of awareness about how difficult recycling is – for fashion because of mixed fibres and materials, for electronics because of the number of parts, the technical challenges of disassembly, mixed materials, and hazardous materials.
- Waste Electrical and Electronic Equipment (WEEE) is covered by regulations. Distributors have to take back electrical goods; businesses have to collect WEEE separately and treat and recycle it. Householders have an obligation not dump such waste in conventional rubbish collections. However, many are not aware of these requirements.

New Ownership Models

- One route towards lower overall consumption and greater circularity for both fashion and electricals/electronics is different models of ownership.
- Some retailers are now offering clothing subscriptions. Payment gives access to a certain number of items each month which are then returned. While this may make sense for more expensive clothing, it is a less convincing strategy at the cheap end of the market. Subscriptions may provide a new way of delivering the buzz of novelty to consumers yet the environmental benefits aren't always clear.
- For electrical goods alternative ownership models may also work in certain circumstances. Electric power tools or gardening equipment, for example, can be rented or may be shared between a group of neighbours. But, again, price point is key, as is convenience and frequency of use.
- Long-term contracts for electronic devices such as mobile phones are also forms of subscription. While the devices are recovered for reuse or recycling when consumers are offered upgrades, this encourages replacement of units that are still fully functional.

"What matters underneath that is how the business model is operating in terms of the actual clothing and the returns, transport, packaging- can they show the whole life cycle has less impact than just going to the shop and buying something?"

Julie Hill, Chair, WRAP.

"We need to look at the environmental impact more holistically, otherwise we will just be shifting problems from one place to the other"

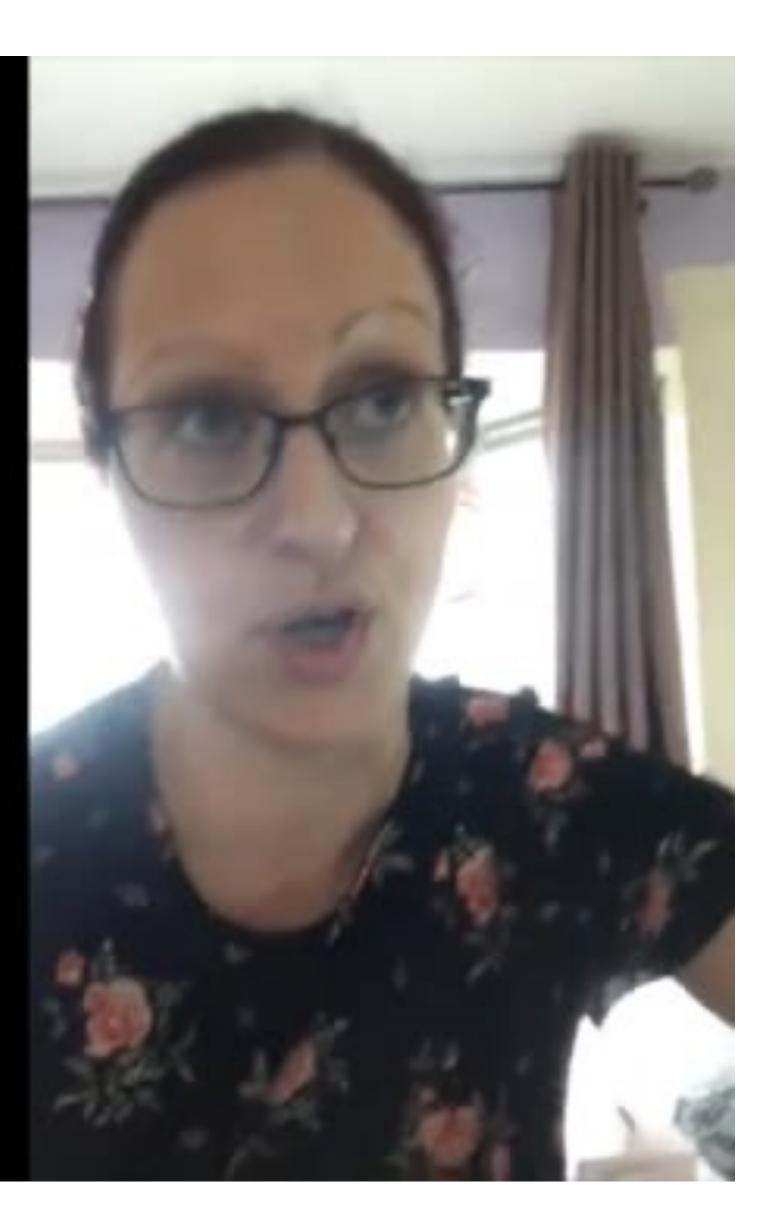
Ke Wang, Knowledge Lead, Platform for Accelerating the Circular Economy (PACE).



Consumer-Citizen Insights



Hi! Sold my vintage coat today. I made around £10 profit from selling it. I sold it because I didn't wear it as much as I thought, so the prime factor was a clear out



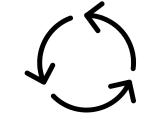


<u>Video link</u>



Easy Sell, Easy Buy

Consumer-Citizen insights



"My oldest is into designer clothes... I'd sell a few of them, add the money up and go buy something new... he'd want the new brand that's out there... if I sell something I can go buy something and it's not really buying something"

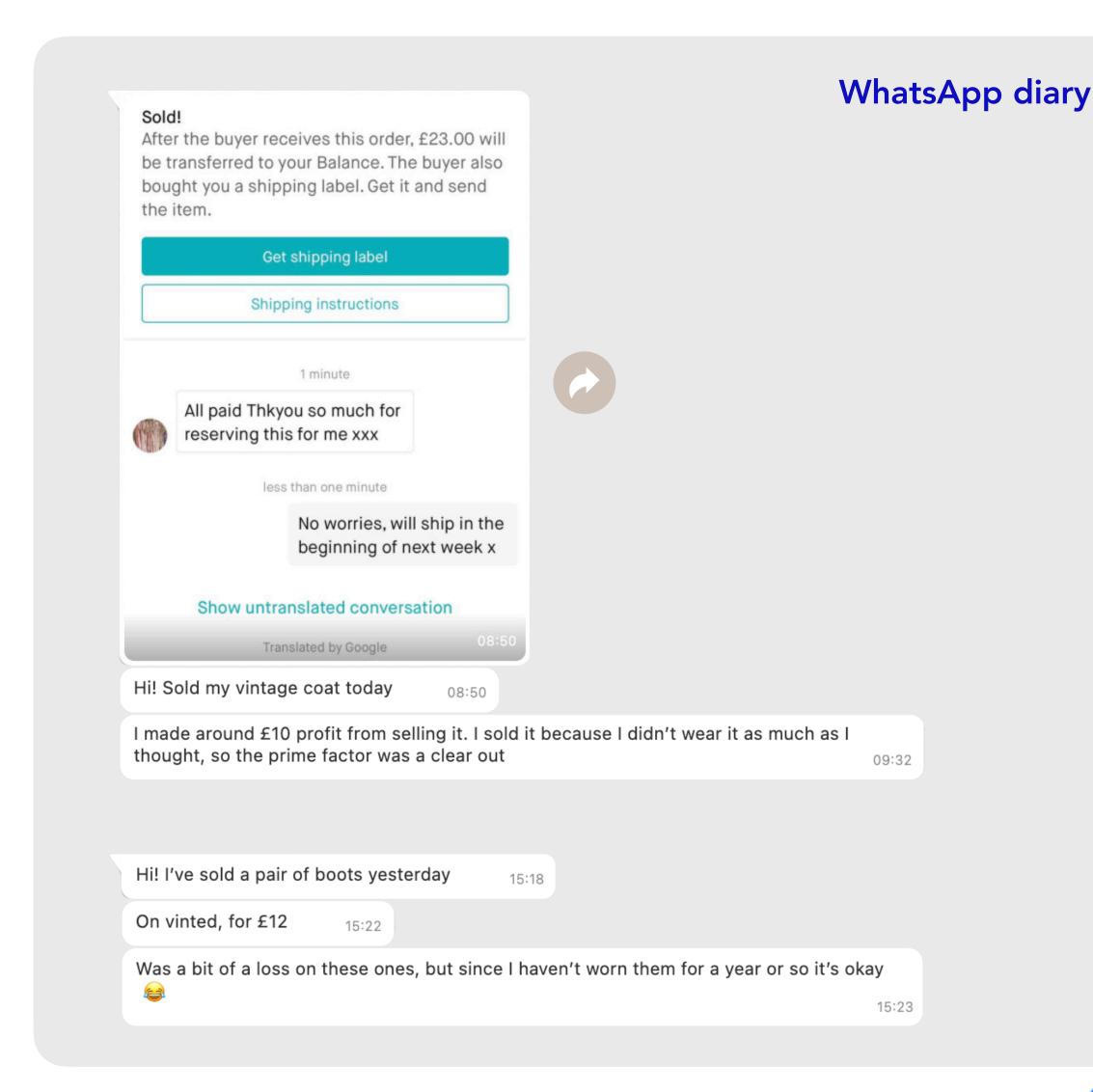
F, 41, Married with 3 kids, living Ayrshire, Rural Scotland.

"I'll do a big chuck out of a load of clothes then obviously I need to buy some more. When I say chuck out I mean sell. So, once I've sold it I use the money to buy something else. You have to sell a lot to get some money back... I go on Facebook market sellers for my area Essex. I sell by bag. I've got a lady who buys them and send them to Africa."

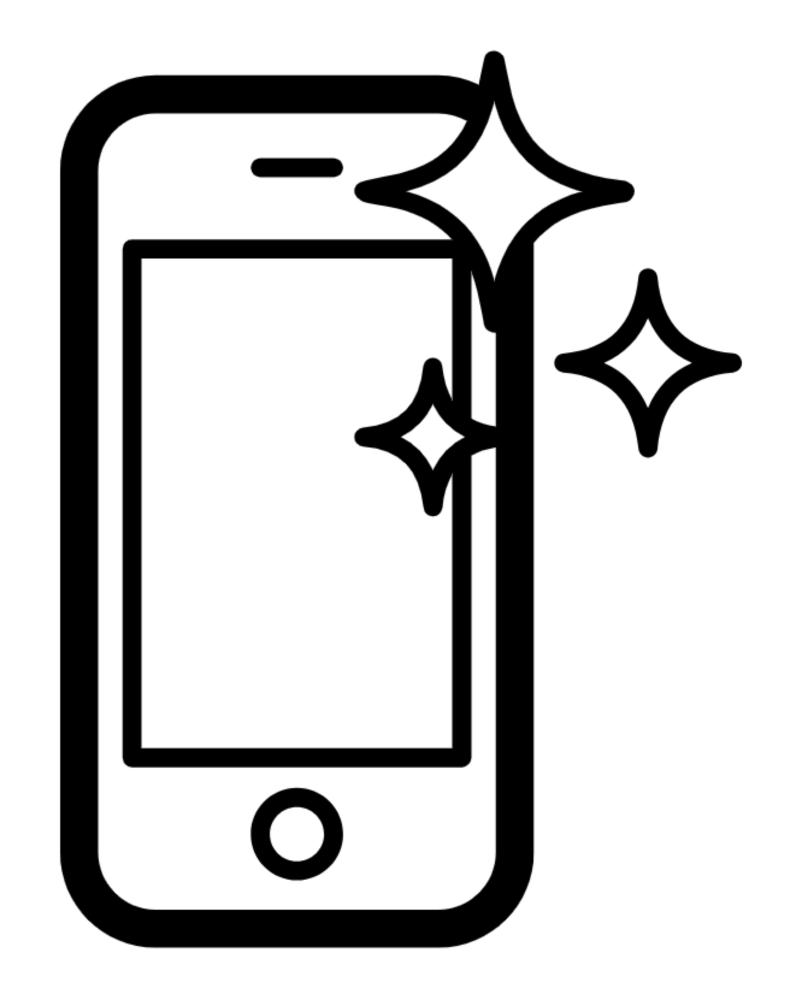
F, 30s, Teaching Assistant in Primary School for 9 years

"Yes, absolutely. I buy more knowing I can sell it sustainably."

F, 22, Researcher, lives with husband







STAYING ON TOP OF TRENDS

Wanting the latest technology or fashion is a big driver to purchase, especially in electronics, and people will often sell old products in order to justify upgrade to the latest fashion or tech.



Staying on Top of Trends

Stakeholder research highlights



Emotional Durability

- Fashion and consumer electronics are driven by trend, the desire to have the latest, the newest, what is current. This means that keeping products in use for longer is not simply a technical challenge, but also a psychological one.
- New circular business models need to go hand in hand with fresh consumer mindsets. In part it is what Professor Cooper describes as emotional durability

 the idea of designing products that people want to keep.

"It's not always about the longevity of the product and how long it's usable. It's the trends as well and I think that component is a lot more difficult to challenge because ultimately it's a cultural one."

Pauline Op de Beeck, Head of Sales Europe – Fashion sector lead, the Carbon Trust.

Supply or Demand

- Key question is the extent to which the consumption connected with novelty and trend is driven by supply or demand.
- Also if it is the buzz of the new that drives consumer expectations, solutions may lie in satisfying that in new ways. What is the business model that delivers the novelty without the environmental impact?
- May require a reassessment of consumption as a measure of happiness and success. The Covid crisis may have moved the dial and shifted outlooks.

"You see some push back from companies saying that the customer is demanding these things, the customer wants fast fashion or a new style every week. But they are the ones with the marketing team, telling customers to want those things"

Deborah Drew, Social Lead, Business Centre, World Resources Institute.

Planned Obsolescence

- Persuading consumers to replace fully functional products because
 of trend is one driver of a fast turnover of consumer goods.
 The other is designing and manufacturing products that are made
 with deliberately short lifespans. Referred to as built in, or planned
 obsolescence, it is still a dominant business model.
- Planned obsolescence is primarily blamed on manufacturers, though Aleyn Smith-Gillespie believes consumers must take part of the blame in that they fully understand that cheap goods will not last.
- Argument that obsolescence needs to be addressed within a broader view of material flows.

"Do companies encourage consumers to be constantly upgrading and then buying new? I think yes, that's still the case. New sales is still a major driver of a company's business model and how to value it in the market."

Aleyn Smith-Gillespie, Director, Circular Economy and Business Model Innovation, the Carbon Trust.

"Right now, it's a lot cheaper and easier to just throw things away and make something new, so we need to remove that and change that."

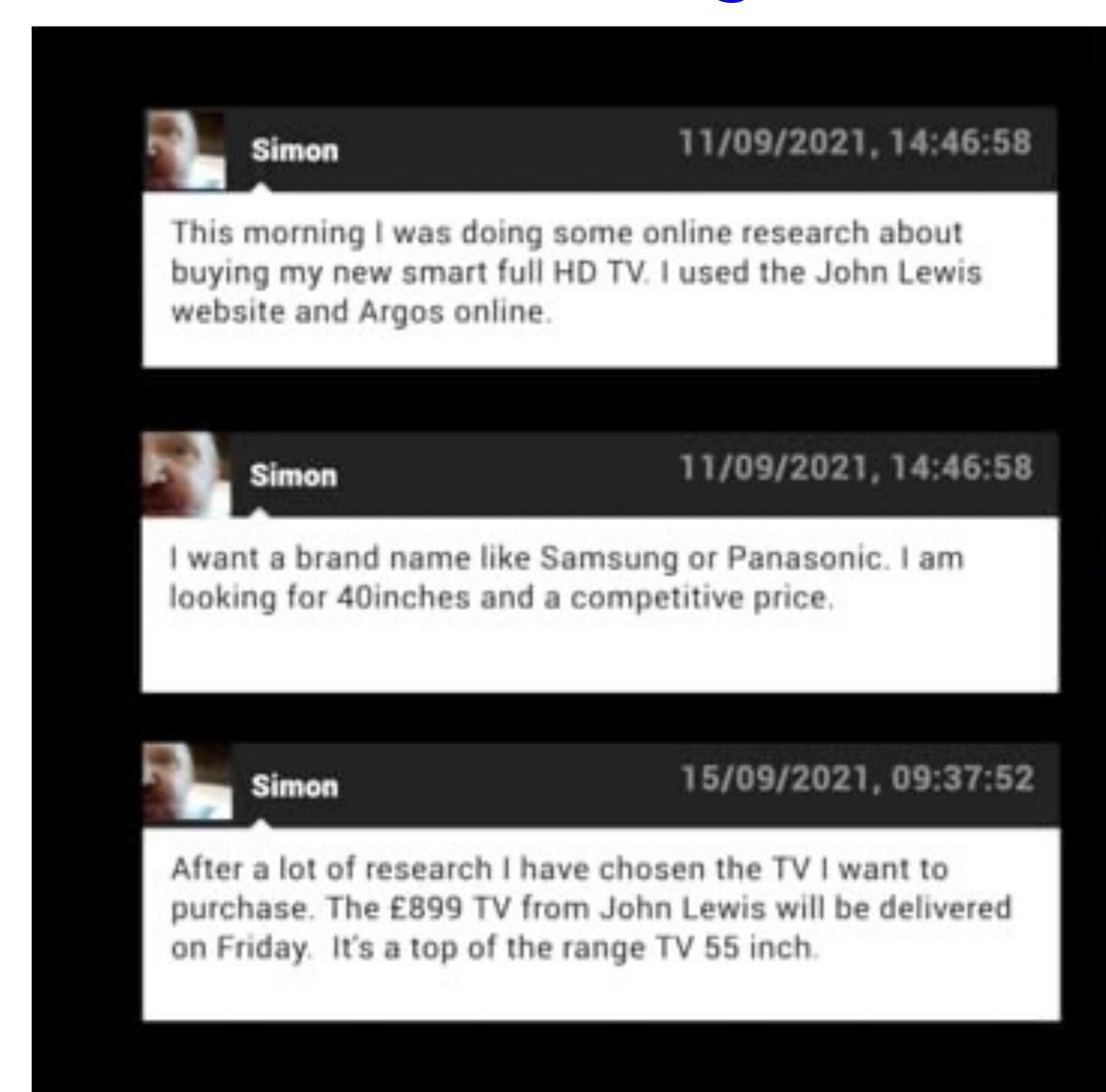
Deborah Drew, Social Lead, Business Centre, World Resources Institute.

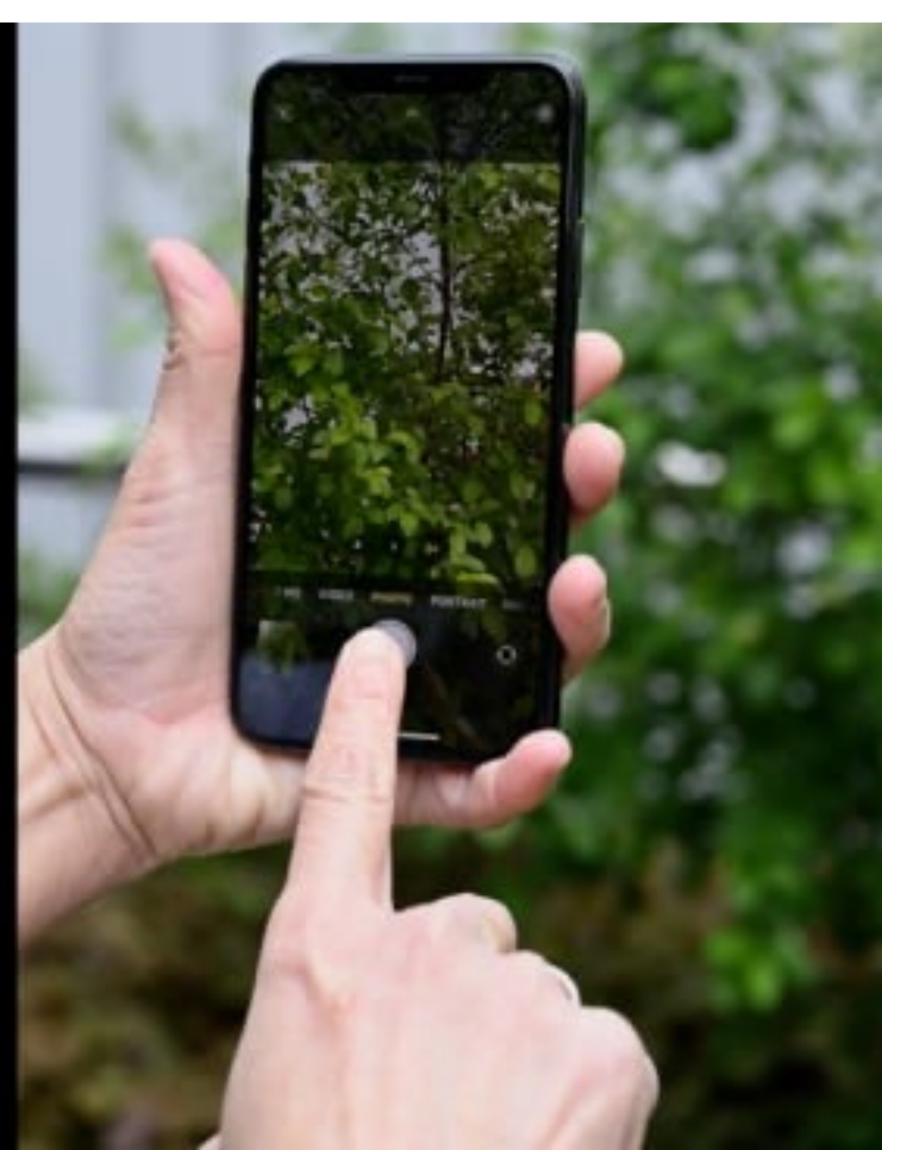


Staying on Top of Trends

Consumer-Citizen Insights









<u>Video link</u>



Staying on Top of Trends

Consumer-Citizen insights

"Technology's changing all the time...if I'm using an old iPhone I can feel it's old. If it doesn't have the latest iOS, I need to upgrade."

M, 24, chemical engineer, lives with parents

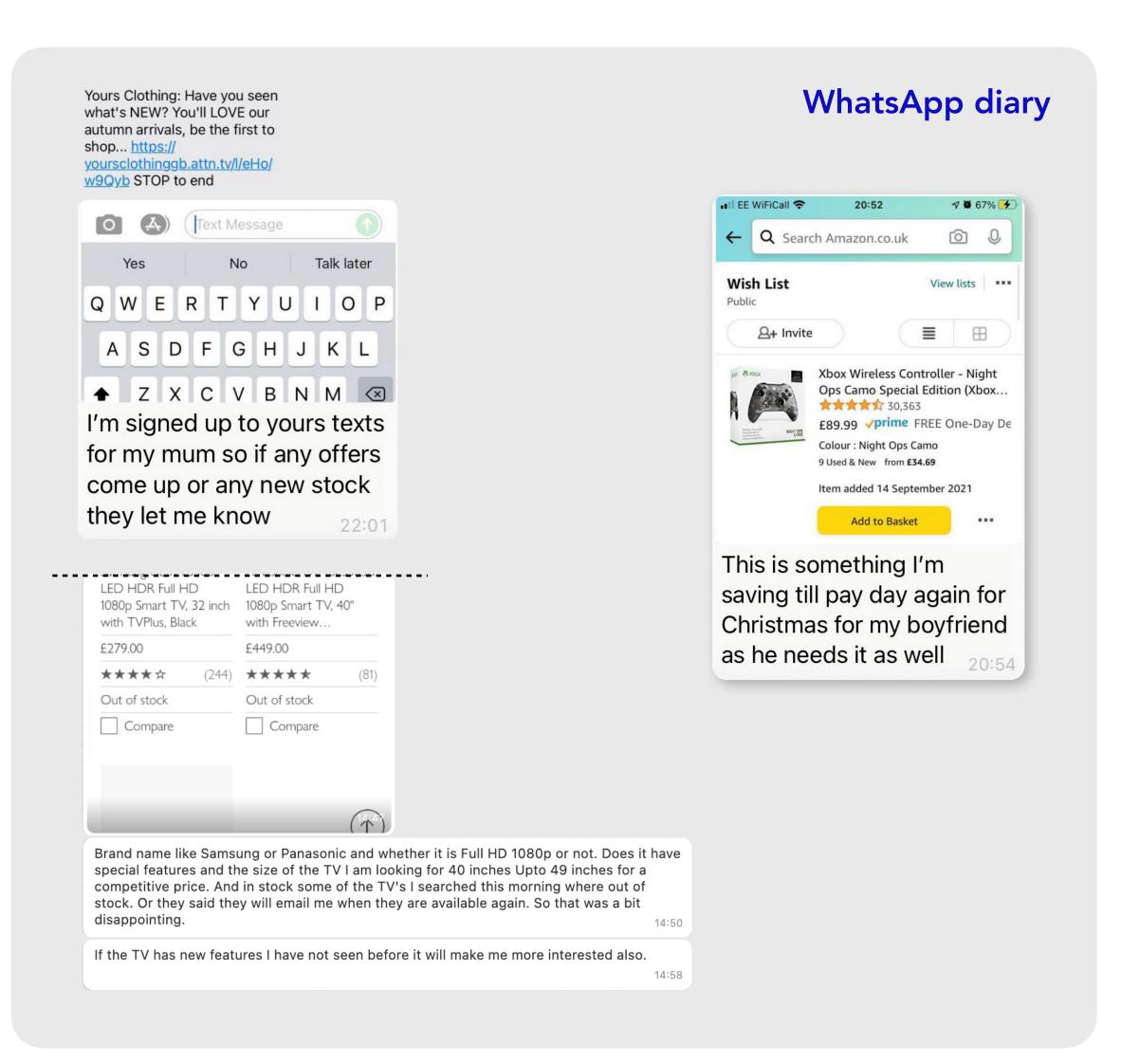
"It's brand new tech so I was happy to spend a bit more on it. And it looks nice and is more premium so I spent a bit extra."

M, Teacher, married

"I buy because I like to buy."

F, 23, Banking, lives with parents.









QUALITY FOR THE RIGHT ITEM

People do want that extra quality or durability but only for key items and this is driven by the financial benefits, not environmental. For other items they want discounts or cheaper alternatives.



Quality for the Right Item

Stakeholder research highlights



Quality & Cost

- For electrical and electronic goods consumers may not have sufficient technical knowledge to judge the quality of a product. In part brand reputation may be used to inform a purchasing decision. There may also be an assumption that a higher price means better quality. Conversely, lower prices also mean reduced consumer expectations.
- Too great an emphasis is also placed on initial purchase price, rather than total cost of ownership. Buying products that cost more upfront but last longer, may ultimately prove to be cheaper. However, that option is not available to those who cannot afford the higher initial price.

"One of the problems is consumers don't expect things to last as long as they could do, or ought to do, and that's partly linked... to the problem of prices, prices being relatively cheap and therefore people say, well, it doesn't cost so much to buy a new one therefore why would I expect it to last a long time."

Tim Cooper, Professor of Sustainable Design and Consumption, Nottingham Trent University.

Other Measures of Value

- Some products signal their quality by the way they are made. If they are referred to as artisanal, home-made, or hand crafted there is at least a suggestion that they have been created with care. As a result, a consumer might also cherish them more.
- Association of mass-produced with poor quality reflects assumptions that cheap factory goods are not likely to last.
- Value is also created through a particular personal connection with an item.

"Part of what they're (high-end fashion) selling is that you buy an investment piece, and you use it forever... and gift it to your niece or your granddaughter... it becomes a sort of vintage piece, and that's part of that investment that you're making when you buy a new product from them."

Laura Timlin, Director of Business Services, the Carbon Trust.

Quality Assurance

- For consumers there is no certainty that higher prices necessarily mean better quality. However, increasingly guarantees and warranties beyond any statutory requirements are being used to provide that assurance
- A different way of providing assurance is some form of durability labelling. Could allow consumers to be more invested in a product, and manufacturers might see it as part of their proposition and branding though many practical challenges.
- Labels or scores could also have a use in judging repairability. <u>France introduced repairability ratings</u> and labelling at the start of this year for five electronic and electrical product categories, including washing machines, lawnmowers, smart 'phones and televisions. They are designed to help consumers make better choices and push manufacturers to improve repairability. Products are judged on factors such as documentation, ease of disassembly, availability, and cost of spare parts.

"Let's just imagine all products need to have at least a minimum 10-year warranty no matter what you buy, then that might force companies to actually partner with financial, with insurance companies."

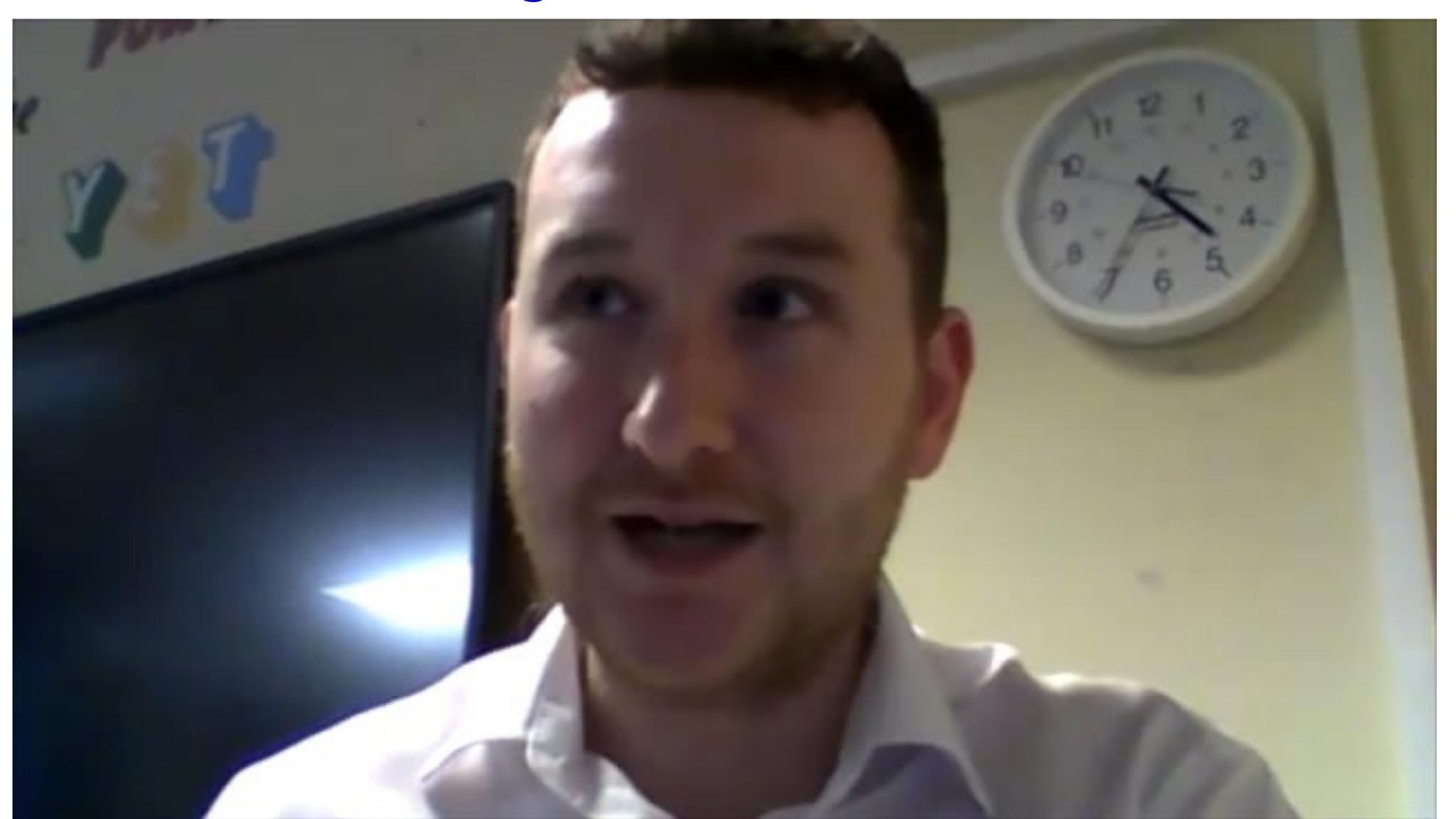
Aleyn Smith-Gillespie, Director, Circular Economy and Business Model Innovation, the Carbon Trust.



Quality for the Right Item

Consumer-Citizen Insights







<u>Video link</u>



Quality for the Right Item

Consumer-Citizen insights

"I bought a cheap laptop charger off Amazon and it broke really quickly. Don't know if I should now buy a more expensive one that will last or just grab a cheap replacement that might break.

F, 24, Patent attorney trainee – living in Westminster with boyfriend and another couple.

"Every time my kids go back to uni I buy them a new kettle and toaster and they never seem to come back. They almost seem disposable and that doesn't sit well with me. In this generation with Greta Thunbergs, why are you leaving tents and throwing away kettles, these things should last 10 or 20 years..."

M, West Sussex, father of 3, homemaker

"My brothers Italian coffee machine - he bought it from a supplier in Italy, it's lasted over 5 years. We've got through several coffee machines since then. Used to just buy a Nespresso machine and it comes the next day. Don't bother to repair – just throw it out. I don't know who can fix it."

M, 21 lives at home now/UEA 2nd year student

I tried to find other alternatives online but didn't have any luck. I've filled out my details on the M&S website so hopefully I'll receive news that they're back in stock soon

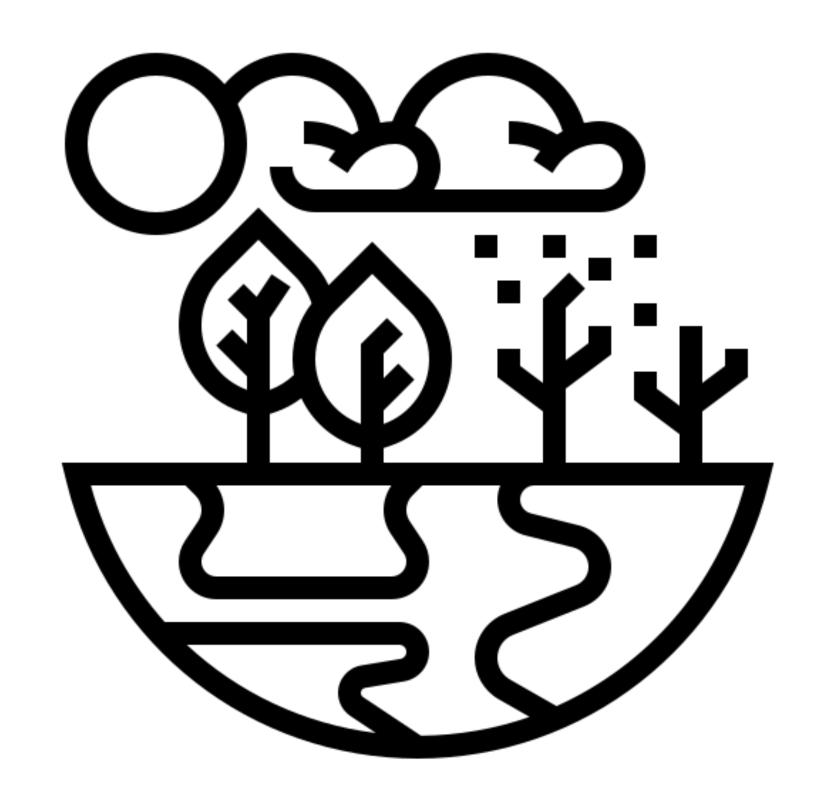
WhatsApp diary

Ok. Fingers crossed they're in stock soon! Was there anything in particular that made you rule out shirts from other places?

17:48 //

I've previously had/have shirts from these brands and trust the quality. I also like how they come in multipacks and I can't find this at other places





ENVIRONMENTALLY FRIENDLY A BONUS

Environmental concerns are often secondary to other drivers of buying behaviours like price, speed and quality. The cost of enviro-friendly products and limited info around them are big barriers.



Environmentally Friendly a Bonus

Stakeholder research highlights



Consumer Responsibility

- Consumers make purchasing decisions based primarily on considerations such as cost, convenience, functionality and trend, with environmental benefits an additional bonus rather than a prime motivator.
- Too much emphasis is placed on consumer responsibility, though it is important to understand their motivations. They also need to be seen not just as consumers, but as active citizens.

"When it comes to consumption patterns, very, very, very few people would actually base their purchasing decisions on circularity, emissions... so people will look at the price, people look at convenience, function, performance – not many people will buy a product, service just because it's circular, or low carbon."

Ke Wang, Knowledge Lead, Platform for Accelerating the Circular Economy (PACE).

"It is going to be more company led than consumers led... In terms of actually changing product offering and in business models."

Pauline Op de Beeck, Head of Sales Europe - Fashion sector lead, the Carbon Trust.

Knowledge Gap

- If consumers are considering the environmental impact of their purchases this is more often related to materials and waste rather than emission.
- There is an argument that consumers should not need to understand the technicalities of circularity for progress to be made.

"Consumers are only considering the kind of material waste and it's all stacking up in a big landfill somewhere. I think that's in their mind, not the kind of life-cycle assessment and the life-cycle footprint of these products."

Charlie Thorneycroft, Senior Change Designer, Forum for the Future.

"Do we really need to focus on explaining circularity to consumers – or should we focus more on designing the business model, product or services in a way that circularity is just intrinsic, embedded, and it still delivers consumers all the other benefits that an average consumer cares about."

Ke Wang, Knowledge Lead, Platform for Accelerating the Circular Economy (PACE).

Preaching to the Choir

- Whether defined as an average consumer or a mass-market consumer it seems that innovation needs to appeal to a wide demographic. Focusing on an environmentally committed minority is not the way to progress.
- There is a disconnect between what people say their intentions are and how the decisions they make when it comes to purchases- the so-called intention/ action gap.
- While there are some signs that younger generations are more open to change, that too should perhaps not be relied upon too much.

"I personally don't believe we can scale environmentally friendly solutions purely based on ideology, on what people believe."

Ke Wang, Knowledge Lead, Platform for Accelerating the Circular Economy (PACE).

"I think we are overestimating the motivation of this generation."

Anouk Zeeuw van der Laan, Research Associate, Imperial College London.



Environmentally Friendly a Bonus

Consumer-Citizen Insights







<u>Video link</u>



Environmentally Friendly a Bonus

Consumer-Citizen insights

"With a River Island order I might order more, get an extra size just to mean I qualify for free delivery. I try for Amazon for everything, needed some shoes and looked on Amazon automatically even though they don't have things like that"

M, 24, chemical engineer, lives with parents

"I want to know if sustainable clothes are durable longterm. I worry that they're not the best quality and if paying more for sustainable I wants to know it will last.... I shop using specific brands. Price is a big factor. Delivery time is important. I have lots of retail memberships"

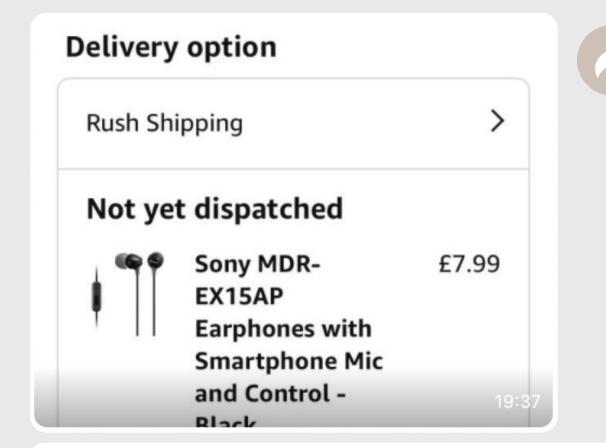
F, 23, Banking, lives with parents.

"Often eco-friendly stuff has a high price tag. It's almost a middle class luxury. To be environmentally friendly you have to be able to afford it."

M, 30, live with partner.



WhatsApp diary



Hi Ben, I purchased this pair of headphones today on Amazon as I have been using a clunky/bulky pair (also Sony) of headphones for my online video calls, which don't look so great and hide whichever pair of earring I have on!

Factors that influenced my choice:

- brand name (Sony), I deliberately searched it after seeing some unbranded items at great prices but not considering then for too long, as I didn't want to risk receiving a poor quality item
- the price was down from £15 to £7.99
- reviews (they weren't as good as another pair for £11.99 and a few of reviews mentioned a technical issue with them, but I reasoned that they were a bargain and I was going to use them exclusively for zoom calls and nothing else
- just finally wanting to get them as I have been meaning to do so for a very long time but kept forgetting





SAP® Leonardo



The discovery tools

This toolkit comprises several key Design Thinking tools that communicate and visualise the research findings. They are interactive tools that enable innovators to empathise with diverse user groups and explore the opportunity spaces.

These tools will allow innovators to explore the tensions that exist between people's motivations, frustrations and behaviours, helping reframe the opportunities for change that will ultimately lead to greater benefit for sustainability.



From themes to opportunity areas

These 4 sub-challenges take insights from the research and reframe them into open-ended opportunity areas. They were inspired by the 6 key themes identified across the electronics and fashion sectors.

Electronics Opportunity #1

How might we increase the uptake of pre-loved gadgets and devices?

- Big mistrust of second-hand electronics quality & longevity
- Acceptance that devices degrade over time and a lack of desire to hold on to things
- Less vintage appeal for classics



Persona: Cautious Cathy



Persona: Tech-Savvy Tara

Electronics Opportunity #2

How might we reimagine the repair experience so it becomes the default?

- Mending only happens on certain products that either cost a lot or are emotionally important
- If it's not financially beneficial, people will just go for a new product







Persona: Thrifty Theo

Fashion Opportunity #1

How might we encourage clothing purchasing with a long-term view?

- With a growing selling market, more guilt-free buying takes place
- People feel okay about buying more, knowing they can sell it onwards, without realising the full impact of those decisions
- Cheap clothing means that people don't see value in repair



Persona: Trend-Setter Tai

THEME EASY SELL, EASY BUY



Persona: Slow-fashion Sophia

Fashion Opportunity #2

How might we make choosing responsibly produced clothes a top priority?

- Quality, cost and convenience come first
- Environment is often not a primary consideration when buying
- Sustainable/re-cycled products seen as bonus and even when bought this is often because of other factors
- Lack of trust around sustainable fashion



STAYING ON TOP OF THE TRENDS



THEME
ENVIRONMENTALLY
FRIENDLY A BONUS

Persona: Trend-Setter Tai

Persona: Slow-fashion Sophia



Opportunities for personas

Each persona summarises the behaviours and motivations of a group of people, backed by research findings. They help bring research insights to life and enable us to empathise with real-world people.

Electronics Opportunity #1

How might we increase the uptake of pre-loved gadgets and devices?

- Big mistrust of second-hand electronics quality & longevity
- Acceptance that devices degrade over time and a lack of desire to hold on to things
- Less vintage appeal for classics





Persona: Cautious Cathy

Persona: Tech-Savvy Tara

Cautious Cathy



LOVE VINTAGE, FEAR SECOND-HAND



"I go for the best for important purchases."

Key conflict:

When it comes to second-hand electronics, I like the idea, but I'm anxious about quality.

Tech-Loving Tara



STAYING ON TOP OF THE TRENDS



"I'll always want the latest gadgets."

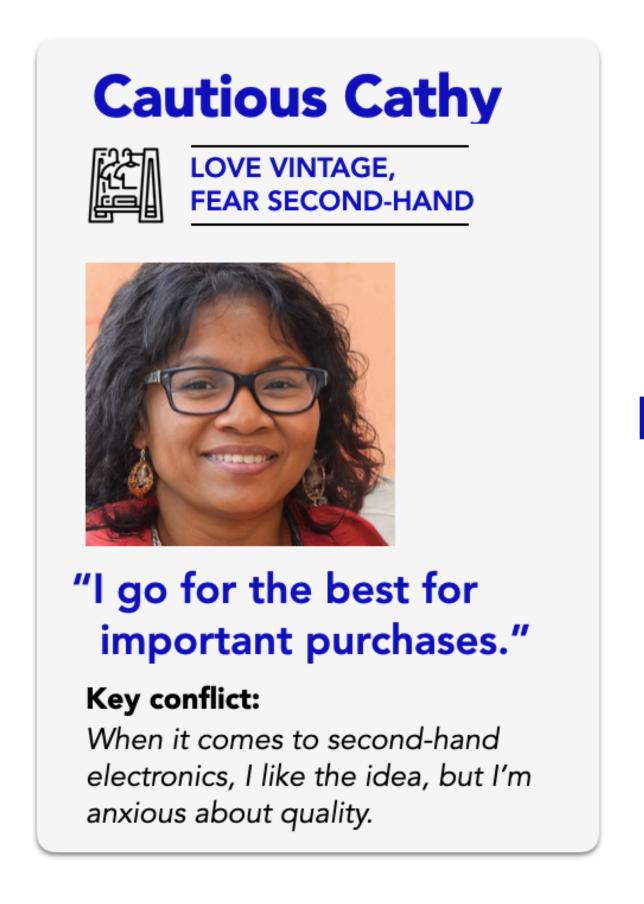
Key conflict:

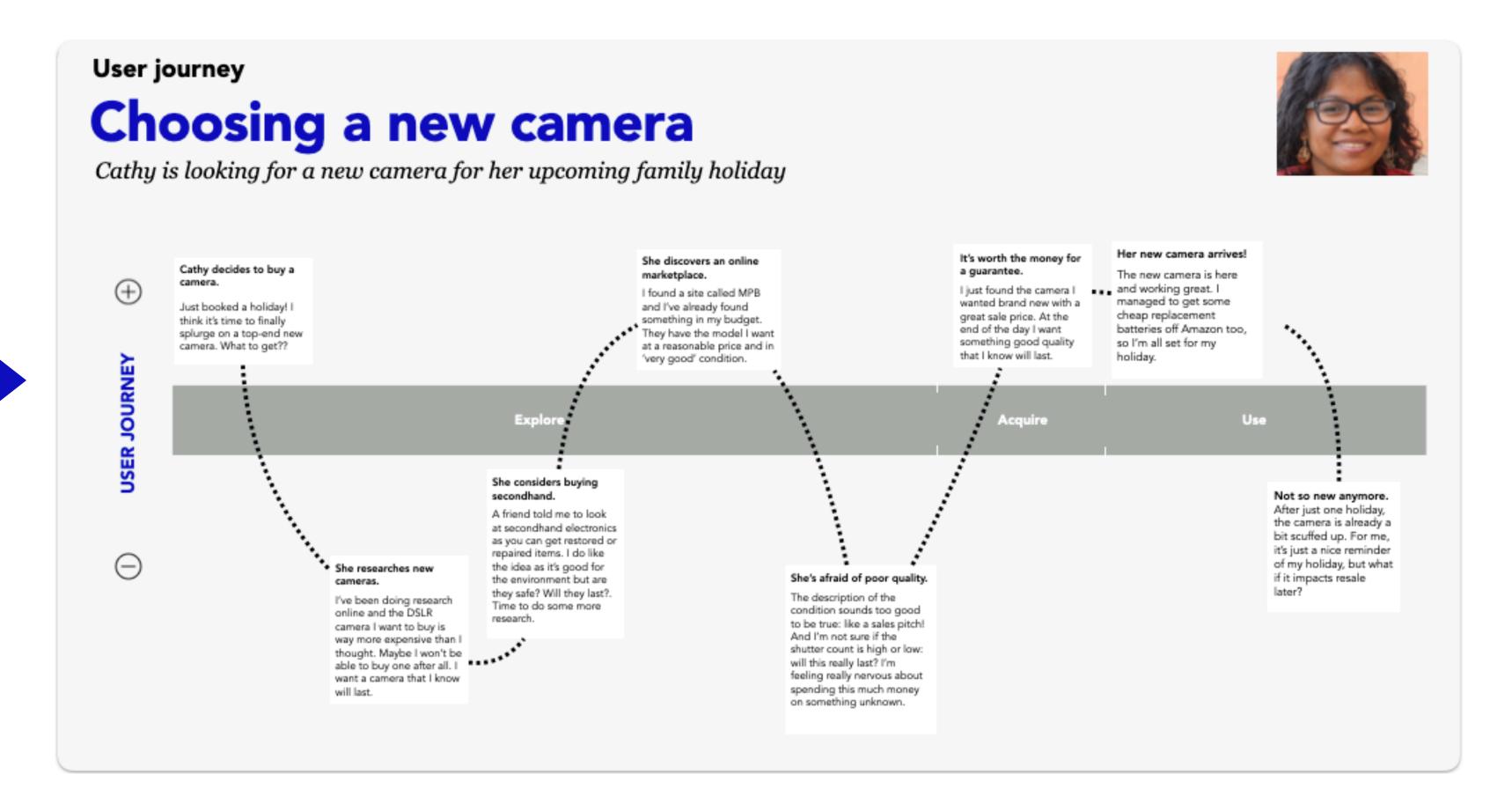
It makes me crazy when my phone doesn't perform as well as it did when it was brand new.



Personas and their experience

User Journey Maps are a visual representation of a current user experience revealed during the research. It helps visualise what's currently working and what's not from the point of view of the user, and it is used to identify opportunities to improve the user experience.







Persona

Cautious Cathy





"I go for the best for important purchases. I don't mind getting something cheap for smaller purchases."

Cathy will invest time and money when purchasing appliances and tech gear she cares about, but is less fussy when it comes to less exciting, everyday buys

- 44
- Financially secure, demanding job
- Living with partner in suburban Kent

Motivations

• If I'm going to spend the money, I want high-performing devices and so do my due diligence before every major purchase. What else is the Internet for?!

Frustrations

 I'd buy more pre-owned electronics if I could be sure they'd been looked after or carefully refurbished. If I had a guarantee they could be repaired if I had any problems, that would be wonderful!

Behaviours

- Build and durability are always front of my mind when it comes to the things I care about: my coffee maker, my white goods, and I always want a good guarantee. But if a kettle matches my kitchen and it's £15, why not? This just means I can guiltlessly replace it if I redecorate.
- Extras like accessories or a decent warranty being thrown in often seal the deal when I'm shopping around
- When it comes to secondhand electronics, I like the idea, but I'm anxious about quality
- Cheap tech accessories: You pay such a premium for branded headphones, chargers and cables. I'd rather just grab cheap ones on Amazon, even if it means having to replace them once a year.

- I've been choosing a new camera for my upcoming holiday. I know they're expensive Buying: but I'm willing to spend to get that quality
- Preferred outlets: John Lewis, Currys, Amazon
- Clearing car boot dump it i

Time for a big clean out. I'd like to do a car boot but don't have the time, so the dump it is

Referred outlets: FB Marketplace, CEX, dump

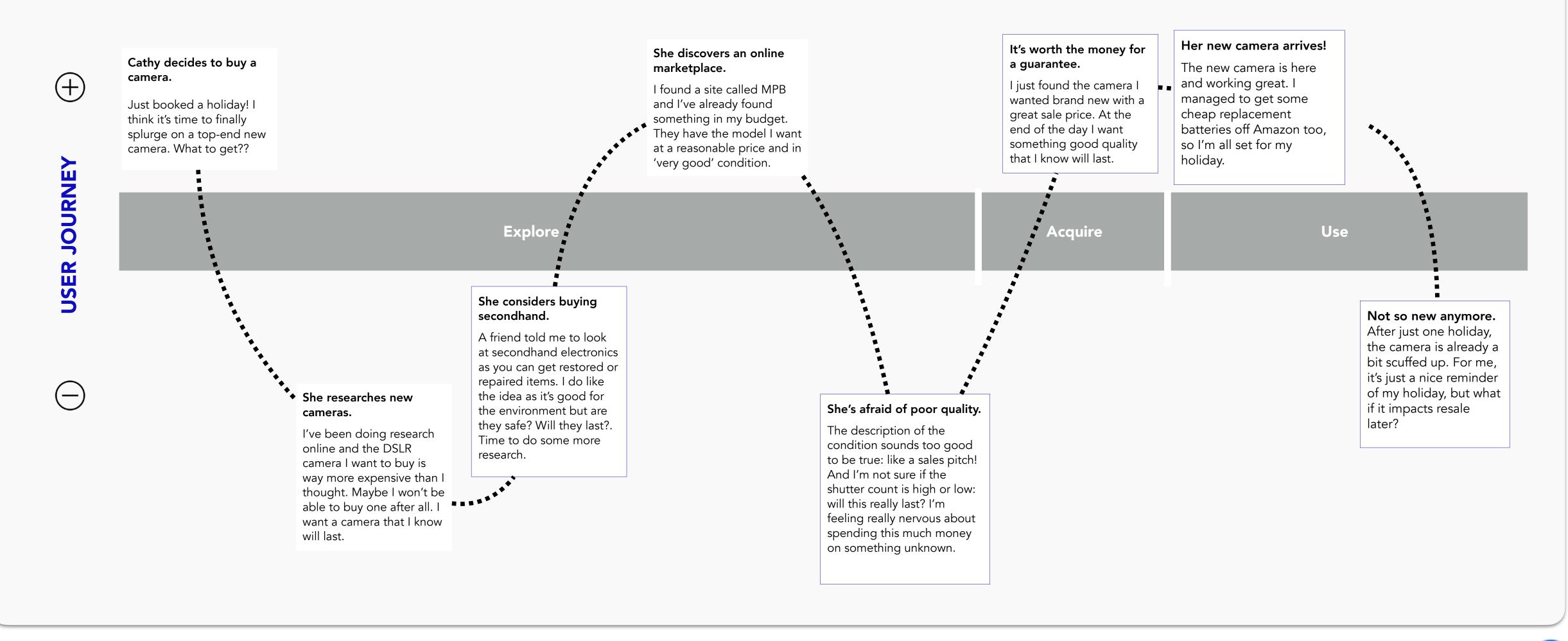


User journey map

Choosing a new camera

Cathy is looking for a new camera for her upcoming family holiday

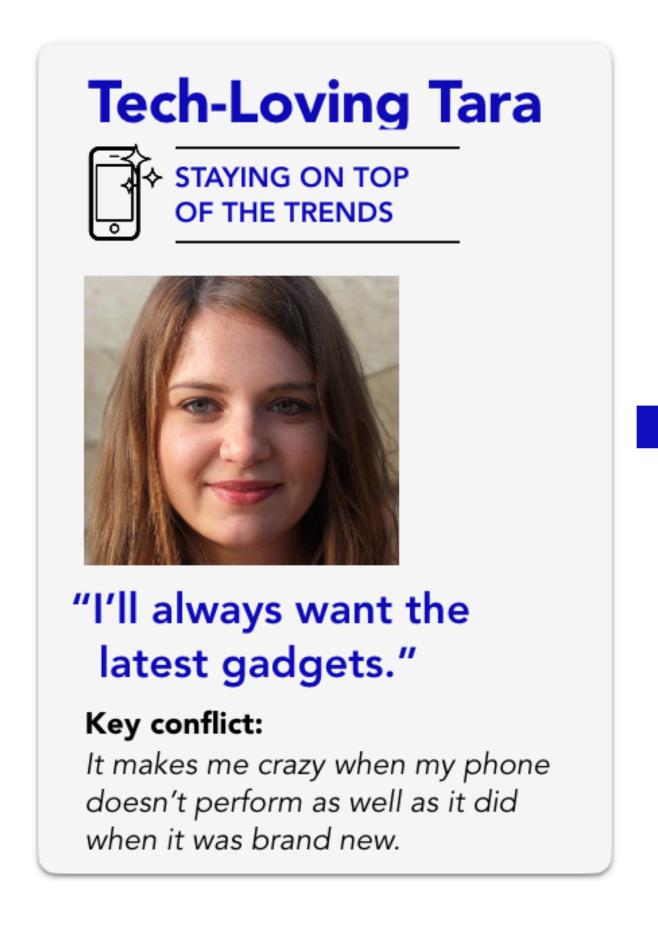


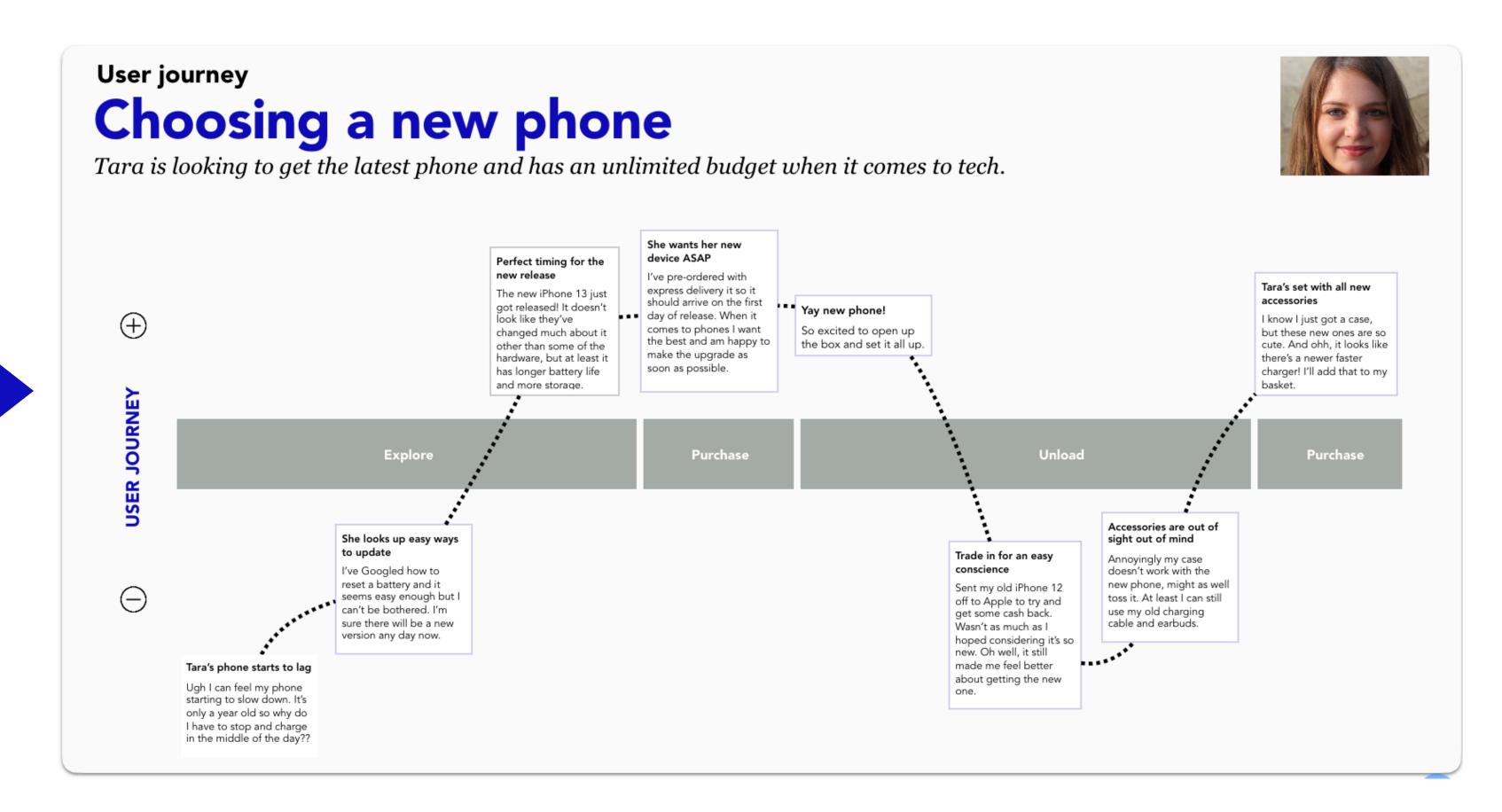




Personas and their experience

User Journey Maps are a visual representation of a current user experience revealed during the research. It helps visualise what's currently working and what's not from the point of view of the user, and it is used to identify opportunities to improve the user experience.







Persona

Tech-Loving Tara





I'll always want the latest gadgets."

Tara spends a lot of her free time researching cutting edge tech gear, it matters to her a lot to keep up with the latest features

"For as long as technology is moving this quickly,

- 28
- Professional for last 5 years
- Living with friends in Yorkshire

Motivations

• It's part of my identity to have the latest gear. Tech becomes retro quickly these days: I can feel it if my phone doesn't have the latest operating system!

Frustrations

 It makes me crazy when my phone doesn't perform as well as it did when it was brand new. I need my battery to last all day.

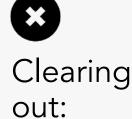
Behaviours

- I love to have new tech, from phones to laptops. It gives me a buzz to see the latest development in tech and I get pretty restless when I don't have the latest upgrade. I feel like I'm missing out!
- I am happy to spend when it comes to tech. It's usually the case that if you pay for the best, you get the best.
- I know constant new tech is a bit wasteful so I make sure to sell or trade-in old electronics to give them a second-life after me. It's nice knowing that's an option, and it eases my conscience about replacing my products so often.
- I watch a lot of tech reviews on YouTube and do my research before I buy. I think of it as a hobby.



I'm about to upgrade to a new HDR OLED TV, and will be getting the new iPhone soon"

Preferred outlets: Apple Store, Currys, Amazon



I'll be selling my current TV, it's 2 years old. Wondering about trading in my phone to upgrade to the new release

Preferred outlets: Apple, Gumtree, Facebook Marketplace, CEX

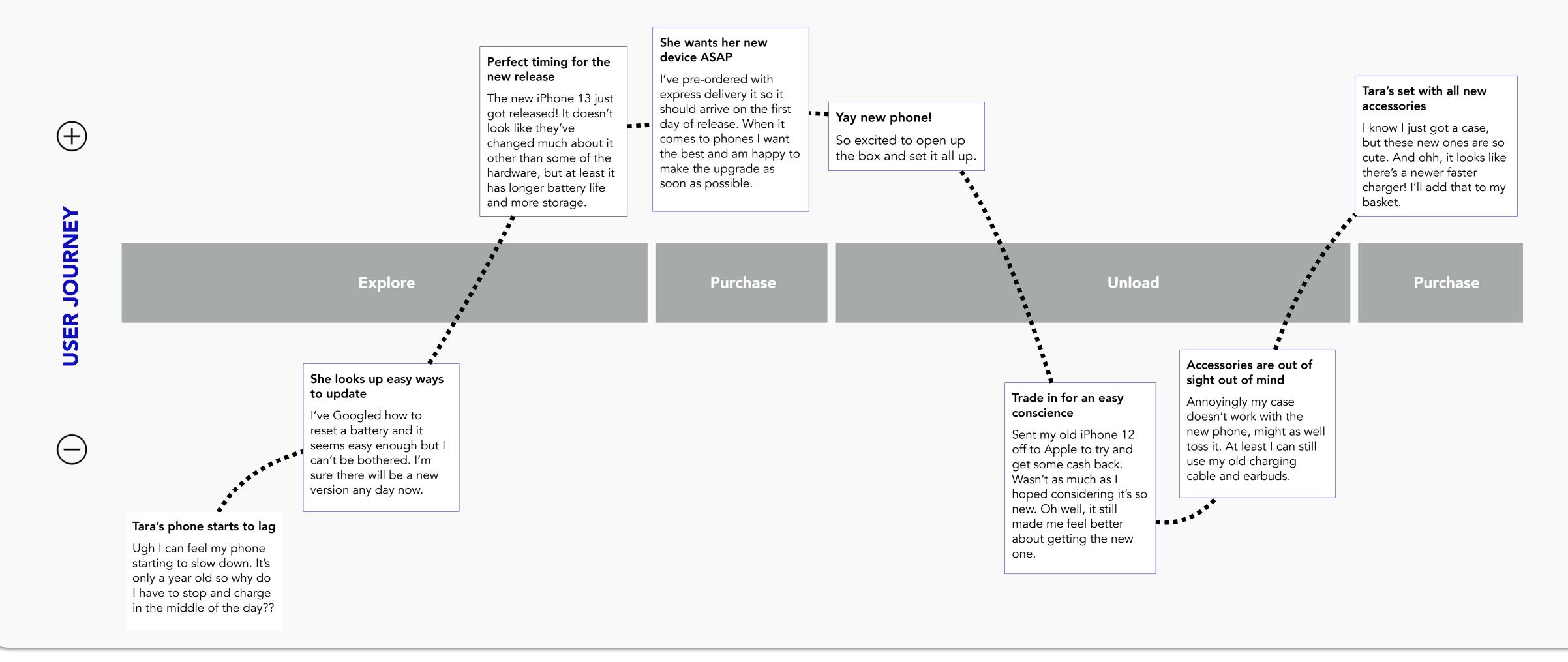


User journey map

Choosing a new phone

Tara is looking to get the latest phone and has an unlimited budget when it comes to tech.







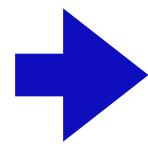
Personas and their experience

Each persona summarises the behaviours and motivations of a group of people, backed by research findings. They help bring research insights to life and enable us to empathise with real-world people.

Electronics Opportunity #2

How might we reimagine the repair experience so it becomes the default?

- Mending only happens on certain products that either cost a lot or are emotionally important
- If it's not financially beneficial, people will just go for a new product





Persona: Sentimental Simon



Persona: Thrifty Theo

Sentimental Simon



QUALITY FOR THE RIGHT ITEM



"I like objects that were built to last."

Key conflict:

I like to try and get things repaired, but it's not easy to always find people with the right skills.

Thrifty Theo



MEND FOR THE **RIGHT MONEY**



"I'm always looking for ways to save money."

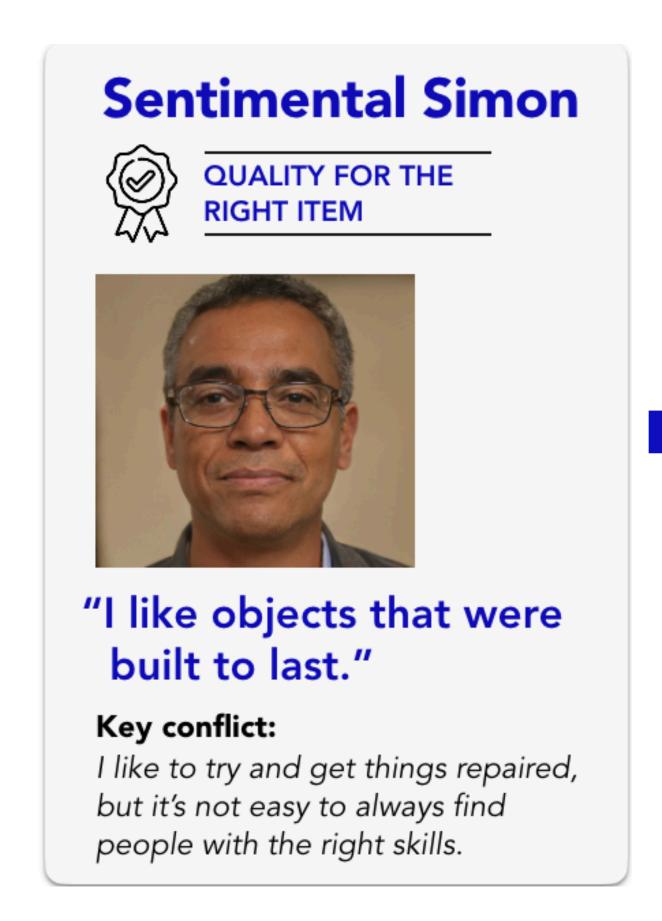
Key conflict:

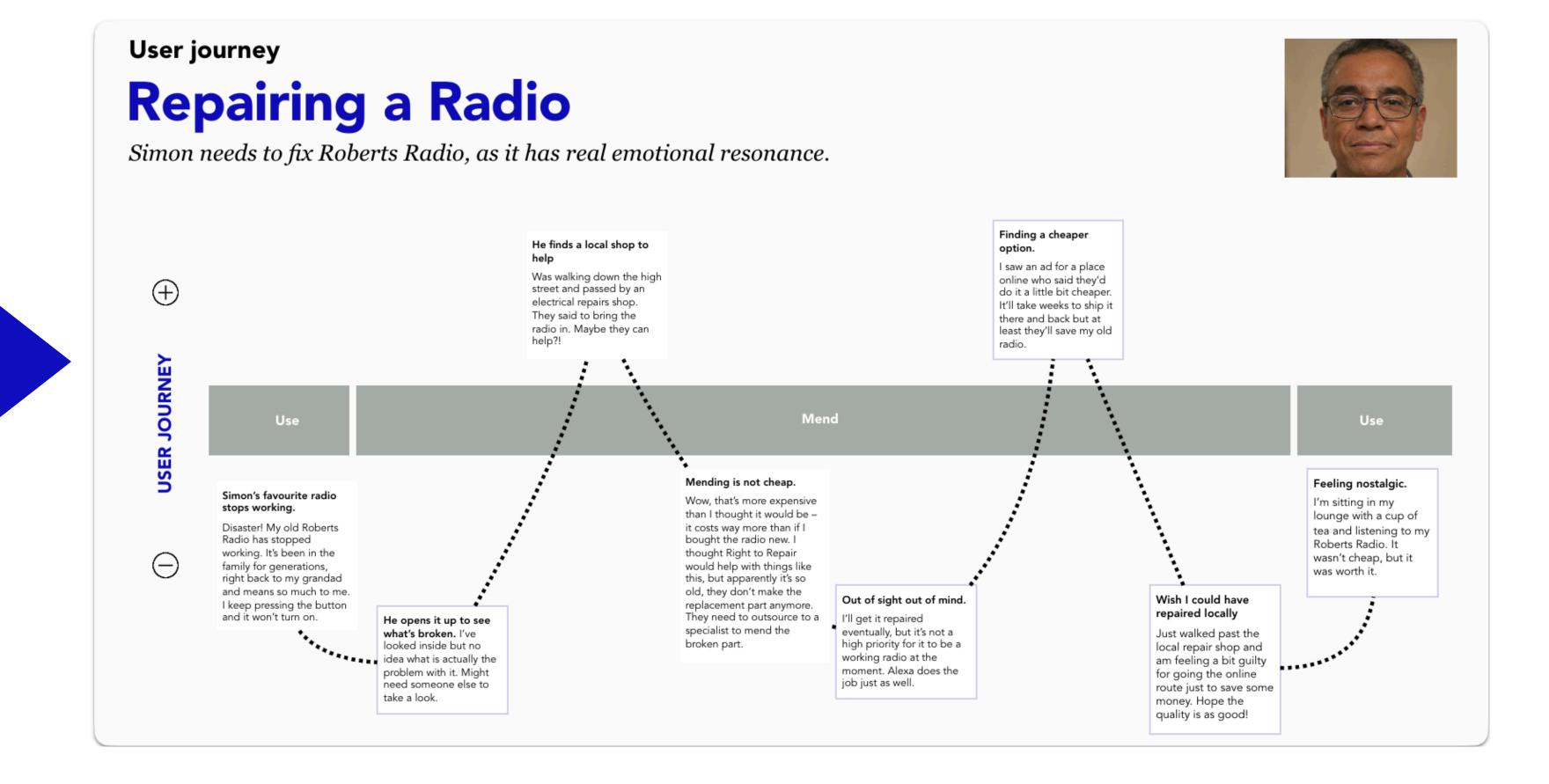
I like trying to fix things and hate when I have to take them to a specialist repair shop.



Personas and their experience

User Journey Maps are a visual representation of a current user experience revealed through the research. It helps visualise what's currently working and what's not from the point of view of the user, and it is used to identify opportunities to improve the user experience.







Persona

Sentimental Simon





"I like objects that were built to last. Some items in my house I've had for decades."

Simon likes to buy quality items that he knows will last a long time. If they ever do break down, he knows there are people who can fix it.

- 57
- Financially secure, semi-retired
- Living in rural Scotland, parent to 2 kids at university

Motivations

• I'll spend more money on something I know will last a long time. I will take the time to care for things that are good quality.

Frustrations

• Antique parts that are impossible to track down.

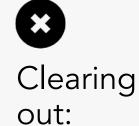
Behaviours

- I like to try and get things repaired, but it's not easy to always find people with the right skills.
- Short of space: I've got old clothes and appliances, I tend to keep hold of things I don't know what to do with.
- Novelty purchases: I do sometimes jump on the new tech bandwagon. My kids just talked me into buying an Amazon Alexa. So cheap and just one click for it to arrive the next day.



My daughter's headphones have broken. I'm going to buy her a pair that lasts this time round.

Preferred outlets: Amazon, eBay



My youngest son finished school, so I'm giving away his uniform as I know it still has many years left in it.

Preferred outlets: FB Marketplace, Freecycle, Gumtree

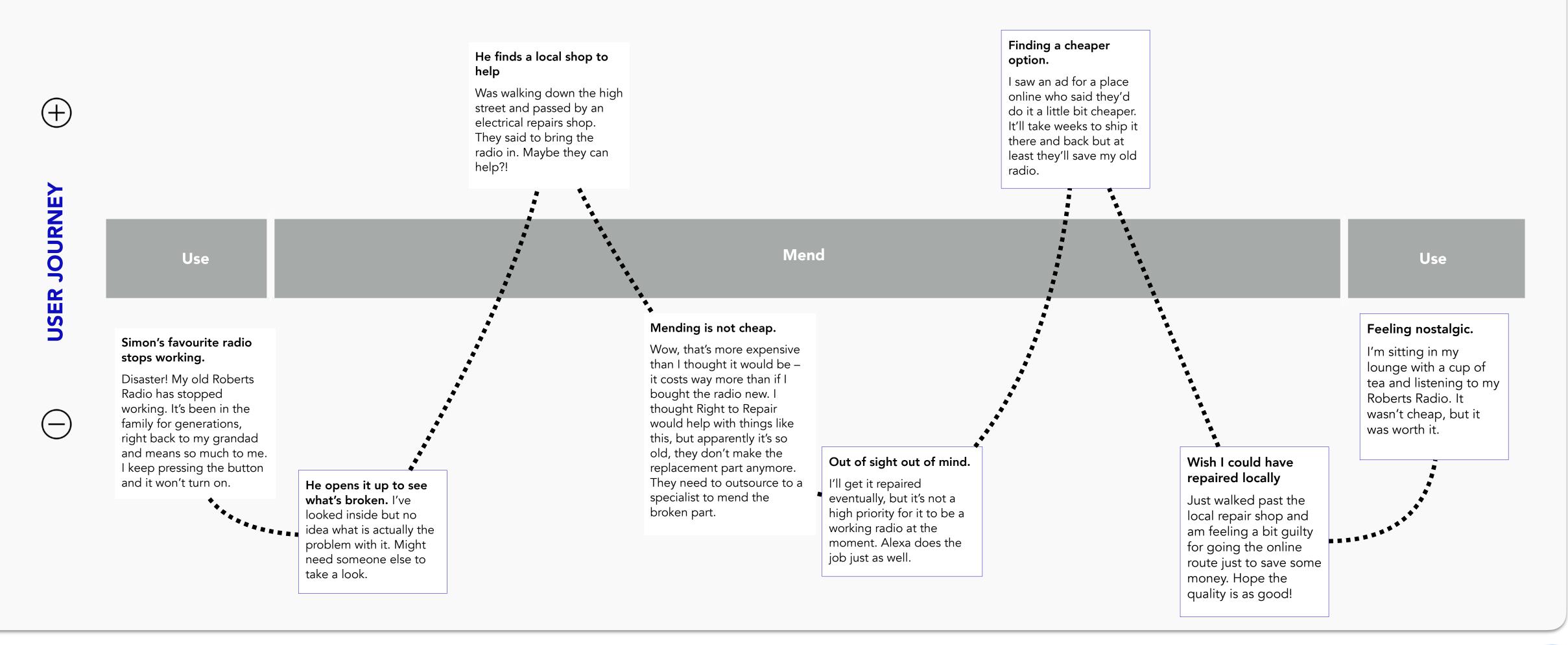


User journey map

Repairing a Radio

Simon needs to fix Roberts Radio, as it has real emotional resonance.

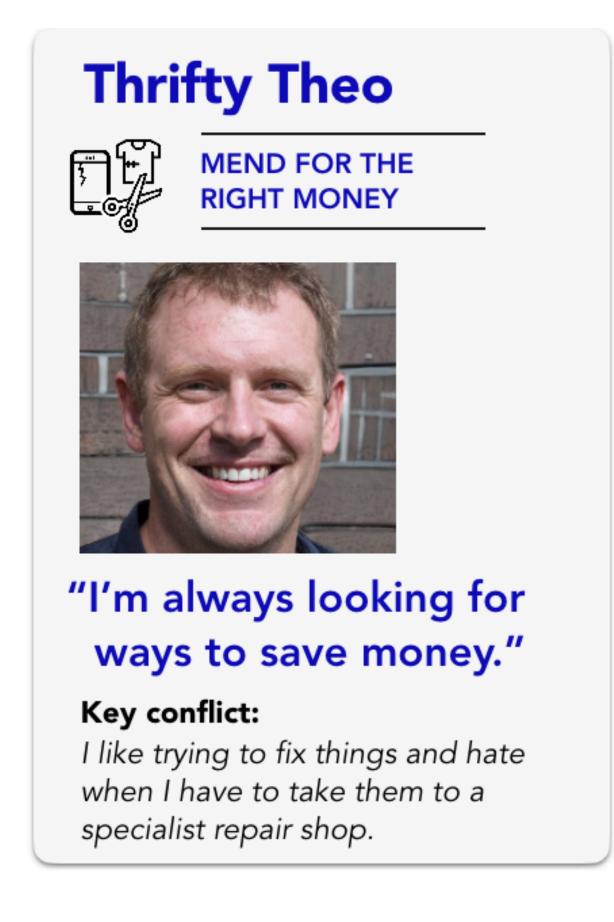


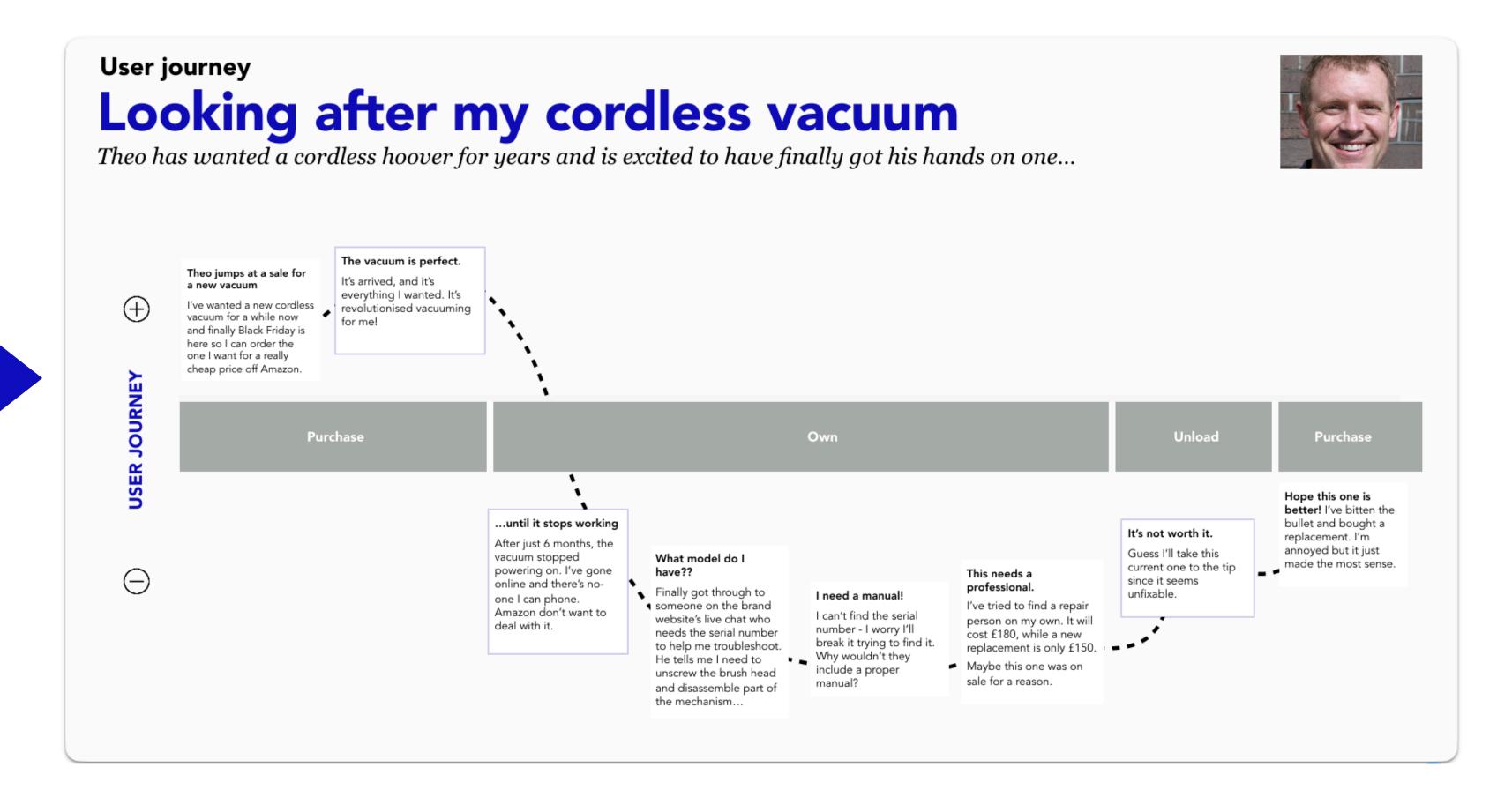




Personas and their experience

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Persona

Thrifty Theo





- 38
- On a budget
- Living in London with young family

Motivations

 I love bargains and this is the main reason I visit car boots and use FB Marketplace – you can get 5 nearly-new items for the price of 1 thing from a shop!

Frustrations

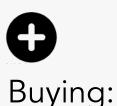
• Products that require being taken to a specialist repair shop – always so expensive!

"I live on a budget so I'm always looking for ways to save money. It helps that I like trying to fix things!

When it's a no-brainer for Theo and his family, Theo will always try and keep things running for as long as possible.

Behaviours

- Putting the work in: I don't mind travelling or having to wait for my items
 it's part of the fun!
- Black Friday: I'm careful with my money and do most of my shopping in sales, whether on or offline.
- New for big purchases: When it comes to items that come at a big expense like white goods, I'm more comfortable buying new: I just can't afford to take a risk.
- I like to hold on to things and keep them going when others would give up.



I've been following a new TV on FB for a while. It looks like the price has dropped so I'll sort a viewing

Preferred outlets: FB Marketplace, Car Boot, eBay

Clearing

Planning to fix up my jeans later this week so no need to buy a new pair.

out:

Preferred outlets: Clothes bank, charity shop, FB Marketplace

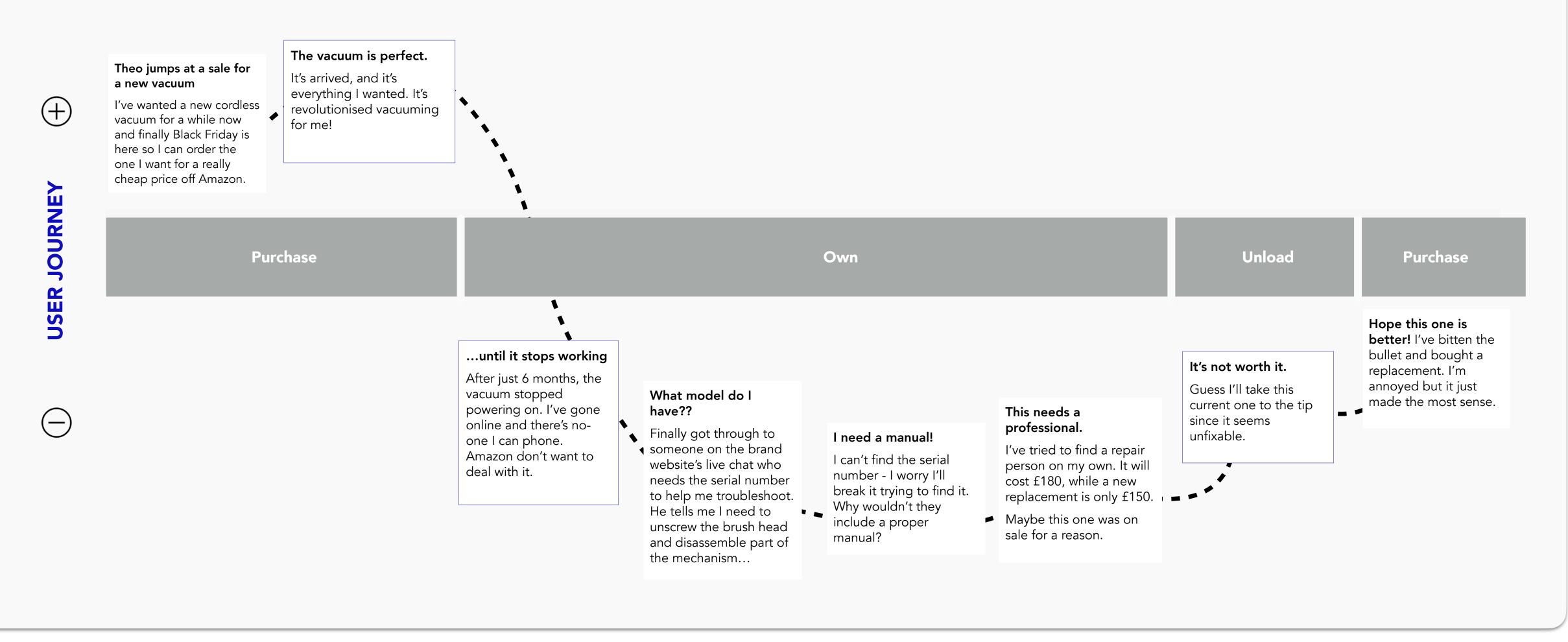


User journey map

Looking after my cordless vacuum

Theo has wanted a cordless hoover for years and is excited to have finally got his hands on one...







Opportunities for personas

Each persona summarises the behaviours and motivations of a group of people, backed by research findings. They help bring research insights to life and enable us to empathise with real-world people.

Fashion Opportunity #1

How might we encourage clothing purchasing with a long-term view?

- With a growing selling market, more guilt-free buying takes place
- People feel okay about buying more, knowing they can sell it onwards, without realising the full impact of those decisions
- Cheap clothing means that people don't see value in repair



THEME
EASY SELL,
EASY BUY

Persona: Trend-Setter Tai



Persona: Slow-fashion Sophia

Trendsetter Tai



EASY SELL, EASY BUY



"Fresh new clothes make me feel good."

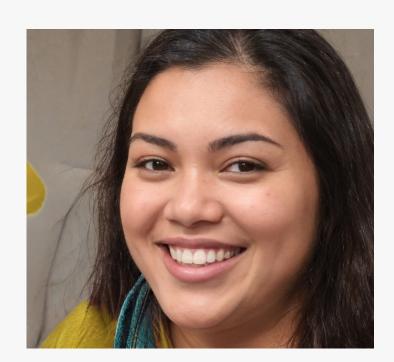
Key conflict:

I don't spend much on pieces which means I can buy clothes more often.

Slow-Fashion Sophia



QUALITY FOR THE RIGHT ITEM



"I'm trying to balance keeping costs down."

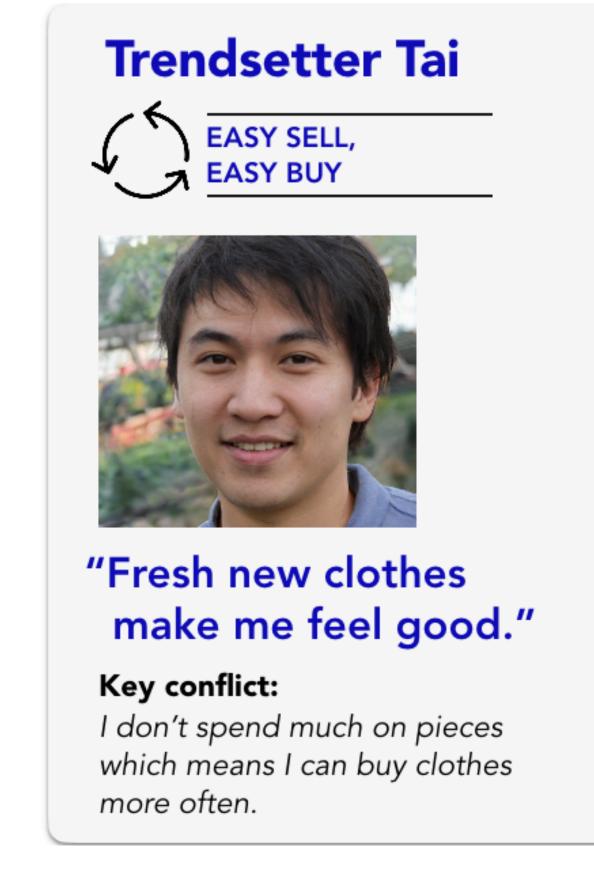
Key conflict:

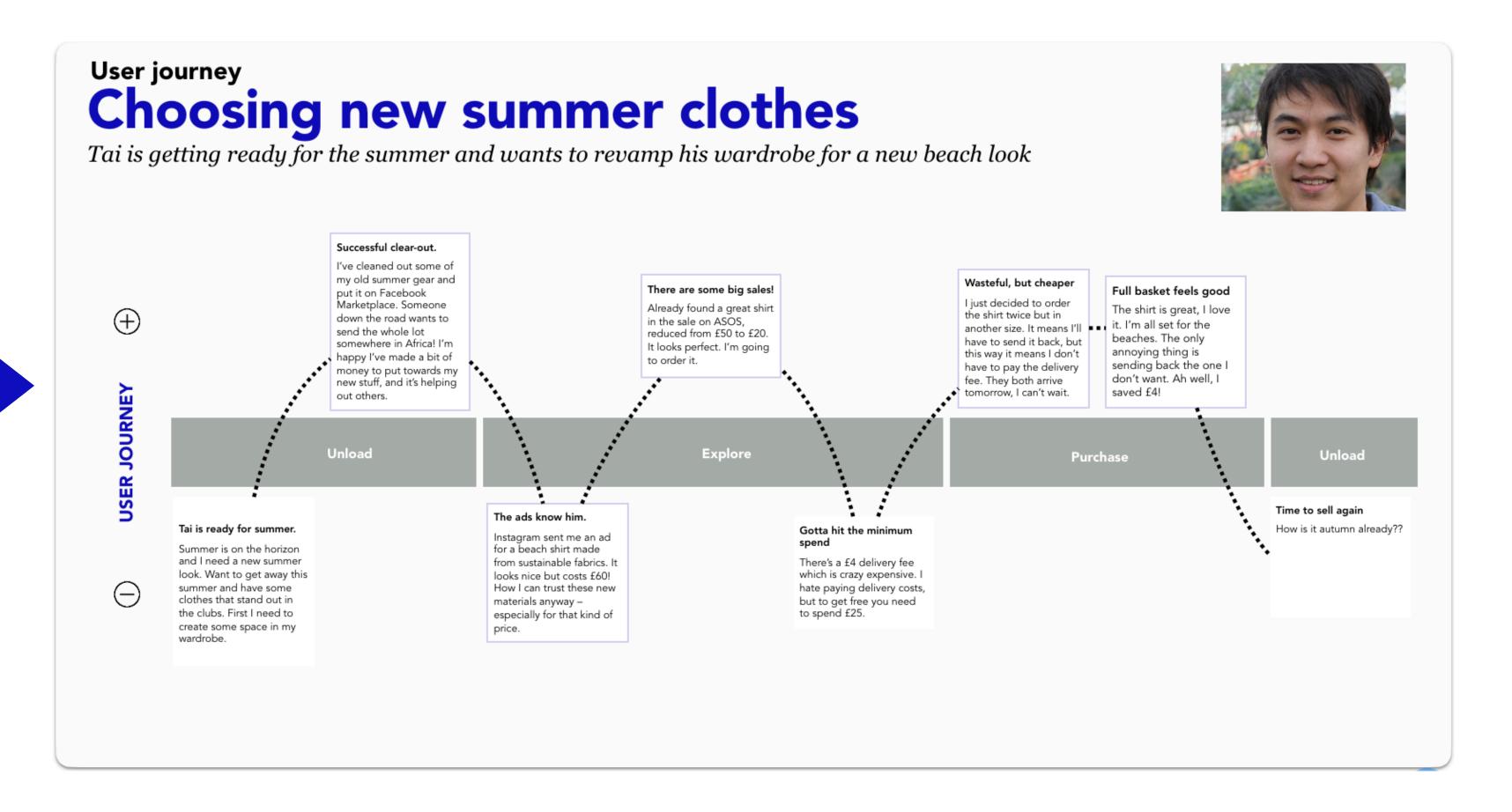
It makes me crazy when my phone doesn't perform as well as it did when it was brand new.



Personas and their experience

User Journey Maps are a visual representation of a current user experience revealed during the research. It helps visualise what's currently working and what's not from the point of view of the user, and its used to identify opportunities to improve the user experience.







Persona

Trendsetter Tai





- 29
- Building a career
- Living with his girlfriend in Manchester

Motivations

 Brand new with tags: I'm set in my ways, I'm not a "vintage" type of person. Clothes are lucky if they stay in my wardrobe for 6 months.

Frustrations

• You've got to be rich to be eco-friendly. I'd like to buy more sustainably produced clothes, but it's not accessible on my budget.

"Fresh new clothes make me feel good. Fashion is a huge part of who I am and second hand just isn't "me"."

Tai is set in his ways and associates buying new clothes with looking and feeling good. He refreshes his wardrobe every season.

Behaviours

- Convenience: I've been making more impulsive purchases since the lockdowns. I always choose Express Delivery and return half of my order after trying everything on. Sometimes if I want free postage I order things I don't want, just to qualify for free postage and then I send them back for free once everything has arrived.
- Buys cheap and often: I don't spend much on pieces which means I can buy clothes more often. I don't feel that bad as I just take things to charity shops when I'm bored of them, so they don't go to waste. Other people can give them a second life after me.

Buying:

Holiday season is coming up, so I'm looking to get some new shirts and shorts to make a proper splash this summer

Preferred outlets: H&M, boohoo, Asos, Armani

Clearing out:

I've got a load of old clothes I've got to get rid of, so I'll take a big bag to the charity shop near my flat.

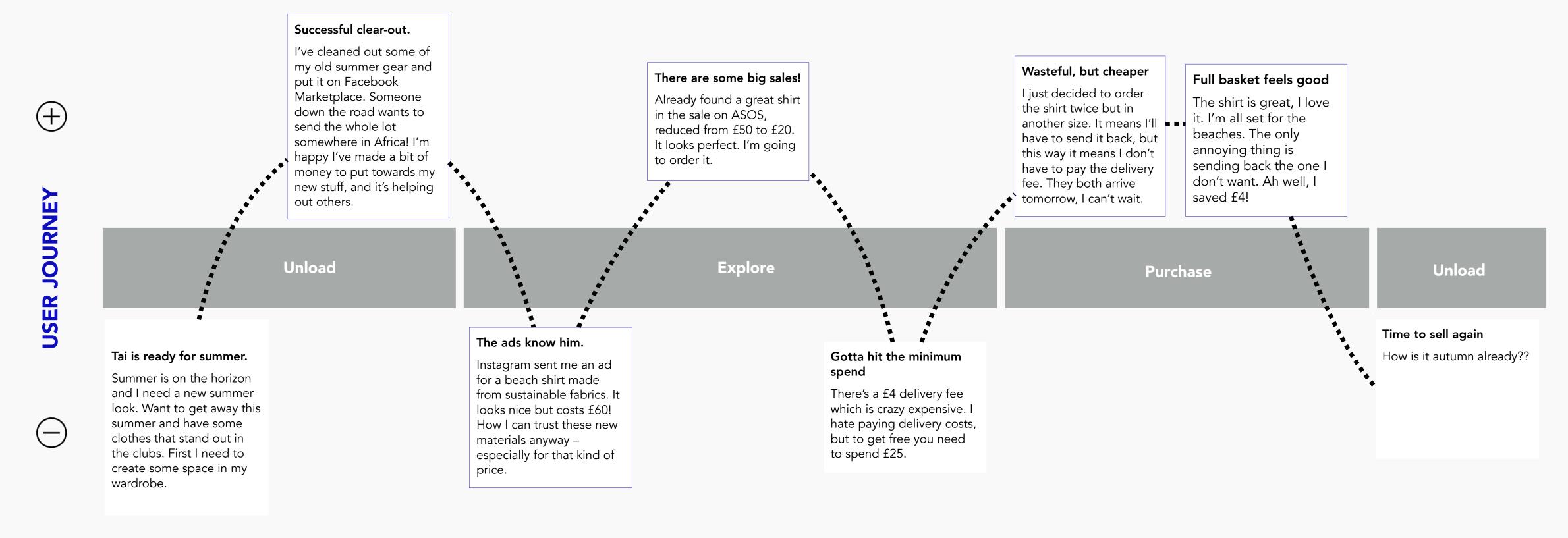
Preferred outlets: charity shops, clothes banks, the bin



User journey map Choosing new summer clothes

Tai is getting ready for the summer and wants to revamp his wardrobe for a new beach look

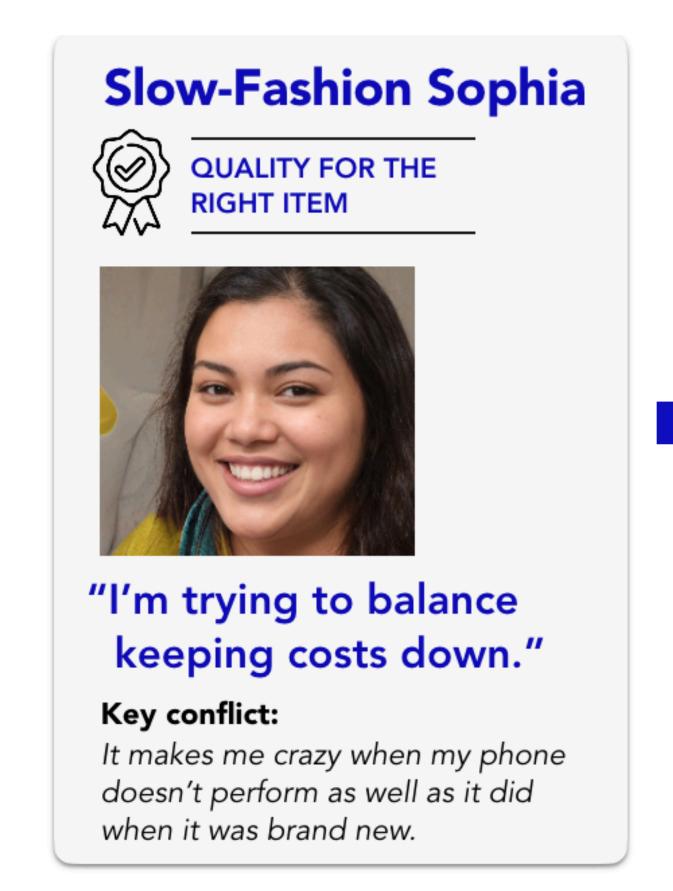


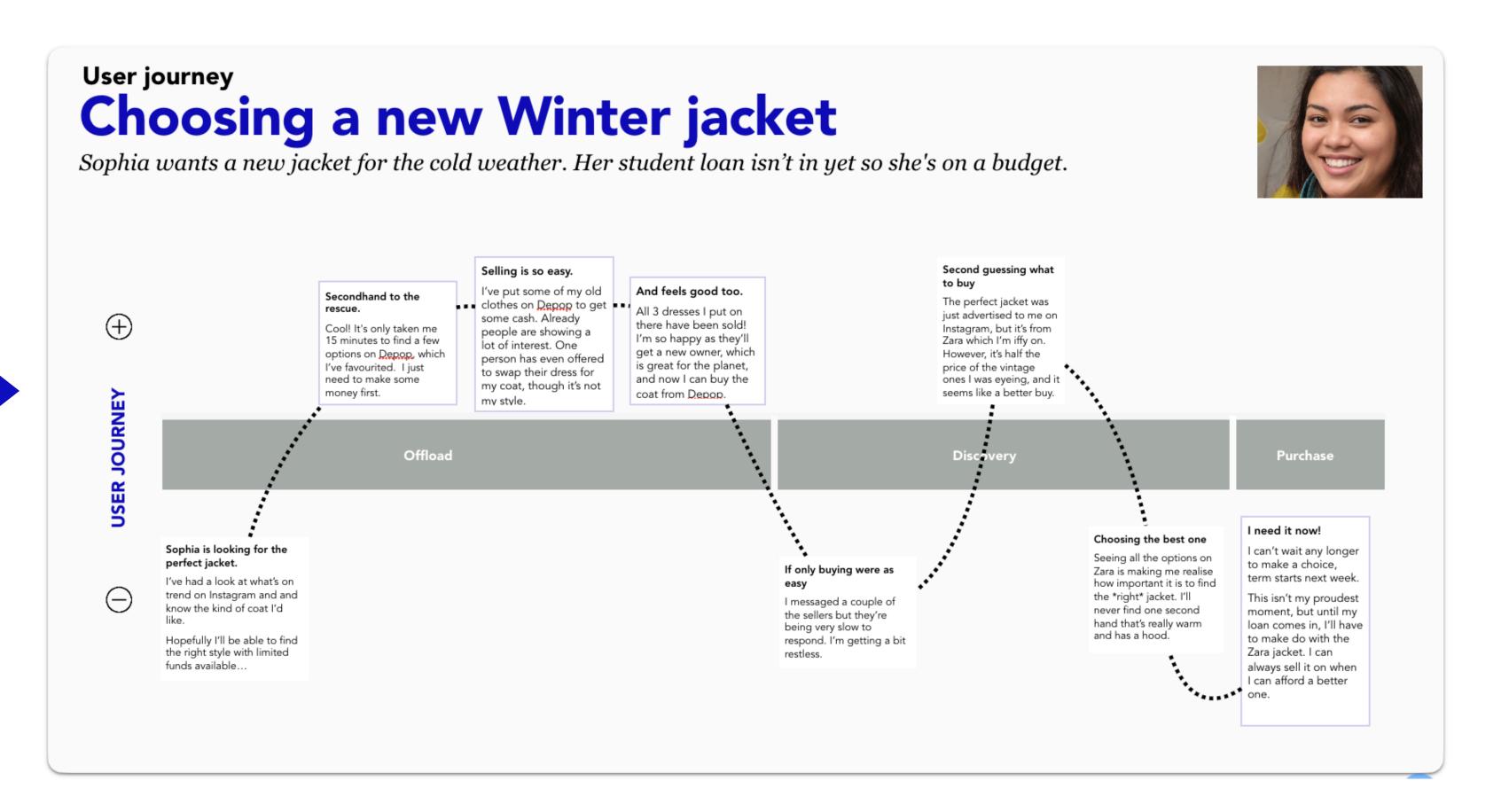




Personas and their experience

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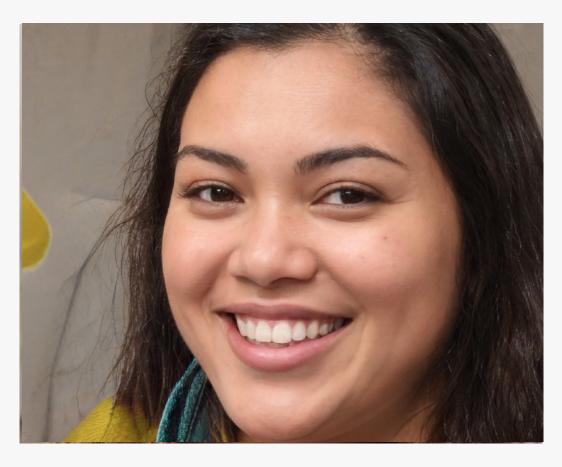




Persona

Slow-Fashion Sophia





- 23
- Student in flat share, Birmingham

Motivations

• Step away from fast fashion: I've been hearing more and more from my friends and on social media about the cost of the fast fashion industry and I don't want to encourage such a damaging industry.

Frustrations

• I'd like to repair more but it takes ages and is so expensive! Resell is just better all round.

"I'm trying to balance looking good and keeping costs down with looking after the planet."

Sam and her friends have clued up on the cost of fast fashion over the last 2 years and are making an effort to change their habits.

Behaviours

- I've recently been avoiding some online stores that were once my "go-to" s and using Depop or Vinted instead where I can. You can't get everything vintage, but it works for most things.
- If I want something special for a party, I'll still shop in the same old stores. Vintage doesn't always fit properly and some things are better when new.
- Sustainable materials: some of my favourite brands now have sustainable collections using materials like Lyocell, I'm interested in exploring this.
- My flat is tiny so I have keep selling to make the space. I love having platforms like Depop as it means I can always get rid of old things that I don't want anymore and buy new without damaging the environment.
- I like the idea of renting clothes, but worry about getting the right fit. The way I buy and sell on Depop is kind of like renting anyway.
- I do small repairs myself but for anything major I prefer to just sell and get something fresh.

I'm eyeing up a new winter jacket on Depop, however if that fails, I've seen a good Buying: alternative I could try from Zara

Preferred outlets: Depop, Asos, Zara, H&M

Clearing out:

I've set aside Sunday morning for a big Depop upload, hopefully I can put the money towards the winter jacket

Preferred outlets: Depop, eBay, charity shop

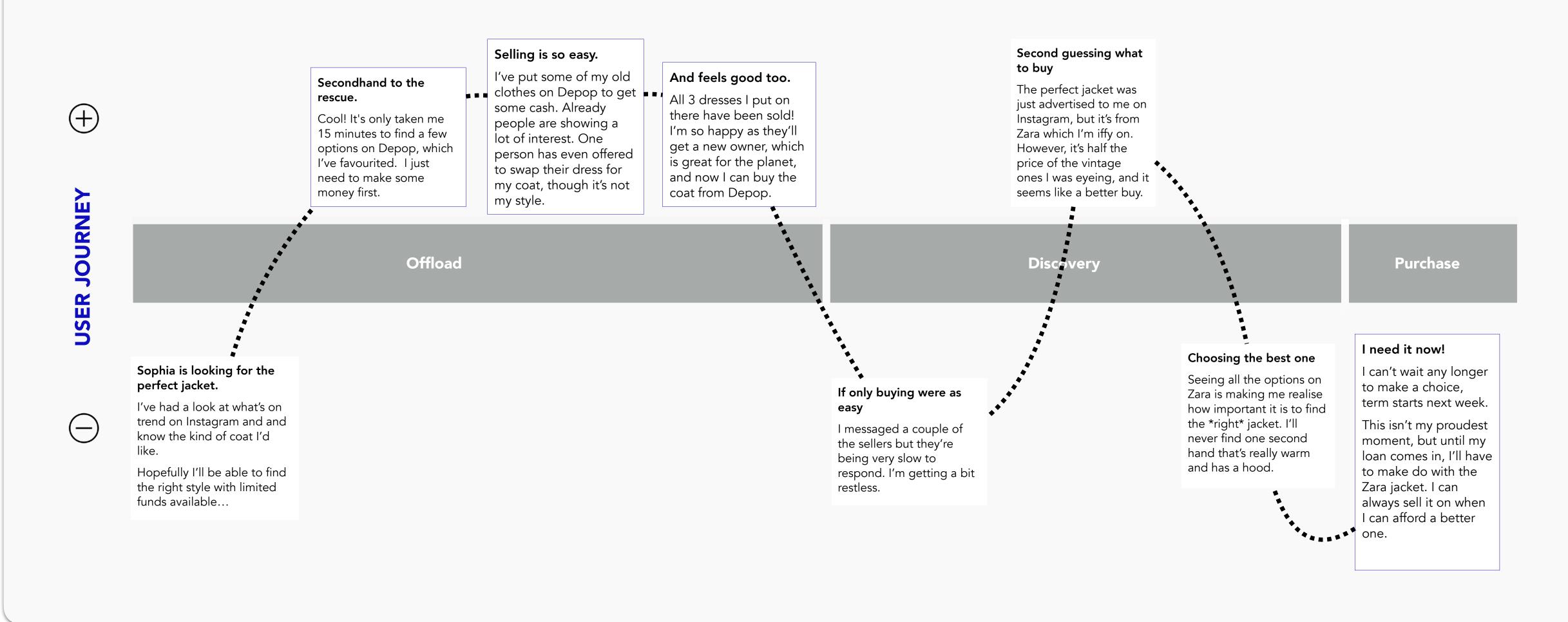


User journey map

Choosing a new Winter jacket

Sophia wants a new jacket for the cold weather. Her student loan isn't in yet so she's on a budget.







5. Appendix

Stakeholder research

1. Introduction

A key part of the research input for the Design Sprint Camp is a series of interviews carried out with stakeholders, to provide detailed and specialist insights into the subject. In the first instance these were used to develop themes, help shape the ethnographic research, and focus on a challenge question. The interviews were semi-structured, drawing on each contributor's area of expertise. The findings are synthesised here with some observations on broad concepts, followed by sections that follow the headings which emerged from the ethnography. The intention is not to provide an exhaustive analysis but to provide some guidance and to provoke debate.

2. General concepts

Sustainable business models

Many definitions of sustainable development are based on an interpretation set out in the World Commission on Environment and Development report "Our Common Future", also known as the Brundtland Report. It defines it as

"...development that meets the needs of the present without compromising the ability of future generations to meet their own needs."

Although the definition goes back to the late 80's its simplicity still resonates. "That's the broad brush, and I tend to find that rings a bell with people," says Julie Hill, Chair of WRAP, a charity working with industry, citizens, and government. "The other phrase we tend to use is not living beyond our limits. Not doing business that goes beyond our environmental limits." For business that also means taking responsibility, not just for its direct activities, but those upstream and downstream as well, along its entire supply chain. "I would say that sustainable business is a business that conducts itself in both an environmentally and socially responsible way at its core business strategy," says Deborah Drew, Social Lead, Business Centre, at the World Resources Institute.

"It really has an eye on where it's going in future, in terms of its projected growth and its projected resource use."

While sustainability is often seen primarily through the lens of environmental parameters, businesses have far more complex obligations, as is clear from the 17 <u>Sustainable Development Goals (SDGs)</u> set out by the United Nations, which include health, poverty, education, and gender equality. Many corporate sustainability plans and reports struggle to balance these, and for businesses with long and complex supply chains the different targets may seem to conflict. There is also an important and live debate around whether any individual target should be prioritised. For the current challenge, a key measure of success is a real and demonstrable reduction of carbon emissions. It is, after all, set out as a climate challenge. The urgent need for deep and rapid emissions cuts will not be rehearsed here. The science is clear, as set out in the <u>latest IPCC assessment</u>. However, a justifiable focus on climate and emissions reductions cannot mean that other SDGs are ignored or overridden.



Sustainable business models - cont.

Another common sustainable business model is based on the three pillars or overlapping circles of People, Planet, Profit, developed by John Elkington, also referred to as the Triple Bottom Line. While it seems self-evident that a sustainable business needs to make money- if it fails, it serves no purpose- some of our interviewees felt that while still valid, the model is no longer sufficient. "It's very much framed in sort of do less harm, do bits of good where you can," says Charlie Thorneycroft, Senior Change Designer at Forum for the Future. "We need to start looking beyond that to what a kind of regenerative business model would actually look like." That, he argues, means businesses must be pushed to ratchet up ambition.

It also means that while companies are developing net zero plans and setting science-based targets, that work needs to look beyond individual products and processes to re-examine whole business models and systemic change. It is a process that has begun, but still has a considerable way to go, says Laura Timlin, Director of Business Services at the Carbon Trust. "I don't think really there's many companies that could say they have looked at circular economy, waste, climate change, and really thought about how does their business model change in future? I think that's the bit that we're starting to work on."

Until relatively recently change towards more sustainable business models in fashion has been led by companies wanting to establish themselves as pioneers, says Pauline Op de Beeck, who leads on sustainable fashion for the Carbon Trust. "They were definitely the companies that see themselves as sustainability leaders and they wanted to be among the first who did this," she says. Now though, many of the most recognisable and established fashion brands are moving in the same direction, signing up to sector initiatives such as G7 Fashion Pact, the Fashion Industry Charter for Climate Action, Textiles 2030, and the Circular Electronics Partnership, which recognise that only collective action can bring about meaningful change. Those commitments are now starting to be turned into action, says Pauline Op de Beeck. "There is always a gap between signing up to something and then realising what you have to do to make good on those commitments and then starting to develop those strategies."

Circularity and the R-Ladder

Despite recent progress, too many business models are still based on a linear system of production: Take, Make, Waste. New raw materials are extracted, processed into consumer goods, distributed, used, and then dealt with at end-of-life. Much of the focus has been on how to tackle the last stage- reducing waste and the amount of materials ending up in landfill. Many of our interviewees feel that there has been too much emphasis on recycling. Tim Cooper, Professor of Sustainable Design and Consumption at Nottingham Trent University, says it perpetuates a view that it is intrinsically a green option. "Many people don't appreciate that recycling isn't a 'good' – it's a 'less bad'." he says. It is a point he has been arguing for many years. "There is a common belief that recycling improves the environment. Of course it's better than putting waste in landfill, but the energy used to recycle waste materials and the transportation required means that recycling still has a negative environmental impact. We need to reduce waste by having longer lasting consumer goods. People need to understand that recycling is only part of the solution."

Recycling requires little behaviour change, has been supported by policy and legislation and can be incorporated into existing supply chains with only limited reconfiguration. But a full assessment of its environmental costs needs to consider the impact of collection, cleaning, reprocessing, re-manufacturing, and re-distributing. The environmental impact of waste is often visualised as a pyramid, hierarchy, or ladder (See fig 2) ranked by beneficial outcomes. Recycling sits towards the bottom of that hierarchy. Both businesses and consumers are under increasing pressure to shift processes and behaviours further up the ladder. Materials need to be kept in use for longer by being more durable and allowing for repair, reuse, and resale. For consumers, the difference between outcomes is often unclear says Anouk Zeeuw van der Laan, a Researcher Associate at Imperial College, London, specialising in material flows. "The consumer is tasked with using a product and then once it becomes obsolete, taking action, and usually that's bringing it to a location where it can either be taken into a reuse system or taken into a recycling system. So, in essence the role of the consumer is not dissimilar whether it's in reuse or recycled."



An emissions view of circularity

Whether more sustainable business models are looking at products that last longer, can be repurposed, reused, resold, or recycled, they are moving away from a linear approach to one that sees resources, material flows and products moving around a circle. Anouk Zeeuw van der Laan, defines circularity as: "Ensuring that we don't have linear flows where we take, make and dispose, but where we ensure that whatever we put in a system to meet our needs stays in that system for as long as possible."

While many businesses have perhaps seen circularity primarily through the lens of saving materials and resources, as they have come under increasing pressure to take responsibility for the waste they produce, climate benefits are now also moving to the fore. Companies that have focused on energy efficiency and renewables to reduce their climate impact are seeing that keeping materials in the loop for longer also saves emissions. "One way in which a circular economy can have a powerful impact on carbon emissions is that you are decoupling value creation from virgin materials and manufacturing in your supply chain," says Aleyn Smith-Gillespie who leads work on circular economy and business model innovation at the Carbon Trust. "This can create orders of magnitude in resource efficiency and is therefore a significant lever for achieving the net zero targets that companies and economies need to set themselves."

However, in the sectors which are the focus here, full assessments of climate impacts and potential benefits can be challenging, as they involve long and complex supply chains, says Deborah Drew. "Fashion is a really interesting example for all of that because the supply chain is so untransparent it's really difficult to get finite numbers or very specific numbers for those sorts of things." That makes accurate calculations difficult. "It requires a lot of data, it requires the right data," says Laura Timlin. "It requires you making assumptions because some of the data won't ever be there." Collecting and presenting that data with sufficient validity becomes expensive, particularly for smaller businesses that do not have the internal capacity to do so.

Nevertheless, the climate impact of different material journeys becomes clear when models of circularity are seen not as one single circle but a series of circles of different sizes (See Fig 2). If a consumer is able to repair a product themselves, with no external agency, there are few resulting carbon emissions. Sending it off for repair or resale will involve transportation and packaging. Widen the circle further, to recycling, and waste material goes through many of the same processes as would be the case for a new product. The journey is longer, goes through more stages, and so has a greater climate impact.

While circularity is about keeping materials in use for longer, it also needs to lead to a fundamental reassessment of production and consumption at a systemic level. "I think circularity for circularity's sake in not the goal," says Deborah Drew. "It needs to reduce consumption of raw materials. It needs to reduce the production of new goods. We need to keep the value in the chain longer, and it's going to take a lot of coordination."

Collaboration

Moving toward more circular business models cannot be done by individual companies acting alone. It requires coordination and collaboration within sectors, across sectors and involving businesses that would see themselves as competitors. "No one business is an island," says Julie Hill. "It's very hard to have a fully internally circular business... There may be some models for that, but most business is going to be embedded in this wider system. So, is that circle a local one; a regional one; a national one; an international one?"

WRAP has a long track record of bringing stakeholders together to tackle waste, for example plastics and packaging. But fashion, along with consumer electronics, pose additional challenges. "They are both more complicated in material in physical terms... They're more complicated supply chains, they're more complicated psychologically, and they're way more complicated to deal with at the end of life" says Hill.

All that means that sectoral collaboration is essential. In part it is about stakeholders understanding material flows to see where the potential for meaningful change lies, argues Anouk Zeeuw van der Laan. "Resource flow is never going to be owned by one stakeholder in the system. Everyone has a different part that they are responsible for," she says. "I think once you get the journey right, you can start to cut things out of the journey and bring it in closer." It is also about bringing the right people within and across business together, says Ke Wang, Knowledge Lead, Platform for Accelerating the Circular Economy (PACE). "The value chain partnership or coalition, that's the first step. So, just bringing recyclers, designers, brands, retailers in the same room."



3. Stakeholder insights feeding into the six topic areas

3.1 Love Vintage, Fear Second-Hand

Perception

Consumers appear to be reluctant to buy goods that have belonged to, or been used by, someone else. They may be concerned that the quality is not as good; that they cannot trust the product will last; that to some extent there is a social stigma attached to buying second-hand. There are sector specific concerns as well. With clothes it may be to do with hygiene, concerns that they have not been properly cleaned. With electronics it is difficult for a buyer to assess if a product is fully functional. For sellers there are issues around stored data and personal files that may be left on the device. There are signs, though, that consumers are warming to ways in which goods can be kept in use for longer, particularly when it comes to resale of clothing. "There has been a shift, so we are seeing second-hand goods, pre-owned, vintage or whatever, having a credibility that 15, 20 years ago they didn't have," says Professor Cooper. "That shows the possibility of cultural change, and the various reasons people gave in the past for not wanting to wear second-hand clothes seem to have been overcome in the younger generation."

Resale Online

Online resale platforms are helping to drive that change. In part it is a new narrative. Second-hand sounds like second best. But call it vintage, or pre-loved and the story becomes one of desirability. Reuse itself becomes fashionable. The process of online resale also chimes more with many buyers than old charity shop models. "Charity shops have a perception issue, a little bit, depending on where they are and what they are selling," says Laura Timlin. "But trading online is modern and new and exciting and perfectly acceptable." Through online marketplace apps like Depop, launched in 2011, reselling clothing has become increasingly popular, particularly with Generation Z consumers. Second-hand fashion, already estimated to be a \$30-40bn market globally is forecast to grow by 15-20% over the next three to five years.

New Resale Experience

Charity shops themselves are changing their shopping experience. In places the familiar, chaotic jumble sale look is being replaced by a layout more akin to a boutique. And the motivations are evolving too. Whereas previously purchases might have been driven by thrift, or an alignment with the values of the seller, the environmental benefits of reuse are being brought to the fore.

A shining example of how the resale experience can be transformed is ReTuna, in the Swedish city of Eskilstuna, about an hour's train ride from Sweden's capital Stockholm. With a population of around 100,000 it is home to the first shopping mall in the world that only sells repaired, restored, and recycled goods. The two-storey mall now attracts 250,000-300,000 shoppers a year. ReTuna is located out of the town centre, adjacent to a waste depot. People arriving at the depot have a choice- recycle or donate for resale. And shoppers have been astonished by the quality of the shopping experience in the mall. "It is not a flea market," says Sofia Bystedt, the mall's manager. "We can offer the same look and feel as high-end retailers and brands like Hugo Boss and Versace." It is already a commercial success, says Bystedt. "What we are trying to do here is not just to save the world and advance the circular economy but prove that this is a good business model." A greater understanding of consumer's thoughts on buying second-hand is feeding into conventional retailers, such as IKEA, which expects sales of second-hand furniture in Sweden to grow four times faster than sales of new furniture. (For the full story of ReTuna read this article by award-winning journalist Paul Simpson).

Trust

One area in which resale still struggles is trust. This is particularly true for electrical and electronic goods. How does a consumer know that what they have bought will perform as well as a new product? One improvement might be to ensure that any guarantees or warranties are transferable from the initial owner. Some online marketplaces are also moving towards guarantees for refurbished goods, for example Amazon Renewed. Sellers have to show that products have been tested, that they work like new, look like new and are supplied with all the necessary accessories. Aleyn Smith-Gillespie believes e-commerce platforms have a powerful role to play in terms of validating quality and trust. "You can create a level of transparency for customers shopping online that doesn't exist when they are in a physical setting." he says.



3.2 Mend for the Right Money

For older generations, with values forged by rationing and post-war austerity at a time when the costs of clothing and electrical goods took up a far larger share of household incomes, principles of mend and make do are self-evident. There is anecdotal evidence that the Covid crisis, and living in lockdown, has also led to a resurging interest in mending and reusing. People have had more time, less money, and limited access to retail. There may also be an element of nostalgia involved. Though encouraging, it may also be temporary. "I'm not sure how much that behaviour change has stuck yet," says Charlie Thorneycroft. And while it has shone a light on many long-term assumptions, it is not clear whether that will lead to any fundamental re-evaluation of individual behaviour, he says. "I think it's given great material for policy-makers and think-tanks and researchers like me. I'm not sure if it translates to individual lifestyles."

Education and Skills

One key factor standing in the way of consumers carrying out repairs is a lack of training. This starts with school, where even home economics courses teach few if any practical skills in household repairs, sewing or the use of basic tools. Clearly, improved education has potential. "I think again a lot of that has been lost," says Laura Timlin. "So, more around the development of those skills and the training of those skills I think would be really, really powerful." For clothing basic repairs are simple- sewing on a patch, replacing a button. However, with the cheapest clothing consumers may feel it is not worth the bother. On the other hand, pride in a repair job may give a clothing item a different form of value, sending a virtue signal. For electronics, self-repair is limited by design and manufacture. In the case of electrical white goods, safety is a limitation even for those with more developed technical skills.

Professional Repairs

Professional repairs for electrical and electronic goods are often controlled by the manufacturers themselves, with only approved operators permitted to carry them out. Unauthorised repairs invalidate warranties, and access to spares and components may also be restricted. Control of repairs also allows manufacturers to determine the costs, particularly for labour. Suggested solutions include networks of non-exclusive repairers authorised by manufacturers but able to compete on price; tax breaks for labour costs on repair (as already happens in Sweden); and, as is now happening, mandated wider access to spares.

Right to Repair

In June of this year the <u>UK government introduced legislation</u> which includes sections that have been referred to as <u>"Right to Repair" regulations</u> for some electrical goods. They require manufacturers to make spare parts available for a set period of time and to provide technical information to support repairs. The regulations implement EU rules, though there is no certainty that future amendments and additions to the EU framework will also be transferred, including proposals to cover more products such as smart 'phones and laptops. Though the move has been widely welcomed, it only requires that spare parts are made available to "professional repairers" rather than to consumers directly. Manufacturers are also able to determine what counts as a component. For example, if just the bearings of a washing machine are worn out, if they are sealed within a drum mechanism the whole drum needs to be replaced. Furthermore, the costs of spares are not capped. As they stand, the regulations are insufficient, argues Professor Cooper. "The research I've seen suggests it is not the availability of spare parts that is the obstacle to repair, it's more the fact that too many goods now are relatively cheap to replace. By contrast it's relatively expensive and hard to have them repaired. Currently the economics are not favourable, but making goods easy to repair would cut costs, so the solution includes a design component as well."

Design for Repair and Durability

The new regulations do include a requirement that products are designed to be repairable, though for campaigners they do not go far enough. They have long argued that as well as making products easier to repair, manufacturers should make key components modular to allow for upgrades. For example, for mobile 'phones if better batteries or higher quality cameras become available it should be possible to retrofit to older models (Read this article for details on Fairphone's modular design). "People find it very difficult not to buy new phones when new products with new benefits have been launched," says Laura Timlin. "How do you upgrade your current one to have all the benefits that the new version has? I think if somebody could tackle that, that would be quite powerful." Another argument is for interoperability- components from rival manufacturers should be compatible. One example is chargers for electronic devices. The European Commission is proposing a single standard (USB-C) for all smartphones, tablets, cameras, smart speakers, and handheld games consoles. Some progress has been achieved through voluntary agreements, but manufacturers say that forcing them to adopt common standards stifles innovation and may run into issues of intellectual property rights.



3.2 Easy Buy, Easy Sell

Displacement

One of the strongest themes in the consumer research is that people believe once a product is out of their hands they have also passed on responsibility for its environmental impact. If that is an easy process- for example by using an online resale platform- consumers feel less guilty about buying in the first place. There is little evidence, however, that resale for clothing in particular actually reduces total goods bought. "It's about displacement," says Ke Wang. "So, if people sell or buy second-hand clothes, are they buying less new clothing or are they just getting a bigger wardrobe with more second hand? So, displacement of a new product is where the environmental benefit is actually delivered."

New Ownership Models

One route towards lower overall consumption and greater circularity for both fashion and electricals/electronics is different models of ownership. Retailers that have in the past been known for renting big ticket garments, like formal wear, are now re-imagining the concept as clothing subscriptions. Payment gives access to a certain number of items each month which are then returned. While this may make sense for more expensive clothing, it is a less convincing strategy at the cheap end of the market. And while subscriptions may provide a new way of delivering the buzz of novelty to consumers, the environmental benefits aren't always clear, says Julie Hill. "What matters underneath that is how the business model is operating in terms of the actual clothing and the returns... transport, packaging- can they show the whole life cycle has less impact than just going to the shop and buying something?" Ke Wang agrees. "We need to look at the environmental impact more holistically, otherwise we will just be shifting problems from one place to the other" she says.

For electrical goods alternative ownership models may also work in certain circumstances. Electric power tools or gardening equipment, for example, can be rented or may be shared between a group of neighbours. But, again, price point is key, as is convenience and frequency of use. In a sense, long-term contracts for electronic devices such as mobile phones are also forms of subscription, and while the devices are recovered for reuse or recycling when consumers are offered upgrades, this encourages replacement of units that are still fully functional. Product service models are appealing for businesses when they bring in recurring and reliable revenues. But in the two sector focuses for the challenge, their impact may be more limited, says Ke Wang. "For more fast-moving consumer goods like fashion or electronics. those business models tend to be more challenging- so, it's easier said on paper than done in practice."

It's OK, it's Recyclable

Just as the potential of resale and reuse make it easier for consumers to buy with a cleaner environmental conscience, so does recyclability. As explained above, recycling is still seen too much from a waste perspective and consumers are largely unaware of the carbon emissions impacts. That goes hand in hand with a general lack of awareness about how difficult recycling is in the two sectors we are focusing on- for fashion because of mixed fibres and materials, for electronics because of the number of parts, the technical challenges of disassembly, mixed materials, and hazardous materials. Waste Electrical and Electronic Equipment (WEEE) is covered by regulations. The legislation is designed to reduce the amount of this that ends up in landfill. Distributors have to take back electrical goods; businesses have to collect WEEE separately and treat and recycle it. Householders too have an obligation not dump such waste in conventional rubbish collections. However, many are not aware of these requirements.



3.4 Staying on top of trends

Emotional Durability

Fashion and consumer electronics are driven by trend, the desire to have the latest, the newest, what is current. This means that keeping products in use for longer is not simply a technical challenge, but also a psychological one. "It's not always just about the longevity of the product in terms how long it's usable," says Pauline Op de Beeck. "It's the trends as well, it's wanting the latest thing, and I think that component is a lot more difficult to challenge because ultimately it's a cultural one." Ke Wang agrees. "People don't throw away their clothes or their 'phones because it's torn or doesn't work anymore, so there's a fashion trend that's emotional." It means that new circular business models need to go hand in hand with fresh consumer mindsets. In part it is what Professor Cooper describes as emotional durability, and he sees some positive signs of change. "Over the past five years, we've seen a slight evolution in the understanding of the circular economy to recognise that designers have to design products that will prove attractive to owners for the long term, right from the start. So, the circular economy should be about creating intrinsic longevity and emotional durability in new goods, not just about maintaining the functionality of goods that are already in use."

Planned Obsolescence

Persuading consumers to replace fully functional products because of trend is one driver of a fast turnover of consumer goods. The other is designing and manufacturing products that are made with deliberately short lifespans. Referred to as built in, or planned obsolescence, it is still a dominant business model. "Do companies encourage consumers to be constantly upgrading and then buying new? I think yes, that's still the case," says Aleyn Smith-Gillespie. "New sales is still a major driver of a company's business model and how to value it in the market." Ke Wang argues that the macroeconomics of reuse have yet to be worked out. "Our GDP depends on producing new products, more and more production or consumption, while reuse is actually calling for less production and less consumption" she says. And change will need business leadership, policy and a move away from silo thinking while take, make, waste models still make short-term economic sense. "Right now, it's a lot cheaper and easier to just throw things away and make something new, so we need to remove that and change that" says Deborah Drew. Planned obsolescence is primarily blamed on manufacturers, though one would argue believes consumers must take part of the blame in that they fully understand that cheap goods will not last. There is also an argument that obsolescence needs to be addressed within a broader view of material flows. "In very many cases, and probably all cases, obsolescence is inevitable" says Anouk Zeeuw an der Laan. "Everything we own and use whether it's on a daily basis or things we buy for longer, everything is going to be obsolete, and we know this, and business knows this... why aren't we using that moment to intercept and retain or regain value from whatever becomes obsolete?"

Supply or Demand?

A key question is the extent to which the consumption connected with novelty and trend is driven by supply or demand says Deborah Drew. "You see some push back from companies saying that the customer is demanding these things, the customer wants fast fashion or a new style every week. But they are the ones with the marketing team, telling customers to want those things." And if it is the buzz of the new that drives consumer expectations, solutions may lie in satisfying that in new ways. "Some commentators have said we're kind of hard-wired for novelty," says Julie Hill. "So, one approach is to say, well what's the business model that delivers the novelty without the environmental impact?" It may also require a more fundamental reassessment of consumption as a measure of happiness and success. Deborah Drew believes the experience of the Covid crisis may have moved the dial "What is it that we need to be successful? Do we need more stuff, do we not? We need to have a planet that we can survive in," she says. "I think with the global health crisis from the pandemic, it has demonstrated that there's a lot more things that are important out there."



3.5 Quality for the right item

Quality and Cost

For electrical and electronic goods consumers may not have sufficient technical knowledge to judge the quality of a product. In part brand reputation may be used to inform a purchasing decision. There may also be an assumption that a higher price means better quality. Conversely, lower prices also mean reduced consumer expectations, argues Professor Cooper. "One of the problems is consumers don't expect things to last as long as they could do, or ought to do, and that's partly linked... to the problem of prices, prices being relatively cheap and therefore people say, well, it doesn't cost so much to buy a new one therefore why would I expect it to last a long time." Too great an emphasis is also placed on initial purchase price, rather than total cost of ownership. Buying products that cost more upfront but last longer, may ultimately prove to be cheaper. However, that option is not available to those who cannot afford the higher initial price. If quality is measured on a cost or value basis, there is also a question of how to calculate this - is it price per use, years of service, or reduced replacement cost? Furthermore, criteria for electronics/electricals may be very different from those for fashion, argues Professor Cooper. "You can reduce it to pounds per year of service because it's a very functional product. Whereas for clothing or something like furniture it's a little bit more than that. You might get something that economically is a little more expensive per year of service, if it's high quality, but you're also paying for the aesthetics."

Other Measures of Value

Some products signal their quality by the way they are made. If they are referred to as artisanal, home-made, or hand crafted there is at least a suggestion that they have been created with care. As a result, a consumer might cherish an item more if it is marketed as such. There is, of course, no reason why a product made from good materials on a high-tech production line should be of lower quality than a similar item assembled by hand. The opposite could well be true. But the association of mass-produced with poor quality reflects assumptions that cheap factory goods are not likely to last.

As with emotional durability, value is also created through a particular personal connection with an item. That may be a gift, a keepsake, an inheritance, and while these are not inherently related to cost or quality, they may in themselves justify higher prices. Laura Timlin suggests the example of some high-end fashion: "Part of what they're selling is that you buy an investment piece, and you use it forever. And then you know you gift it to your niece or your granddaughter... it becomes a sort of vintage piece, and that's part of that investment that you're making when you buy a new product from them."

Quality Assurance

For consumers there is no certainty that higher prices necessarily mean better quality. However, increasingly guarantees and warranties beyond any statutory requirements are being used to provide that assurance. While these are often still sold as add-ons Aleyn Smith-Gillespie sees an important role for tother value-added service providers to help develop new business models: "Let's just imagine all products need to have at least a minimum 10-year warranty and after-sales service no matter what you buy, then that might force companies to partner with organisations that can support project longevity and reusability." It would also mean that responsibility for repairs remains with the manufacturers, directly or indirectly.

A different way of providing assurance is some form of durability labelling. Laura Timlin believes it would allow consumers to be more invested in a product, and manufacturers might see it as part of their proposition and branding, though she acknowledges the many practical challenges. "I'm not sure how you would assess how long a product would be able to be used for and how likely it was to go wrong and make that an easy and straightforward way of measuring that product." Labels or scores could also have a use in judging repairability. France introduced repairability ratings and labelling at the start of this year for five electronic and electrical product categories, including washing machines, lawnmowers, smart 'phones and televisions. They are designed to help consumers make better choices and push manufacturers to improve repairability. Products are judged on factors such as documentation, ease of disassembly, availability, and cost of spare parts.



3.6 Environmentally friendly a bonus.

Consumer Responsibility

The ethnographic research suggests that consumers make purchasing decisions based primarily on considerations such as cost, convenience, and trend, with environmental benefits an additional bonus rather than a prime motivator. It is an assessment that Ke Wang shares. "When it comes to consumption patterns, very,very few people would actually base their purchasing decisions on circularity, emissions... so people will look at the price, people look at convenience, function, performance – not many people will buy a product, service just because it's circular, or low carbon." Early assumptions in the research that green consumers would be the prime movers of change appear to have been misplaced, at least for now. "It is going to be more company led than consumer led In terms of actually changing product offering and in business models" says Pauline Op de Beeck." Deborah Drew agrees that too much emphasis is placed on consumer responsibility, though it is important to understand their motivations. "I would say the individual does have a part to play and they can definitely demonstrate with where they choose to purchase and where they don't purchase items. They can definitely have a voice there." They also need to be seen not just as consumers voting with their wallet, but as active citizens, argues Charlie Thorneycroft: "I think involvement of citizens outside of just their spending decisions is also a key way in which you can gauge that consumer demand."

Knowledge Gap

As already established above, if consumers are considering the environmental impact of their purchases this is more often related to materials and waste rather than emissions, says Charlie Thorneycroft. "I think it's that consumers are only considering the kind of material waste and it's all stacking up in a big landfill somewhere. I think that's in their mind, not the kind of life-cycle assessment and the life-cycle footprint of these products." That might be improved through better communication, but there is an argument that consumers should not need to understand the technicalities of circularity for progress to be made. "I would actually challenge the thinking," says Ke Wang. "Do we really need to focus on explaining, communicating circularity to consumers – or should we focus more on designing the business model, product or services in a way that circularity is just intrinsic, embedded, and it still delivers consumers all the other benefits that an average consumer cares about."

Preaching to the Choir

Whether defined as an average consumer or a mass-market consumer it seems that innovation needs to appeal to a wide demographic. Focusing on an environmentally committed minority is not the way to progress, says Ke Wang. "I personally don't believe we can scale environmentally friendly solutions purely based on ideology, on what people believe" she says. Furthermore, there is in behavioural economics as it applies to sustainability a disconnect between what people say their intentions are and how the decisions they make when it comes to purchases- the so-called intention/ action gap. "Actually, I suspect a lot of people know what they should do, but for whatever reason they don't do it" says Julie Hill. "They don't take their clothes to the charity shop, or they don't sell them or keep them for longer." And, while there are some signs that younger generations are more open to change, that too should perhaps not be relied upon too much. "I think we are overestimating the interest and motivation of this generation" says Anouk Zeeuw van der Laan, of Imperial College.

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Sustainable Development Goals





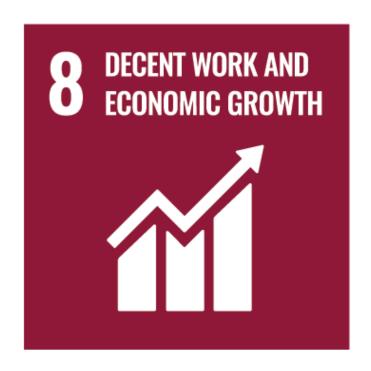




































Love Vintage, Fear Second-hand: Consumer-citizen insights



Fiona got a school blazer for her 5 year old son from preloved Facebook group for free. "Dry cleaned and it's like new. Would have been £110 otherwise.... I did the same with my kids when they finished school, gave it all away to others."

"A lot of people just don't know they can re-use things...I know people who would never buy second hand."

F, 41, Married with 3 kids (14, 12, 15) living Ayrshire, Rural Scotland.

"I might get a camera from CEX but I wouldn't get a phone. I would always have that seed of doubt"

F, 24, Patent attorney trainee – living in Westminster with boyfriend and another couple.

"Vintage allows me to find my own style more. Helps express myself better. It's better for environment, better for people. Fast fashion are unethical to workers, to environment."

F, 22, Researcher, lives with husband

"I'm open to refurbished goods but don't feel like there's a reputable space to get that from ...what have they done with it? I want a warranty, want a guarantee..."

M, 24, chemical engineer, lives with parents

"There's been such a huge explosion of second hand... we also used to buy stuff new...now discovered this is an option. If you can get such good quality stuff for such cheap prices, why not? Still, I'd always buy new white goods, you want these to last."

F, 40, homemaker with son in South East. From India originally

"I wouldn't buy secondhand electronics. Safety is the main reason, my Dad was an electronic... I do get secondhand clothes though."

F, 43, Lives with daughter, Teaching Assistant



Mend for the Right Money: Consumer-citizen insights



"I always tend to mend it if it's worth doing it"

When referring to a broken Mac in their house: "It just sits there...no idea what's wrong with it and it's out of warranty....need to take it to a computer place....no idea how much it will cost."

Has a Shark hoover not working. "Waiting to hear back from the company. I love it but it's just not working, not even had it a year. I thought they'd send an engineer out but you have to troubleshoot it all yourself. I had to buy a handheld hoover in the meantime until I get it fixed."

F, 41, Married with 3 kids (14, 12, 15) living Ayrshire, Rural Scotland.

"My dad fixes things for me, he's handy on a sewing machine. Together we fixed my grandad's old radiogram. Took about a week, did it ourselves, watched YouTube videos. Was too expensive to go to the shop."

F, 24, Patent attorney trainee – living in Westminster with boyfriend and another couple.

"If I can fix something I'll sew it up, but if its something that's had its day I'll sell it on for the money."

F, 30s, Teaching Assistant in Primary School for 9 years

"Laptop screen broke a while ago – went to go to the local shop to ask how much they charge – it costs a third of the original price.... I went on YouTube...got a screen from eBay and watched how they did it...it's not that difficult.

M, 24, chemical engineer, lives with parents

"I had a charger that broke and I had to tape it to keep it working, but earphones are hard to mend. Can't really think of electrical I've mended, but I do try to mend things myself. I recycle if I can't."

M 21 lives at home now/ UEA 2nd year student

"Don't see the point of binning it if I could get it fixed. I will keep wearing them and then will use them for DIY. Its the better thing to do. Far more sustainable than sticking it landfill. I like to not waste things if possible"

M,30, live with partner.



Easy Sell, Easy Buy: Consumer-citizen insights



"My oldest is into designer clothes....I'd sell a few of them, add the money up and go buy something new... he'd want the new brand that's out there"

"Getting the same product...if I sell something I can go buy something and it's not really buying something"

F, 41, Married with 3 kids (14, 12, 15) living Ayrshire, Rural Scotland.

"I'll do a big chuck out of a load of clothes then obviously I need to buy some more. When I say chuck out I mean sell. So, once I've sold it I use the money to buy something else. You have to sell a lot to get some money back.... I go on Facebook market sellers for my area Essex. I sell by bag. I've got a lady who buys them and send them to Africa."

F, 30s, Teaching Assistant in Primary School for 9 years

"I wear what I buy. If I've not worn for over a year I ebay it or give it to charity."

M, Teacher, married

"Yes, absolutely. I buy more knowing I can sell it sustainably."

F, 22, Researcher, lives with husband

"I sell on Vinted, Depop, Shpok. I like to clear out my wardrobe. If it doesn't sell I take it to charity. It's mainly for cleaning out reasons, but sustainability does impact too. Whats the point of chucking away clothes?"

F, 23, Banking, lives with parents.



Staying on Top of Trends: Consumer-citizen insights



"I wouldn't mind to not have the most updated phone, it's just a camera, feels like they age quickly."

F, 24, Patent attorney trainee – living in Westminster with boyfriend and another couple.

"I have an iPhone 8, the 13 is out now but I can wait as long as the one I have is not extremely outdated. I will get a new phone soon because I want the camera quality as I take a lot of pictures for my art and fashion.

M, 21 lives at home now/ UEA 2nd year student

"I like to get new things. Xbox series X - we had to look everywhere for that!"

F, 40, homemaker with son in South East. From India originally

"Technology's changing all the time...if I'm using an old iPhone I can feel it's old. If it doesn't have the latest iOS, I need to upgrade."

M, 24, chemical engineer, lives with parents

"It's brand new tech so I was happy to spend a bit more on it. And it looks nice and is more premium so I spent a bit extra."

M, Teacher, married

"I buy because I like to buy."

F, 23, Banking, lives with parents.



Quality for the Right Item: Consumer-citizen insights



"I bought a cheap laptop charger off Amazon and it broke really quickly. Don't know if I should now buy a more expensive one that will last or just grab a cheap replacement that might break.

F, 24, Patent attorney trainee – living in Westminster with boyfriend and another couple.

"Every time my kids go back to uni I buy them a new kettle and toaster and they never seem to come back. They almost seem disposable and that doesn't sit well with me. In this generation with Greta Thunbergs, why are you leaving tents and throwing away kettles, these things should last 10 or 20 years..."

M, West Sussex, father of 3, homemaker

"Recently bought a Devol drill so I can put up shelving. I went for that one from word of mouth that they're reliable. I wanted something I could trust. Lasting a long time is important, the more expensive it is the longer it should last. Like Levi's, I pay a bit more.

"We value things, it's hard earned money we spent on them and we don't want to just keep buying things because its not good for the environment...we get the maximum use out of things...want to show our son to value things."

F, 40, homemaker with son in South East. From India originally

"My brothers Italian coffee machine - he bought it from a supplier in Italy, it's lasted over 5 years. We've got through several coffee machines since then. Used to just buy a Nespresso machine and it comes the next day. Don't bother to repair - just throw it out. I don't know who can fix it."

M, 21 lives at home now/ UEA 2nd year student

"Quality depends what it's for. Got clothes for the office, that are nice shirts and good fit. Casual wear is more cheap and functional.

M, 30, live with partner.

M, Teacher, married



Environmentally Friendly a Bonus: Consumer-citizen insights



"With a cute dress or a nice jumper I'd rather buy second hand because I'm trying to get out of fast fashion....for an event I might treat myself something new that's on trend... I'm trying to avoid Jeff Bezos... but when you need things in an emergency it is handy

F, 24, Patent attorney trainee – living in Westminster with boyfriend and another couple.

"Being green costs you more money, so it puts you off. Money is the biggest barrier to being eco-friendly. It's everything - clothes, food, cars. And I'm worried some sustainable made products aren't the same quality. Are you compromising and paying more but the quality is lower?

M, 47, live with wife + 3 kids

"Often eco-friendly stuff has a high price tag. It's almost a middle class luxury. To be environmentally friendly you have to be able to afford it."

M, 30, live with partner.

"With a River Island order I might order more, get an extra size just to mean I qualify for free delivery. I try for Amazon for everything, needed some shoes and looked on Amazon automatically even though they don't have things like that"

M, 24, chemical engineer, lives with parents

"I want to know if sustainable clothes are durable longterm. I worry that they're not the best quality and if paying more for sustainable I wants to know it will last.... I shop using specific brands. Price is a big factor. Delivery time is important. I have lots of retail memberships"

F, 23, Banking, lives with parents.

"Cost is the main barrier to being greener. Convenience too."

F, 43, Lives with daughter, Teaching Assistant



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