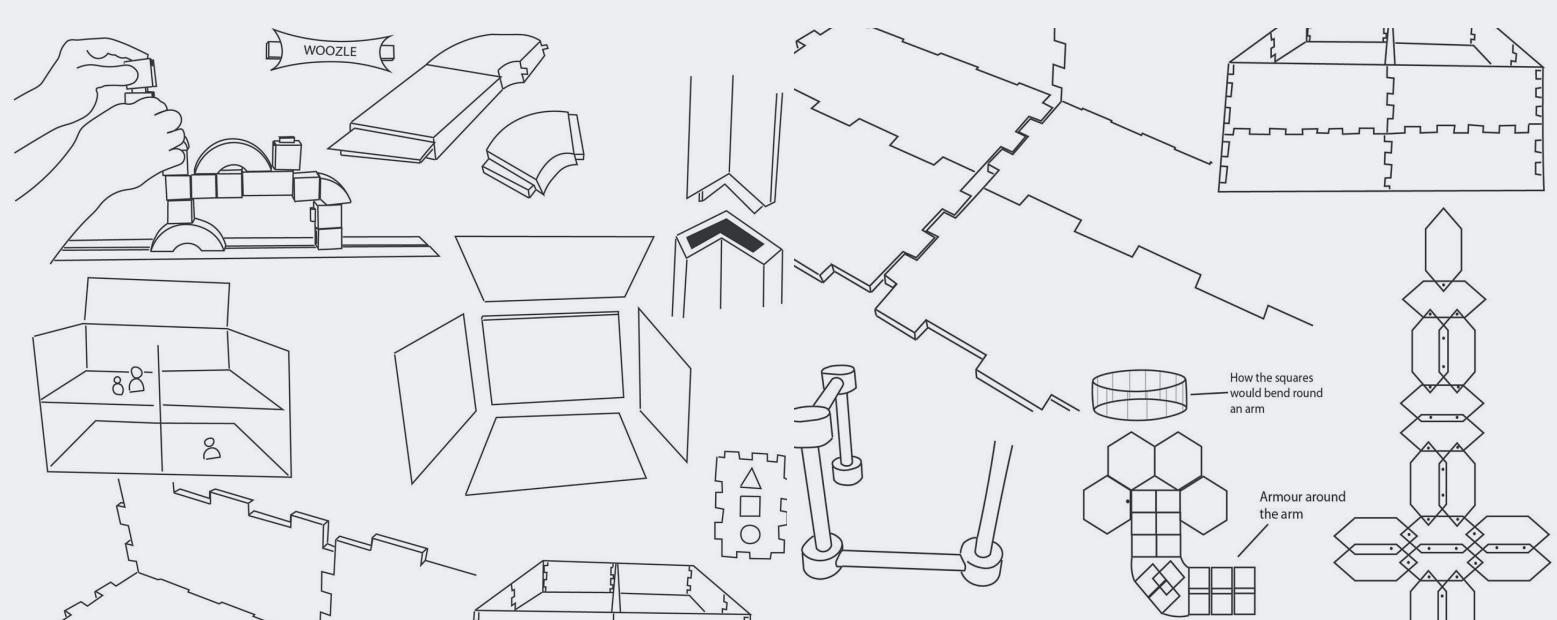


# UTOPI

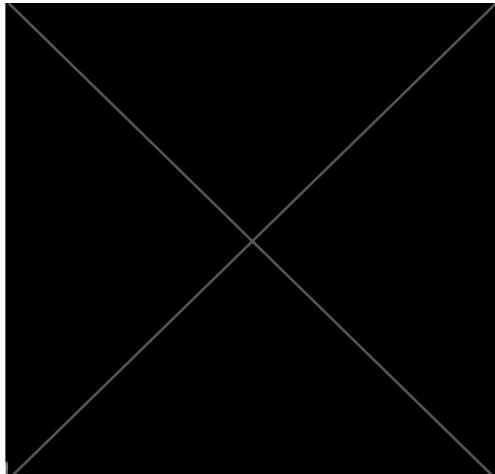
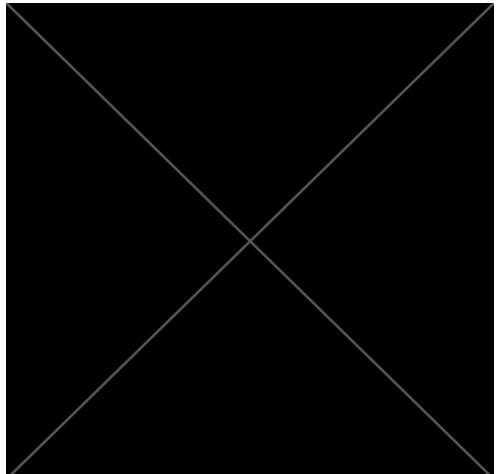
## RE-IMAGINING CHILDREN'S TOYS



| RACHEL KIRBY

## EXECUTIVE SUMMARY

# WHO ARE WE?



MSc Psychology with  
Innovation

MSc Psychology with  
Innovation

RACHEL KIRBY  
MEng Computer Science  
with Innovation

Having strong connections to children in our own lives, we have become aware of the detrimental amounts of waste produced by the children's toy industry and the fact that many modern toy designs are failing to effectively support children's development through play.

Our team offers knowledge and experience in various subjects including child development studies; material and digital design; circular economy practise; and marketing. We have not only studied these topics in university environments, but also put them into practise whilst working for various Bristol based SMEs and Start-Ups.

We are now determined to apply our interdisciplinary knowledge to help design sustainable, 'limitless' toys which we believe can solve various pressing issues within the modern toy industry.

## EXECUTIVE SUMMARY

## OUR GOALS

Reduce landfill waste through designing longer-lasting toys.

Create more meaningful and educational experiences through open-ended play.

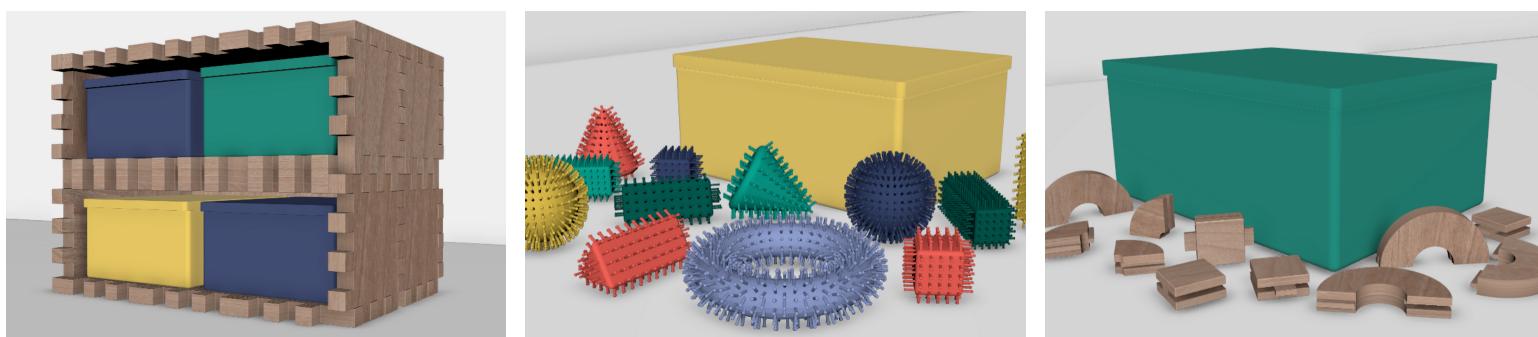
Develop healthier consumption habits by encouraging quality over quantity.

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## OUR SOLUTION

Utopi is a collection of open-ended toys, designed with sustainable materials and manufacturing. The toys cater to a multitude of forms of play for children, to support their development and imagination.

The core Utopi toy is the modular 'Utopibox', which houses up to 4 toy 'add-ons'. These 'add-ons' can be purchased, used, and then sent back to us once the child has out-grown them. In return, we send a discount off the next purchase of a Utopi 'add-on'. This provides access to a toy which develops alongside a child's development. We refurbish all 'add-ons' to be reused as new toys to stop any unnecessary trips to the landfill.



This first half of this document consists of a research report exploring the toy industry. This was used to inform our goals for this project and the development of our toy design and business model, which forms the second half of this document.

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# Secondary Research

In the UK, the toy market brought in £3.2 billion sales in 2019, rendering it the largest toy market in Europe (Toyfair, 2020). This market is predicted to grow to £4.49 billion in 2022 (Gianna, 2018). This expansive and growing industry presents a wealth of opportunity for innovative toy brands to make their mark, and we started our project with a determination to do just that. In order to better understand our opportunities for innovation and how we could effectively disrupt the market, we began with an in-depth analysis of the current trends and predicted development for the toy industry using a PESTEL framework.

---

## PESTEL Analysis of the Toy Market

### Political Perspective

Supply chains for toy manufacturing can be very long, especially for businesses that import their toys from overseas countries, such as China. It is difficult to monitor transparency in long supply chains to uncover unethical practices (Klintman, 2018). Toy industry supply chains are structured like this because it is often cheaper to source materials and manufacture in other countries. Although this leads to cheap saleability for the public, it often suggests there are ethical issues at play, either in the material used (e.g. cheap and disposable) or in the supply chain (e.g. employee mistreatment; Taylor, 2018). For example, according to an investigation by China Labor Watch, toys including Thomas the Tank Engine and Barbie were manufactured by staff on a wage of 86p an hour (Chamberlain, 2016).

### Economic Perspective

European Valuations (Gianna, 2018) reports that toy sales in the UK summed approximately £3.4bil in 2017. Of the total market value in 2017, 9% consisted of collectables, which made up 19% of all sold units. Aside from these, doll sets, preschool figures and action figures were also successful that year.

Unfortunately there are some economic red flags within the toy industry. With approximately 80% of UK toys coming from China alone, money spent on the industry is being removed from the UK economy (Clark, 2018). Further, the competitiveness amongst the industry is causing financial strain for the big players, leading established companies, such as Toys “R” Us, to go bankrupt (Isidore, 2018; Eley, 2019).

Finally, on an individual level, the toy industry can place financial strain on parents to provide suitable toys for their children. In an article speaking to a leading psychologist, Oliver James, he suggests that the average UK family spends £508 per year per child on toys that “aren’t actually wanted or valued” (Garlick, 2017).

### Social Perspective

Too many toys can negatively impact a child’s playtime. Researchers at the University of Toledo report findings that children who played with 16 toys, as opposed to four, were less creative with their play and played for half the time than those with fewer toys (Kanpton, 2017). The average child is thought to own 238 toys across their childhood, with many parents reporting they play with just 12 of this total number, i.e 5% of this figure (Knapton, 2017). What this shows is an unnecessary consumption of mainly cheap, single-use toys that are of little value to a child over a longer period of time. These findings were the motivating force behind Utopi’s minimalist set-up; Utopi is one main toy, but with many possibilities of use.

Aligned with contemporary Western acceptance of human equality, including those of women, homosexual, transgender, non-binary and many more, the stereotypical nature of toys classed as “for boys” and “for girls” is outdated (Cochrane, 2014; Weale, 2016). Indeed, Mintel’s Toy Fair report (Mintel, 2019) suggests the toy industry “still has a long way to go when it comes to losing gender stereotypes”. The report details that 32% of parents think toys are overly stereotyped, showing the desire for a social shift in the messaging behind toys and the marketing used to promote them.

A large trend that Mintel (2019) observed was toys addressing environmental issues; and science, technology, engineering and math (STEM) education. They

also found that 61% of parents are motivating their families to make more ethical decisions.

Technology has been a steadily increasing trend for the last 5 years and is predicted to continue in popularity (Li et al., 2017). However, in correlation with this increase is also the concern around too much screen time. These concerns have caused a backlash in the market around a desire for children to have more physical activity and intellectual engagement during play (Kestenbaum, 2020).

Finally, the demographics of toy consumers in the UK is majoritively 25-34 year olds, making up 48.7% of toy purchases in 2017 (Gianna, 2018).

### Technological Perspective

Innovative technology integrated with toys will drive growth in the industry over the coming years at an increased rate of 28.5% in the period 2017-2022 (IEEE, 2017). In contrast to this, trends for traditional toys have also shown an increase, as parents try to combat 'screen-time'. This retro trend is being largely driven by older parents and grandparents, who are purchasing craft and construction toys.

However, child obesity and correlated screen-time have increased over the last five years (Robinson et al., 2017). This is demonstrated by the 58% of children between 6-17 years whose preferred pass-time is watching television (Mintel, 2019). The World Health Organisation (WHO) released a report advising that "kids need to sit less and play more" (WHO, 2019). This trend suggests a need for children to engage in active play, away from screens.

### Environmental Perspective

Plastic toys account for 90 percent of the toy market. Although they come with many of the same problems as other plastic items, including health and environmental risks (Rapaport, 2018). Cheap, plastic toys often have a shorter product life than higher-quality toys since they are composed of a range of materials which are often impossible to recycle (Goldberg, 2017). Whilst second hand plastic toys may seem suitable to the environmentally conscious, research has shown that reused plastic can expose children to potential harmful chemicals (Rapaport, 2018).

There is an observable shift in sustainable practices within the toy industry. At the *Toy Fair New York* earlier this year the giants of the toy industry, such as LEGO, Mattel and Hasbro announced their goals to improve their environmental impact (Verdon, 2020). As well as this, the new businesses breaking into the industry are taking the steps to begin their journeys with a sustainable initiative.

### Legal Perspective

There are plentiful legal implications in the production of a toy from raw materials to shelf. Long supply chains often implicate multiple countries, with opaque regulations in regard to employee treatment and chemicals used during manufacturing (ITUC, 2016). In 2007 some of the biggest giants in the industry had to recall millions of toys from the public due to dangerous amounts of lead in the paint of the toys. This was supposedly due to regulation differences between China and the countries of distribution.

---

## Circular Economy in the Toy Industry

From our PESTEL analysis, we can see that the reduction of plastic waste within the toy industry is a prominent trend. This fuelled the development of *goal 1*: 'To reduce waste through the creation of longer-lasting toys'. We researched principles and theories of circular economy design to better understand design innovations that could expand the lifetime of products and reduce material waste.

### The Circular Economy Model

The Circular Economy model proposes a shift away from the 'take-make-waste' ideology of the linear system historically adopted by retail industries. It aims to do so by 'designing out waste and pollution', 'reusing materials', and 'regenerating natural resources' (Ellen MacArthur Foundation, 2020).

In a linear economy, efficiency is measured solely on economic activity, rather than considering the environmental and social factors of a product or system. However, one key foundation of the circular economy model is that of Braungart and McDonough's 'Cradle to Cradle' approach (Braungart and McDonough,

2009). This focuses on rewriting the definition of 'efficiency' to be inclusive of the environmental and social implications of a system, alongside the economical (Braungart and McDonough, 2009, pp.148 - 153). This notion is key; a successful circular product must not only be environmentally beneficial, but also economically and socially valid in order to have a feasible impact on the market.

### Opportunities and Threats of Circular Design Principles

To design products that are economically, environmentally, and socially attractive, innovative approaches to business models and product designs are essential. As a start-up, we have an advantage; research has demonstrated start-ups possess higher capability for adopting more thorough circular models (Bauwens et al., 2019, p.11). This is a result of fewer limitations relating to existing "company environmental culture, technical know-how, or administrative burden" (Henry et al., 2020, p.3). This is an example of why large toy corporations such as Lego and Hasbro have shown interest in adopting more sustainable systems, but been slow to implement them.

However, there are also difficulties for start-ups working within the circular economy framework. Foremost, more ambitious circular products tend to call for a change in consumption habits, for example, encouraging users to shift towards rental schemes rather than their typical purchasing habits. Encouraging a change in consumer behaviour can be challenging for start-ups with less economical power (Bauwens et al., 2019, p.24). These obstacles need to be considered for us to be more effective at producing a viable business model.

Educating users on the environmental and social impacts of materials and manufacturing is a popular approach to these issues, particularly when used to highlight information regarding durability and repairability of products (European Commission, 2018).

Effective marketing can also play a large role in a user's adoption of a product, and theories of 'green marketing' can be employed to help encourage this adoption for sustainable products. Like our product design, our marketing must not solely focus on our value to the environment, but also on the value we provide for the user (Chamberlin and Boks, 2018).

## Circular Material Flows

Whilst recycling is a powerful tool, circular economy theorists suggest more effective measures can be employed to reduce waste and add more value to products (Tansey, 2015). The Agency of Design proposed a number of solutions for designing circular products using a toaster as their exemplar product (The Agency of Design, 2020).

Firstly, they created a toaster designed with such durability that it could last generations, contrasting the typical obsolescence of products. We aimed to bring this idea of durability to our toy product through an analysis of the materials that would offer the longest life, as well as employing specific design structures, such as lessening moving mechanisms which can be easily broken.

Secondly, the agency designed a toaster which was modular. This meant that if a section of the toaster broke, it could be sent back and replaced, in the meantime leaving the user with a still functioning toaster. The user could also increase the number of modules to their liking, according to how much toast they wanted to eat - a characteristic that particularly resonated with us. Through modular design, we could allow parents to invest in the modules that suited their child's age group, and to upgrade these as the child grows. This would then allow us to refurbish the returned modules in order to keep them in use. This could be an effective way for us to achieve our first goal of designing a toy that grows throughout a child's development. The agency notes a set of 'design requirements' necessary for the effective employment of this structure, allowing ease of refurbishment and replacement of the materials. These were: "simple construction, reusable parts and standardised materials"; all of which are characteristics we later incorporated into the development of our product.

---

## Materials and Manufacturing

With these principles of circular economy and modularity in mind, we needed to better understand the material options for our potential products. We examined both hard and soft materials, analysing the environmental impact, durability and practicality of each one.



Figure 1. A summary of different materials and the sustainability of their production and use. (Farak, 2016)

What became clear is there is no one-fits-all sustainable material; it is highly dependent on the application and budget, with each material offering its own benefits and implications both environmentally and socially.

Our research has pushed us towards the use of wood as our central material. This is because sustainable plastic options, such as biodegradable plastics and recycled plastics are less applicable to our goals. For example, biodegradable plastics are often less durable, which would not suit our longer-lasting toy design. Furthermore, many can also only degrade in highly controlled environments and yet, are often recycled alongside other non-biodegradable plastics resulting in the disruption of this whole system (Thomlinson, 2019). Recycled plastics also use potentially harmful chemicals within the recycling process, which we would like to avoid exposing children to (Thomlinson, 2019). There are also implications of wooden materials, such as endangering habitats through deforestation or tree farms which limit a singular species of tree, blocking local growth. However, there are numerous options we can take to limit this impact, such as sourcing ethical tree farming businesses or speaking to construction companies about obtaining

their leftover wood (Kaye, 2012). Similarly, natural rubber can be produced free from chemicals and has been proven to be beneficial to biodiversity when farmed correctly (WBCSD, 2020).

We also researched the environmental impact of softer fabric materials, as can be seen in *figure 1*, which is useful if our designs require additional textures. We found linen, hemp, alpaca wool, and Tencel fabrics proved to be the least environmentally damaging, and require the least chemicals in their development. Our choice of which would be dependent on our design and economic requirements.

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## Design for Meaningful Play

During our research into the existing eco-friendly toy market, we found that whilst many were sustainable, they were lacking in developmental engagement (Made for Mums, 2020). For example, the Independent reviewed an eco-friendly bubble set and a dinosaur play mat as the ‘best-to-buy’ toy from a list of sustainable toy options (Yeoman, 2019). However, whilst the materials and manufacturing process of these toys are ethical, they are ‘single-service toys’ in that they can only be used by children of the intended age group and are limited in their functions. This reduces the opportunities for play. The child will outgrow these single-service toys quickly and they will no longer be of value. Because of this, encouraging developmental engagement at different stages of a child’s upbringing is one of our main values for Utopi’s design, as referenced in goal 1: ‘*To design longer-lasting toys that grow with the child*’. Our development in this area gives Utopi a key point of differentiation from other sustainable competitors.

### Open-Ended Play

Researching the works of Cas Holman, an individual who has spent roughly 18 years designing for play and imagination, had a big impact on the direction of our project. Her projects, which focus on abstract forms of play that emphasise the intuition and creativity of the child, was something that influenced our ideation process towards more open-ended, modular play. We were inspired by principles of ‘free play’ that her projects, such as ‘Geemo’, represented; the magnetic pieces

of Geemo attract and repel one another in unpredictable ways, giving the child multiple possibilities for creation and the power to use their own imagination (Holman, 2020). There is no right or wrong way of using her projects, and this was a concept that we wanted to explore more of within our own work. Our inclusion of this concept in Utopi is aligned with goal 2: '*To create more meaningful and educational experiences through open-ended play.*'

### Gendered Toys

As mentioned in the PESTEL analysis, parents are becoming increasingly frustrated with the boy/girl divide when shopping for toys. A UK campaign, called 'Let Toys Be Toys' seeks to counter this divide and remove the gendered associations with types of toys and playtime (Oksman, 2016). Historically girls have been told they should play with dolls, and boys encouraged to be more 'rough and tumble'. However, this restricts potential development that children could benefit from by playing with a wider range of toys. Dolls, for instance, can teach both boys and girls feelings of empathy and how to take care of another individual, whereas puzzles and building blocks promote skills in mathematics; by alienating genders from either of these forms of play, we lessen their ability to learn vital skills (Oksman, 2016). Because of this, we are determine to design genderless toys.

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# DEVELOPMENTAL MILESTONES



**Motor:** Able to walk and turn corners, begins running, is able to pull or carry a toy and climb onto and off of furniture.

**Motor:** Crawls and sits. Transitions into different positions: sitting, all fours, lying on tummy. Rolls a ball in imitation of an adult.

## 2-3 YEARS

**Motor:** Can walk on tiptoes, pedal a tricycle, jump on the spot with two feet and imitate standing on one foot.

## 1-2 YEARS

**Psychological:** Begins to identify and explore their physical skills to develop a feeling of independence.

**Psychological:** Likes colours, senses, sounds.

## 3-4 YEARS

**Psychological:** Begins to assert themselves more frequently, plan activities, make up games and initiate activities with others.

**Motor:** Children at this age have more spatial awareness and balance. These are more fine motor skills.



## 4-6 YEARS

**Psychological:** Become more intellectually active, learning to read, write, and do sums independently. They will become more self-aware and conscious of social groups.



**Motor:** At this stage children have much more mature motor abilities and are continuing to develop and improve them i.e. honing in on their catching skills.

**Motor:** Children are much more physically advanced; can skip using a rope, balance on a beam and demonstrate mature throwing and catching,

## 7-8+ YEARS

**Psychological:** Social awareness and self-reflection continue to develop as children place greater importance of their value within society.

## 6-7 YEARS

**Psychological:** Continues to develop self-esteem and attempts to demonstrate competencies to peers.

# Summary Of Secondary Research Key Insights

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- There is substantial plastic waste caused by the toy industry, as well as numerous ethical and economical issues involved in the supply chains for large market players. (Pg. 1,2,4)
- The use of durable and modular design are two powerful circular methods for reducing waste. (Pg. 6,7)
- Wooden materials are the most sustainable and valuable options for our designs, due to durability, freedom from harmful chemicals, and wealth of ethical and economic options for sourcing the wood. (Pg.7,8)
- It is not enough to add environmental value to products, we must also consider social and economic value. (Pg. 5)
- There is an overconsumption of toys in the UK, with most toys going unused or unwanted. (Pg. 2)
- ‘Single-service’ toys are contributing to this overconsumption through a failure to support a multitude of forms of play. (Pg. 8)
- Open-ended play can place children in control of their own adventure, and allow for higher quality support for development. (Pg. 9)
- Tech integration of toys is a contested issue with the desire for a bridge between digital and physical play, to support both forms of development. (Pg. 3)
- Gendered toys are limiting children’s development. (Pg. 2,9)



# Primary Research

To further explore the insights found through our secondary research, and to learn more about the market first-hand, we conducted various methods of primary research, including: interviews and surveys with parents, children, toy distributors and toy designers. Alongside these surveys and interviews, we also dissected a series of second-hand toys to investigate toy construction and recycling capabilities.

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## Surveys and Probes

The first survey was conducted to understand parents and their decision-making when it comes to purchasing toys. We wanted to identify and understand the factors that help and hinder a potential purchase.

### [Insights from “Children’s Toy Choices and Parental Attitudes’ Survey”](#)

Out of 53 responses we were able to identify 35 variables considered in the purchasing of a toy. Price, educational value, and longevity were the three most popular mentions. We considered these factors as our top priorities, alongside sustainability, when it came to designing our toy. This aligned with goal 3: *‘To develop healthier consumption habits by encouraging quality over quantity.’*

#### *1. Brand loyalty*

When it came to brand loyalty, we found that participants were willing to invest more money in a toy that they deemed ‘worth-it’. 10 individuals mentioned LEGO specifically, often explaining that it was a brand they loved when they were young and, although expensive, their products provide great longevity. This finding suggests that some variables, such as price, can be compromised if others, such as brand image, are more prominent.

#### *2. Price*

In terms of price, we found that individuals would pay an average of £5-20 on day-to-day purchases, but for special occasions, such as birthdays, the range grew

between £40-300. It was suggested that the every-day presents are smaller and less meaningful than the occasion presents, something reflected in the price range. Further, the larger price range for 'occasion presents' was generally justified by the size of the toy, and whether it was an 'indoors or outdoors' toy. Generally, parents are happy to pay more for a larger, outdoor toy, especially for an occasion.

### *3. Durability, Development & Future saleability*

When asked about factors external to the child's request when purchasing a toy, the main variables mentioned were: how long the toy would engage the child, whether it is developmentally stimulating, and if it would be easy to sell in the future. The need for engagement and future saleability supported our desire to make our business model circular. We used this information to begin thinking of ways we could optimise engagement, whilst also incentivising parents to return the products once their child had outgrown them. These steps allowed us to satisfy our first goal regarding the reduction of landfill waste.

### *4. Toy Design*

Typically parents reported that their children get bored the quickest with licensed toys that have faces and make sounds. We deduced that this is because it takes the creativity out of play and limits the possibilities of use. This finding encouraged our direction towards open-ended play, aligned with *goal 2*, to make play more educational and meaningful.

### *5. Gifting*

The majority of parents are grateful when their children receive presents from friends and family. However, they prefer it when they ask the parents what it is the child might want or need. Frustrations were mentioned regarding a high volume of unwanted toys in every household. We wanted to combat this worry so we began to develop a way to disrupt this undesired gift-giving process. These developments aided us in achieving *goal 1*, in reducing landfill waste, and *goal 3*, in creating healthier consumer habits.

## 6. Sustainability

Finally, when provided with two toy options differing in sustainability of materials and price, the majority of parents (72% and 83% respectively) chose the more expensive sustainable-looking toy over the plastic one. This shows us that parents are willing to compromise on price for their desirability of sustainable products.

### Summary

- Price is the primary variable parents consider before purchasing a toy. However, if other factors exceed standards, such as *longevity* or *sustainability*, then individuals are happy to pay a higher price.
  - Children are quick to lose interest in single-purpose toys, supporting the idea of designing for more open-ended, minimalist play.
  - Although parents appreciate others buying presents for their children, they prefer having input into this decision.
- 

## User Personas

Using direct quotes from the surveys conducted with parents, in combination with our secondary research, we have identified 6 types of parents that we will be targeting with our products and marketing. These personas are visualised on the following pages.

## The Money-saver



### **Parent quotes:**

(Do you purchase in shop or online?)

"I do both , dependent on workload and time pressure. If I use the internet it's Facebook market place for second hand and local"

This is a single parent with two school-aged children, who works full time as a barrister in a city, where she also lives.

She always manages to do the school drop off and pick-up and spend time with her children in the evenings and at the weekend.

She tries to save money wherever she can and buys all of her children's toys and clothes second-hand.

She never has the trendiest things for herself or her children but they are all very happy with what they have.

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## The Environmentalist



### **Parent quotes:**

"Tends to be wooden toys such as Melissa and Doug. These last and wanting something we can keep for future family members."  
"Natural materials and home made toys are my preference."

School sweethearts, these parents are not married but have a very deep connection. They live in the countryside.

These parents will do a lot of research before choosing a toy for their children and they won't buy many new toys for their children, so the ones they do are special.

They are loyal to brands that have a good reputation for environmental consideration.

They are a big fan of hand-me-downs and are grateful for everything they receive.

They are very aware of how their actions effect the environment and would like to teach their children about how to be conscious too,

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## The Hassle-free



### **Parent quote:**

"Money doesn't come in factor, it's how much use and development they are going to get out of it"

Divorced parents, both work full-time and have child-care for their 3 children. Both parents work in the city and commute from the suburbs.

As much as they love their children their time is consumed by their work.

They are happy to keep up with the trends of children's toys and normally opt for toys that their children can play with independently.

Money is not a worry for these parents, as long as their children are excited by the toy and can entertain themselves

## The Anxious



### **Parent quotes:**

"I hate pink!! I want something gender-neutral and NOT plastic!"  
"I would always ensure safety standards are met and a guarantee is in place."

These parents are unhappily married and live in a small town in the suburbs.

These parents have read all the parenting books and get stressed when they contradict each other because then they don't know which advice to take.

They push their children at school to achieve the best they can be and sign them up to multiple after-school activities (as long as they're safe).

When buying toys they read all the safety reviews before purchasing and they look for toys with strong developmental angles and up-to-date social messages (e.g. gender neutral). They get really upset when family and friends buy toys for their children without checking with them first.

## The Idyllic



### **Parent quote:**

"We now try to buy activities/experiences rather than toys, and are encouraging our son to be more thoughtful when choosing toys. He has to earn his toys through saving money and through good behaviour."

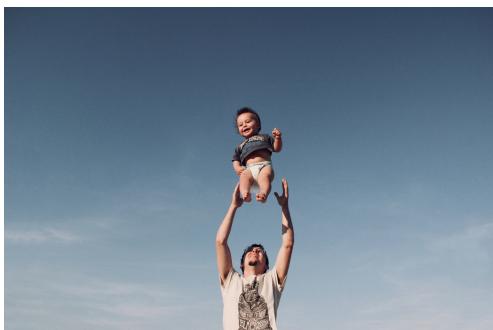
Happily married parents, with a good work-life balance. They live in the suburbs.

They just want their children to be happy, they're not pushy with school work or activities but encourage curiosity in their children.

They love family time together but they also make sure their children have time on their own as they know it's important to develop their independence.

They're happy to buy toys for their children as long as they're not extortionately expensive. They always check to see if they can get it cheaper second hand.

## The Adventurous



### **Parent quote:**

"A toy needs to inspire creative play not just be cheap tat that breaks immediately."

These parents are happy, as long as they are doing things together. They are a team and really trust each other but hate quiet time together.

They live in a lively village in the countryside  
-These parents wake up their children early before school so they can go on a family run, and they also plan family activities for every weekend.

They love spending time with their children, especially on cycling holidays.

They really appreciate any toy that promotes collaboration (so they can join in) and gets their kids away from screens and into the outdoors. They are happy to spend more on something like this, as long as its high quality and their children don't get bored with it quickly.

## Interviews

One of our goals in the early stages of the project was to find out more about the toy industry first-hand from individuals working in the sector. This was to gain more in-depth insights into the current products available, the prices they sell for and whether they are successful, and why. Additionally, speaking to owners with expertise and knowledge of their customer base gave us a greater understanding of the pains and gains of the customers they serve on a daily basis.



First, we contacted independent toy stores to ask if anyone would be interested in engaging in a discussion about the idea of sustainability within the toy industry. [REDACTED] an independent store in [REDACTED] Bristol, invited us in for a 30-45 minute discussion.

### Insights

- Children get bored of single-purpose toys (e.g. licensed toys or toys that speak). This is because it limits the number of ways that they can play with them.
- The store owners introduced us to a few lines that were particularly good sellers, such as [REDACTED] a sustainable brand that repurposes milk bottles into toys. They explained they have observed a trend towards more sustainable toys, and the products in their shop reflected this.
- For some eco-toys, whilst the materials were ethically and sustainably sourced, they did not suit the purposes of the product. For example, some options of biodegradable plastics were not as durable and lead to a shorter lifetime for the product. We also saw these findings in our secondary research on page 7 and 8.
- As parents, the owners of [REDACTED] also expressed their frustration with the gifting experience. They explained this was because they don't have enough space and so toys end up unused, unwanted and taken to second hand stores.

- [REDACTED] also had a focus on stocking more attractive toys that strayed away from the bright cheap plastics. They mentioned that many of their customers, and they themselves as parents, felt frustrated at these toys for cluttering and devaluing their home.



Following this, we spoke to the owners and an employee of a company called [REDACTED] an organisation with expertise in the design and manufacturing of various products, [REDACTED]

### Insights

- We identified there was a market for more premium, sustainable children's products. For instance, they showed us an example of a £400 high-end sustainable baby mat by [REDACTED] that was popular in the US market.
- It is important to find a balance between environmental impact and economic value. They felt there was an uncatered market for those who couldn't afford these premium products, but wanted to make more environmental choices.
- As parents themselves, they expressed frustration at how some of the sustainable products on the market were not actually as durable or usable, often leading to breakages, further waste and a loss of social and economic value.
- For their children they often opted for second-hand options where they could. The biggest issue for them here though was with regards to safety, as for some products, they felt they could not risk the quality of second hand products on their child.
- We learnt about the complex and sometimes deceptive nature of supply chains. For example, some companies advertise their products as 'made in the UK' if only the last part of manufacturing (e.g. sewing on a label) is done in Britain. We were keen to provide transparency on this, complementing goal 3 of our project, in creating healthier consumer behaviours.

## Birmingham toy fair

On the 6th February 2020 we attended the ‘Springfair’ in Birmingham which included a full section dedicated to the toy industry. This consisted of around a hundred different children’s toy brands, ranging from the old to the up and coming. We saw this as an opportunity to interview a wide range of individuals whose livelihoods reside in the toy industry, and to make observations of the recent innovations occurring within the toy sector.

This opportunity meant that we were able to interview a range of toy manufacturers and companies from across the world, including Parisian toy distributors and even a company from Peru selling soft toys made from alpaca wool.

### Insights



- Aesthetics of toys can reflect current fashion trends. For instance, [REDACTED]’s toy colours were taken from those used on the latest Parisian runways.
- When using wooden materials, we were told to ensure the wood source is FSC approved. This means that the wood comes from responsibly managed forests that provide environmental, social and economic benefits (FSC, 2020).
- [REDACTED] brand was centred around the trend of “taking parents back to their childhood” ([REDACTED], 2020). We discovered that feeling connected to their younger years was a key selling point for parents, with wooden toys capturing this sense of nostalgia for the past.



- As China is beginning to manufacture a synthetic latex, there is less demand for natural rubber, meaning that fewer rubber trees will be planted. A large number of toy manufacturers, including [REDACTED] use the wood from rubber trees as a by-product of the demand for rubber. Therefore, other materials need to be considered in the future. Birch and Beech wood were both suggested as good alternatives.

- [REDACTED] also has an educational foundation [REDACTED] where their materials are sourced and toys produced. This foundation provides milk and books for children in [REDACTED]. From this we took away the feeling of a positive brand identity associated with the toy company because the representative we spoke to was very knowledgeable on the whole of the supply chain, and the company uses their profits to give back to the community they source from. This was a company characteristic that appealed to us and something we wished to reflect in our own start-up development, appealing to our third goal of encouraging healthy consumer habits.
- Our discussion with [REDACTED] also prompted the formation of a future connection. After explaining our project goal and some of our early-stage concepts, the representative from [REDACTED] expressed interest in a possible collaboration, asking to see any future designs we came up with. We believe this demonstrates the desirability of both our project and team.

*General:*

- Tech is a big trend, generally targeting boys. However, the turnaround rate with tech is a big issue, with everyone wanting the 'latest thing'. This causes extensive waste of tech toys that are no longer trending. Moreover, toys that include elements of tech are extremely difficult to recycle, due to all the components that are required.
  - Most representatives were uninformed when asked about their supply chains. This was especially found by representatives of companies that manufactured toys from recycled plastics. The majority did not know the source of the plastics, how they were manufactured or even the countries that were involved in the process. One interviewee even suggested that some companies manufacture plastic, which they then 'recycle' in their toys and market the toys as 'made from recycled plastic', when the plastics have never left the factory. These insights furthered our desire to create a business with transparent and ethical supply chains that carefully select and respect the materials chosen for manufacturing.
-

## Toy Analysis

Using some of our funding from the enterprise team at Bristol University\*, we visited 5 different charity shops to source second hand toys which we could examine and deconstruct to determine the types of materials that go into making them. Toys are known for being difficult to recycle (Begley, 2018), but we wanted to see for ourselves just how tricky this process was, how many components go into a standard toy, and how these toys are constructed.



### Insights

Every toy we bought had more than one material throughout. This meant that they had to be separated in order to stand a chance of being recycled. However, with various screws, seams, electrical elements and fused joints it was incredibly difficult to do this successfully. Parents do not have the time to do this. The difficulties we faced in dissecting the toys led us to the decision that our product should be made from one easily recyclable material, or one that could be taken apart easily for recycling capabilities.

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\* *Pitching to Young Enterprise:* We submitted an application form to Young Enterprise and pitched our initial concept of a more sustainable, developmental children's toy, with the central focus that it could grow with the child as the child gets older. From this pitch, we were granted £200 to develop our ideas further.

# Summary Of Primary Research Key Insights

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- Price is important but they are happy to somewhat compromise this for other prominent features, such as sustainability and longevity. (Pg. 13, 14, 18)
- The gift-giving process can cause stress through mass of unwanted toys. (Pg. 13, 17)
- There are growing trends in both sustainability and retro toys. Materials are constantly evolving, especially in correlation with sustainability trends, and it is important to grow with this. (Pg.17, 19)
- Wooden toys can create a sense of nostalgia for parents. (Pg. 20)
- The turnaround time with 'tech' toys can create extensive waste. (Pg. 20, 21)
- Transparent supply chains and charity create an attractive brand image to families. (Pg. 19, 20)
- Toys are not designed for recyclability. They're often made of multiple materials and are challenging to separate. (Pg. 21)



# Defining Our Direction

Throughout our research methods various issues were prevalent which we feel, due to the response of the public we spoke to, offers a significant market for a new innovative approach.

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In summary, these issues were:

An unsatisfactory amount of plastic waste caused by the current tobrands dominating the market.

A loss of open-ended, non-gendered, toy designs which limits children's exploratory play and provides poor quality developmental support.

An overconsumption of toys for children. Partly as a result of the limited functionality of toys, but also due to the pressures and expectations of parents, lack of durability of plastic toys, and a result of gift giving on birthdays and other events.

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These issues led to our three goals, as referenced in our executive summary:

Longer-lasting toys which can grow and develop alongside the children using it, designed with durable and sustainable materials.

Open-ended, non-gendered toy designs which provide limitless opportunities for children's play exploration, effectively supporting them at every stage of their development.

A design which encourages a reduction in overall toy consumption, in favour of fewer higher quality toys. This must be supported through a provision of educational and informative resources.

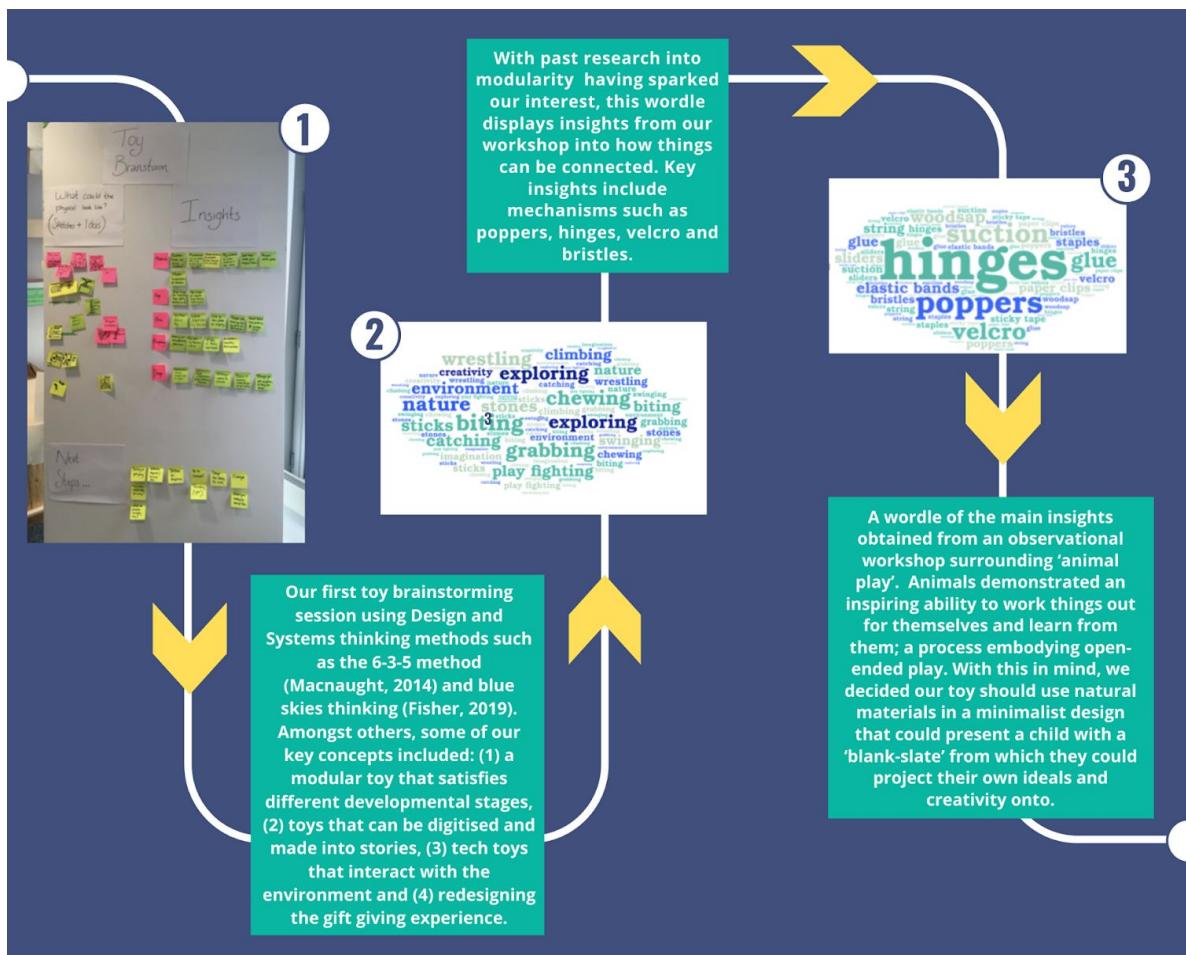
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These were the goals used to direct our design and development process for our toys. If we can achieve these three goals successfully, we will have a sustainable toy model which is also economically and socially valuable to the market, according to our primary and secondary research.

# DESIGN AND DEVELOPMENT

Using our three goals to steer us and keeping our research into circular design principles and open-ended play in mind, we began to explore possible designs for our toy. Our journey through design and development is visualised and annotated below.

## Ideation Journey



## Design Sketches

Figures 2 and 3 display sketches of our designing process for different potential toy ideas and how they could be feasible with different forms of connection.

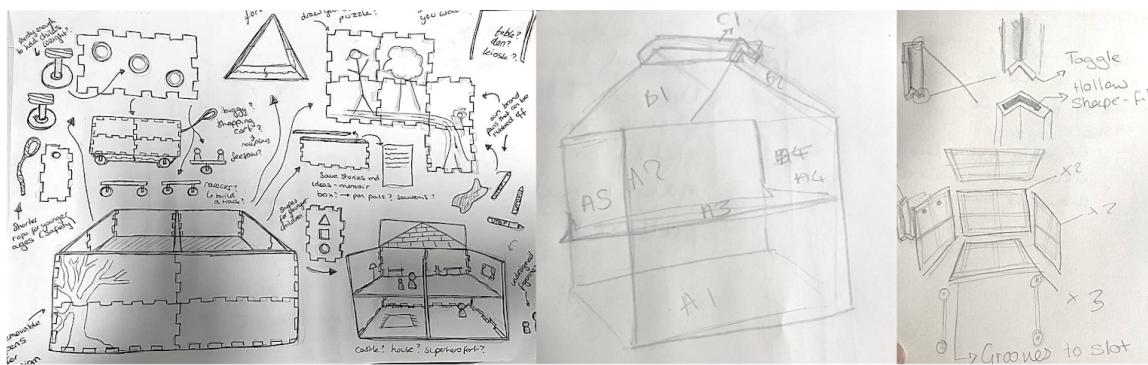


Figure 2. Redesigning the cardboard box. Looking at the themes of creating 'blank-slates' for open-ended play, we visually explored how children use cardboard boxes for play - creating dolls houses, building structures, drawing on them, and more. We sketched out how we could design a more durable, and attractive, box which offered this same functionality.

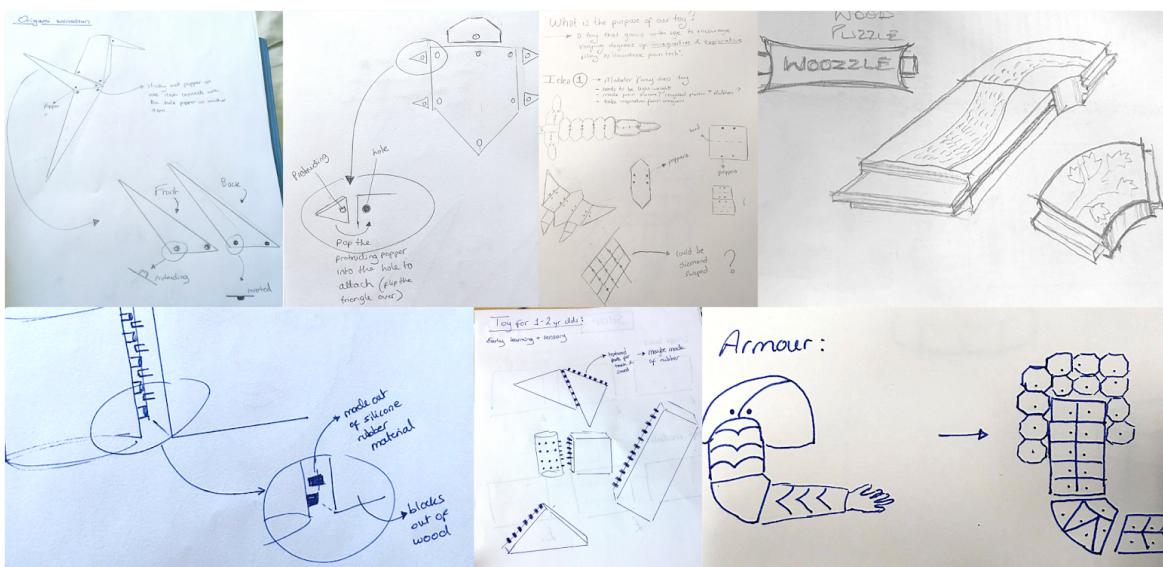


Figure 3. Developing designs for open-ended, modular toys using our ideations on how objects can be stuck together, and the shapes, sizes, and creations children of different age ranges enjoy exploring and playing with. From top left to right: origami-inspired bird and turtle; modular connectors to build costumes; initial Woolzle sketch. From bottom left to right: sketch of how pieces could be connected through bristle-like structures; shapes that could be connected using the bristle mechanism; intricate sketch of the modular-costume with the shapes that could make it possible.

## 3D Modelling

Figure 4 displays the 3D models that we created to share with potential users to gain feedback, which was used to adapt and develop our designs.

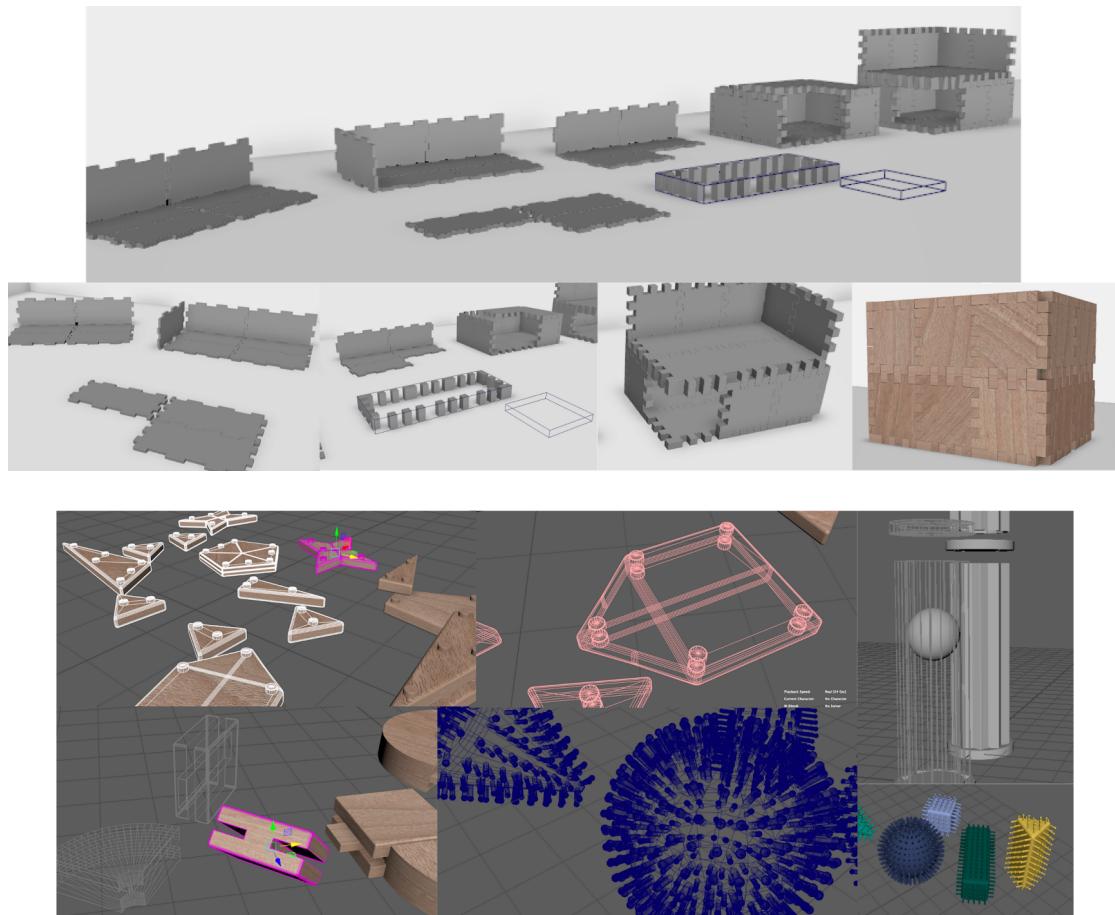


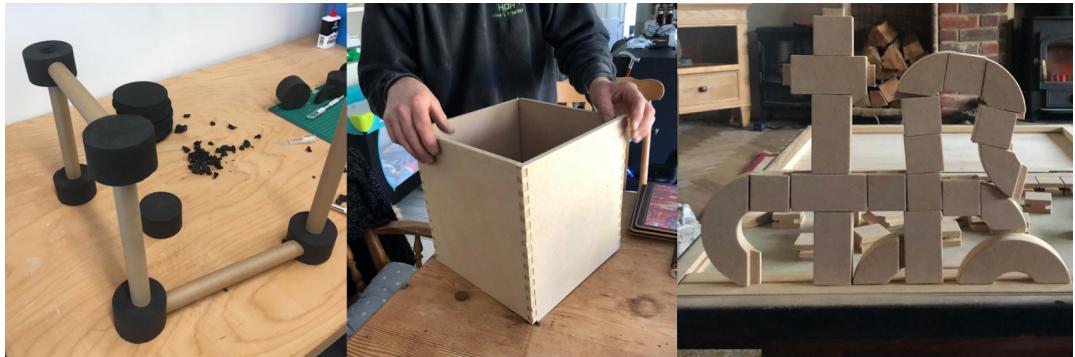
Figure 4. 3D models were made to visualise our sketches and understand the feasibility of our ideas, we created 3D models using Maya software. Top: the progression of the woozle demonstrating structural changes and material inclusion. Middle left to right: oritopi modelling, sensoovi dimensions; 3D model of the hollow inside, and ball of a sensoovi toy. Bottom left to right: 3D exploration of the different pieces of the woozle and how they connect; 3D modelling of the texture of the sensoovi products; final 3D imaging of the sensoovi products with added colour.

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## Physical Prototyping

Figure 5 shows the various physical prototypes we were able to produce within the circumstances. We had the opportunity to work with a carpenter who advised us on the structural feasibility of our designs. Following these workshops we adapted the design of Utopi Box so that the long faces of our design are

constructed by one long rectangular puzzle section, rather than two square pieces (Boulton, 2020). This means that the structural integrity of the box is more solid, making it a viable option to place heavier objects on top of, whilst also maintaining multiple options for play.



*Figure 5. The physical prototypes from different stages of our project. The left: an initial prototype from the early stages as we explored ideas, connectors and shapes of potential box constructions. The two images on the right were prototyped by a local carpenter following collaborative workshops. The middle: a basic prototype to demonstrate the 'puzzle connectors' of Utopi Box.. The right: an intricate prototype of how 'The Woozle',*

## Feedback and User Testing

*Figure 6 displays a happy Utopi user testing out our 'Woozle'. She gave us informative feedback about how she would get the Woozle out to play with if her friends were coming round (Willettts, 2020). We observed that she used her other toys with the Woozle, showing that our toy can be easily integrated with its surroundings to encourage greater creativity in play. This feedback session showed us how desirable the Woozle is to our Utopi audience and helped us define what age this toy would be for (3+).*



*Figure 6. A user feedback session using our physical Woozle prototype with a potential Utopi user.*

## Storyboarding

Figure 7 shows our storyboards to visualise and describe the journey users would take, which was helpful for us to iron out any issues, smaller details, and helped inform our later plans for marketing and branding.

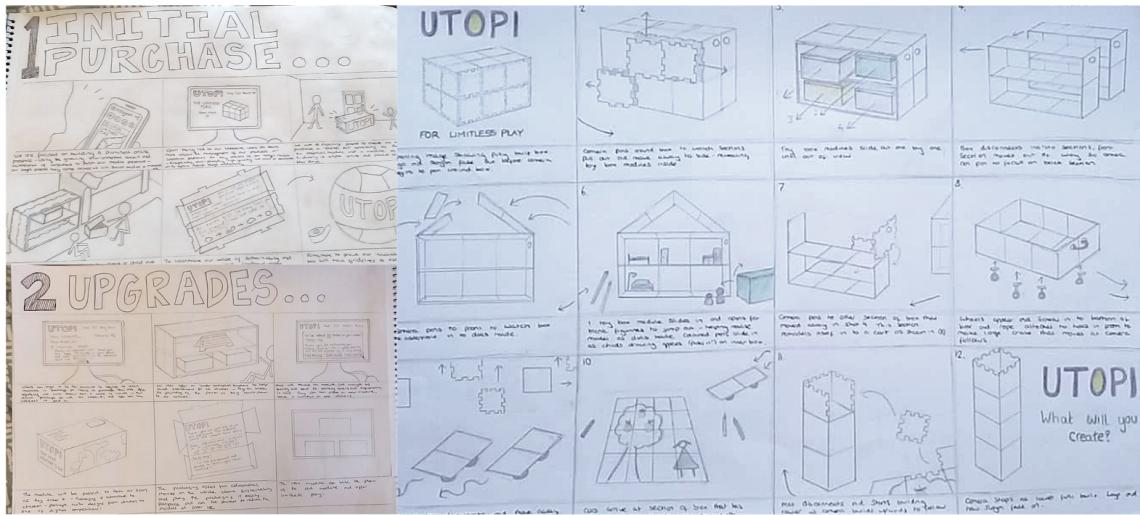


Figure 7. As we began to finalise our developed designs, we used storyboards to examine and ideate how users could find, learn about, purchase and interact with our designs and business idea. Top left: our initial purchase storyboard showing the user journey from purchase on website to receiving and opening their Utopi product. Bottom left: our 'upgrades' storyboard to show the user journey of returning a module to receiving a discount and purchasing a new one. Right: a user journey of how the Utopi Box can be played with once received.

## Digital Interface Design

Following the design of our toys we also designed two website platforms to engage Utopi users. *Figure 8* displays the design and development process of our websites from wireframes to reality.

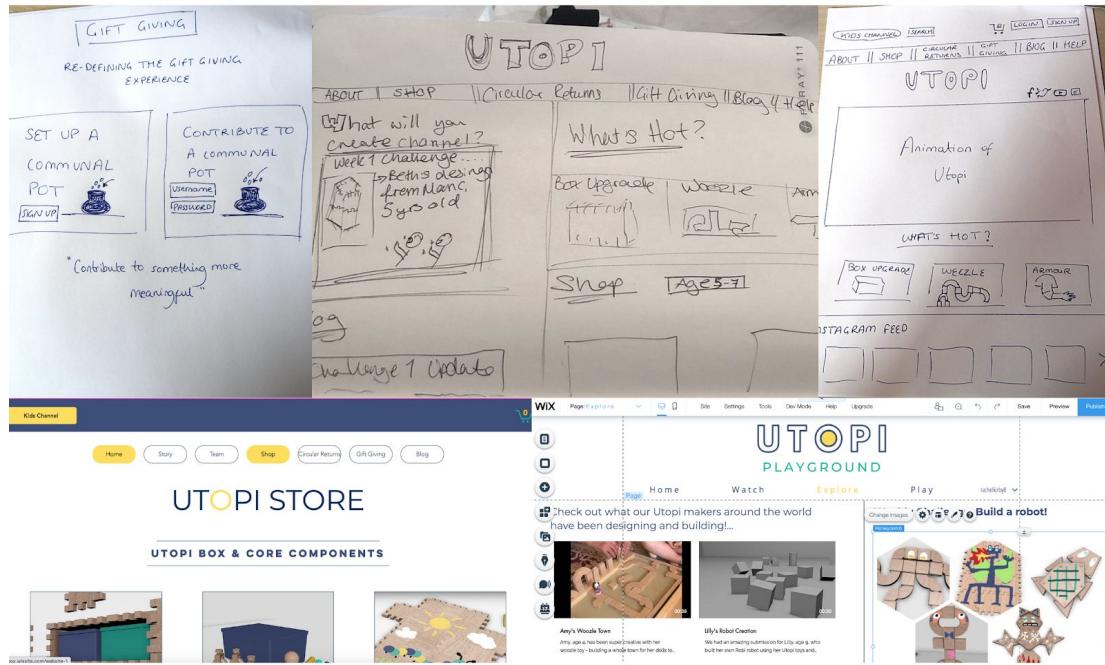
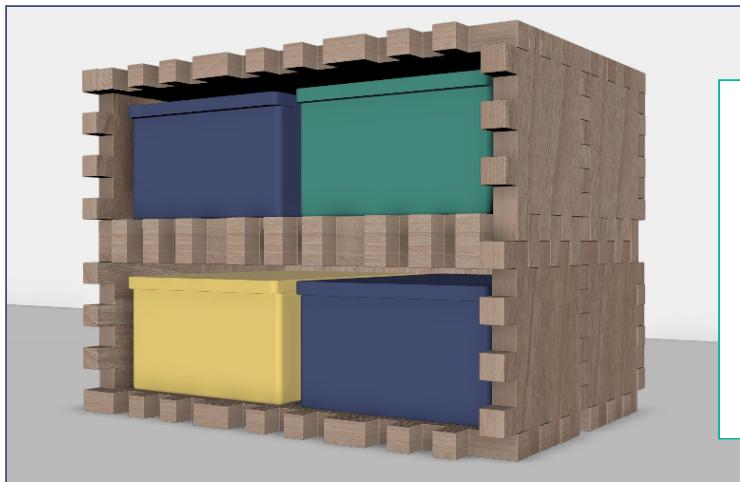


Figure 8. With better understanding of the user journey, we were able to map out other elements of our business such as digital interfaces. We drew sketches and plans for the various interfaces and later used wix to create digital prototypes. Top left to right: wireframe of the gift-giving page on our website; wireframe of the layout for the Utopi Store website. Bottom left to right: our Utopi Store website developed using Wix; our Utopi Playground website developed using Wix.

# OUR SOLUTION



## MEET UTOPI

the modular box, for limitless play

Welcome to Utopi, the wooden toy box  
designed for more meaningful,  
sustainable and developmental play.

Our solution is a modular approach to designing high-quality open-ended toys using wood and natural rubber. We have chosen these materials after our research found them to be the healthiest options, both socially and environmentally (pg. 7, 8).

Our modular approach allows elements of the toy to be returned and replaced as children grow older, so the toy is always suitable for their age group and development.

Returned modules can be refurbished and re-used, creating a circular loop with no waste. Through this system, we can reduce the amounts of new materials we need to process, keeping our costs and our environmental impact down (pg. 6, 7).

This reduction in cost means we are able to offer users a discount on their new modules, given they return their old module, adding economical value to the products too. Furthermore, the added longevity and usability of our toys adds more value for their cost. We will also work to spread awareness on the knowledge that fewer, high quality, toys can be more developmentally supportive for children than vast numbers of cheap toys (pg. 2, 9). We encourage this by promoting a maximum of four toy modules to be in use at any time. By doing so, we can encourage a reduction in users consumption and help inspire and support the next generation.

These decisions were tailored to produce a toy which is both economically, environmentally, and socially optimal - satisfying Braungart and McDonough's highly acclaimed model for circular economy products, where efficiency is measured through economical, environmental, and social satisfaction (pg. 4).

You can find our concept video here: <https://youtu.be/0GwSarlh0mo>

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## Toy Design

Central to our modular design, is the Utopi Box.

This is a modular, compartmental box made up of jigsaw-like pieces. It can be transformed into many forms of play, dependent on the child's imagination and how they wish to use Utopi.



Utopi's box shape allows the toy to be packaged back up efficiently and the sustainable wooden material is not only better for the environment, but allows it to fit in with the more 'adult' living room.



You can see our Utopi Box concept and our digital and physical prototyping here:

*Utopi Box Concept:* <https://youtu.be/zG5cO2djpIM>

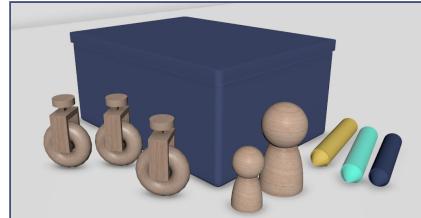
*Utopi Box Prototypes:* <https://youtu.be/cOePr4etria>

The Utopi Box houses up to four 'add ons', a variety of additional modular toys that can fit into the compartments of the main Utopi Box

The modules cover many forms of play, from fantasy play through to construction-based play, for a range of ages. We have developed four initial module concepts and our company will be continually innovating and growing these ranges as we learn more about children and play.

## The Core Module

The core module includes attachable wheels, crayons and figurines to provide more play options for the Utopi Box.

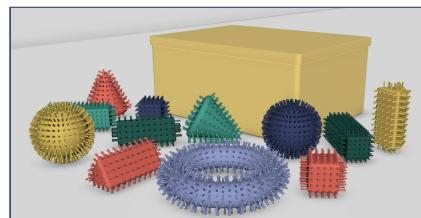


The wheels offer support for motor development, the figurines allow options for fantasy and symbolic play, and the crayons provide opportunity for artistic and creative play... just to name a few of the possibilities! The Utopi Box concept video above demonstrates a few of these in action, and the full components of the core module can be seen here:

*Core Module Prototype: <https://youtu.be/qaeI4gkj3kk>*

## The Sensoovi

The Sensoovi is designed for 1-2 year olds who seek to explore the wonders of both sound and touch. These modular toys are not made out of wood but are made from 100% natural rubber which is safe and biodegradable.

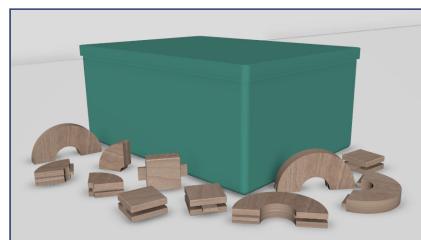


This change in material is to better cater for children between ages 1 to 2 years. The toys include rubber balls inside that rattle, and have more intriguing textures for touch, to better engage the senses. They are also suitable for teething. The pieces are larger and more colourful than other toys, and can be used for building using simpler mechanisms for younger children (pg. 10).

*Sensoovi Prototype: <https://youtu.be/N8cIRRFWIMA>*

## The Woozle

The Woozle is a modular wooden building block toy for ages 3 to 5. It is inspired by the shapes used for a train track, as they allow a multitude of different constructions.

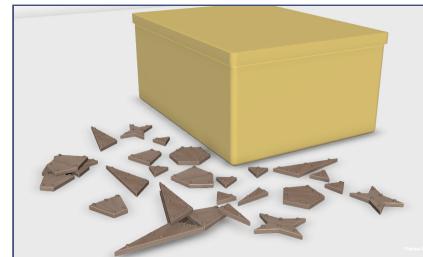


The beauty of the Woozle is that it can be played with in 2D, so the pieces slot together on a flat surface, but it can also be built upwards to create 3D structures. The growth from 2D to 3D is a great way to help develop children's planning skills, dexterity and imagination (pg. 10).

Woozle Prototype: <https://youtu.be/EYd8JVhwtEO>

### The Oritopi

The Oritopi is a modular, wooden origami-inspired toy, designed for an age range of 5 to 7, made from a variety of shapes that click together to form weird and wacky structures.



Although Origami is popular for its beautiful creations, it can also be tricky and guidelines have to be followed to create pre-planned designs... and it also uses a lot of paper! Oritopi offers a simpler mechanism for creating unique designs. Children can create their own original characters, build props, or simply create beautiful art, due to the added function of being able to draw on them (pg. 34).

Oritopi Prototype: <https://youtu.be/bCcvBrmDbdU>

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## Children's Digital Platform

Utopi toys aim to re-connect children to their physical environments, providing a healthy escape from the digital games that are beginning to dominate the market (pg. 3). However, we appreciate technology is an integral aspect of our modern world (pg. 3).

The 'Utopi playground' is a fun, dynamic, and educational way to incorporate the digital world to our Utopi concept. The Utopi playground allows children to play digitally with our toys and share their creations (with parental consent).



Key focuses of this website include: inspiring children to play with their physical toys, using the website as a digital space for creativity, and also to educate children on play and sustainability. As a circular company who encourage change in consumer habitual behaviour, education and information are a key element for helping achieve this shift (pg. 5). It also helps us build a sense of reliability and community among our users (pg. 5).

*Utopi Playground Prototype:*  
<https://rachelkirby8.wixsite.com/utopiplayground>

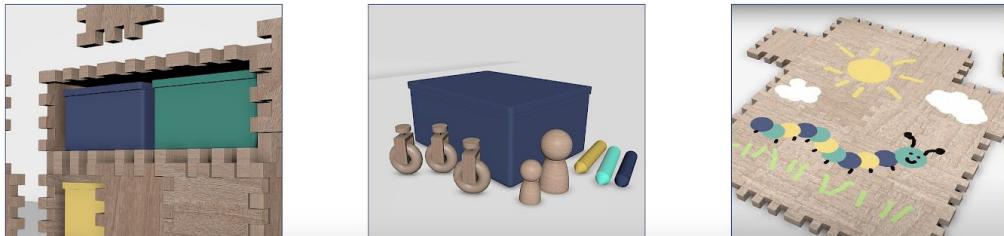
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## Online Shop

Our Utopi online shop showcases our Utopi products for parents to purchase. Additionally, it acts as a place for parents to learn about the following: the Utopi brand, about sustainability and play through our informative blog, and, importantly, to gain information on two fundamental characteristics of Utopi's business model: 1) Utopi's circular returns and 2) the communal gift-giving process.

# UTOPI STORE

## UTOPI BOX & CORE COMPONENTS



Utopi Shop Prototype: <https://utopibox.wixsite.com/website-1/>

## Communal Gift Giving

One of our key insights from speaking with parents is the issue of gift-giving on events, such as birthdays and Christmas (Pg. 13). Many parents found themselves overwhelmed by the quantity of poor-quality plastic toys given from family and friends. Not only does this cause stress for parents - dealing with clutter over the house - but it also exposes children to over-consumption. This can hinder their exploration of creative play, and is a leading cause of plastic waste in the toy industry. We felt our toy solution would not be complete without addressing these issues.

The website interface includes the text: "This is Jack's communal pot for his 4th birthday. Contributions can be made below and a personalised note will be sent to Jack's address to let him know you have thought of him!"; "Contributions to this pot means a little goes a long way. No more single-use gifts when you have a Utopi pot!"; and a "Contribute" button.

This is why we developed a communal gift-giving opportunity for Utopi users. Simply by creating a link through our Utopi website, parents can encourage friends and family to contribute towards a Utopi module as a present to the child, rather than individual, lower quality toys. When family and friends contribute

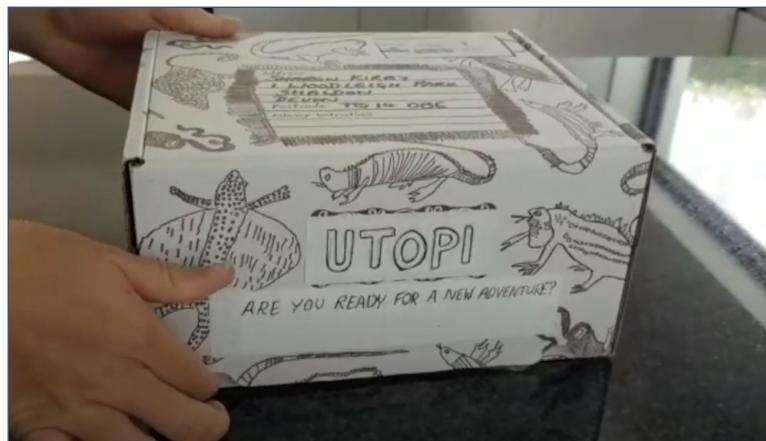
towards this communal gift, they can also upload a personal video or message for the child to store, helping the gift feel more personal.

*This option can be viewed on our website at:*

<https://utopibox.wixsite.com/website-1/blog>

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## Packaging



As we promote communal gift-giving and the purchasing of fewer, but higher quality toy products, we were aware this would impact the gift-giving process for parents and children; as they would effectively be giving and receiving a lower quantity of presents.

After background research into the psychology of the gift-giving process and the meaning it provides for many people (pg. 13), we wanted to explore methods to compensate for this loss through creating a richer experience with the packages that were being used. For instance, our packaging will use durable cardboard that is easily reusable and flat-packed for storage. It will also display a variety of games and comics inside for the child to play with, and feature beautiful designs for children (or adults) to colour in.



# Measuring Environmental and Social Impact

To measure our success in achieving our goals and designing a sustainable and desirable children's toy, we analysed the environmental impact of our concept, as well as the desirability, viability, and feasibility

## Environmental measurement

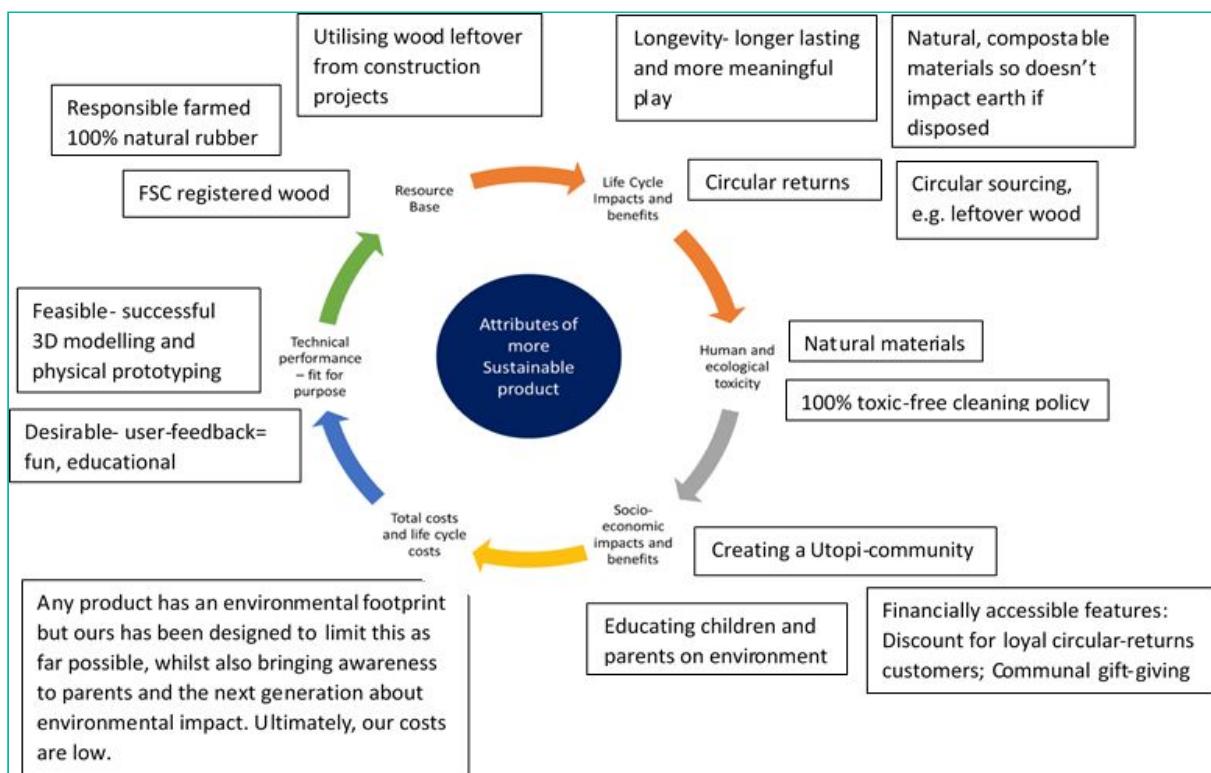


Figure 9. A model of product attributes that classify sustainability (Brady, 2016). This model was inspired by classical strategies to quantify sustainability as proposed by Han Brezit. Written in the peripherals of the model are the factors we have identified that satisfy each attribute of a sustainable product.

We are measuring our impact using the 'Sustainability Attributes of Products' model shown in Figure 9 (Brady, 2016). We have been able to satisfy every attribute of a sustainable product, as proposed by this model. This suggests that our business model and design concepts have been successful in creating an eco-friendly company.

## User Desirability

### *Feedback and User Testing of the box*

Since our prototyping and testing with parents and children at ██████████ was cancelled due to the COVID-19 outbreak, we created a digital animation prototype (*link in the above section under the Utopi Box concept*), which was sent out electronically to parents with young children. The following summarises our feedback on the design of the main Utopi Box and core module:

#### **Feedback on modularity**

From the seven responses, six of the parents commented on the versatility of the box design, citing the opportunity to create many different things was something that appealed to them. Three of these parents specifically mentioned how the adaptability of the toy would be great for their child's imagination and creativity. For instance, one parent cited "As a parent, I like the versatility! It inspires creativity and ingenuity in the child which is important for their development".

In terms of the mobility of the box and its attachable wheels, one user felt it would be good to have an attachable handle so that the child could push and pull the cart more easily. This is a design feature we have noted for future development.

#### **Size and storage**

The physical prototyping and testing of the box had to be cancelled due to COVID-19, proving difficult to test the size with users. Four of the responses queried this, stating they would pay more if the product was larger. One parent specifically stated they would like each segment of box to be 25cm squared. Product sizing is one design characteristic of Utopi that will be a prototyping priority for us when we are able to test this.

Moreover, the idea that Utopi could also be a wooden storage box, as well as a toy, was an important factor for parents. One user mentioned how this appealed to them, due to the limited space they had in their living room. Another commented on how the aesthetic of the box would look good against the wall when the child is not playing with it. These latter insights confirmed that Utopi not only adds

value to the child through open-ended play, but also to the parent through storage and aesthetic.

## Digital Feature

One valued response from that of an 11 year old child, asked if the Utopi Box could come with a separate digital platform to plan creations and try out new 'add-ons' before purchasing them. This insight in particular informed our development of the Utopi playground, a website for children to plan, create and share virtual Utopi creations (see pg. 38).

### *Survey Feedback on Modules and Concept*

We additionally created a product-feedback survey that used our digital models to explain the concept of Utopi, and present our current four add-ons. This survey requested feedback on our 'add on' toy designs, pricing, proposed age-ranges, and the values our Utopi concept offers.

## Offered Values

We asked our surveyees which attributes from 'Elements of Value' table they felt our product offered them, if any. On average, respondents identified seven to eight values from this table which they related to our product. The most popular choices being: 'Variety', 'Organises', 'Simplifies', 'Quality', 'Fun', 'Sensory Appeal' and 'Social Impact'.



Ahead of receiving these responses, we built a value proposition canvas (*figure 10*) using our initial primary and secondary market research.

This helped us to identify which core values were most important to our target users. We hoped we could use this study to compare with our survey responses, so we could measure our success at designing a desirable product for our market.

The key values identified from this study were to offer 'Quality', 'Sensory Appeal', 'Reduced Cost', 'Organisation/Simplification', 'Fun' and 'Social impact'. Comparing

these with the responses from the survey, we feel positive that our design succeeds in providing user-value, and would be desirable to market.

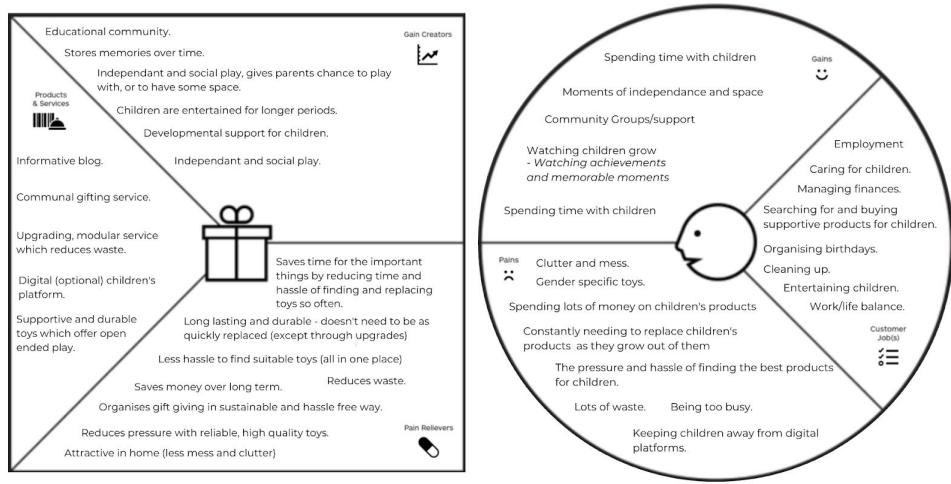


Figure 10. Mapping our user jobs, pains, and gains to identify the key values we want to offer our users.

## Age Ranges

The age ranges identified by our survey responders aligned with the ages we designed them for. We therefore believe we have succeeded at catering to the targeted developmental stages in the eyes of our market.

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## Feasibility

In terms of the feasibility of Utopi, we spoke with a carpenter to help us understand the practicalities of wood-work and whether our design could be achieved sustainably. He aided us with the prototyping of Utopi Box's jigsaw mechanism, which was shown to work successfully. He further suggested that a good source for sustainable wood is a scrap yard, as it would involve the upcycling of reclaimed wood to make the Utopi Box (Boulton, 2020). However, a major issue would be ensuring there is a sufficient amount of wood to maintain a reliable supply chain.

Considering this, we approached the owner of [REDACTED] an energy efficient construction company, to gain greater insight to sourcing sustainable materials ([REDACTED] 2020). The owner explained that after his most recent construction project they had a lot of timber leftover and so donated it "to make toys for

Cheltenham hospital creche". Following this insight, we conducted research into leftover construction materials and found that this is a highly frequent situation; making it a viable solution to our materials' sourcing. We believe through establishing relationships with a number of construction companies across the UK, we will be able to obtain sufficient unused timber to create our wooden Utopi Boxes and 'add-ons'.

Further, the system of modular-upgrades is a process used by other companies, such as 'ffs' who provide modular razor heads that can be sent back for an upgrade once used (FFS, 2020). This demonstrates the feasibility of a modular upgrade and returns system. Indeed, by prototyping our flat packed packaging we were able to successfully test how an aspect of that system could work.

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## Viability

Utopi's longer-term success will depend, in part, on the number of sales generated. As our previous survey outlined, 78.8% of respondents chose the more expensive sustainable toy over the taxonomically similar but cheaper, plastic toy (pg. 14). The same survey suggested parents were willing to pay between £5-20 for an everyday toy and between £40-300 for a special occasion toy. Due to the size, sustainability, longevity and developmental aspects of our toy, we believe it is appropriate to price it in the 'special occasion' price range. This is supported by responses from our second survey, which priced the Utopi Box between £15-100, with the majority between £40-60. However, for those who feel the price is too high, our communal gift-giving and circular-returns discounts can help make Utopi Box more financially viable for a wider audience.

The Utopi 'add-ons' will be priced between the high-end of the everyday price range, and the low-end of the special occasion price range. This decision is also supported by our product-feedback survey with the add-ons being priced between £20-30. The feedback we received from our prototypes regarding pricing shows that there is a viable market of individuals willing to pay for our products.

# Marketing and Branding

Our success at bringing Utopi to the market is not only dependent upon our toy design meeting our goals for environmental and social value. It is also contingent on how effectively we can convey these values to our target users. As seen on page 5, when circular products require a change in user consumption habits, as ours does, the marketing and branding of the product plays a vital role in overcoming this hurdle. Developing a strong marketing and branding strategy was therefore a central element to our business design.

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## Mapping The Market

We first mapped out the size of our potential markets using a top-down sizing approach.

Globally, all parents with children under the age of 10 years old is the furthest possible reach that our toy could satisfy.

Our product would be more viable in Western countries, which have a better reputation for environmental concern. These countries mainly consist of the majority of Europe, Australasia, and the Americas (Smith, 2017).

The most feasible country for us to launch is the UK because it is where we are based. The Office for National Statistics reports approximately 5.73mil children between the ages of 5-11 within the UK (2019). In a separate analysis it is approximated that there are 3,15mil families with at least one child aged 5 and under (2016). Statistica reports, on average, most UK families have two children, so we doubled the number for families with children of 5 years and under, making 6.30mil children under the age of 5. This is further supported by the findings of our survey, where the majority of participants reported having two children.

On average (over two questions with 53 responses each) in our survey, 78.85% of participants chose a more expensive toy for their children when it was made from wood. When questioned about their choices comments included “wooden is better”, “it would last longer”, “more gender neutral”, and “more opportunity for children to show their imagination”. These responses suggest wooden toys evoke

positive messages of longevity, creativity and inclusiveness that are often demeaned in plastic toys. We used these responses to inform our branding.

If we can assume that there are 6,02mil families with two children under the age of 11 (Satista, 2019) and 78.85% of those families would be interested in actively choosing a more sustainable children's toy then our maximum UK reach is approximately 4.74 mil families within the UK.

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## Market Channels and Activations

Using a bottom-up approach, we then mapped out our channels and activations in steps for accessing the different levels of our market.

The best to start building our client-base, using a bottom-up method, would be by marketing to the families we already know. Through word-of-mouth and social media we estimate that we would be able to directly reach 50 families.

Next, we would send each of those customers a voucher for them and a friend, hoping to double our client base to 100 families.

We would then approach local schools that our customers' children attend and market to them. We would hope to incrementally build our school customer-base by geographic proximity. This will allow us to be savvy with direct marketing until we are turning a larger profit for a more extensive marketing strategy.

Eventually we would like to span the schools within the UK. There are approximately 25,000 nurseries and primary schools in the UK (Besa, 2019). We believe it is fair to assume that 1 in 20 of these schools (1,250) would be willing to purchase our toys, based on their educational benefits, especially regarding the environment which is gaining more attention in education.

Our toys showcased in schools would give teachers and parents first-hand experience of their benefit to children. In turn, this would encourage a larger parental customer-base. According to the Department for Education, in 2019 there was estimated to be 4.66mil children in primary schools and nurseries combined (Department for Education, 2018). If we assume that 1 in 20 parents

from the 1 in 20 schools would want to purchase our toy, we would have reached 11,650 more individuals to join the Utopi-community.

Once we are able to afford more effective marketing tools we will be able to efficiently market our ‘communal gift-giving’ concept, therefore appealing to other parents who previously did not have the budget to purchase it for their child. Our ultimate reach in the UK would be the 4.66mil children.

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## Competitor Analysis

To better understand our positioning within the toy market, and identify which elements of our business distinguish Utopi from other brands, we ran an analysis on our key competitors (seen in *figure 11*, below).

One reason we have focussed on sustainability is due to the lack of attention on the topic in the industry, despite being an enormous contributor to land-fill waste (pg. 3 & 4). Whilst sustainability is gradually becoming of greater concern, with a few emerging sustainable brands and slow movement from large companies towards more sustainable goals, 90% of the market remains built on cheap, non-recyclable plastics. There is, therefore, a feasible gap in the market for innovation of better sustainable solutions.

	<b>Large Corporations (Eg. FisherPrice)</b> Brand: Cheap, trusted, variety, bright characters. Cheap harmful plastics and manufacturing. Easily broken, many non-open ended, limited toys. Not visually appealing for adults home.
	<b>PlanToys</b> Brand: Sustainable, ethical, connected to nature. Rubber wood material. Soft appealing colours. Various social campaigns and educational materials Expensive toys, but high quality.
	<b>ModuToys</b> Brand: Long lasting, developmental. Focus on mobility, with little support for other forms of play. Although can be social or independent. Muted colours. Classy clean design. Large toys, difficult to pack away. Grows with kids.
	<b>Whirli</b> Brand: Fun, bright, inexpensive, sustainable. Fun, children focused graphics. Subscription service with alternate pricing options Rent re-used toys (made by other companies - may not be the highest quality, supportive toys)
	<b>ToyBox Club</b> Brand: Educational, developmental, hassle-free, space saving, sustainable, high quality. Classy and clean style. Gender neutral Subscription - a lot more expensive than Whirli, but higher quality, supportive toys.

*Figure 11. Analysis of the key competitors for Utopi in the current market.*

The toy market’s strongest competitors are established brands such as FisherPrice, who dominate the market with plastic toys. Their trustworthy reputation maintains their popularity, despite the harm their products cause to the environment (pg. 3). To compete with these brands, we need to promote the

reliability and safety of our products to help our target market feel comfortable purchasing them, despite Utopi being a new venture. Our blogs and marketing platforms, previously discussed (pg. 36), are one channel for doing so. Through these platforms we will continually highlight these features to familiarise customers with our brand and build rapport as a trustworthy organisation.

Encouragingly, our differentiation from these brands is clear, with high-quality design and sustainability being at our core. Even as these brands make steps towards more sustainable goals, their established structures create barriers for implementing these as efficiently as we can as a start-up, as discussed on (pg.5).

Our other competitors are smaller, more recently developed toy brands who also focus on sustainability and reducing toy waste. This includes PlanToys (Babipur, 2020), ModuToys (MODUtoys, 2020), Whirli (Whirli, 2020) and the Toy Box Club (The Toy Box Club, 2020).

PlanToys is one of the better known sustainable brands. Like us, they offer mostly wooden toys with high-quality designs. PlanToys focuses on re-connecting children with nature and hosts a variety of social campaigns and educational materials. They are expensive toys marketed towards middle/upper class parents, for whom the environment is a key decision-maker regarding their purchases. We hope to differentiate from this brand by offering a more innovative, longer-lasting, modular approach, which is more financially accessible to a wider audience.

ModuToys has a similar approach to us, designing longer-lasting modular toys, that has potential to grow with the child. However, their toys are large, difficult to store, and not aesthetically pleasing. Here we can differentiate our focus on a toy design that fits comfortably within the home. Furthermore, ModuToy focuses on play for mobile development, whereas Utopi toys support a vast range of development and play. By doing so, we reduce the need for other toys (further reducing waste) and provide more rounded developmental support for children.

Whirli and ToyBox Club are subscription services which allow parents to rent toys and continuously replace them as children grow, for the cost of a monthly fee. The ToyBox club is an expensive service, costing £35 a month (£420 per year), marketed towards middle/upper class parents. Whirli is more affordable, offering a range of pricing options for more accessibility. Whirli toys can be lower quality,

and are frequently plastic toys. In comparison, the ToyBox club offers higher-quality, more supportive toys, explaining the disparity of cost. Our differentiation from these companies is our commitment to meaningful and open-ended play, which we believe to be the highest quality form of support for children.

	Price	Sustainability	Open-Ended	Attractiveness	Long Lasting
Utopi 	4	5	5	5	5
FisherPrice 	5	1	1-5	1	1
PlanToys 	1	5	1-5	5	2
ModuToys 	2	5	4	2	5
Whirli 	4	5	1-5	2	5
ToyBox 	2	5	1-5	2	5

Figure 12. A competitor analysis, quantifying the effectiveness of different variables of value.

### Insights

- Providing safety information and educational resources is key for building our reputation as a reliable, trustworthy brand. This is important for competing with the large market players.
- The economic advantages of our model is a key differentiator for us, from companies such as PlanToys.
- Our high quality open-ended toy helps us differentiate from companies who offer sustainable toys but lack meaningful play.
- The wooden materials and design of our products offers an attractive aspect other key competitors are missing.
- Our designs for play support multiple forms of play, from motor to symbolic, unlike competitors such as ModuToys.

## Our Brand

The analysis of the market space, our positioning within it, and our previous research on potential users, including personas and value mappings, (pg 16,17, & pg 42), were all considered in the development of our brand.



In our product-feedback surveys we asked what elements of value participants would attribute to our business concept. Responses included, 'variety' 'quality' and 'fun/entertainment'. We aligned these with the previous values we had identified for our target market (pg. 40). These were used to inform the key values to promote through our branding and marketing, alongside the findings from our competitor analysis.

The three core Utopi colours were chosen to mirror these values, personality and tone. We chose soft, positive colours which worked attractively together. The turquoise signifies reliability and trust; yellow signifies our bright, positive, and optimistic personality; and purple signifies creativity and imagination (Chapman, 2018). The graphics we use similarly work alongside our values and tone. We adopted a circular theme as a nod to our circular design principles, but also because the circles and curves can evoke connectivity, safety, and nature (White River Design, 2020). We used these ideas throughout the marketing on our Instagram page, and other digital platforms, as seen in figure 12.

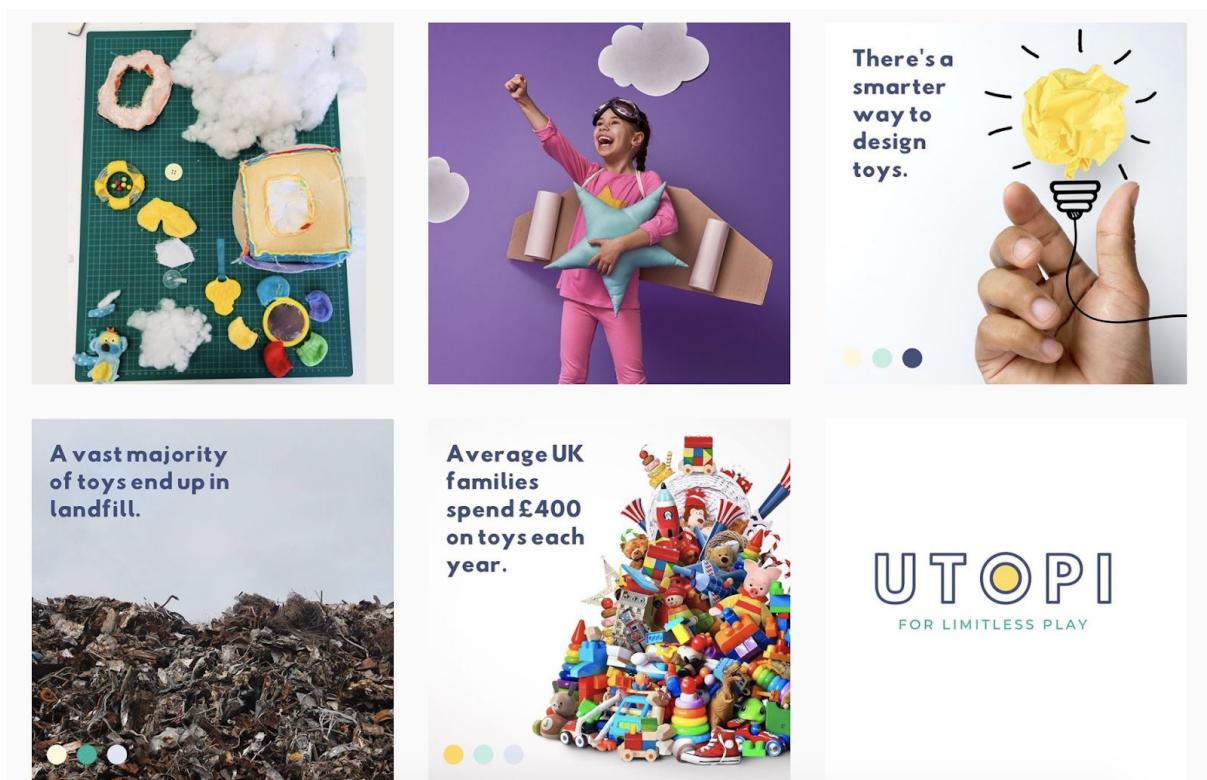


Figure 12: Some examples of the content shared on our Instagram (<https://www.instagram.com/utopibox/>), designed in accordance with our brand bible.

# Business Plan

Having designed and developed our final solution, we created a business plan to highlight and detail our direction and next steps. This section includes: our business model canvas, success criteria, risk-assessment, and 5-year plan.

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## Business Model Canvas

Our business model canvas (BMC) outlines our strategies from design to distribution (see Appendices 1). Our formation of the BMC allowed us to quantify our success criteria, identify risks, and construct our 5-year plan.

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## Success Criteria

As a reference point moving forward, we have outlined a number of success criteria to aspire to and as a benchmark from which to compare our progress:

1. Become a recognisable brand name in the UK after 10 years, with Utopi products being stocked by leading sustainable distributors such as 'KIDLY' and 'ETHICALSUPERSTORE.COM' as well as through our own independent channels.
2. Have generated 100 sales at the end of year 2 (year 1 used for development), aligned with our beta testing strategy.
3. Be consumed by an equal percentage of both boys and girls to satisfy Utopi's gender-neutral principles.
4. For Utopi Box to remain in a child's life for at least 8 years of their childhood before being sent back for reuse.
5. For 50% of sold Utopi products to be returned to Utopi for recycling and refurbishment at the end of each lifecycle. Each year Utopi will invest in the awareness and growth of this returns-system to boost this percentage criteria.
6. For at least 20% of our total customers, over a 5 year period, to have invested in a Utopi communal pot for someone.

# RISK ANALYSIS

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## RISKS

## SOLUTIONS

Creatives don't want to commission designs for modules

Our target market is not reached through Social Media, which is our greatest free marketing asset.

Software malfunctions, such as our websites going down

We are unable to source enough timber from construction companies

We are not able to efficiently clean our returned modules with natural cleaning supplies

Competitors develop similar features to our point-of-difference (communal gift-giving, discounted returns)

We already have initial designs and between us have the abilities to continue designing. Also, the fewer designs we have, the smaller environmental footprint we create.

To improve this we can find agile ways of marketing. Such as word-of-mouth campaigns, approaching schools, and physical appearances at toy-related markets and events

One of our founders is a Computer Scientist with experience in technological upkeep. As we grow, we will also intermittently hire a software company to monitor and update our websites.

We will have a list of contingent suppliers that can obtain FSC certified wood

Constant research will be conducted on the latest in natural cleaning. We will postpone the launch of our circular returns feature until such time that this is possible.

By the time this happens we will have established our brand identity and will be gaining rapport with customers. We will be an agile business that is in constant research and development for new ideas.

Commissioned creatives take legal action against us using their intellectual property

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Schools don't see the benefit of our toys, stunting sales and losing a channel for exposure.

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Uncovered corruption along the supply chain.

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Forfeitors who copy our designs, make them out of unsustainable materials and sell them cheaper. Potentially tainting our reputation

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There is no valid market for our concept

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Health & Safety issues regarding physical harm done to children through toxicity, broken pieces, sharp edges,

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Any collaboration will be legally binding. As well as this, they will be paid for their work or given a percentage of commission per sale.

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Whilst they would be a good source of exposure, schools are not our only sales channel. We will actively market ourselves online and directly to our target market.

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Our supply chain is completely transparent from the sourcing of materials through to the delivery of the toy to a customer. Additionally, as our supply chain is short and local, if there are any unethical practices (e.g. unfair wages) then we would be able to remove or resolve that section from our chain, source a new one, and adapt.

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We are going to legally patent all of our designs. Similar designs on the market are going to be closely monitored and reported if we suspect any possible forgery.

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We have conducted extensive research to falsify the lack of market. We have taken careful steps to evolve our concept around what the market is missing and around the needs of the target audience. Through our Beta test we can validate any persistent concerns and fix them before we take our products to market.

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All of the materials we use are 100% natural and cleaned with 100% natural cleaning materials. This should reduce any trace of toxic chemicals in our toys. Extensive safety tests will be conducted to certify the child-safety of each product.



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# 5 Year Plan

3

As places begin to re-open we will re-reach out to places such as We the Curious, and other museums, parks, schools, and families to set up sessions working with kids and parents with our prototypes. Bringing in social distancing restrictions can be done through only working with one household at a time and vigorously cleaning products between sessions.

2

As lockdown eases, we will attempt to access materials by establishing a relationship with a partnered construction company. Begin prototyping.

1

Continue using the leftover of our grant to elicit survey responses on a larger scale through select facebook groups and build up a bigger instagram following to begin our journey of educating on play and sustainability.

4

We will begin sharing our research with places such as CHI play. Also looking to partner with circularly focused companies, such as the Ellen MacArthur foundation, to get wider recognition, encourage their news and marketing team to run a piece on waste within the toy industry and our solution. Our developed blogs on the issues will help spread this process.

5

We will begin sharing our designs and research to try and obtain funding and investment through grants and competitions. Obtaining a grant will allow us to put our findings from research and prototypes in to developing our first beta set for our box, core module, Sensoozi, Ortopi, and Woozle. These will be used for final exhibitions, gaining interest.

6

We will search for families willing to invest in the initial box, core module and one extra module which they will be able to upgrade over time as our range expands. Use these for more feedback and to prove a market.

8

Expand to look at manufacturing options in factories and begin putting the product on wider sale. Start developing the Utopi Playground to be a reality, will need funding for developers to make the digital play option work, but until then can focus on updating with our videos and allowing children to enter competitions/share their creations.

7

Run hackathon competitions to help us build our range of designs, and grow awareness. Whilst continuing expanding our design range ourselves. Continuously expand range and prototypes.

# UTOPI

THANK YOU FOR  
READING!



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## Appendices

### 1. Business Model Canvas

Key Activities	Key Partners	Value Propositions
<p><b>Design:</b> Research on developmental stages, materials and sustainability. As well as build relationships with local creatives.</p> <p><b>Manufacturing:</b> Management of supply chains including physical, resources and partnerships. Software management to ensure playground is constantly evolving with new tech.</p> <p><b>Problem Solving:</b> How to increase supply to reach demand as our brand expands, whilst continuing to align with our values.</p> <p><b>Platform/Network:</b> Maintaining growth on social media and increasing our reach through word-of-mouth.</p>	<p><b>Design:</b> Think tanks with local carpenters, designers, and other creatives for new toy module ideas. This is to help support local and gain interesting perspectives of toy ideas from a range of creative professionals.</p> <p><b>Sourcing:</b> We will be partnering with multiple UK-based construction companies so that we can purchase their off-cuts and leftover timber at a discount. This will encourage circular principles and recycling from the very start of our supply chain.</p> <p><b>Manufacturing:</b> Initially we will hire someone from an independent workshop with a C&amp;C machine who could make small batch, high quality toys.</p> <p><b>Sales &amp; Marketing:</b> We will reach out to schools, activity centres, toy libraries, etc. to purchase and donate our toys. This will help us reach a wider audience.</p>	<p><b>Product:</b> Our products give value to parents and children through their open-ended and modular nature. It means that they can be played with for longer, aiding in more meaningful connections with the toy with fewer purchases needed, meaning money saved and fewer unwanted toys in the house. The modularity allows for easier clear ups, easier returns, and cheaper new purchases. Finally, each toy is designed with development in mind, which means that children are constantly aiding their motor and psychological development.</p> <p><b>Platforms:</b> Our platforms are purely educational and fun, providing both parent and child with important information about sustainability, instilling those values in children in a fun way.</p>
<p><b>Distributing:</b> Keeping up-to-date with how much our company is growing alongside stock capacity and manufacturing abilities. Also, reaching and impacting a growing number of schools and educational facilities.</p>	<p><b>Communal Gift-Giving:</b> This feature in our business model allows for more affordable, high quality and meaningful toys to be given as gifts, rather than multiple people giving unwanted toys. Further, it allows the parents to have input within the gift-giving process so that the worries involved in receiving multiple unwanted toys are reduced.</p>	<p><b>Circular Returns:</b> This feature makes the lifecycle of having toys in the home less stressful for parents, with an easy way to send toys back when children have grown out of them. It additionally provides the benefit of discounted future toys, helping parents to save money.</p>

## Customer Relationships

Utopi wants to create a community with their customers. Using our online platforms, such as our social media and our playground website, we will encourage engagement with both the children and parents. We believe that building a brand this way will be efficient in increasing our reach. Parents tend to have very good social networks with other parents that they know locally through organisations such as NCT, children's clubs and parent clubs. Therefore, word of mouth is a great way for us to market our products, especially at the beginning of our business whilst we are establishing ourselves financially.

We would also like good relationships with schools and other child-centred organisations as our toys are educational and fun.

## Customer Segments

Due to the communal gift-giving features, our product is affordable as a present, making it more accessible to a wider audience.

We are focussing our initial 5 years within the UK. Our survey findings suggests that 78.8% of parents would choose a sustainable toy over a plastic one, suggesting that we should be able to reach this percentage of parents. This accounts for £4.74million families of possible reach in the UK.

We have identified 6 parent personas; The Money Saver, The Environmentalist, The Hassle-Free, The Anxious, The Idyllic and, The Adventurous. Utopi addresses aspects of all of their needs in different ways. However, within the personas our toy would especially appeal to: The Environmentalists and The Money-Saver. This is because The Environmentalists want to encourage green independent businesses to do well and inspire sustainable principles in their children. The Money-Savers will appreciate the communal gift-giving model and the circular returns feature, as it will allow them to provide for their children without breaking the bank.

Additionally, our toys have been designed with longevity and open-ended play in mind so they will be able to be played with over many years.

## Channels

Initially our products will only be available to purchase through our website. This is because we are knowledgeable of our supply chains and want to establish an ethical and respected brand image. If we sold our products through other distributors who are less knowledgeable of their own supply chains or those of the other products they vend then it could compromise our values.

Our aim is to market with a bottom-up approach. We will market to friends and family that we know with children and ask them to talk to us about their friends to help establish a spoken-network for Utopi.

Once we have a small following we will approach schools and other activity based organisations that are centred around children. This will help get more awareness to our products and our brand. The familiarity will encourage more parents to explore what we have to offer. Once we are more established financially we will be able to funnel more towards marketing campaigns surrounding education and sustainability.

## Key Resources

**Design:** We need to patent our designs.

**Sourcing:** We need to find a company that we can regularly purchase off-cuts and leftover timber from. We also need to find a natural rubber distributor.

**Manufacturing:** We need a C&C machine to stamp out our designs from the timber and a health and safety assurance process.

**Sales & Marketing:** We need our social media to continue to grow and the analytics from this to help understand our customers. We also need regular updates on our websites. Additionally, we need parents to respect our brand and share it with their friends.

**Distribution:** We need cardboard for packaging and ink for the designs. We need a hub to store our toys and a delivery service that we trust to deliver them.

## Cost Structures

Utopi is driven by sustainability and high quality but is not met by extensive costs to achieve this.

**One-off Costs:** Domain name, patenting fees

**Fixed costs:** Rent, salaries, software updates and maintenance, manufacturing of toys (e.g. C&C machine running).

**Variable costs:** Materials, discount allowance from circular returns, marketing campaigns, delivery fees, cleaning fees (of returned modules).

Our research has allowed us to identify two ranges that customers are willing to pay on toys. The first is for everyday toys: £5-20, the second is for 'special occasion' toys: £40-300.

Our toy will belong to the lower boundary of the 'special occasion' category of toys. However, the communal gift-giving features allows the pricing to be dynamic, based on how many people and how much others contribute, which can be suggested by the parent.

Further, the discount we provide in 'return for outgrown modules being sent back provides a further incentive for parents to become loyal to the Utopi brand.

## Revenue Streams

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