"How can Eco-Collective build a community facilitating access to sustainable materials, within the graphic design industry?"

Introduction

Elevator pitch - summarise.

On closer inspection of my overflowing recycling bag contents, I realised that the majority of items I thought were recyclable are not actually recyclable at my weekly house collection point. In fact despite there being a large recycling symbol on packets, it only means half is recyclable or some packages must be dropped off "with bags at a large supermarket". There was even packaging such as fruit netting which had no information whatsoever on how to sustainably dispose of it, which is concerning as we are more aware than ever about our planet and the problems with pollution. More background

As a graphic designer, I am curious as to why brands have opted for designed packaging which is environmentally damaging, and to investigate how much sustainable input graphic designers have within a project. From speaking with various industry experts I hope to get a sense of the real issue in the design industry and how I can create a solution. More detail - what is the scale of the problem, and how will I explore? Global then UK

Design industry operations today

The graphic design industry today is thriving more than ever in the 21st century with much of its success a result from the advancement of technology. There has been a shift within the industry and the development of new roles that are beginning to overlap. Consider how 30 years ago there would have been one graphic designer that would have been creating typography for newspapers. In today"s society, the graphic designer has evolved to be a wearer of several hats, multitasking and being multi skilled. Creative job roles have expanded as technology has developed, examples include web design, marketing, advertising, digital content creators, photography and film makers.

Along with this fundamental development in the industry, comes software and tools which aid daily practice. Graphic designers now have a selection of programmes and toolkits to create projects, each suited to a particular task. Therefore have a responsibility to act sustainably, we have more access and information to change our footprint.

In order for me to begin to identify the problem with access surrounding sustainable materials within the graphic design industry, I need to explore the biggest issues within the industry and what sustainable offerings are available on the market to clients.

I need to narrow down the topic - explain.

Data

Data is an increasingly large problem in terms of sustainability. With internet globally available and ease of access, websites data has to be saved in large data centres which not only uses a lot of power and electricity in that regard, but these buildings additionally require cooling systems which need even more power.

Non Fungible Tokens are increasingly popular for online artwork, but protecting artwork digitally is an incredibly complex process which consumes a lot of time, energy and storage (CBS News, 2021). It is really bad for the environment; the mission to protect artwork in the modern, digital world where everything is easily copied/distributed, has resulted in harming our planet.

Simple techniques to reduce your data impact:

- Improving website findability and optimising loading speed (Donovan, 2021) can reduce the amount of power required to browse the web.
- Measure what your daily/weekly/monthly outputs are as a graphic designer/company in order to identify what areas need improving regarding sustainable processes.
- Reconsider the file sizes you are working with on a daily basis and reduce the size of your design.
- Investigate green cloud providers which can offer alternatives to sharing designs with clients as you work on the project, instead of emailing.
- Create printer friendly website designs.
- Review the equipment you use when designing and consider whether all is necessary; additionally turn off appliances and equipment when not using i.e. overnight or when out of the office.

These suggestions for saving energy will not just benefit the environment, it would enable graphic designers to save money running their business when using electrical equipment. It is also the beginning of the transition of becoming a sustainable graphic designer.

Print

Within the print industry, there have been some controversial debates around whether ink or paper is source of the problem when it comes to sustainability, including the proposal to the government written by 14 year old Suvir Mirchandani (CNN, 2014), which claims switching from times New Roman to Garamond will save them "$400 million dollars". Although this claim did not turn out to be completely accurate, it got people thinking about the impact that ink and paper have on the environment.

Some factors to consider for improving sustainability are:

• Kerning needs to be small
• Weight needs to be thin/lightweight
• Sans-serif typeface use less ink than serifs
• Size needs to be considered in terms of how much paper is used for printing

"Century Gothic is often cited as one of the most efficient regular fonts; because of its thin print lines it uses 30% less ink on average than Arial. However, Century Gothic is a large, broad and wide set font so whilst it uses less ink, it uses more paper when comparing fonts like-for-like at the same point size. Using a smaller point size can reduce this negative impact; Century Gothic can accommodate this without losing legibility because of its wide-set nature." (Leap, 2020). The quote above explains whilst a typeface may have a thinner weight, it is wide on a page and therefore uses more paper. The challenge for a sustainable typeface it to consider the carbon footprint of the printed material; not just the ink. A typeface that uses more pages uses more paper, therefore more space, more fuel for transporting and energy, power, time etc. and therefore it has a really big impact. Therefore print does play a role - but materials are a better area to tackle.

Packaging

"Reduce, recycle and reuse" is a great rule to live by but it will only get us halfway there in terms of saving our planet. We are now at the point of no return - it is no secret that our planet is drowning in plastic and it is predicted by 2050 there will be more microplastics in the ocean than fish (Ellen MacArthur Foundation, 2016). This instantly tells me that those three R's are simply not enough to transform our industry and the way we generate materials. Resources such as ink, paper and plastic that are sprinkled at customers to resonate a brand/company need not be wasteful. There are clever ways to promote a brand sustainably which can be just as effective, and bio-materials play a large role in this. There has been a huge shift in the last few years with awareness around sustainable alternatives; in the design industry there have been many start-up companies generating their own bio-materials from vegetables and organic matter. Interestingly, the first plastic named Parkensine that was bio-based was made from cellulose by Alexander Parkes, in 1862 (Plastics Make it Possible, 2018).

Here are some more examples:

• Botanical Inks studio are demonstrating a variety of ink techniques on fabric, paper and printing by using flowers and natural dyes from nature. From wrapping up the flowers within the fabric and leaving them to stain, to diluting them in water and using as tie-dyes and ink, there are so many different ways to use them (Babs Behan, 2018).
• Cleancult addresses concerns around sustainable materials not being appropriate for perishable goods and have developed paper based packaging for milk cartons. This demonstrates how it can be possible to keep perishables fresh and sustainable at the same time (Cleancult, 2021)
• Wise by Patagonia have also reassured consumers that sustainable materials can protect and preserve cosmetic goods by creating sustainable paper pulp packaging that is FSC forest certified (Dieline, 2018).
• The entirely dissolvable packaging developed by Mi Zhou demonstrates that the afterlife of a packaged product need not exist. At the same time, Zhou is also challenging the aesthetic boundaries of sustainable design as Soapack can be treasured as an ornament (Dezeen, 2019).
• Colour and texture has been successfully displayed throughout all of Elena Amato's work, proving that material made from bacterial cellulose in fruit and vegetables can be colourful, practical and look visually appealing for branding (Hitti, 2019).

- The fashion industry could take notes from Elissa Brunato's Bio Iridescent Sequin, which has been created using "wood's ability to form structures that refract light" (Brunato, 2019).
- Additionally, designers such as Suzanne Lee, Ross Lovegrove, and Neri Oxman have all delivered inspirational lectures around advances within the bio material field and have shown that switching from manufactured synthetic material to organic bio material is logical and futuristic (Lee, 2020; Lovegrove, 2005; Oxman, 2015).

So this has me wondering, why are we not seeing these innovative inventions above in the design industry? Are biodegradable materials really as good as they are made out to be? To understand this I need to research the current methodologies and processes within the design industry further. Start-ups, resource and funding, support system needed. Incentives?

From discussions with sustainable manufacturers such as Aylesbury Box Company I have been informed that currently, the process for manufactured packaging is split into two - industrial and retail packaging. Industrial packaging involves the shipping, factory and general manufacturing processes involved to protect products, whereas the retail packaging is customer facing. The difference between the two is interesting and highlights the differences required when brands advertise. Industrial packaging is often very basic with instructions on how to handle boxes, whereas retail packaging is all singing and dancing - often designed to lure the customer to the product. As the retail package is what sits on shelves this is where the overall design of colours, slogans, logos and package functionality is considered.
Unfortunately, this also means this is where greenwashing is introduced (along with the digital and printed marketing and advertisement of the product).

Greenwashing
One thing to be careful with is greenwashing surrounding branding such as misleading wrappers, symbols and advertisements. Phrases such as "eco-friendly", "ethically made", and "non-toxic", alongside bold advertising claims and eco power-moves, are thrown about by brands (Living and Vegan Food, 2021) in order to market their product to sustainable consumers and gain leverage over other competing brands in the market. Terminology definitions sound very similar but have different meanings, some examples are as follows:
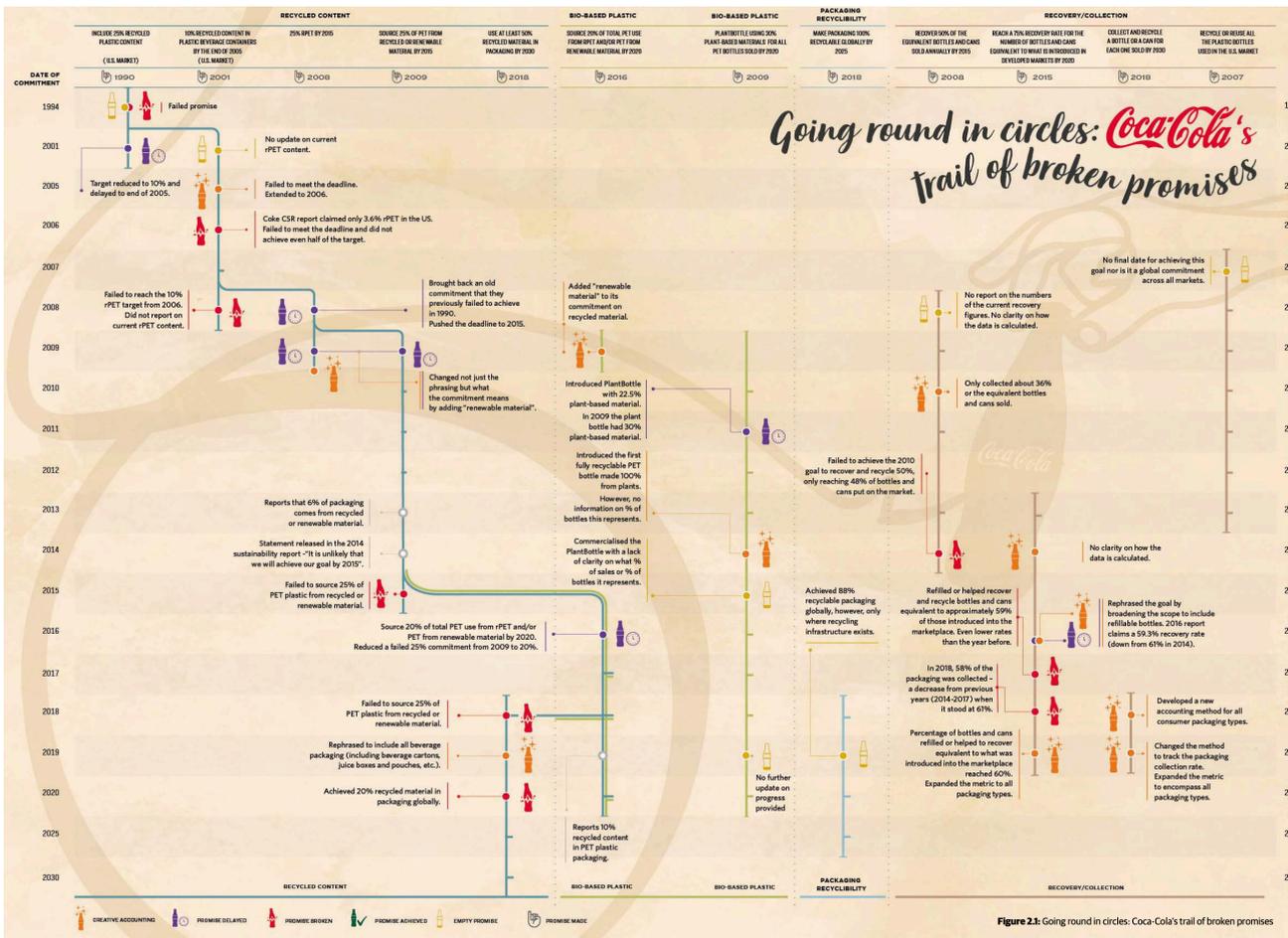- Recycled
- Recyclable
- Reusable

Recycled material refers to the process of plastic being transformed from one product to another, whilst recyclable material refers to plastic being collected to be made into something else. Reusable material is to imply that the item can be reused before it is disposed of (ideally recycled if possible).
For example, Coca-Cola's plant-bottle is one in a long list of brands which use green terminology as a marketing ploy to gain leverage over their competitors. What Coca-Cola are not telling you: their bottle is still PET plastic. Their bottles have switched from using fossil fuels in production lines to sugar cane material, which harms wildlife and destroys plantations. They are "just using plants to make the same polymers you find in other plastics. It has zero effect on plastic pollution," says Marcus Eriksen, a marine expert who studies ocean plastics (Westervelt, 2011). Exploring this further, a bottle bill could be a sensible solution, but Cola seem to be refusing to do so (The Intercept, 2019). It is interesting as Coca-Cola initially began this incentive, where customers had to return the glass bottles in order to drink Coca-Cola.

(Above image: A valuable insight to Coca-Cola breaking sustainable promises (Tangpuori, et al. 2020).)

- Compostable
- Biodegradable

Compostable items, if properly disposed of, will break down completely and can them be used to grow more resources. Biodegradable options will eventually break down, but we do not know when and there is no plan to use them for any additional benefit (Because Health, 2019). The biggest misleading information here is the implication that both terms are the same and that the material will dissolve back into nature very soon, when in fact the timeline for a biodegradable material could be years, sometimes decades.

Going round in circles: Coca-Cola's trail of broken promises

Figure 2.1: Going round in circles: Coca-Cola's trail of broken promises

- Ethical
- Sustainable
- Fair trade
Summarise above 3 points

Brand archive findings
Through researching various horror stories regarding sustainable practice and brands not being entirely transparent with their processes, I have discovered that all of the following can be detrimental to a business and result in scandals/very large fines on investigation:
- Excessive company emissions from factory/workers/drivers which can be minimised
- Burning stock in the name of "exclusivity"
- Greenwashing – plastic that is plant based but still PET plastic so that does not mean better, also different countries mean different percentages of "plant" ingredients in plastic
- Material sourced in another country with poor labour working conditions, including underage, excessive overtime and unsafe conditions
- Companies shifting the blame as they use subcontractors/buyers/sellers to do the dirty work for them – when they are the ones responsible under the label/brand
- Sending unnecessary emails which creates a carbon footprint
- Pesticides – harming literally everything not just getting rid of one specific disease and doing more harm than good
- Gas, coal and nuclear power which could be switched to solar/wind power
- Greenwashing – when a company "claims" to be sustainable but does the following: 1. releasing sustainable ranges of products but encouraging the consumer to buy more via marketing/discounts etc., 2. putting thought into the packaging but not workers rights and the other 101 important areas 3. sells a small sustainable range to make it seem as though the whole business is sustainable (but they mainly

- Large corporations importing illegal materials and also signing up to oppose laws that will expose the company
- Not paying the correct amount of tax or none at all
- Using harmful ingredients when claiming to be safe
- Changing packaging from plastic to an alternative which cannot be recycled
- Checking fabrics in garments to avoid plastic based material
- Defeat devices to cheat tests ensuring conditions meet criteria
- Copying artworks/designs i.e. stealing

From doing this archive I have identified that in order to be sustainable as a company, transparency goes a long way. In order for companies to identify and improve their sustainable footprint, companies need to be honest with not just themselves but customers as well. If companies fail to be honest it only backfires later down the line.

How can companies be more transparent? Introduce certification.

One consideration is that altering materials does not change the consumer system. The environmentally polluting materials are not going anywhere even if new materials are invented (although agreeable that the amounts may somewhat decrease globally by introducing bio-materials) and therefore the industry needs to be reviewed as a whole. This is a much bigger problem to address, and I want to begin by looking at current systems and processes that graphic designers are interlinked with in the industry that need to change.

We have all heard of carbon footprint but what about carbon toe-prints? Author Mike Berners-Lee explains how important fundamental information is regarding sustainability; how companies need to consider the bigger picture (the entire footprint) of their business, instead of just the basic things like print, packaging, using less electricity etc. (the toe-prints). What I have learnt so far in my research (particularly from doing a brand archive) is that there are a lot of companies who only think about the toe-prints and then when the entire footprint is investigated, they get into trouble. This includes but is not limited to: importing illegal materials (IKEA - timber), releasing eco-conscious garments but burning millions £'s of stock (H&M, Burberry etc.) and drivers making 3 separate deliveries to a customer in 3 days, when they could take 3 items in one trip after 48 hours (Amazon Prime).

Looking to other means of inspiration i.e legislation
The top three countries for sustainability as of 2021 are Denmark, Luxembourg and Switzerland. The reason these countries are successful is to do with each of them signing environmental agreements, which involves yearly EPI inspections to ensure they are on track with their sustainable goals. Another reason is also down to the amount of money that country has to spend on improving the way they interact with the environment, such as installing billions of pounds worth of wind farms to generate power. Elsewhere in 2019, the European Parliament agreed to ban single-use plastics which are harming the environment. The following products will be banned in the EU by 2021:

- Single-use plastic cutlery (forks, knives, spoons and chopsticks)
- Single-use plastic plates
- Plastic straws
- Cotton bud sticks made of plastic
- Plastic balloon sticks
- Oxo-degradable plastics and food containers and expanded polystyrene cups

(Above video: An introduction and summary of the bottle bill scheme functionality and effectiveness (YouTube, 2017).)

The bottle bill is also another government led scheme which is effective in countries such as Michigan, Norway, Germany and Lithuania in encouraging consumers to recycle their packaging. Consumers pay a
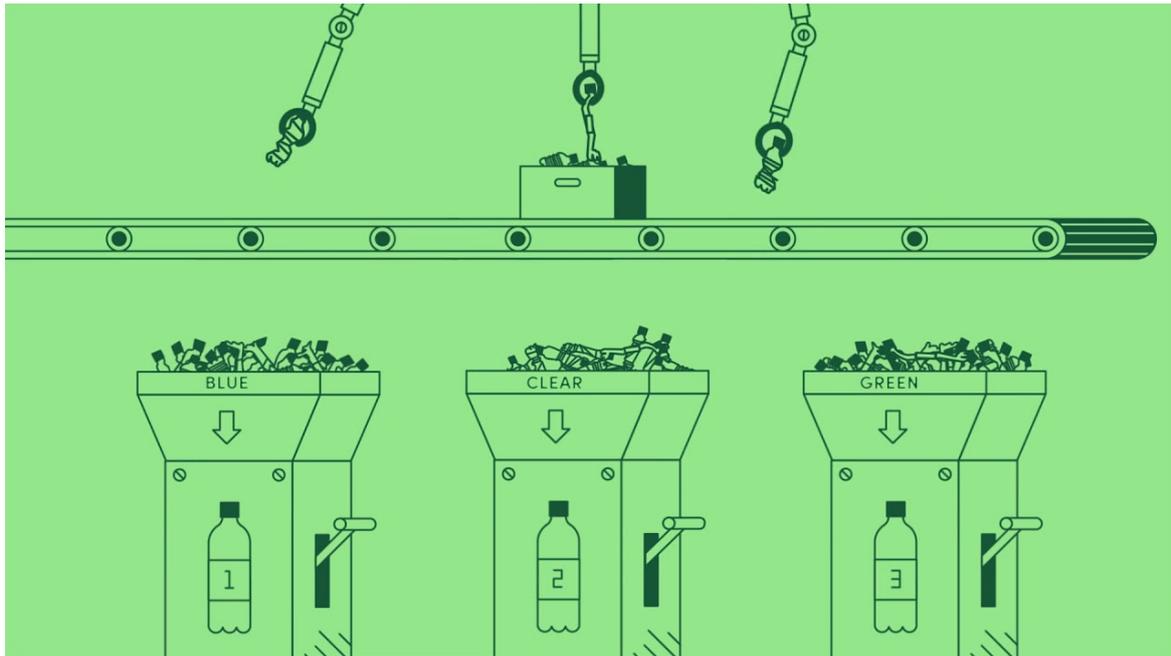
small additional sum as deposit at point of sale, and then when returning the container they will get their deposit refunded.

The UK have introduced the plastic bag charge as one of the first biggest implementers of climate change; when consumers are forced to pay for plastic they will take their own bags for products rather than paying 10p. There is also the psychological guilt that comes with the charge of carrier bags - when you have to pay for it because it is plastic, it becomes hard to ignore.

Legislation research has shown that unless companies see large demand from their consumers with sustainable alternatives, or have pressures/legal requirements forced from the government then it is unlikely sustainability will make significant progress quickly within the manufacture/design industries. This is always going to be a challenge.
However, there are resources available that graphic designers can look up to and implement in their practice:

- AIGA: The AIGA Design Business and Ethics series gives graphic designers an insight on how to be transparent when creating environmentally friendly design by considering "the balance between economic gain and environmental degradation. For design to be responsive to a clienteles needs, it should be responsible and appropriate" (AIGA, 2007).
- SGP, the Sustainable Green Printing Partnership:
- BSI, ISO 14001 Environmental Systems Management: Being qualified to a standard surrounding Environmental Management as a company makes you compliant and knowledgable to clients, whilst also giving leverage above other companies who are not certified.
- FSC: "The FSC system allows businesses and consumers to identify, purchase and use wood, paper and other forest products made with materials from well-managed forests and/or recycled sources" (Stewardship, 2012).

Elaborate above points and how they relate to my subject area i.e. transparency?

The industry: why designers can not have complete control over sustainability
My research has shown that sustainable material developers are in discussions with clients months, sometimes even years before graphic design is considered and ready to be implemented. Following discovering this from speaking with graphic designers from several studios, I needed to get in touch with manufacturers who were willing to give me some insight into their production and processes. I was

particularly curious to find out what they think about the current process for sustainable production within the industry and whether they think graphic designers could collaborate with them.

Luke Jamieson, director of Aylesbury box company has given me insight into the companies design process as it currently stands, and how they approach sustainability. Surprisingly, Jamieson stated that only 20% of clients request sustainable alternatives to packaging. One of the most interesting insights from our discussion is that the remaining 80% of customers are either unaware of the sustainable material and methods available, or simply have not considered or factored it into their requirements. In fact, due to Aylesbury box company making the conscious decision to use FSC certified paper/cardboard throughout the whole company (at a worthwhile additional cost - meaning this is also factored into the price the customers pay and is often higher priced than competitors), 80% of clients are choosing the sustainable option regardless. This tells me that given the option, clients will consider sustainable packaging alternatives.

Graphic designers and responsibilities
When considering the whole process of design, graphic designers will benefit from considering Life Cycle Design (LCD), which is the umbrella terminology for the life cycle stages of a product (Kusz, n.d).
In addition to this, graphic designers can reconsider the following:

- Website and functionality
  "In a world that is increasingly obsessed with data collection, addressing this may seem like an impossible task. However, what this means is that to reduce energy wastage we simply need to cut excess kilobytes swamping our pages. Or to put it another way, incorporating sustainable design principles into your digital strategy is not just good for the planet, it is also much better for your user experience." (Matter of form, 2021).
- The building and operations running the workplace/site
- Machinery and electricity used
  Not just obvious things like computers/printers, but any electrical appliances in the kitchen, televisions, excessive heating/lighting/water use etc.
- Data and storage
- The source of physical printing materials and packaging
  "- More is less – Try to reduce the usage of materials that contribute to pollution and climate change. For example, use less paper when possible or replace current printing ink with less pollutant replacements.
  – Use recyclable materials – depend on recyclable materials rather than then on one time used resources that end up in landfill.
  – Reduce the bleed when possible – expanding the design to lessen the bleed increase which leads to the ink waste. Try to reduce this waste by keeping the bleed white when possible.
  – Use VOC-free inks – the pollution produced by the VOCs can be diminished significantly by using VOC-free alternatives.
  – Use Chlorine-free paper – use chlorine-free paper rather than the paper materials that have been bleached using Chlorine. The materials are known as Totally Chlorine Free (TCF) or Process Chlorine Free (PCF).
  – Provide eco-friendly options to clients – graphic designers can provide an eco-friendly option for the client, encourage them to move to a sustainable approach and mention this approach in their products to increase their brand value." (Elmansy, 2021)
- How you conduct meetings and travel to work
  Do you really need to travel for a 1 hour meeting when it can be done over the phone or virtually?
- Who you work with (clients)
  More so with big corporations; do you agree with what they stand for and what goes on behind their scenes?
- Who you hire (staff)
  Are your staff responsible and well educated?
- How you recycle, and reuse goods and waste
  Put bins around your studio, encourage recycling in the kitchen/workspace, perhaps even purchase drinks for the studio staff that stand for sustainability and can be recycled

Service design/customer journey mapping

My discussion with Melissa from MLSK studio was really beneficial to this aspect of my project; it was suggested that in order to seriously consider sustainability it is best to create a database of how to source products and services ethically. This is really important to consider within Eco-Collective as its default operation stems around sourcing other companies and supporting them, whilst changing the consumer goods industry through sustainability. I would need to be entirely sure that if I allowed certain start-ups, small or large business to collaborate together through Eco-Collective, that the outcome would be sustainable for the client.

Summary

In summary, graphic designers and sustainable packaging manufacturers are always going to have difficulties collaborating during the production methods of packaging, however, the industry can be improved and a toolkit can be created to aid with that. Sustainable manufacturers are generally going to need to work with clients but graphic designers being involved in the process in those early stages could benefit not only the client, but the manufacturers, designers, and planet too.

I believe that the Eco-collective database is a fundamental toolkit which will be the missing jigsaw piece in the sustainability sector for packaging design. In order for mass sustainable packaging to be introduced to consumers so that we are eradicating greenwashing and transforming the unlawfulness of branding, simply raising awareness around the issue of wasteful and harmful packaging is not enough. Additionally, from exploring legislation, it is clear that unless governments and parliaments impose strict laws on packaging and consumer demand changes overnight to call out greenwashing, companies do not have the need to alter their methods of production. Therefore, Eco-Collective needs to be providing an incentive.

The Eco-Collective database will not only be a source of information for all clients, manufacturers and designers, but will over leverage over competitors in the sustainability sector through certification. Introducing this certification incentive for clients will ensure that consumers of their products can see brands for what they really are, therefore tackling one of the biggest issues within the packaging sector - greenwashing.

Transforming the way consumerism is approached, will be one of the vital keys in this project. When a customer goes shopping at their local supermarket and is deciding between two brands based on sustainability factor, that customer needs to choose the brand that is being transparent and making a difference. This is how Eco-Collective can begin to transform the industry; when brands realise that they have lost out to a certified sustainable competitor they will want to become certified as well. Imitation is the sincerest form of flattery.

Solution

The Eco-Collective database is in the function of a low data powered website and application, which provides a transparent catalogue of sustainable information varying from ethical brands, to the application of sustainable strategies within a business. Ensuring that this database is easily accessible and available online in the UK can open up the possibilities that eventually, Eco-Collective could branch out and expand to become a global network.

What is successful with Eco-Collective is that through research I have identified that there is nothing else on the market that offers a fully functioning database with the added certification aspect. There are companies such as the Ellen MacArthur Foundation who are exploring sustainability through circular economy proposals, aiming to "transform every element of our take-make-waste system: how we manage resources, how we make and use products, and what we do with the materials afterwards" (Ellen MacArthur Foundation, 2019) yet they are not tackling the issue of how to put a stop to greenwashing once and for all.

To improve this project…