

CONSUMER OPINIONS ON SUSTAINABLE STRAWS

Eco Vidre Barcelona



Ammattikorkeakoulututkinnon opinnäytetyö

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TIIVISTELMÄ

Opinnäytetyön tilaaja oli espanjalainen aloittava yritys Eco Vidre Barcelona, joka tarvitsi liiketoimintansa kehittämistä varten lisätietoja kuluttajamarkkinoista. Tavoitteena oli selvittää kysyntää ja kartoittaa kuluttajien mielipiteitä lasipilleistä vaihtoehtona kertakäyttöisille muovipilleille kyselyn avulla.

Opinnäytetyön teoriaosuudessa käsiteltiin ympäristöystävällistä liiketoimintaa, sekä nykyistä ekologisuuden trendiä ja sen vaikutusta yritysten toimintaan. Muovin ja muovipillien ympäristövaikutuksia varsinkin merten osalta käsiteltiin myös omassa kappaleessaan, ja selvitettiin lyhyesti muovipillien ekologiset vaihtoehdot.

Opinnäytetyö toteutettiin kehittämistyönä, koska kyselyyn otettiin mukaan myös markkinoinnillisia elementtejä. Kysely laadittiin tilaajan toiveiden pohjalta vastaamaan kysyntään ja kuluttajatottumuksiin liittyviin kysymyksiin, sekä antamaan tietoa yrityksestä. Kysely toteutettiin Typeform-kyselylomakkeen kautta jakamalla kyselylinkkiä pääasiassa Barcelonalaisissa Facebook-ryhmissä nuorten kansainvälisten aikuisten tavoittamiseksi.

Kyselyn päätteeksi vastaukset analysoitiin ja niiden pohjalta saatujen tulosten kautta annettiin ohjeistusta Eco Vidre Barcelonan strategian suunnittelun tueksi. Ohjeistuksen avulla tilaaja pystyi kohdentamaan tuotteensa oikeille kohderyhmille ja sai varmistuksen avoimille kysymyksille. Lisäksi tilaaja sai uusia kuluttaja-asiakkaita sekä potentiaalisia yritysasiakkaita.

Avainsanat Kysely, Uusiokäyttö, Kestävä yritystoiminta, Kestävä kulutus, Ekologisuus

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Business Administration
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ABSTRACT

The client for the thesis was Eco Vidre Barcelona, a Spanish startup company that makes glass straws. The goal was to find out how much demand there would be for the product, what consumers think about the idea. This was carried out by creating a consumer opinion survey.

The theory focused on sustainable business, and how the current customer trend of ecological consumption impacts companies and their strategies. The environmental impact of plastic, ocean plastic, single-use plastic and plastic straws and their alternatives were additionally covered.

The thesis was carried out as a business development project due to the client preference of adding marketing material and product information in the survey. The survey was created based on the client requirements and was implemented using a customized Typeform survey template, and the respondents were gathered mainly from Barcelona Facebook groups by sharing the survey link.

The survey data was analysed and, based on the results, guidance was given to help Eco Vidre Barcelona in their future business decisions and strategy. The client gained insight on the market and received positive reactions as well as objections that help shape their future strategy. The client also gained new customers and received ideas on which businesses to contact to advance their B2B sales.

Keywords Survey, Reusable product, Sustainable business, Ecological consumerism

Pages 41 pages including appendices 4 pages

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1 PREFACE

There is increasing concern about the environmental impact of plastic among consumers. To meet the demand for ecological alternatives, many companies are adapting their products to be more ecological, while new companies are founded to target the environmentally conscious consumers. (UNEP, 2018, p. 13)

The need to reduce plastic waste has reached the point where legislation is being put in place. Single-use plastic items, such as plates, cutlery and straws, will be banned in the EU from 2021. The member states will be required to draft plans to encourage the use of products suitable for multiple use, as well as re-using and recycling. (European Parliament, 2018)

The client of the thesis is Eco Vidre Barcelona, that wants to respond to the inevitable demand for alternatives to single-use plastic. By offering glass straws as an alternative to single-use plastic straws, the company can contribute in reducing unnecessary plastic waste. Being friends with the founder, the author has had the privilege to follow the process from an idea to starting up a business. This sparked an idea to help the company to find out more about the market and demand for glass straws.

In the general theory base for the thesis, the focus is on sustainable business, and how the current customer trend of ecological consumption impacts companies and their strategies. Being a successful company no longer means only making profit. A business model combining a for-profit company with social mission can be the reason a company succeeds. A product can become more than just a product, it can be a part of a story and part of a movement. (Mycoskie, 2011, p. 19-20)

In the case of Eco Vidre Barcelona, the movement of eco-conscious consumers and their demand for sustainability from businesses are an important part of the strategy. It is increasingly possible to make a business out of making a difference because people are starting to look for something more than just products – a meaning. (Mycoskie, 2011, p. 19-20)

Additionally, the environmental impact of plastic and particularly single-use plastic and alternatives are topics covered in the theory. The focus is on ocean plastic as this is where plastic straws cause most of the harm to the environment. Plastic is the main form of marine litter found, and it's increasingly polluting the oceans. According to an estimation, if the use of plastic will not decline, by 2050 the oceans could contain more plastic than fish by weight. (European Parliament, 2018)

The consequences of plastics in the environment to communities, humans, and animals are huge. This thesis will address the actions that governments, businesses and individuals are taking and can take to change the production and consumption of plastic.

1.1 Research question and methodology

As with all newly founded companies, it is first very important to understand the market and demand for the product. Eco Vidre Barcelona needed to find out what people's opinions on glass straws are, and to determine the best route to market. These were the initial research questions that the project was based on. The goal of the project was to gain customer insight to support the decision making and direction of the company going forward.

The thesis was carried out as a business development project, and the research was conducted through a survey. Generic steps of market research and theory about surveys was covered briefly before the survey planning process was explained in detail. The survey was additionally used as a marketing tool and product information was included, so for this reason, the survey was not created following the standard market research process in all aspects.

A custom Typeform online survey was created and the link was shared in international Barcelona expat groups on Facebook to receive responses from a wide range of people. After the data was collected, it was analysed with the help of Excel pivot tables and graphs.

In the conclusion of the thesis, the market demand was evaluated based on the research results gathered from the analysis of the survey responses. Eco Vidre Barcelona was given suggestions on how to continue building their company.

1.2 Client introduction

The client of this thesis, Eco Vidre Barcelona, is not yet an official registered company but is operating under a registered name with the founder working on the project as a freelancer. The project started as a hobby of its German founder living in Barcelona, Spain at the end of 2018. The founder noticed that there is a potential market for a company that offers an alternative to single-use plastic straws. Especially considering the upcoming bans of most common single-use plastic products in the European Union in the next years, the client considered it a good moment to get an alternative product to the market.

The straws are made from German glass that can be easily recycled with regular household glass waste. It is bought in long tubes from a local

company in Barcelona, and the rest of the steps to a final product are completed by the founder by hand. The tubes are cut into the correct length and each end of the straw are burnt by the founder in their own kitchen.

The straws are already on sale at a local online reseller of ecological, zero waste products. In addition to targeting the consumer market, the straws have also been offered and sold to a few select bars and hotels in Barcelona. The company is in the early stages of planning the direction and strategy for the business and the survey results are aimed to be used as a basis for the business plan and the direction to take.

2 SUSTAINABLE BUSINESS

Sustainable business can be defined as business that operates in the interest of all current and future stakeholders in a manner that ensures the long-term health and survival of the business and its associated economic, social, and environmental systems. A sustainable business is concerned about its contribution to social justice, environmental quality, and economic prosperity, which is referred to as the triple bottom line, originally by Elkington (1997). Rethinking business in terms of its triple bottom line impact and performance is critical in establishing the foundation for sustainable business. This requires companies to stop thinking about business only in terms of financial profit. While profit is necessary, the sustainable business applies a broader view of the business, its responsibilities, and its performance. (Landrum & Edwards, 2009, p. 4-8)

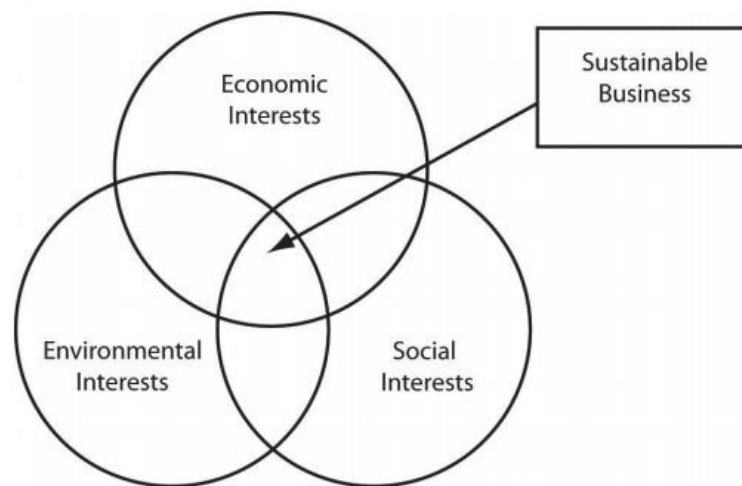


Photo 1. The triple bottom line of sustainable business. (Landrum & Edwards, 2009, p. 9)

The first dimension of a sustainable business is its social impact. It ensures that the business's entire operations across the supply chain are socially responsible and ethical, and that its employees are treated well. Sustainable business also needs to ensure that it is engaged with suppliers that share similar values. Social impact of a business additionally refers to respect of individuals and other businesses locally and around the world, meaning that reasonable efforts should be made to ensure its policies, practices, products and other aspects of the business are not offensive or disrespectful to clients in the global market. (Landrum & Edwards, 2009, p. 10-11)

The second dimension of a sustainable business is economic impact. A sustainable business considers its own economic impact on the communities in which it operates, such as local job creation, wages and other indicators that the business has positively contributed to local economic growth while maintaining corporate profitability. A sustainable business also

makes sure their suppliers are engaged with companies that share similar values and practices across the supply chain. (Landrum & Edwards, 2009, p. 26)

The third dimension of a sustainable business is its contribution to preserving environmental quality, or environmental impact. Sustainable companies can reduce environmental costs while simultaneously improving company performance and profitability. The business that focuses exclusively on its environmental impact, rather than focusing on the triple bottom line emphasis of a sustainable business, can be referred to as a green business. (Landrum & Edwards, 2009, p. 14)

2.1 Green business

There are two different varieties of environmentally responsible businesses. A typical green business is a business that didn't start that way but implemented green strategies after it was established due to advantages related to cost, innovation and marketing, as well as considering the ethical perspective. (Isaak, 2002, p. 82)

According to Isaak (2002), the other variety of green business is a green-green business that is designed to be green from the beginning through their products and processes. The intention of a green-green business is to transform the industrial sector it operates in towards a model of sustainable development. These businesses realised that there is a growing market for products that are loyal to the principle of sustaining the environment, its resources and biodiversity to future generations. This kind of business does not only have concern about making money, but also a mission of being socially conscious and transform politically.

2.2 The current state of sustainable business

Even just fifty years ago, the relationship between business and healthy environment didn't seem urgent, because natural resources seemed unlimited. Today, given current business practices and rapid rate at which the environment is deteriorating, it may not survive the growing global economy unless business will fundamentally change. Companies are designed to chase economic growth and it has been done at the expense of the environment. The resources are already scarce, and the environment is no longer supporting life, but has become a repository for waste. (Hawken, 2002, p. 3-5; McDonough & Braungart, 2002, p.43).

It is no longer optional for businesses to consider the effects of climate change or stakeholders' opinions about the company sustainability (Esty & Andrew, 2006, p. 12). Today, most companies have a sustainability program (Dauvergne & Lister, 2013, p. 6), and the recent growth in interest in sustainable business practices stems from changing societal expectations

and a growing awareness that sustainability creates a win–win situation for business and the environment. (Landrum & Edwards, 2009, p. 5)

Implementing sustainable business practices can improve company image and reputation, reduce costs, control supply chains, and help boost the local economy, all of which can lead to improved business and stronger and healthier local communities. These factors can set the company apart from its competitors and can become a source of competitive advantage and increase the credibility and influence of the company. Sustainable approach can generate business value in reputation, sales, profits and most importantly from the business perspective, boost growth. (Landrum & Edwards, 2009, p. 5; Dauvergne & Lister, 2013, p. 2&10)

Government is influencing company behaviour, and regulators worldwide can no longer ignore pollution. (Esty & Andrew, 2006, p. 8-9) Many businesses work toward sustainability independently, but there is also a growing infrastructure of principles and standards to help guide and provide direction to companies. Adoption of these principles and standards is voluntary, allowing businesses the flexibility to choose among the many options available. (Landrum & Edwards, 2009, p. 98) Partnerships between companies and NGOs are also common, because environmentalists recognise the potential for faster and wider change. (Dauvergne & Lister, 2013, p. 21)

Because sustainability is a company-wide philosophy and a way of thinking, coordination is required between the various parts of the business. The contribution of each area of the business is critical to the overall success of becoming a sustainable business. (Landrum & Edwards, 2009, p. 5)

Companies are looking for various ways to become more sustainable through eco-efficiency. These programs can be grouped into four areas: conserving energy and managing carbon, reducing and recycling materials and packaging, minimizing water use, and reducing toxics and waste. (Dauvergne & Lister, 2013, p. 57)

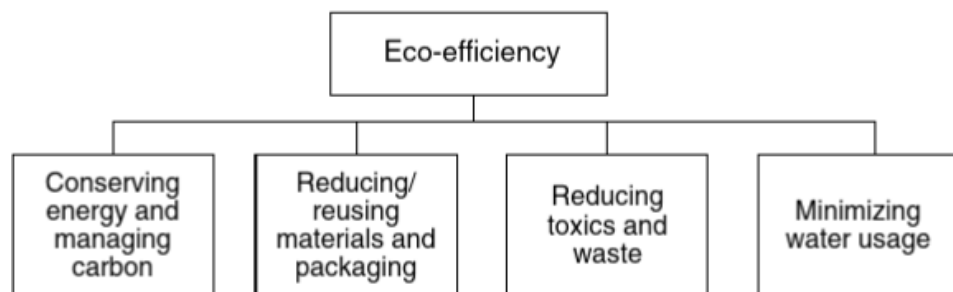


Photo 2. Sustainable businesses eco-efficiency areas. (Dauvergne & Lister, 2013, p. 58)

Whether it is a matter of cutting the amount of toxic waste created or emitted, the quantity of raw materials used, or the product size itself, reduction is central to eco-efficiency. (McDonough & Braungart, 2002, p.53)

Sustainable companies seek ways to become more energy efficient and reduce their carbon footprint. The generation and consumption of electricity creates emissions of carbon dioxide (CO₂), or carbon emissions, which is one type of greenhouse gas that contributes to climate change.

Reducing carbon emissions is appealing to businesses partly because of a possible future carbon tax, which is government regulated added tax based on the amount of carbon emitted. The growing carbon trade market is also an incentive for companies to reduce their emissions. Carbon trade allows companies to trade credits for carbon emissions. The government determines the maximum emissions permitted and businesses with emissions higher than this amount will be required to purchase carbon credits from businesses with emissions below the cap. (Landrum & Edwards, 2009, p. 16-17)

To reduce their carbon footprint, companies can analyse and determine their highest emission areas and find more sustainable options. High energy consumption can be balanced with renewable energy, products selected with less packaging, employees incentivized to commute with public transport, and environmentally friendly alternatives used for supply transport. Companies may also build or select their offices and manufacturing facilities based on the environmental impact of the design, construction and life of the building. Based on the highest emission areas found, the company can draft a carbon reduction strategy, which is a detailed plan of measurable specific goals with specific actions that will be taken and deadlines for achievement. (Landrum & Edwards, 2009, p. 14-19)

Strategies to downsize packaging through redesign, material reduction, and by increasing recycling are gaining importance. Reducing the input of materials that go into each product as well as using better or more appropriate materials to improve recyclability and reduce toxicity are key to material efficiency. (Dauvergne & Lister, 2013, p. 66-67)

Recycling programs are often part of a sustainable business's efforts to reduce waste (Landrum & Edwards, 2009, p. 14). Sustainable business practices help companies to work more directly with suppliers to improve the quality and security of supply, driving waste out of the supply chain. Improving product design and production processes can turn waste streams into profit streams. (Dauvergne & Lister, 2013, p. 11-13) Waste adds unnecessary costs for treatment or disposal without adding any product value. (Dauvergne & Lister, 2013, p. 67)

Companies also often seek to lower their water usage or find ways to reuse it. Additionally, many sustainable businesses create a green procurement

policy to give preferential purchasing to products and services that are most environmentally friendly. (Landrum & Edwards, 2009, p. 15)

Through eco-efficiency, businesses can minimize the environmental impact of each unit of production and maximize overall profit and growth potential. (Dauvergne & Lister, 2013, p. 57) Multinational corporations play a powerful role in global environmentalism, many not just responding to but also actively shaping governments, environmental groups, and consumer interests and expectations. (Dauvergne & Lister, 2013, p. 32-33)

2.3 The challenges of sustainable business

Businesses are still far from sustainability that deals with the core environmental issues of conducting business, and some companies may be using sustainability strategies to justify growth and the continuous use of resources. (Hawken, 2002, p. 31) It can be argued that sustainable business is still fundamentally aiming for sustainability of big business, not sustainability of people and the environment. (Dauvergne & Lister, 2013, p. 2)

Sustainability is a challenge, when the world economy relies on mass retail and growing consumerism. (Dauvergne & Lister, 2013, p. 159) Scientific data demonstrates that business causes loss of resources, toxic contamination and has negative impact on communities, but the current commercial culture still believes that invention of new technologies can offset the hazards of the past, and that issues can be resolved through development, invention and growth. With growing consumption, there is a final limit of how much the environment can be exploited without causing irreversible damage. (Hawken, 2002, p. 3 & 32)

One challenge is also the way environmental issues are often presented to businesses as one more cost or regulation. The way the economy is organized today, businesses are concerned that doing the right thing might put them out of business. Companies still believe that if they do not continue to grow, they will destroy themselves. (Hawken, 2002, p. 9)

Regulations force companies to comply under threat of punishment, but they rarely reward companies for taking initiatives. Since regulations often require solutions that vaguely fit all purposes, rather than a deeper design, they do not directly encourage creative problem-solving. Regulation can also put environmentalists and industries against each other. (McDonough & Braungart, 2002, p.61)

The process of becoming a sustainable business is complex, and even small changes to products and processes require great efforts. (Dauvergne & Lister, 2013, p.22) An UN-Accenture study on sustainability (2014, p. 3) that 1000 CEOs of large corporations participated in, suggests that the global economy is not on track to meet the needs of a growing population within environmental and resource constraints. Business is failing to take care of

the planet and society and is not doing enough to tackle sustainability challenges.

‘Greening’ traditional businesses appears to have had only a marginal effect in moving society towards sustainability. (Isaak, 2002, p. 86) Energy consumption and resulting greenhouse gas emissions have also been increasing, despite energy efficiency improvements and an increased use of renewable energy in certain areas. As the efficiency of using a resource or making a product increases, the resulting savings are then directed toward more consumption, effectively cancelling out the gains from efficiency. (Dauvergne & Lister, 2013, p. 159)

Even with the sustainability efforts, if consumption continues to increase, the total environmental impacts are going to increase even as the per-unit energy, material, water, and waste impacts of producing, consuming, and disposing of goods are declining. (Dauvergne, Lister, 2013, p.23)

2.4 The future of sustainable business

“The ultimate purpose of business is not, or should not be, simply to make money. The promise of business is to increase the general well-being of humankind through service, a creative invention and ethical philosophy.” (Hawken, 2002, p. 1-2)

There is no ecological capacity to fulfil material consumerism needs, and the only real choice is to work for change. (Jackson, 2009, p. 203) As a strategy, sustainability requires leadership and top-level commitment, strong values and ethics in the company culture, and incorporation through all business activities. Sustainability must be an essential part of the core competencies and competitive position of the company and engage all stakeholders. (Landrum & Edwards, 2009, p. 103)

Companies that actively work towards sustainability, should be rewarded for moving to a more circular model of design and production, incentivizing other companies to do the same. The private sector must innovate, adopting business models that reflect responsibility for the environmental impact of their products. (UNEP, 2018, p. 9)

The route to a sustainable economy, developed from Jackson (2009) by Bocken, Short, Rana & Evans (2014), might be a system to minimise consumption, or to implement institutional quotas on energy, goods and water. Alternatively, it could be a system designed to maximise societal and environmental benefit, rather than prioritising economic growth. A route to sustainable economy could also be a closed-loop system where nothing is wasted or discarded into the environment and is instead reused, repaired and remade as opposed to recycling. System that emphasises functionality and experience, rather than product ownership in one option, as

well as a system built on collaboration and sharing, instead of aggressive competition.

These types of changes require a fundamental shift in the purpose of business and almost every aspect of how it is conducted. A change like this can happen through business model innovation, re-conceptualizing the purpose of business and its value creation logic, and rethinking perceptions of value. With business model redesign, it is possible for businesses to better integrate sustainability into their business and for new start-ups to design and pursue sustainable business from the beginning. Business model innovation is increasingly recognised as a key to delivering greater social and environmental sustainability in the industrial world. (Bocken, Short, Rana & Evans, 2014) Business is the main cause of the problem and it must be a part of the solution (Hawken, 2002, p. 17).

3 ECO CONSUMERISM

All the main environmental concerns are either caused by, or contribute to, the increasing consumption of goods and services. (McDonough & Braungart, 2002, p.50). Change can be expressed through the way we live, the things we buy, how we travel, where we invest our money, or how we spend our free time. Change can be achieved through our work, and it can be influenced by the way we vote and the democratic pressure we put on our leaders. It can be expressed through grass-roots activism and community engagement. It is an important consideration to pursue individual frugality and voluntary simplicity. (Jackson, 2009, p. 2014)

A green consumer is concerned about the environment and therefore only purchases or prefers to purchase products that are environmentally friendly with little to no packaging. It is important that products are made from natural ingredients and that the production caused minimal amount of pollution and harm to the environment. (Sarkar, 2012) Ecological consumers are turning down plastic straws and cutlery, cleaning beaches and coastlines, and carefully considering their purchase habits in supermarket aisles. (UNEP, 2018, p. 13)

Consumers are increasingly exercising their power, and they are looking beyond just the product on the shelf into all parts of the production chain. They are paying more attention to all aspects of the supply chain; from production, delivery, through to disposal. They are actively learning, becoming more aware of environmental issues, and are not afraid to question a brand's sustainability claims or the role brands have. (Global Web Index, 2018)

There are clear signs that consumers are expecting more from companies, including transparency and honesty. They expect greater impact on global and local challenges, and more responsibility on handling natural resources and the environment in general. Consumers are valuing companies based on their sustainability strategies and the way they enhance health, livelihoods and boost community wellbeing. (The UN – Accenture Study, 2014, p. 3-4) According to a Global Web Index (2018), 61% of consumers surveyed said they're likely to switch to a brand that is more environmentally friendly than their current brand. Consumers genuinely care, and they are expecting more from brands than ever before.

The new age of environmentally aware consumers is empowered by new technologies and increasingly driving business to approach sustainability, helped by the virality of campaigns and messages on social media. Consumers are expecting sustainability to be integrated into the products and services that they consume, and to connect with the brand identity. It's important for businesses to understand consumer views to accelerate the

process to address environmental challenges. (The UN – Accenture Study, 2014, p.3; Global Web Index, 2018)

Consumers must not only be actors but drivers for the behaviour change. Ultimately, individuals must act as both consumer and informed citizen by demanding sustainable products and take on more reasonable consumption habits. Informed consumers can play a decisive role in promoting more sustainable production of plastic products. (UNEP, 2018, p. 13)

4 ENVIRONMENTAL IMPACT OF PLASTIC

Plastic is everywhere. It's an important material in most of our daily lives and helps to tackle various challenges in our society from packaging to medical innovation. (European Commission, 2018a) Imagining a world without plastic seems impossible today, when its production has surpassed almost every other material since the 1950s. (UNEP, 2018, p. 5)

This is understandable considering plastic is cheap, lightweight and easy to make. These factors have led to a twentyfold increase in the global production of plastic over the past century, and there is no end in sight. (UNEP, 2018, p. 3; European Commission, 2018a)

Most of the plastic that is produced, is designed to be thrown away after being used only once. (UNEP, 2018, p. 5) Only a fraction of plastic is reused and recycled, particularly in comparison with other materials such as paper, glass or metals. (European Commission, 2018a)

According to UNEP (2018, p. 5), only around 9% of the estimated 9 billion tonnes of plastic ever produced in the world has been recycled, meaning that majority of plastic ends up in landfills, dumps or in the environment.

The amount of plastic waste generated today is already more than we can handle (UNEP, 2018, p. 3) and in Europe alone, 25.8 million tonnes of plastic waste is generated every year. (Plastics Europe, 2018) There is an urgent need to change the way we manufacture, use and manage plastics. (UNEP, 2018, p. 3)

Governments around the world have become increasingly aware of the scale of the crisis. More than 60 countries have introduced policies to battle plastic pollution (UNEP, 2018, p. 6). There are signs of improvement due to these policies - in Europe, plastic waste recycling has increased by almost 80% in the past 10 years and for the first time, more plastic waste was recycled than landfilled in 2016. (Plastics Europe, 2018, p.32-33).

To further reduce the amount of plastic waste that is generated, governments need to take on stronger policies to create a more circular model of design and production of plastics. By improving waste management systems and introducing financial incentives to change the habits of consumers, retailers and manufacturers, plastic can be at least partially considered as a resource instead of a burden. (UNEP, 2018, p. 6)

4.1 Marine plastic

The ocean has been long used to dispose materials regarded as waste. Since the large-scale production of plastics began in the 1950's, an increasing proportion of solid waste in the ocean has consisted of it. Estimations

say that plastic represents up to 80% of all marine litter found. (Kershaw, Turra & Galgani, 2019, p. 2)

The results of today's single-use, disposable plastic culture can be seen on sea shores and oceans everywhere. The amount of marine litter continues to increase, and 5 to 13 million tonnes of plastics — up to 4 % of global plastics production — end up in the oceans globally every year. This is a result of the mismanagement of domestic waste in coastal areas. (UN GEO6, 2019, s.176; European Commission, 2018a)

Although the greatest accumulation of marine litter is in coastal environments, plastic is distributed worldwide in the ocean. (UN GEO6, 2019, p. 188) Plastic debris is transported by marine currents and it can be washed up on land, degrade into microplastics or form dense areas of marine litter trapped in ocean gyres. (European Commission, 2018b) Marine litter has been found in all ocean depths (UN GEO6, 2019, s.176) and plastic debris occurs even in Arctic sea ice (Jambeck et al., 2015) and has been found in significant quantities from the most remote islands. (Lavers, Dicks, Dicks & Finger, 2019)

Plastics in the marine environment are an increasing concern because of their persistence and effects on the oceans, biodiversity, wildlife, and potentially even humans. (Jambeck et al., 2015) The main problem is that most plastics do not biodegrade, and once in the ocean, plastic items exposed to waves and sunlight begin to fragment into small particles known as microplastics that can persist for decades, or even centuries. For this reason, the same characteristics that make plastic a popular material (durability, light-weight, low cost) also mean that it will stay in the ocean and contributes to its role as a significant environmental threat. (Lavers et al., 2019)

Weathering of plastic debris causes fragmentation into microplastics that even small marine animals can ingest. (Jambeck et al., 2015) Plastic particles are increasingly being found in the digestive systems of various marine species — such as sea turtles, seals, whales, birds, fish and shellfish, when they mistake it for food. (European Commission, 2018b) Ingestion of plastic particles can prevent animals from digesting normal food and there is also evidence that the toxic chemicals added during the manufacture of plastic transfer to animal tissue, eventually entering the human food chain. (UNEP, 2018, p. 5) There is also well-documented evidence of physical damage to marine organisms from entanglement to marine litter (UN GEO6, 2019, s.177)

Plastic litter in the oceans also causes economic losses for sectors and communities dependent on the ocean, including losses for tourism, fisheries and shipping. (European Parliament, 2018) The cost of cleaning up plastic waste from coasts and beaches only in Europe is estimated to be around 630 million euros yearly. Studies suggest that the total economic damage

to the world's marine ecosystem caused by plastic amounts to at least \$13 billion every year. The economic, health and environmental reasons to act are clear. (UNEP, 2018, p. 5)

If drastic steps aren't taken, the numbers and challenges will only grow, with the quantity of waste entering the ocean predicted to increase ten-fold by 2025. Because removing the significant quantities of plastic already in the ocean is extremely difficult, prevention of new items entering the ocean is critically important. Significant investment in strategies designed to limit plastic production and consumption (for example widespread bans on single-use items), and effective waste management that prevents entry of plastic items into the ocean at the source is the way forward. (Lavers et al., 2019)

5 SINGLE-USE PLASTIC AND ALTERNATIVES

5.1 Single-use plastic

It is estimated that 50% of all plastic is single-use. (Plastic Oceans, 2018) The growing use of plastics for a wide range of short-lived applications gives rise to large quantities of plastic waste, and therefore single-use plastic items are a major contributor to plastic leakage to the environment. They can be difficult to recycle and are often used away from home and littered. (European Commission, 2018a)

Single-use plastics are among the most commonly found items on beaches and coasts. In order of magnitude, these items are cigarette butts, plastic drinking bottles, plastic bottle caps, food wrappers, plastic grocery bags, plastic lids, straws and stirrers, other types of plastic bags, and foam take-away containers. (UNEP, 2018, p. 5)

Plastic has an average useful lifetime of 12 minutes (Plastic Oceans, 2018), and luckily, many countries are starting to encourage the use of products suitable for multiple use, as well as re-using and recycling. (European Parliament, 2018)

Strategies to phase out single-use plastics have recently started to appear in several countries. (UNEP, 2018, p. 7-8) For example, single-use plastic items such as plates, cutlery, straws, balloon sticks or cotton buds, will be banned in the EU from 2021. (European Parliament, 2018)

Replacing the most common single use plastic items with innovative alternatives that have higher added-value is an economic opportunity, and it can even create local jobs. (European Commission, 2018a)

Businesses cannot afford to ignore the issue either, and many industries are coming up with plans to phase out single-use plastics, use more recycled plastic in their packaging and work on more effective recycling. Products should also be designed to be as durable as possible to increase the number of times they can be reused. Many large corporations are already voluntarily banning single-use plastic items. (UNEP, 2018, p. 9)

Tackling one of the biggest environmental challenges of our time will require governments to regulate, businesses to innovate and individuals to act. (UN Environment, 2018, p. 3) Adequate social awareness of the plastic crisis is vital for reduction strategies to work. (UNEP, 2018, p. 7-8)

5.2 Plastic straws

There are estimated 8.3 billion plastic straws on the coastlines around the world (Borenstein, 2019) and they are among the most found plastic items

in beach clean-ups. Based on recent data from Ocean Conservancy (2019), plastic straws and stirrers were the 4th most found item on the coastal clean-ups in the Barcelona area, after other pieces of plastic, foam and cigarette butts.

Most plastic straws can't be recycled because they are too lightweight to make it through mechanical recycling sorters, so they end up in landfills and waterways, from where it can eventually reach the oceans. (Lev-Tov, 2018) The issue of straws and marine animals got more attention after a 2015 viral video was showing rescuers removing a straw from a sea turtle's nose in graphic detail. (Borenstein, 2019)

Straws make up about 4 percent of the plastic trash by piece, and only 0.025 percent by weight. (Borenstein, 2019) This is a fraction of the total amount, but even so, straws have been a focus in the media as corporations, restaurant chains and cafe outlets have pledged to ban or phase them out completely as a part of their environmental campaigns. (Gibbens, 2019)

This is in part because straws are very easy to do without, and it rarely requires a significant change in behaviour. (Gibbens, 2019) Some environmentalists and government leaders also consider them as gateway plastics, meaning that banning something as simple as plastic straws can help open conversations and prompt bigger questions about use, and misuse, of single-use plastics. (Toloken, 2018)

5.3 Eco-friendly plastic straw alternatives

While not using a straw would be best in many cases, some people prefer them or need them, like those with disabilities or sensitive teeth or gums (Lev-Tov, 2018). Dentists also recommend them for protecting your teeth against decay and staining (Denham, 2018). Eco-friendly straws such as glass, metal, bamboo, silicone and compostable straws can replace plastic straws to avoid unnecessary waste.

From the reusable straw options, the glass straws are recyclable and can be recycled endlessly without loss in quality (GPI, n.d.). It's easy to see the cleanliness due to the transparency of the glass and it can be used for both hot and cold drinks. The risk of breaking is the main disadvantage of the material. (HALM, 2019)

Metal and steel straws are a recyclable, durable option. A disadvantage of metal as a material is that it conducts heat efficiently, which means that it can feel too hot or cold depending on the temperature of the drink and it can be more difficult to ensure cleanliness. (Ho, 2018)

Bamboo is one of the world's fastest growing plants which means it is a sustainable solution for straw manufacturing (FMI, 2019). However, it can

be difficult to clean, leave a side taste and has a limited lifetime (HALM, 2019).

Silicone straws are soft and flexible, and for this reason may be more suitable option for children and people with disabilities. However, it is plastic, and recycling can be as complicated as with traditional plastic. (HALM, 2019)

The main disposable alternatives to plastic straws are made from paper or biodegradable plastic. The bio-polymers like PLA, that biodegradable straws are made of, can have a negative impact on the environment too. The majority don't break down as litter on land or in the ocean, requiring industrial composting, and if they end up in the existing mainstream plastics recycling stream they can contaminate loads, leading to more waste. (Denham, 2018)

6 DEVELOPMENT PROJECT

6.1 Market research

Market research is a way of investigating and answering questions about human behaviour and preferences. It is the systematic gathering and interpretation of information about individuals or organizations using the statistical and analytical methods and techniques to gain insight or support decision making. (Esomar, 2007, p. 38)

The market research process starts with defining the objective of the research, the research problem or questions. Research questions are important in the research process, as they can guide literature research, help decide the research method to be used and what data to collect and from whom. It can also guide the data analysis and help writing up the findings and providing a clear sense of purpose for the readers of the research. (Bell, Bryman & Harley, 2019)

The next step is to choose the research design, which includes the selection of research method, sampling strategy and target population, as well as a possible incentive plan for completion. Research method is a technique for collecting data. It can involve questionnaires, structured interview schedules or observation or a combination of these. (Bell et al., 2019)

One of the most common ways to classify the research methods is to describe them as qualitative and quantitative research. Quantitative research usually consists of large samples and structured questionnaires, whereas qualitative research consists of relatively unstructured interviews or discussion groups where it is possible to explore and follow up ideas. (Esomar, 2007, p. 39) Sampling is defined as selecting a representative sample of wider population, that can give an estimate of the true results. (Showkat & Parveen, 2017)

Third step of the market research process is to design the selected research tool depending on the research method. After the questionnaire has been created, the next step is data collection, visualization and analysis. The results and conclusions are lastly presented in a report. (My market research methods, 2019)

6.1.1 Reliability and validity

Reliability in business research means repeatability over time. Research study is required to be transparent and clear so that the reader can either undertake the same method themselves and produce the same results, or at least the method is clear enough to make the reader confident that the results weren't tampered with in any way. Validity broadly means that the

research method selected must actually measure what you think it measures without bias. (Greener, 2008)

6.1.2 Survey

Developing a questionnaire is one of the important steps in the process of conducting a survey. In addition to selecting the most appropriate method for gathering data from the potential participants in the sample group, it is also necessary to identify the right questions to ask. (Weathington, 2012)

There are two main question types. The first type is the closed-response question that requires the person to select a response choice from a set of options. The second is an open-ended question that asks participants to generate their own response to the question. (Weathington, 2012)

The challenging part of creating a survey is writing questions that sample the opinions, attitudes, beliefs, or behaviours that are to be measured. The order of questions, and the options within the questions can also play a significant role in how the participant answers the question and subsequent questions. (Weathington, 2012)

6.2 Background information

Eco Vidre Barcelona is currently the only local seller in Barcelona offering glass straws to the market, but there are numerous companies that manufacture and sell glass straws in different countries. Multiple other reusable plastic straw alternatives are also available on the market, including metal, bamboo and paper to name a few. It's important to note, that since most companies offer an online shop, many consumers have an easy access to different kinds of reusable straws even if there is no local company offering them.

The client is slowly developing the business and for consumer B2C market, the straws are sold through a local online reseller that offers various ecological and reusable products. The idea of selling the straws to consumers through Eco Vidre Barcelona's own online shop is being planned but not yet decided on due to uncertainty of the market approach and focus to take between B2C and B2B.

The reusable and disposable straw demand is on the rise in Barcelona on the B2B sector as well. The founder is a part of government supported initiative to offer plastic straw alternatives to local bars, cafes and restaurants. The Eco Vidre glass straws are a part of this initiative, along with other sustainable straw alternatives suitable for restaurant use.

The straws have been offered to various restaurants, bars and cafes with some success and a lot of interest. Currently Eco Vidre Barcelona has their

straws in a few locations in the Barcelona central area, and the main plan of action is to wait for their feedback on the use of the product in a restaurant environment over a longer period of time.

While the restaurants take the time to evaluate the products, Eco Vidre Barcelona wanted to find out more about the market they are entering, and the consumer opinions regarding glass straws.

6.3 Method and goals

In this thesis, survey was selected as the method because it enables extracting information from a larger sample of individuals. (Showkat, Parveen, 2017) The aim was to get a wide overview of opinions from different people with different backgrounds, and this was done best with an online survey. The target group was young international adults in the Barcelona area and the sample size was set to a minimum of 200 responses.

The standard market research process was decided not to be fully followed, and some criteria regarding reliability and validity had to be abandoned, as the client wanted to use the survey as a marketing and promotion tool as well. The survey had the Eco Vidre Barcelona brand logo, photos of the product, brief product information between questions, and in the end of the survey, the respondents could select to get more information about how to buy the glass straws. The survey completion was also incentivized by offering a chance to enter in a raffle to win the product.

The goal of the research was to find out how people perceive the idea of glass straws, and to answer questions about product demand and route to market, as well as customer preferences on where and how they would use the product.

The collected information from the survey was analysed and used as a guidance for planning the future direction of Eco Vidre Barcelona.

6.4 Survey process

The process started with identifying the purpose of the survey, which was done in close collaboration with Eco Vidre Barcelona. Multiple meetings were arranged to discuss the goal of the survey, and the plan evolved through conversations about the possible direction to take. The client had been interested in researching multiple different areas for her business, and all of these areas were weighed in to determine the most relevant approach.

The discussion started with comparing the possibilities to focus on B2B or B2C markets, as well as differences that need to be considered in each scenario. The decision to focus on B2C was agreed on because consumers are

likely to be easier to reach than businesses. The client wanted to find out whether glass straws are interesting to consumers in general.

Additionally, Eco Vidre Barcelona was interested in finding out opinions about the company logo and name. Questions about pricing were discussed as well, because at the time, the client was trying to determine the price that consumers would be willing to pay. Getting sustainable packaging ideas were an additional point of interest that was considered to be included in the survey. These ideas were decided against partially or completely, and the main focus was put on finding out about consumer behaviour and attitudes regarding plastic, straws and alternatives.

The survey was created in English as the target was to reach young international adults mainly through Facebook expat groups. There was discussion to create a Spanish version to get a more representative sample of responses, but due to time constraints, this was not possible.

Discussions between keeping the survey purely scientific and combining it with marketing took place on multiple occasions. The client wanted to add a brief product introduction and facts about plastic pollution between the survey questions. The concern of biased results due to promoting the product and sustainability in the survey was discussed.

One potential solution was to compromise and create two surveys, one with and one without marketing influence. This would have ensured that some unbiased results are collected, while giving Eco Vidre the opportunity to promote their brand. This turned out to be too complex to execute, and after weighing in the options together with the client, the decision was to create only one survey with a combination of research and marketing. The survey results cannot therefore be used as a generalization of the public opinion and critical approach must be taken when analysing the data collected.

The opinion survey was created based on the agreed requirements and it was implemented using a customized Typeform survey that was selected because it is more visual than most survey tools and allows to add the company logo and photos with the questions. The Pro extension was used to get more questions, answers and options to create the survey the way it's most useful and functional for the intended purpose.



Photo 3. Screenshot of the Eco Vidre Barcelona Survey landing page.

The survey was created with Eco Vidre Barcelona logo on the front page and made visual by colours and photos of the straws being used in various locations in Barcelona. The attention of the respondents was caught from the beginning by stating the fact, that by 2050 there may be more plastic than fish in the ocean. The respondents were afterwards asked how concerned they are about the environmental impact of plastic on scale 1-5.

After easing in the respondents to the topic of the survey, they were asked how important it is for them to find alternatives to single-use plastic. This question was selected to understand how many of the respondents are already aware of the issue and taking action to reduce plastic waste.

Generic information about the respondent's habits of using plastic straws were asked next. At this point, a Typeform feature called Logic Jump was introduced. With this feature, the survey can be programmed to skip or redirect the respondents to another question based on the response they give. This way it's possible to gain more insight with additional questions without having to ask them from all respondents. It shortens the time each respondent needs to spend on the survey as well as allows more detailed questions because they are not visible to everyone.

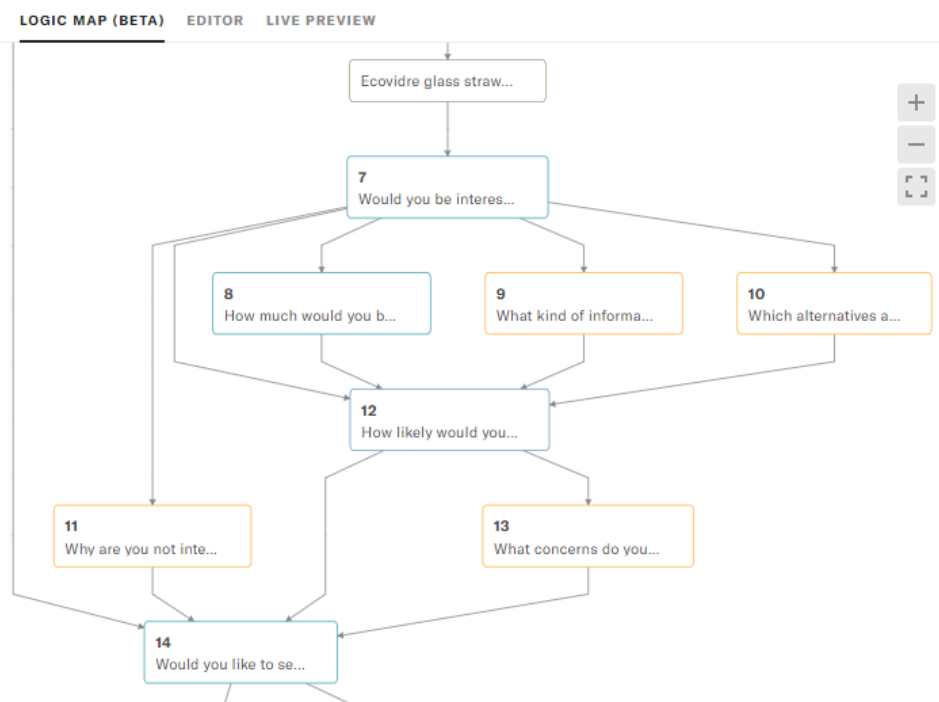


Photo 4. Screenshot of the logic jump map example of the survey questions.

This feature was used with respondents who said they don't use straws at all, and the respondents that selected this answer were asked whether they would use straws if they had an ecological option. The respondents who still answered no, skipped to the question "Would you like to see restaurants, bars and coffee shops using glass straws with their drinks?" at close to the end of the survey automatically, because the responses from respondents not using straws at all would not be useful in the following questions. The ones who answered yes, continued the survey with the rest of the respondents.

Next, the respondents were asked to select two most important features of an alternative to plastic straws from six options or to select "other" and write their own feature. The options were durability, environmental footprint, made in Barcelona, design, hand-crafted and easy to clean. They were randomized to appear in different order for each respondent to avoid the first options being selected more often just because they come up first.

The brief product introduction section was presented after this. The placing was purposely chosen to be after the respondents had selected the important features in a straw alternative to minimize the amount of bias and ensure that the responses are not considered only regarding Eco Vidre straws.



Photo 5. Screenshot of the debated product introduction section within the survey.

The next question was “Would you be interested in buying glass straws?” and the logic jumps were decided to be used heavily based on the answers to find out about objections and reasoning behind purchase decisions.

Everyone who answered “Yes, depending on price” were asked a question about the price they would be willing to pay for a set of 4 glass straws. People who answered “Maybe, I need to do some research” were asked what kind of information they would need to make their decision. The respondents who said they are more interested in other alternatives, were asked what alternatives they are more interested in and why. Lastly, the respondents who said they would not be interested, were asked why that is.

To include a bit of B2B insight in the survey, the respondents were asked whether they would like to see restaurants, bars and cafes using glass straws in their drinks. To benefit marketing, the first option was worded “Yes, I would be more likely to choose a place that uses ecological options” on purpose. The wording may cause the results to be inconclusive due to the response not being specific to glass straws, but it serves as a good point to make to potential new B2B customers. The respondents were additionally given the “other” option to write their own response to make sure all opinions are heard.

The respondents who answered yes or maybe, were asked an additional question “do you know a perfect place for this in Barcelona?” to gain insight on places that the respondents would like to see the straws used at. This information can be beneficial in determining the next potential B2B customers to target.

The basic demographic questions were placed at the end of the survey and the questions covered age, gender, native country, country of residence, employment status and education level.

After the basic questions, an optional free text field was given to the respondents leave any possible suggestions or comments. To incentivize the survey and ensure a better completion rate, everyone who wanted to leave their contact details were added to a raffle to win a set of 4 glass straws. Everyone who left their email address, were additionally asked if they would like to be contacted to find out how to buy the glass straws, or to only participate in the survey.

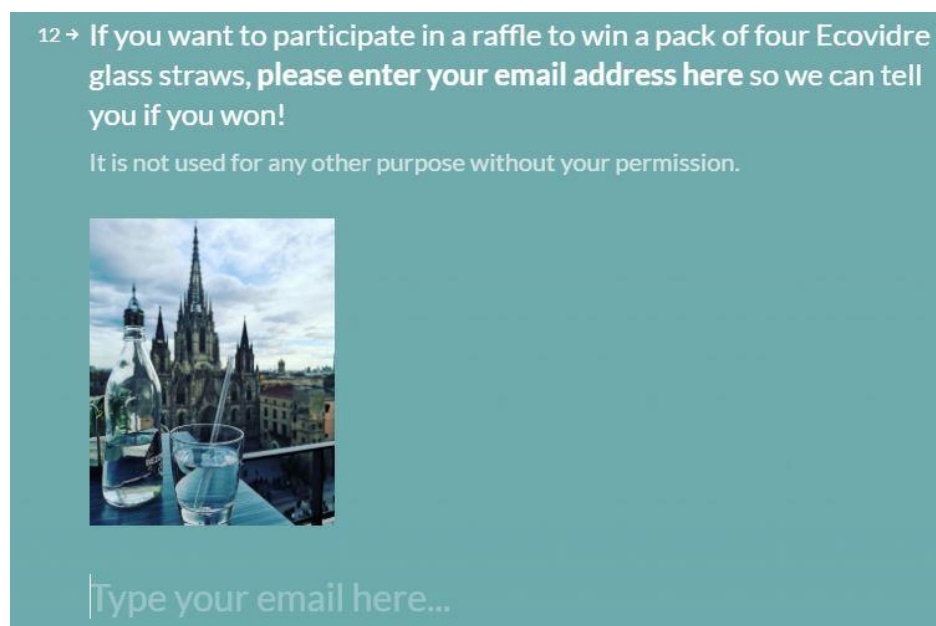


Photo 6. Screenshot of the raffle participation question.

After the survey was completed, it was shared on different Facebook groups by sharing the survey link. The client shared the survey on their Eco Vidre Barcelona Facebook- and Instagram page as well.

The results were exported to Excel and by using pivot tables as the main tool, every question was visualized with a graph to help with the analysing process.

7 RESULTS AND ANALYSIS

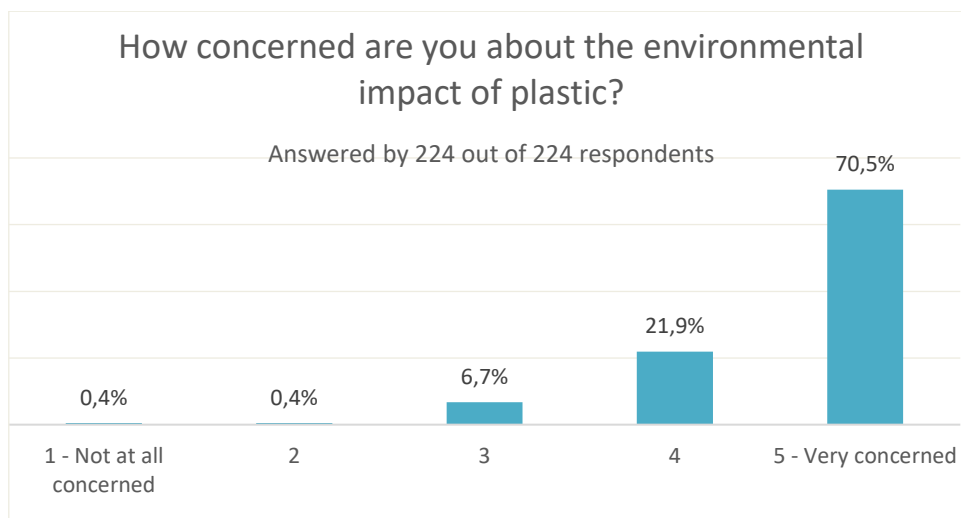


Figure 1. Concern about environmental impact of plastic on a scale 1-5.

In the first question, the 224 respondents were asked how concerned they are about the environmental impact of plastic. From scale 1-5, where 1 is not at all concerned and 5 is very concerned, 70,5% of the respondents answered that they are very concerned. 21,9% of respondents answered 4, which can be considered being moderately concerned. 6,7% of respondents answered 3, which can be considered indifferent. Only 0,4% of respondents have answered 1 and 2, not at all, and not concerned.

In total, 92,4% of respondents are concerned about the environmental impact of plastic. Only 0,9% of respondents are not concerned. This is a great statistic but may be influenced by the topic of the survey. People interested in answering a survey about reusable straws are likely to be more concerned about the environmental impact of plastic than an average person. The quote in the beginning of the survey stating that in 2050 there may be more plastic than fish in the ocean may skew the results towards more concern as well.

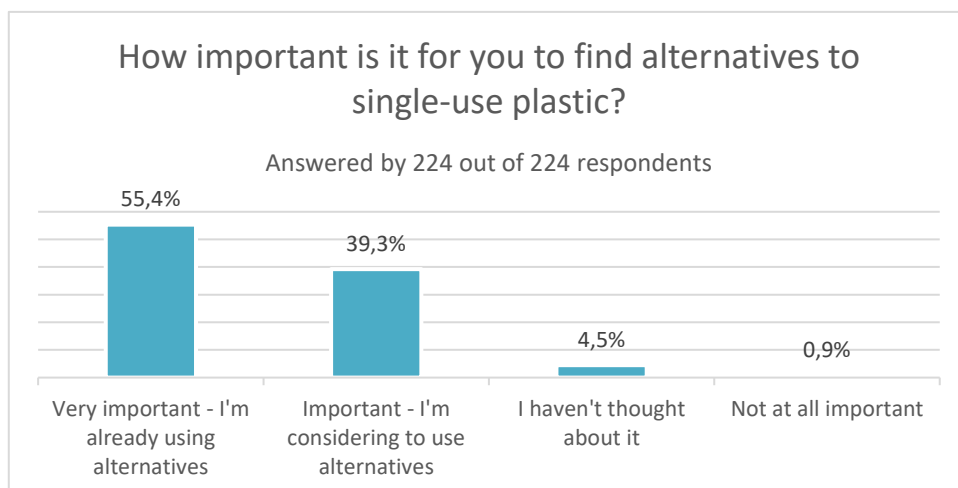


Figure 2. Importance of finding alternatives to single-use plastic.

In the second question, the respondents were asked how important it is for them to find alternatives to single-use plastic. 224 respondents answered to this question, and to 55,4% of them, it's very important and they are already using alternatives. 39,3% of respondents have answered that it's important and that they are considering to use alternatives. 4,5% of respondents haven't thought about it, and for 0,9%, it is not at all important.

It was surprising to see such a positive response. Over half of respondents are already using alternatives, and close to all others are considering it. It clearly shows that environmental impact of plastic is a very common concern, and that people are taking action to reduce plastic waste already. This response may be more positive than the general opinion due to the topic of the survey, but overall it is still a promising trend.

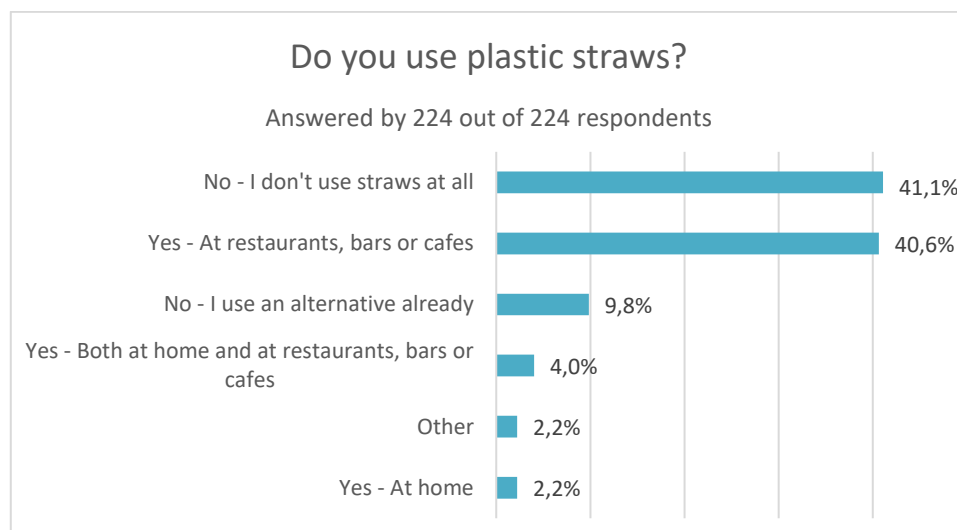


Figure 3. Usage of plastic straws.

In the third question, all 224 respondents were asked if they use plastic straws. 41,1% of respondents do not use straws at all. 40,6% use them at restaurants, bars or cafes. 9,8% of respondents don't use plastic straws but are using an alternative. 4,0% use plastic straws both at home and at restaurants, and 2,2% use them only at home.

Many respondents are not using straws at all, and the very low percentage of home users was not expected. This is good indication that many people are already reducing their use of unnecessary plastic in their personal lives, but the result also clearly shows that there is market for replacing plastic straws in restaurants. People are still using them in public places, and in many occasions it's not as easy to avoid. A follow-up question about reasons of not using plastic straws could have expanded on the reasoning behind the answers and given more data to base these assumptions on.

2,2% of respondents answered "Other" and were given an option to add a free text answer. The respondents mention that they try to not use straws

and asking for drinks without straws in bars and restaurants. Some respondents are considering to use alternatives like steel.

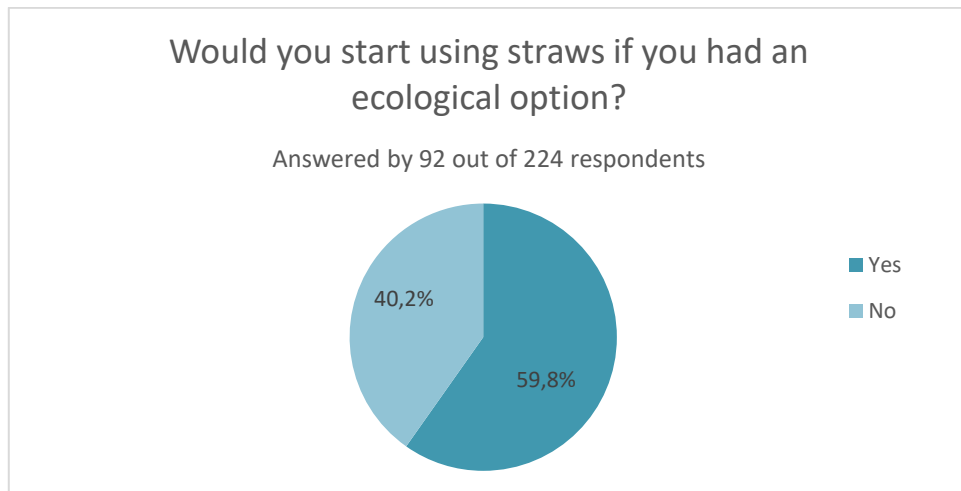


Figure 4. Willingness to start using straws if ecological option was available.

The fourth question was only visible to the respondents, who answered “No, I don’t use straws at all”. The 92 respondents redirected to this question were asked whether they would start using straws if they had an ecological option. 59,8% of the respondents say they would start using straws, and 40,2% would not. This is valuable information considering the consumer market potential.

Every respondent who would not start using straws even if they had an ecological option were redirected to question “Would you like to see restaurants, bars and coffee shops using glass straws with their drinks?”.

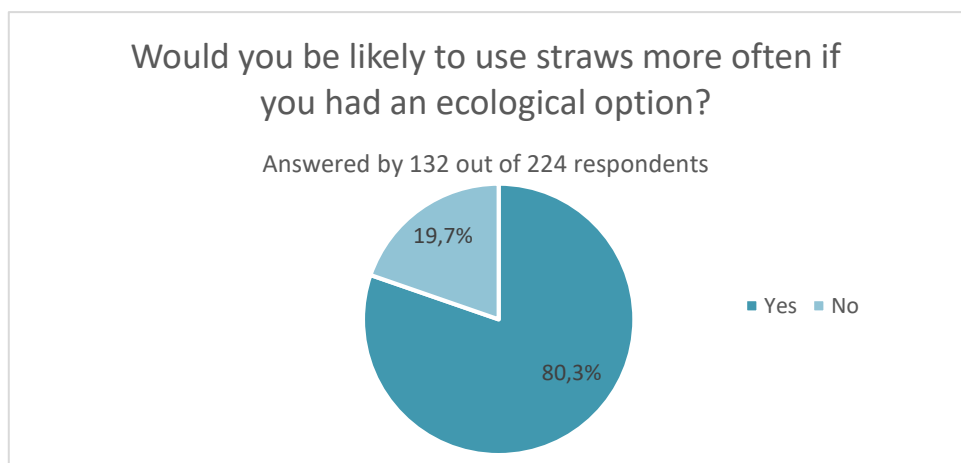


Figure 5. Likelihood of using straws more often if an ecological option was available.

The fifth question “Would you be likely to use straws more often if you had an ecological option” was asked from all respondents, except the ones not using straws at all. Out of 132 respondents, 80,3% answered that they

would be likely to use straws more often, while only 19,7% said they would not.

This question could have been more informative if the response options were expanded instead of offering only a yes and no option. It is still useful to know, that most people would like to use straws more if they had an ecological option, because it means there can be more demand than for plastic straws in general.

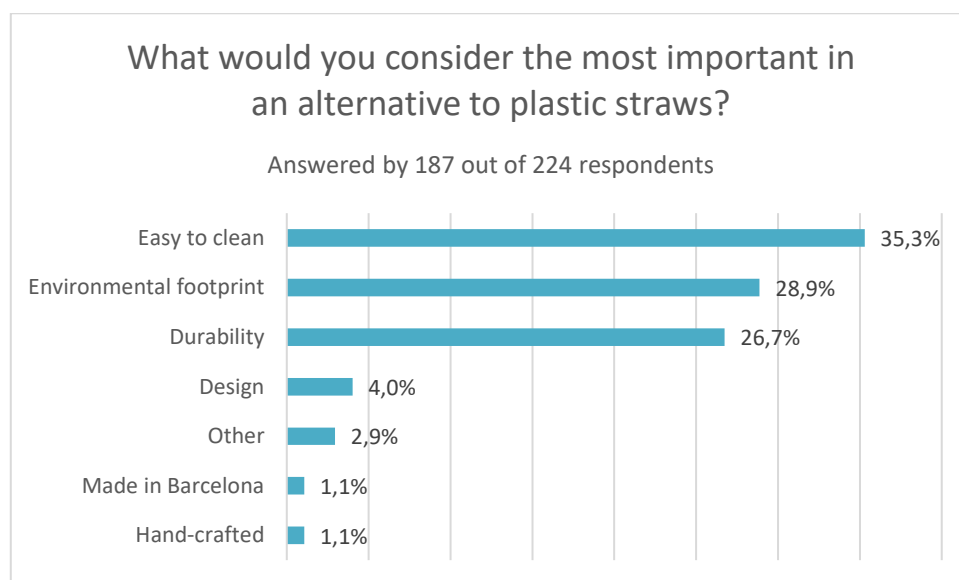


Figure 6. The most important features in a plastic straw alternative.

In the sixth question, the respondents had to select two of the most important features in a plastic straw alternative. 35,3% out of the 187 respondents considered the ease of cleaning one of the most important features in an alternative to plastic straws. 28,9% found environmental footprint important, and durability came close third with 26,7% of the responses. Design was important to 4% of the respondents, while only 1,1% considered it important that the straws are made in Barcelona or hand-crafted.

2,9% of respondents selected “Other” and were given a free text answer option. Most were concerned of the safety of the straw, and some would base their decision on price, availability and whether the straw changes the flavour of their drink. Comfort of use, including for people with disabilities, was also mentioned.

The low importance of options “made in Barcelona” and “handcrafted” was not expected and is good insight to have. Eco Vidre is hand-crafting the straws in Barcelona, and it was expected to be a more important factor. Based on the results it’s clear that efforts should be focused on promoting ease of cleaning, durability and the environmental impact of the glass straws.

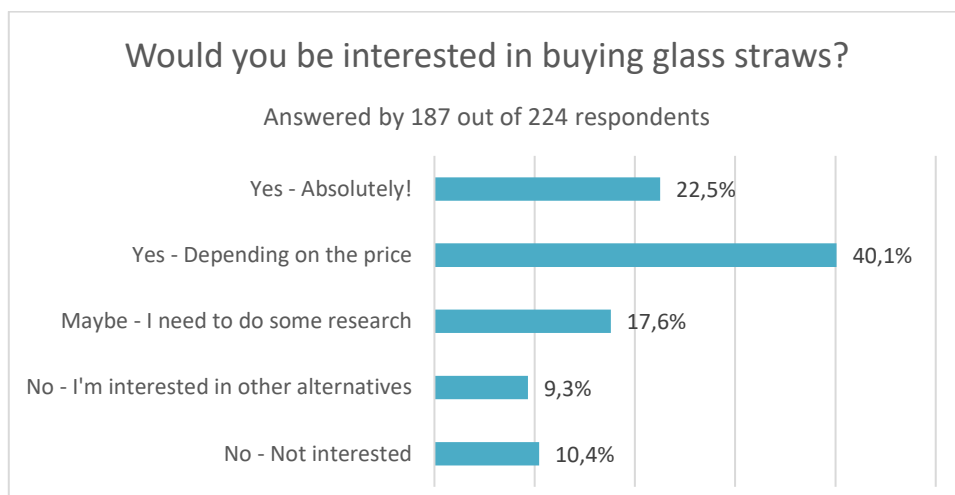


Figure 7. Interest in buying glass straws.

In the seventh question, the respondents were asked if they would be interested in buying glass straws. The majority, 62,6%, of the 187 respondents would be interested. Out of the respondents interested, 40,1% consider price to be a determining factor. 17,6% of respondents are not sure and answered “Maybe, I need to do some research”. 9,3% are interested in other alternatives and 10,4% are not interested at all.

Respondents, who answered “Yes, depending on the price” were redirected to question seven “How much would you be willing to pay for a set of 4 glass straws?”.

Respondents, who answered “Maybe, I need to do some research” were asked “What kind of information would you need to make your decision?” with an optional free text field. A total of 22 respondents answered this question, and many mentioned more than one determining factor. 63,6 % would like to know how easily the straw breaks, and 22,7% were concerned of safety in general. 40,9% of the respondents think that price is very important factor in the decision-making process. 13,6 % were interested in finding out how easy the straw is to clean, and the same number of respondents found possibility to carry the straw with them important. One respondent also mentioned that design plays a role in their decision, and another stated that the most ecological straw alternative would be their choice.

Respondents, who answered “No, I’m interested in other alternatives” were asked “Which alternatives are you more interested in and why?” with an optional free text field. 16 respondents answered to this question, and some were interested in more than one alternative. Half of them were interested in bamboo, steel got interest from 31,3%, paper and biodegradable 12,5 % and one respondent was additionally interested in wheat/pasta straws.

Respondents, who answered “No, not interested” were asked “Why are you not interested in buying glass straws?” with an optional free text field.

This question was answered by 16 respondents, out of which 62,5 % said they are not interested because they don't use straws at home. 31,3% avoid using straws in general or are using them too rarely to justify the purchase. One respondent said they already have a metal straw.

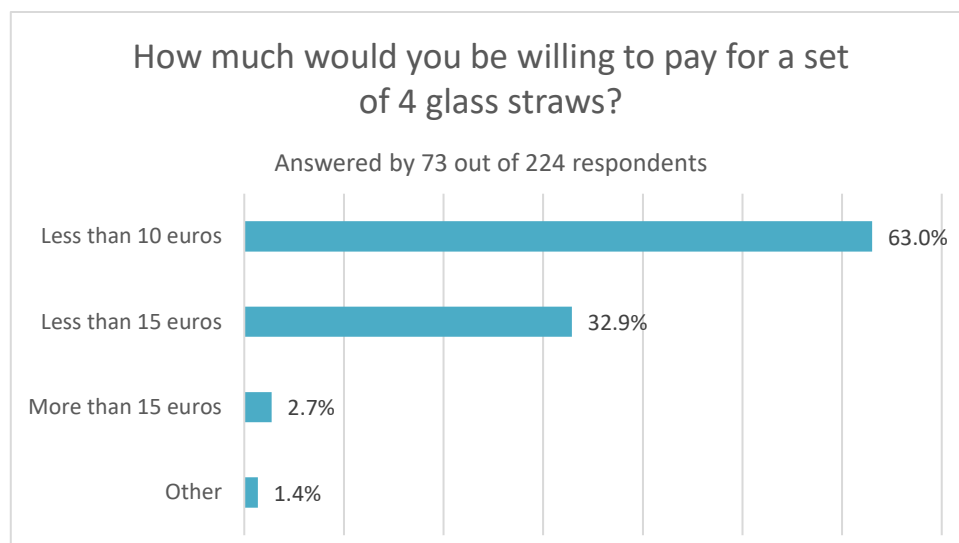


Figure 8. Fair amount to pay for a set of glass straws.

The eighth question was only asked from respondents that answered “Yes, depending on price” when asked if they were interested in buying glass straws. 63% of the 73 respondents would be willing to pay less than 10 euros, and 32,9% consider less than 15 euros a fair price. Only 2,7% would be willing to pay more than 15 euros. 1,4% were not sure and answered “Other”.

This question would have given more informative results if all respondents were asked the question instead, and better wording in this case could have been “What do you think would be a fair price for a set of 4 glass straws”. As it is, the price that the respondents would be willing to pay is lower than expected, but this information is not very reliable as only price sensitive respondents were asked for their opinion.

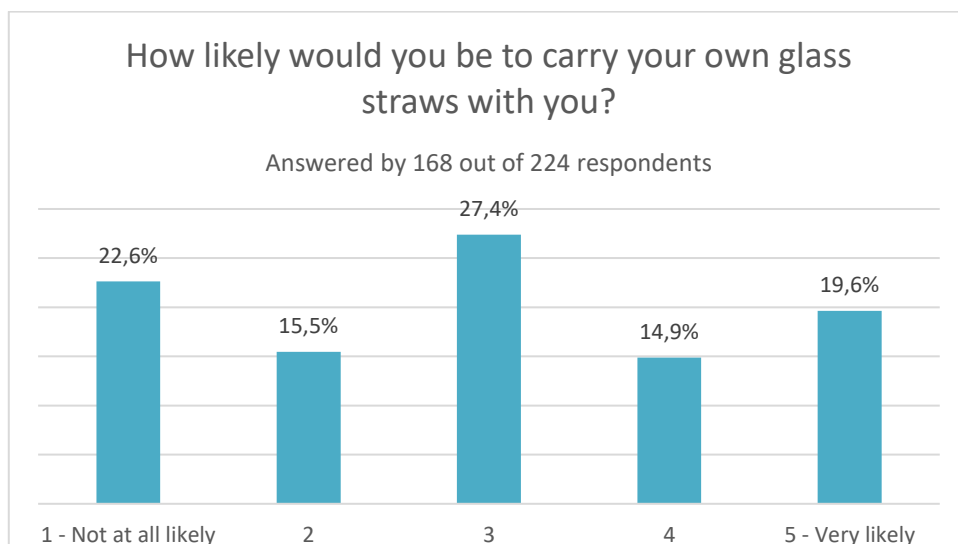


Figure 9. Likeliness of carrying glass straws.

For the ninth question, the respondents were given a scale from 1-5 of how likely they would be to carry their own glass straws with them. The 168 responses were scattered quite equally on all scale levels. The highest percentage of 27,4% selected 3, which as the middle option can be considered as the respondent being unsure or indifferent. 22,6% would not be at all likely to carry straws with them, while 19,6% say they would be very likely to do so. 2 and 4 got 15,5% and 14,9% of the responses.

Respondents, who answered 1-3, were redirected to a question "What concerns do you have about carrying your own straws?" with an optional free text field. This question was answered by 80 respondents and many of them listed more than one concern. The most significant, and specifically glass related concern was the risk of breaking, as it was mentioned by 33% of the respondents. Many, 17,9%, were also stating that they are not using straws often enough in general and can manage without them. 17% were concerned about possibly forgetting or losing them, 16% mentioned cleanliness and hygiene reasons, and 14,2% said that they don't have space to carry them.

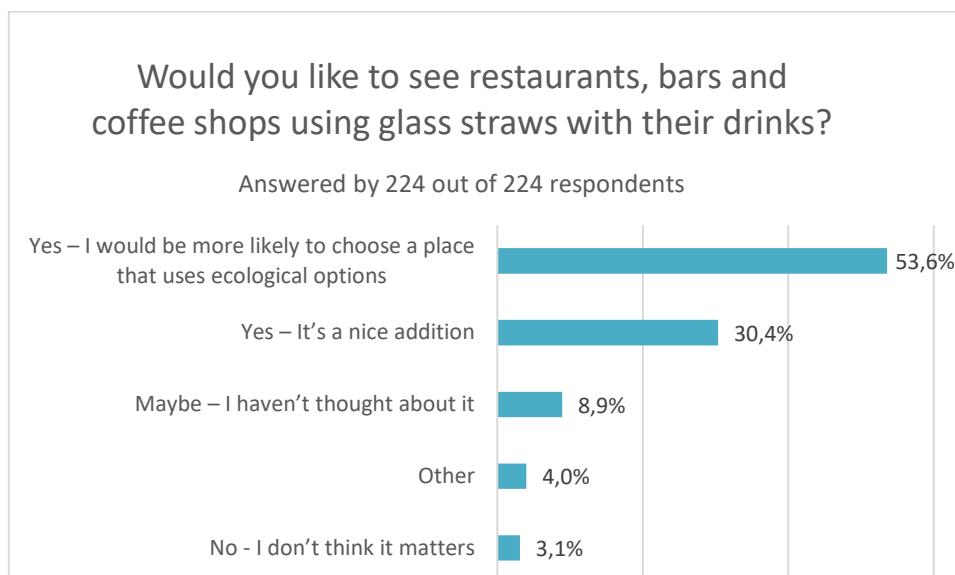


Figure 10. Interest in seeing ecological options in restaurants.

In the tenth question, over half of the 224 respondents, 53,6%, said they would be more likely to choose a restaurant, a bar or a coffee shop that uses ecological options. 30,4% of respondents think it's a nice addition. In total, 84% would like to see glass straws in restaurants.

8,9% of the respondents haven't thought about it, and only 3,1% doesn't think it matters. 4% of respondents selected the option "other" and were given a free text response option. Most of the respondents were concerned about the glass breaking, and some would prefer other alternative materials. Some would not use a straw that was not disposable due to hygiene reasons and a few don't think we need to use straws at all.

The amount of people who would like to see straws in restaurants was a positive surprise and based on the result it's clear that there is market potential to offer glass straws to restaurants. However, this result could be partly due to the wording of the response options, where glass straws aren't specifically mentioned in the most positive option "yes, I would be more likely to choose a place that uses ecological options". This can lead the respondent to select this option, and only mean that they would like to see ecological options in general, not necessarily glass straws.

All respondents, except the ones responding "No, I don't think it matters" were asked if they know a perfect place for glass straws in Barcelona. A total of 104 respondents answered the question, but out of these, 34,6% answered no, or that they haven't been to Barcelona. 65,4 % gave a recommendation or responded that they would like to see them in any bar or restaurant. Most respondents recommended beach bars, cocktail bars, higher end hotels or vegan restaurants and gave specific names of restaurants, bars and cafes. All these recommendations were given to Eco Vidre Barcelona for consideration.

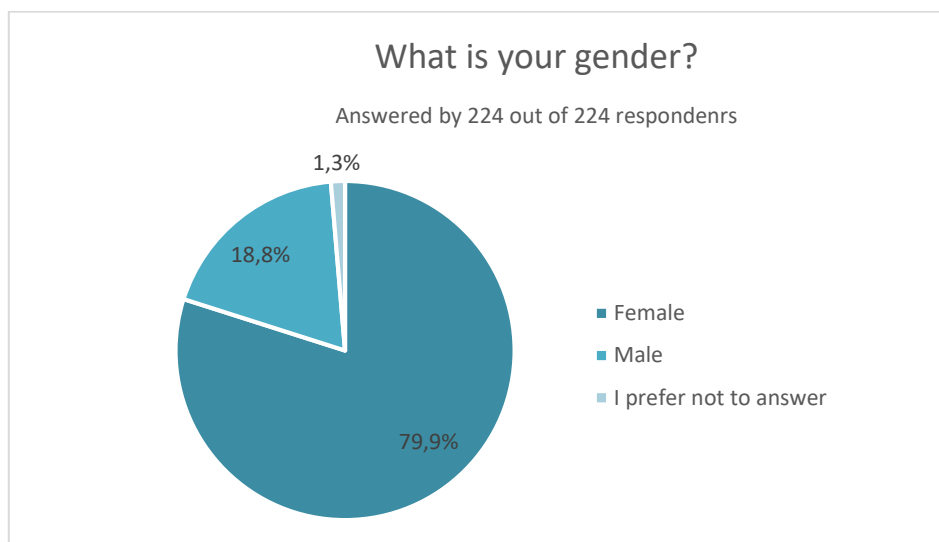


Figure 11. Gender of the respondents.

79,9% of 224 respondents were female, 18,8% male and 1,3% preferred not to answer. This was an expected result as more women are likely to use straws in general and therefore the topic of the survey is more appealing. Further analysis based on gender was not possible to be reliably conducted due to the amount of responses from men was so low. It would not be a representative enough sample to draw conclusions from.

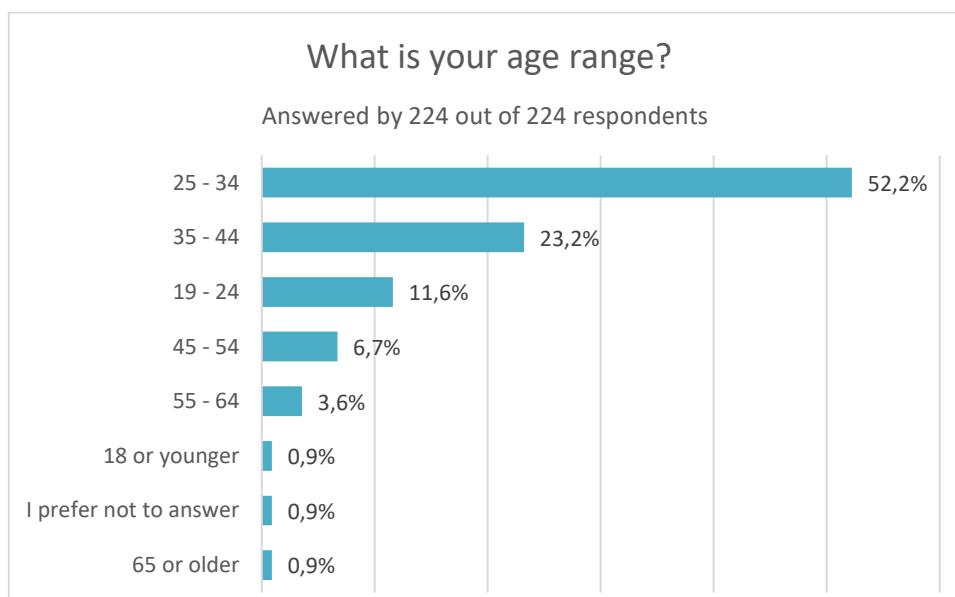


Figure 12. Age range of the respondents.

52,2% of the 224 respondents were between 25 and 34 years old. 23,2% were between 35 and 44 and 11,6% between 19 and 24. This means that in total, 87% of the respondents were 44 or younger. This was expected due to the data collection method being an online survey distributed on Facebook groups with members that are mostly young international adults. Additionally, it may indicate that younger people are more likely to be interested in sustainable alternatives and using straws in general.

Further analysis on responses per age group were not informative and did not generate any significant variance. The largest age group 25-34 was over half of the total responses and therefore the rest of the age groups had too few responses to be reliably analysed and compared.

Only 11,2% of respondents were over 45 or older and 0,9% were 18 or younger, and 0,9% preferred not to answer.

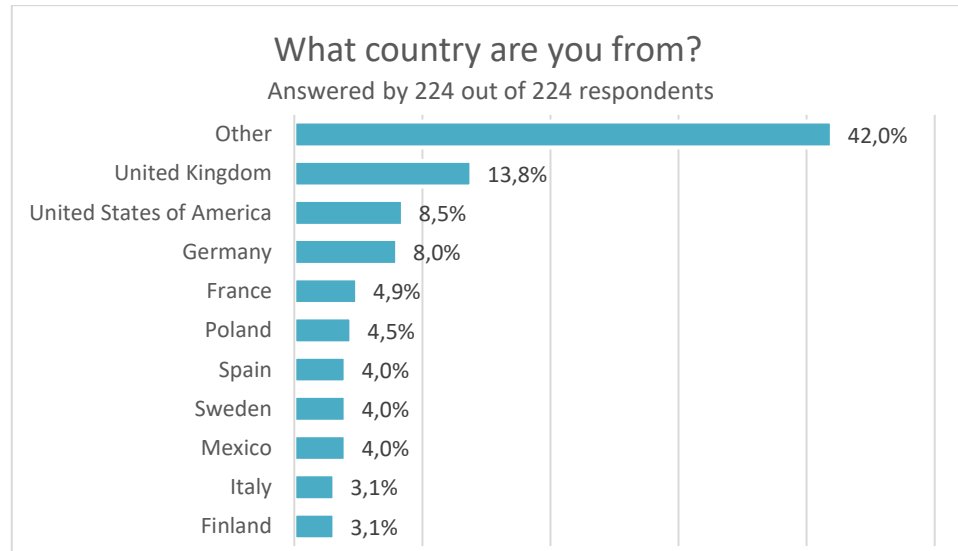


Figure 13. Native country of the respondents.

The 224 respondents were from all over the world, with 58 different countries represented. Most respondents were from the United Kingdom with 13,8% of the total. 8,5% of the respondents were from the United States, and 8% from Germany. Only 4% of respondents were originally from Spain, which is surprising, but considering that the survey was conducted in English and shared mainly in expat groups, it's a logical result. The high proportion of Germans is likely due to the founder being German.

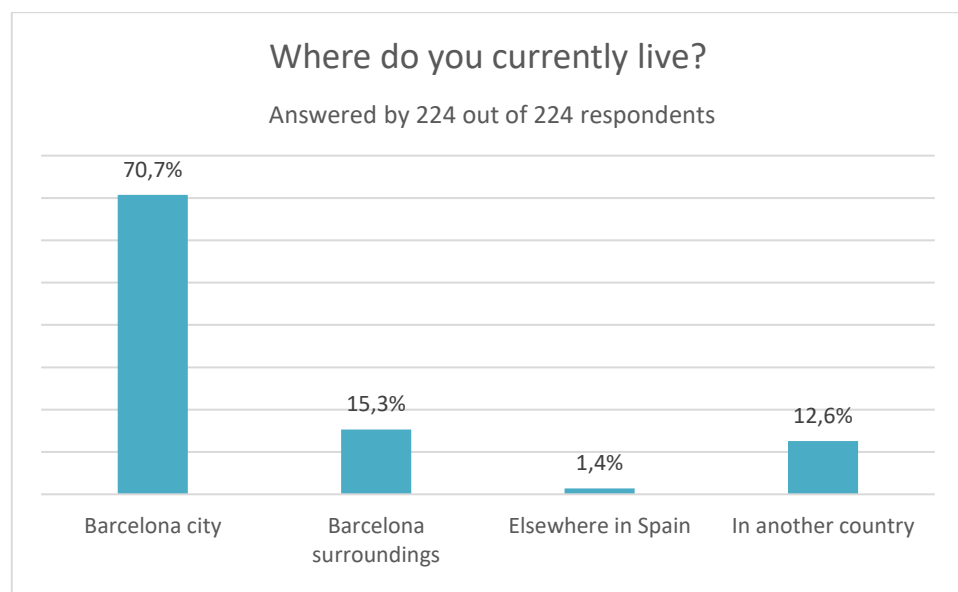


Figure 14. The current place of residence of the respondents.

70,7% of the 224 respondents live in the city of Barcelona, 15,3% in the surrounding area and 1,4% elsewhere in Spain. 12,6% live in another country. The aim was to only target people living in Spain, and this should have been made clear when sharing the survey to avoid people from other countries responding.

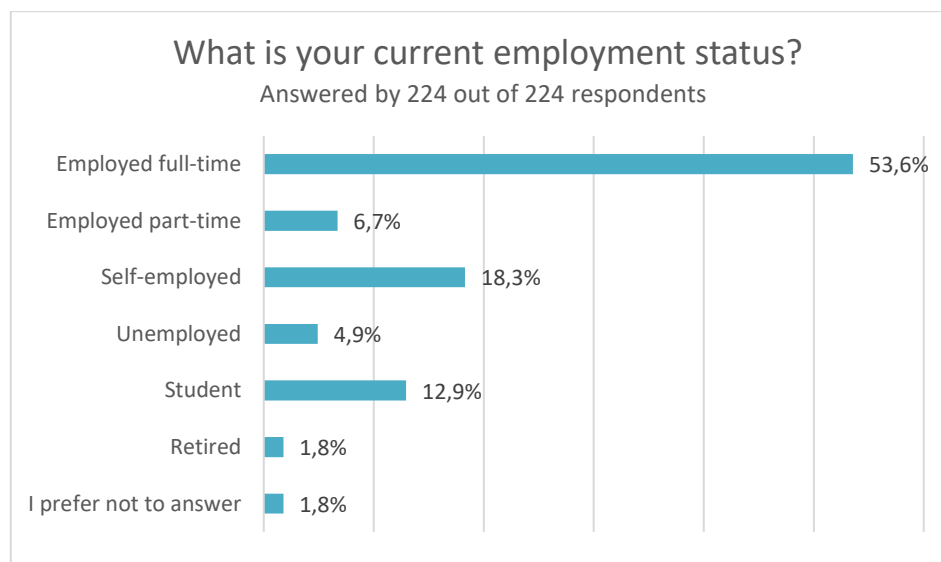


Figure 15. Employment status of the respondents. 224 respondents.

53,6% of the 224 respondents are employed full-time, 18,3% are self-employed and 6,7% employed part-time. 12,9% are students, 4,9% unemployed, 1,8% retired and 1,8% preferred not to answer. This result was very close to what was expected.

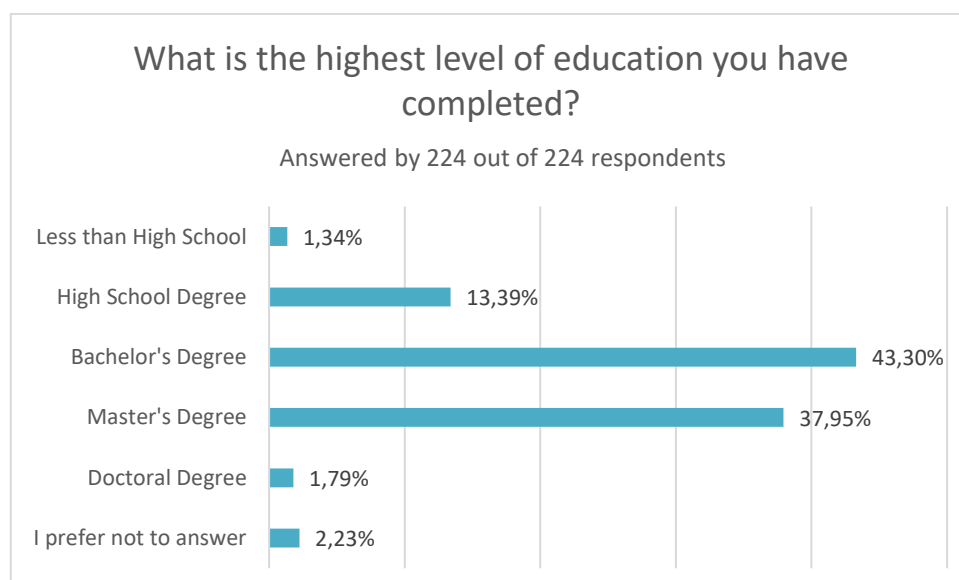


Figure 16. The highest level of education completed.

The highest level of education that most of the 224 respondents have completed was a bachelor's degree with 43,3% of respondents. 37,9% of respondents had completed a master's degree and 1,8% a doctoral degree.

13,39% of respondents have a high school degree, 1,3% have less than high school and 2,2% preferred not to answer this question.

In total, 83% of the respondents have completed a bachelor's degree or higher, which could mean that most international people living in Barcelona area are educated in general. It may also indicate that people with higher education are more likely to be interested in sustainable alternatives for straws. This needs to be taken as speculation, however, as there is not enough data to support this conclusion.

After the about me-section, the respondents were asked if they have comments or suggestions to Eco Vidre Barcelona. Majority wished good luck and considered glass straws a good initiative. Many recommended to target the restaurant market, but some expressed concerns about the hygiene of reusable straws in a restaurant environment. Respondents were also concerned about glass as a material and would like to know more about durability. Some were suggesting that other materials could be a better option because of the risk of breaking. Part of the respondents would also like to know more about the recycling and manufacturing of glass straws, and some considered straws unnecessary altogether. All the comments were passed on to Eco Vidre Barcelona for review and consideration.

In the end of the survey, all 224 respondents were asked if they want to participate in a raffle to win a set of 4 Eco Vidre Barcelona glass straws by leaving their email address, and 65,5% of the respondents did.

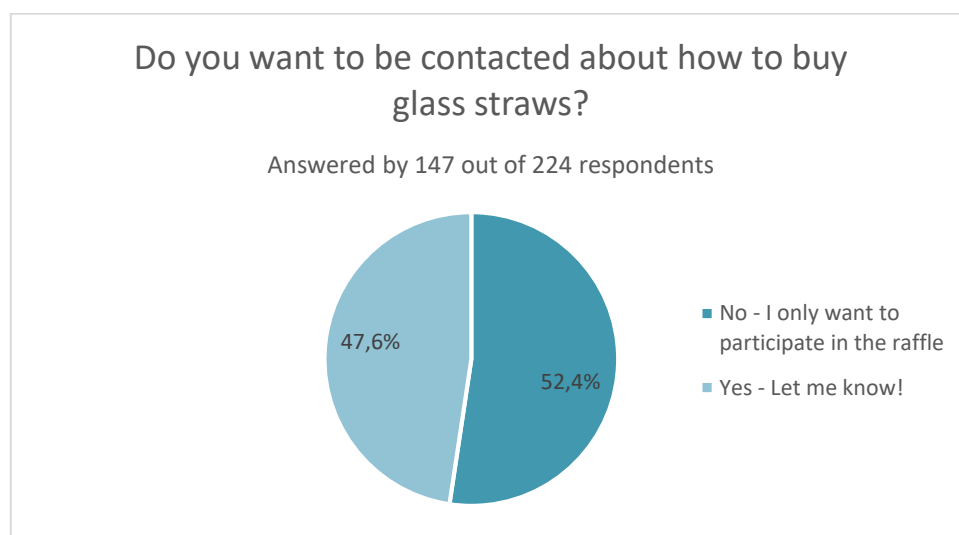


Figure 17. Respondent willingness to find out how to buy glass straws.

The respondents who left their email address, were asked if they would be interested in finding out how to buy glass straws. Almost half of the respondents (47,6%) gave a positive response. 52,4% of the respondents wanted to only participate in the raffle.

Out of the total of 224 respondents to the survey, 31,3% were interested in buying the glass straws and agreed to receive marketing material. This was a great success for Eco Vidre Barcelona and meant that the survey directly created potential customers and sales opportunities.

7.1 Reflection

Considering that the survey was additionally used as a marketing tool, there are certain considerations regarding the reliability and validity of the results. The use of product information and photos in the survey may have impacted the answers of the respondents and caused a distorted view of the actual consumer opinions and willingness to buy. The results are not objective when collected together with product and brand promotion, and therefore cannot be treated as the general opinion of the public.

The respondents may have felt more compelled to give positive responses because of the brand visibility, and the photos and product information can create a demand that normally would not occur. Additionally, the results could appear to be more positive, because the survey was filled in more likely by people that already had interest in reusable straws and the environment in general.

8 CONCLUSION

The goal of the thesis was to find out consumer opinions about glass straws through a survey, and to explore whether there would be demand for the product. The goal was also to gather information to guide Eco Vidre Barcelona in their future decision making. All these goals were met, and the survey generated valuable information and insight for Eco Vidre Barcelona to continue building the company.

With the help of the gathered and analysed information, Eco Vidre Barcelona is able to make more informed decisions about the target market to focus on. Knowing the most common objections and concerns that consumers may have will help when making marketing plans and developing company strategy in general. Through the comment sections of the survey, the client received detailed information and ideas that the company can take into consideration. The most concrete benefit to Eco Vidre Barcelona was receiving the contact details of interested customers to send marketing material and potentially sell the straws. The restaurant, bar and café recommendations to offer glass straws that the respondents shared was valuable insight as well.

Based on the survey results, the author concluded suggestions for the future of Eco Vidre Barcelona. B2B is clearly the main target market, as most consumers said they are only using straws at restaurants, bars or cafes. Majority of the respondents also claimed that they would be more likely to select a restaurant that used ecological alternatives, which can be brought up in conversations with B2B customers as a convincing argument.

The respondents mentioned that they would be likely to use straws more often if they had an ecological option, and therefore consumer market is not an impossible option to consider either. Especially since one third of respondents were interested in finding out how to buy the straws, there seems to be significant interest in the consumer market as well.

Marketing focus should be on demonstrating durability and hygiene of the straws, as well as environmental impact of the glass used in the straws. These were the main concerns raised by the respondents consistently throughout the survey. There is potential to convince consumers on the benefits of glass compared to competing alternative materials, as the respondents in the survey seem to be very hesitant on only these key issues that are relatively easy to overcome with good marketing and promotion, considering glass straws are one of the easiest alternative materials to keep clean and are not nearly as fragile as is commonly thought.

B2C customers were above all not convinced about carrying glass straws with them, and if this market is targeted, it would be important to find ecological packaging solution that is easy to carry in a bag without having

to worry about the glass breaking. Emphasis on cleaning the straws on the go is also an important focus area.

The target consumer group is likely 20-40-year-old highly educated women. This is speculation, considering that the survey response method was online in expat groups, where most members are likely to be within this demographic. Therefore, it is not possible to draw a conclusion, but this was the main group that showed interested in the survey. The biggest competition based on responses was straws made out of bamboo.

The thesis process overall was very successful, and the author learned a lot, both while researching for the theory of the thesis and while creating the survey. The main challenge was to compromise with the client about including marketing material in the survey. It can be problematic from an ethical point of view to create a survey with an agenda behind it without clearly stating it's promoting a brand at the same time.

Analysing the results was a surprisingly long process and the author learned a lot about how to better ask and formulate questions to get certain type of answers. Especially the difficulty in filtering and sorting through free text responses was partially unexpected and would have been a problem if there were any more responses. The author had also never used a survey platform before and had a lot of challenge in creating the survey with the intuitive Typeform platform with logic jumps and additional hidden questions. It was fun and functional at the same time.

The collaboration with Eco Vidre Barcelona was an overall success and it benefited the company as well as the professional development of the author. It was a challenging and long process but there were direct gains from the results and it reached the set goals.

SOURCES

Bell, E., Bryman, A. & Harley, B. (2019). *Business research methods*. 5th edition. New York: Oxford University Press.

Bocken, N., Short, S., Rana, P. & Evans, S. (2014). A literature and practice review to develop sustainable business model archetypes. *Sciencedirect*, published on 15.2.2014. Retrieved on 25.5.2019 from <https://doi.org/10.1016/j.jclepro.2013.11.039>

Borenstein, S. (2018) Science Says: Amount of straws, plastic pollution is huge. *Phys.org*, published on 21.4.2018. Retrieved on 25.5.2019 from <https://phys.org/news/2018-04-science-amount-straws-plastic-pollution.html>

Dauvergne, P. & Lister, J. (2013). *Eco-Business: A Big-Brand Takeover of Sustainability*. Massachusetts: MIT Press.

Denham, J. (2018). 8 best reusable straws. *The Independent*, published on 25.5.2018. Retrieved 20.5.2019 from <https://www.independent.co.uk/extras/indybest/food-drink/best-reusable-straws-for-environment-hot-drinks-coffee-a8369031.html>

Esomar. (2007). *Market Research Handbook*. Fifth edition. New York: John Wiley & Sons, Incorporated.

Esty, D. & Winston, A. (2006). *Green to Gold: How Smart Companies Use Environmental Strategy to Innovate, Create Value, and Build Competitive Advantage*. New York: Yale University Press.

European Commission. (2018a). A European Strategy for Plastics in a Circular Economy. *European Commission*, published on 16.1.2018. Retrieved on 1.4.2019 from <http://ec.europa.eu/environment/circular-economy/pdf/plastics-strategy.pdf>

European Commission. (2018b). Single-use plastics: New EU rules to reduce marine litter. *European Commission*, published on 28.5.2018. Retrieved 23.4.2019 from [http://europa.eu/rapid/press-release MEMO-18-3909_en.htm](http://europa.eu/rapid/press-release_MEMO-18-3909_en.htm)

European Parliament. (2019). Plastic Oceans: MEPs back EU ban on throwaway plastics by 2021. *European Parliament*, published on 24.10.2018. Retrieved 20.3.2019 from <http://www.europarl.europa.eu/news/en/press-room/20181018IPR16524/plastic-oceans-meps-back-eu-ban-on-throwaway-plastics-by-2021>

FMI. (2019). Bamboo Straws Market: Global Industry Analysis 2013 - 2017 and Opportunity Assessment; 2018 – 2028. *Future Market Insights* 8/2019. Retrieved 16.5.2019 from <https://www.futuremarketinsights.com/reports/bamboo-straws-market>

Gibbens, S. (2019). A brief history of how plastic straws took over the world. *The National Geographic*, published on 2.1.2019. Retrieved 13.5.2019 from <https://www.nationalgeographic.com/environment/2018/07/news-plastic-drinking-straw-history-ban/>

Global Web Index. (2019). Sustainable Packaging Unwrapped. *Global Web Index* 2019. Retrieved 20.4.2019 from <https://www.globalwebindex.com/reports/sustainable-packaging-unwrapped>

GPI. (n.d.). Glass recycling facts. *Glass packaging institute*. Retrieved on 5.5.2019 from <http://www.gpi.org/recycling/glass-recycling-facts>

Greener, S. (2018). *Business research methods*. London: Bookboon.

HALM. (2019). Reusable straw comparison. Retrieved 10.5.2019 from <https://www.halm.co/en/reusable-straw-comparison>

Hawken, P. (2002). *The Ecology of Commerce*. New York: Harper Business.

Ho, V. (2018). Plastic straw ban: testing the eco-friendly alternatives. *The Guardian*, published on 25.8.2018. Retrieved 20.5.2019 from <https://www.theguardian.com/us-news/2018/aug/25/plastic-straw-ban-testing-compostable-metal-bamboo>

Isaak, R. (2002). Making of the ecopreneur. *ResearchGate*, published on 1.6.2002. Retrieved 20.5.2019 from <https://doi.org/10.9774/GLEAF.3062.2002.su.00009>

Jackson, T. (2009). *Prosperity without growth: Economics for a Finite Planet*. London: Earthscan.

Jambeck, J., Geyer, R., Wilcox, C., Siegler, T., Perryman, M., Andrady, A., Narayan, R., Law, K. (2015). Plastic waste inputs from land into the ocean. *Science Magazine*, published on 13.2.2015. Retrieved 10.4.2019 from <https://science.sciencemag.org/content/347/6223/768>

Kershaw, P., Turra, A. & Galgani, F. (2019). Guidelines for the monitoring & assessment of plastic litter in the ocean Reports & Studies. *GESAMP*. Retrieved 23.4.2019 from <http://www.gesamp.org/publications/guidelines-for-the-monitoring-and-assessment-of-plastic-litter-in-the-ocean>

Landrum, N. & Edwards, S. (2009). Sustainable Business: AN Executive's primer. Retrieved 20.5.2019 from <https://doi.org/10.4128/9781606490495>

Lavers, J., Dicks, L., Dicks, M. & Finger, A. (2019). Significant plastic accumulation on the Cocos (Keeling) Islands, Australia. *Nature Scientific Reports*, published on 16.5.2019. Retrieved 20.5.2019 from <https://www.nature.com/articles/s41598-019-43375-4>

Lev-Tov, D. (2018). The Death of the Plastic Straw. *The National Geographic*, published on 5.6.2018. Retrieved 20.5.2019 from <https://www.nationalgeographic.com/travel/features/plastic-straw-single-use-plastics-in-hotels-cruises/>

McDonough, W. & Braungart, M. (2002). *Cradle to Cradle: Remaking the Way We Make Things*. New York: North Point Press.

Mycoskie, B. (2011). *Start Something that Matters*. New York: Spiegel & Grau.

My market research methods. (2019). The Market Research Process: 6 Steps to Success. Retrieved 20.5.2019 from <https://www.mymarket-researchmethods.com/the-market-research-process-6-steps-to-success/>

Ocean Conservancy. (2019). Ocean trash data. Retrieved on 15.3.2019 from <https://www.coastalcleanupdata.org/>

Plastic Oceans. (2018). A Plastic Ocean – Educational supplement. Retrieved 30.3.2019 from https://plasticoceans.org/wp-content/uploads/2018/01/Plastic-Oceans_Educational-Supplement_vJan2108.pdf

Plastics Europe. (2018). Plastics – the Facts 2018. Retrieved 1.3.2019 from https://www.plasticseurope.org/application/files/6315/4510/9658/Plastics_the_facts_2018_AF_web.pdf

Showkat, N. & Parveen, H. (2017). Quantitative methods survey. *ResearchGate*, published on 7/2017. Retrieved 13.4.2019 from https://www.researchgate.net/publication/318959206_Quantitative_Methods_Survey

Toloken, S. (2018). Straw bans seen as tackling a 'gateway plastic'. *Plastic News*, published on 1.8.2018. Retrieved 20.5.2019 from <https://www.plasticsnews.com/article/20180801/NEWS/180809988/straw-bans-seen-as-tackling-a-gateway-plastic>

The UN – Accenture Study. (2014). The Consumer Study: From Marketing to Mattering. *The UN Global Compact-Accenture CEO Study on Sustainability*, published 6/2014. Retrieved 27.4.2019 from http://www.fairtrade.travel/source/websites/fairtrade/documents/Accenture-Consumer-Study-Marketing-Mattering_2014.pdf

UN GEO6. (2019). Global Environment Outlook 6. *UN Environment*, published on 4.3.2019. Retrieved 23.4.2019 from <https://www.unenvironment.org/resources/global-environment-outlook-6>

UNEP. (2018). The State of Plastics: World Environment Day Outlook 2018. *UN Environment*, published on 5.6.2018. Retrieved 28.4.2019 from http://wedocs.unep.org/bitstream/handle/20.500.11822/25513/state_plastics_WED.pdf?sequence=1&isAllowed=y

Weathington, B., Cunningham, C. & Pittenger, D. (2012) *Understanding Business Research*. New York: John Wiley & Sons, Incorporated.

SURVEY COVER LETTERS

On Facebook groups:

“Hi everyone! My friend is starting up a glass straw company in Barcelona and I’m writing my thesis to find out what people think about the idea.

It would be really helpful if you could answer a quick survey. It’s only around 5 minutes and you can win a pack of glass straws! :)”

On Eco Vidre Barcelona Facebook page:

“Hola queridos, mi amiga Siiri de Finlandia escribe su tesis sobre Eco Vidre y nuestras pajitas de vidrio en general. Seria de gran ayuda si podran colaborar en esta pequena encuesta que dura como 5min (hasta ahora solo en ingles posible). Podras ganar 4 pajitas nuestras! :)”

Hello :) My friend Siiri is writing her thesis about Eco Vidre glass straws. It would be really helpful if you could answer this quick survey. It’s only about 5 min and you can win a pack of our glass straws! :)”

SURVEY QUESTIONS

Opinion survey for Eco Vidre Barcelona

- A. "By 2050, there may be more plastic than fish in the ocean..."

Eco Vidre Barcelona produces handmade glass straws to encourage a world without plastic - and to drink with style!

1. How concerned are you about the environmental impact of plastic? *
Scale from 1-5
Not at all concerned – Very concerned
2. How important is it for you to find alternatives to single-use plastic? *
 - a. Very important - I'm already using alternatives
 - b. Important - I'm considering to use alternatives
 - c. I haven't thought about it
 - d. Not at all important
3. Do you use plastic straws? *
 - a. Yes – At home and at restaurants, bars or coffee shops
 - b. Yes - At restaurants, bars or coffee shops
 - c. Yes - At home
 - d. No - I use an alternative already
 - e. No - I don't use straws at all (Move to question 4)
4. Would you start using straws if you had an ecological option? *
 - a. Yes (move to B)
 - b. No (Move to question 13)
5. Would you be likely to use straws more often if you had an ecological option? *
 - a. Yes
 - b. No
- B. Product information

Eco Vidre glass straws
Very resistant laboratory glass from Germany
Easy to clean in the dishwasher or by hand with a brush (included)
BPA Free – Pure taste
For hot and cold drinks (-40°C - 200°C)
6. What features would you consider important in an alternative for plastic straws? *
 - a. Design

- b. Environmental footprint
 - c. Durability
 - d. Made in Barcelona
 - e. Easy to clean
 - f. Hand-crafted
7. Would you be interested in buying glass straws? *
- a. Yes - Absolutely!
 - b. Yes - Depending on the price (Move to question 8)
 - c. Maybe - I need to do some research (Move to question 9)
 - d. No - I'm more interested in other alternatives (Move to question 10)
 - e. No - Not interested (Move to question 11)
 - f. Other
8. How much would you be willing to pay for a set of 4 glass straws? *
- a. More than 15 euros
 - b. Less than 15 euros
 - c. Less than 10 euros
 - d. Other
9. What kind of information would you need to make your decision? (optional)
Free text answer field
10. Which alternatives are you more interested in and why? (optional)
Free text answer field
11. Why are you not interested in buying glass straws? (optional)
Free text answer field
12. How likely would you carry your own glass straws with you? *
Scale 1-5
Not at all likely – Very likely
13. What concerns do you have about carrying your own straws? (optional)
Free text answer field
14. Would you like to see restaurants, bars and coffee shops using glass straws with their drinks? *
- a. Yes – I would be more likely to choose a place that uses ecological options
 - b. Yes – It's a nice addition
 - c. Maybe – I haven't thought about it
 - d. No - I don't think it matters (jump to 13)
 - e. Other

15. Do you know a perfect place in Barcelona for this? (optional)

Free text answer field

16. About you*

The information you provide will remain confidential.

16a. What is your age range?

18 or younger

19 – 24

25 – 34

35 – 44

45 – 54

55 – 64

65 or older

I prefer not to answer

16b. What's your gender?

Male

Female

I prefer not to answer

16c. What country are you from?

Drop-down selection

16d. Where do you currently live?

Barcelona city

Barcelona surroundings

Elsewhere in Spain

In another country

16e. What is your current employment status?

Employed full-time

Employed part-time

Self-employed

Unemployed

Student

Retired

I prefer not to answer

16f. What is the highest level of education you have completed?

Less than High School

High School Degree

Bachelor's Degree

Master's Degree

Doctoral Degree

I prefer not to answer

17. Do you have any comments or suggestions to Eco Vidre Barcelona? The stage is yours!

Free text answer field

18. If you want to participate in a raffle to win a pack of four Eco Vidre glass straws, please enter your email address here so we can tell you if you won!

It is not used for any other purpose without your permission.

E-mail address field

19. If you're also interested in buying the Eco Vidre Barcelona glass straws, please confirm if we can use your email address to let you know how!

Yes - Let me know!

No - I only want to participate in the raffle

Thank you for taking the time to respond to this survey!