



THE  OPTIMIZERS

BALLSY

[BUSINESS PLAN]

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COLOPHON

Title	Business plan Ballsy
Subtitle	Aiming for creating awareness of the environmental unfriendly Christmas period, through marketing biobased Christmas baubles
Client	Centre of Expertise Biobased Economy; Ballsy
Project leader	Bas Koebrugge
University	Avans University of Applied Sciences, Breda. Minor Biobased Technologies and Business Development
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SUMMARY

Ballsy is a start-up company that produces innovative biobased Christmas baubles, which are not commercial yet. This document contains a business plan, to provide the company adequate knowledge and preparation. The company and market are examined in depth and on a large scale by applying different models. Various legislations are taken into consideration, including European quality labels Ballsy associates with.

Surveys have been created in order to research consumer demands of Christmas baubles and retailers. Over 140 participants have filled in their preferences. The survey results are used to approach retailers. The main results are also described in the conclusion section.

A market strategy is developed, including the promotion plan for the commercialization of Ballsy and various milestones are set for the upcoming 10 years. The competitive edge of the product is analyzed as well as the possible risks for the start-up. The definite composition of colors and materials are not decided on, but the production process with PLA based baubles is displayed to get a good overview. Not all financial aspects are determined as well but all known aspects are covered. A balance sheet and different scenarios are created to be aware of different prospects.

A conclusion is added to summarize the results and recommendations to the client are given. This included that gardening centers and budget stores are the go-to places for most consumers to buy Christmas baubles. Sustainable stores and hardware stores were filled in often as well. Biobased buyers tend to use the internet often for their purchases. The consumers preferred sets of Christmas baubles with the same color, instead of the prototype Ballsy had right now with 4 different colors. The survey results are included in the production, retailer approach and commercialization of Ballsy. From the retailer contact inquiry, 5 of the 15 companies were interested in the product. Not every retailer was easy to reach, especially big budget stores. The sustainable stores are advised to approach in person.

Finally, the applied sources are referenced and the Appendices supporting the business plan are displayed.



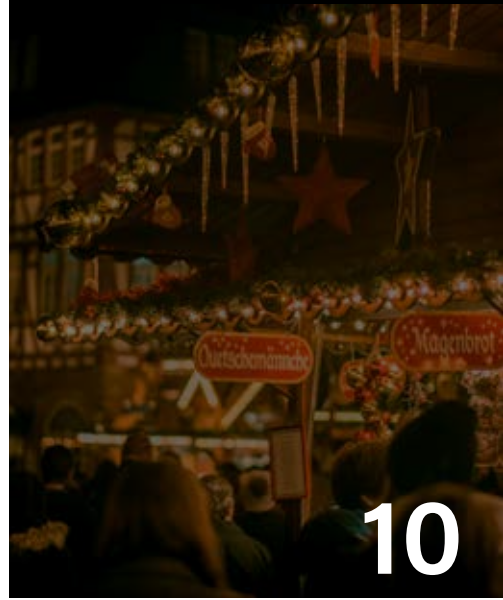
READING GUIDE

This report will provide a business plan for the client, Centre of Expertise Biobased Economy (COEB-BE), regarding the product Ballsy. This reading guide will summarize the structure of this report. Further details of subchapters and page numbers are displayed in the table of content.

Chapter one provides an introduction and the reasons for the project. Additionally, the goal of this project and the client's aim are described, including their objectives. Then, chapter two provides a summary of the start-up. Chapter three describes the technical aspects of the product Ballsy, including the production process and the future perspective for upscaling the production. Chapter four describes the results of the market research, including customer survey and retailer contact results. Chapter five contains a summary of the market for Ballsy from different perspectives and includes legislation and stakeholder analysis's as well. The complete market strategy is presented in chapter six, including market segments, a promotion plan, milestones, the competitive edge and risks. Then, in chapter seven, the financial plan is described for the upcoming three years. Chapter eight provides the conclusion and a small discussion of the business plan. The recommendations are described in chapter nine. Additionally, the list of the valid sources that are used for this report are displayed. Finally, appendices are included. These contain work that has been done besides this report to support the business plan's content.



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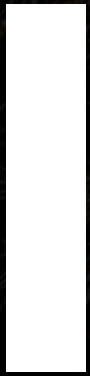
42



23

CONTENT

02	COLOPHON	37	TECHNICAL SUMMARY
03	SUMMARY	42	FINANCIAL SUMMARY
04	READING GUIDE		INVESTMENT
06	INTRODUCTION		FINANCING
08	COMPANY SUMMARY		COST PRICE
10	MARKET SUMMARY		THE SELLING PRICE
	MICRO, MESO, MACRO ANALYSIS		SALES FORECAST: SCENARIOS
	STAKEHOLDERS	56	PROFIT & LOSS
	SWOT	58	BALANCE SHEET
	LEGISLATION QUALITY LABEL		CONCLUSION
23	RESULTS	60	ADVICE
	SURVEY TARGET GROUP	66	SOURCES
	CONTACTING RETAILERS		APPENDIX
29	MARKETING STRATEGY		
	TARGET MARKET SEGMENT		
	PROMOTION PLAN		
	MILESTONES		
	COMPETITION EDGE		
	RISKS		



CHAPTER ONE

INTRODUCTION



Ballsy is a start-up located within Avans' Centre of Expertise Biobased Economy (COEBBE), Breda. The company is led by Bas Koebrugge, project leader of COEBBE. Ballsy will design and create biobased Christmas baubles made from biobased plastics and recycled pine needles. The baubles will be offered to teachers and students within Avans and to the general consumer via retailers.

This business plan includes a more detailed description about the company and gives insight on the future marketing strategy. The insight that is given is based on marketing to the consumers via retailers and directly to the online consumer via the Ballsy web shop. In addition, the technical and financial plan are described as well. All the numbers that are shown in this plan are based on literature- or field research.

In order to receive the adequate literature- and field research, multiple activities are performed. The activities based on the literature research contain mostly marketing background research. Topics like Ballsy seen on micro, meso and macro levels in the current market, are some of the activities that are being done. This includes the research to investors and competitors. The literature research is done online. Technical and financial calculations are also performed based on literature studies.

Furthermore, the activities of the field research are divided into two target groups and are executed after conclusions made from the literature research. The customers are a target group on the one hand and the retailers on the other hand. Setting up a survey was the main activity that has been undertaken for the customers. For the activities of the retailer target group there is done personal target research. Activities that have been undertaken are calling or mailing the different retailers to get in contact with the purchase department. The numbers of the results will be highlighted and explained in the results chapter.

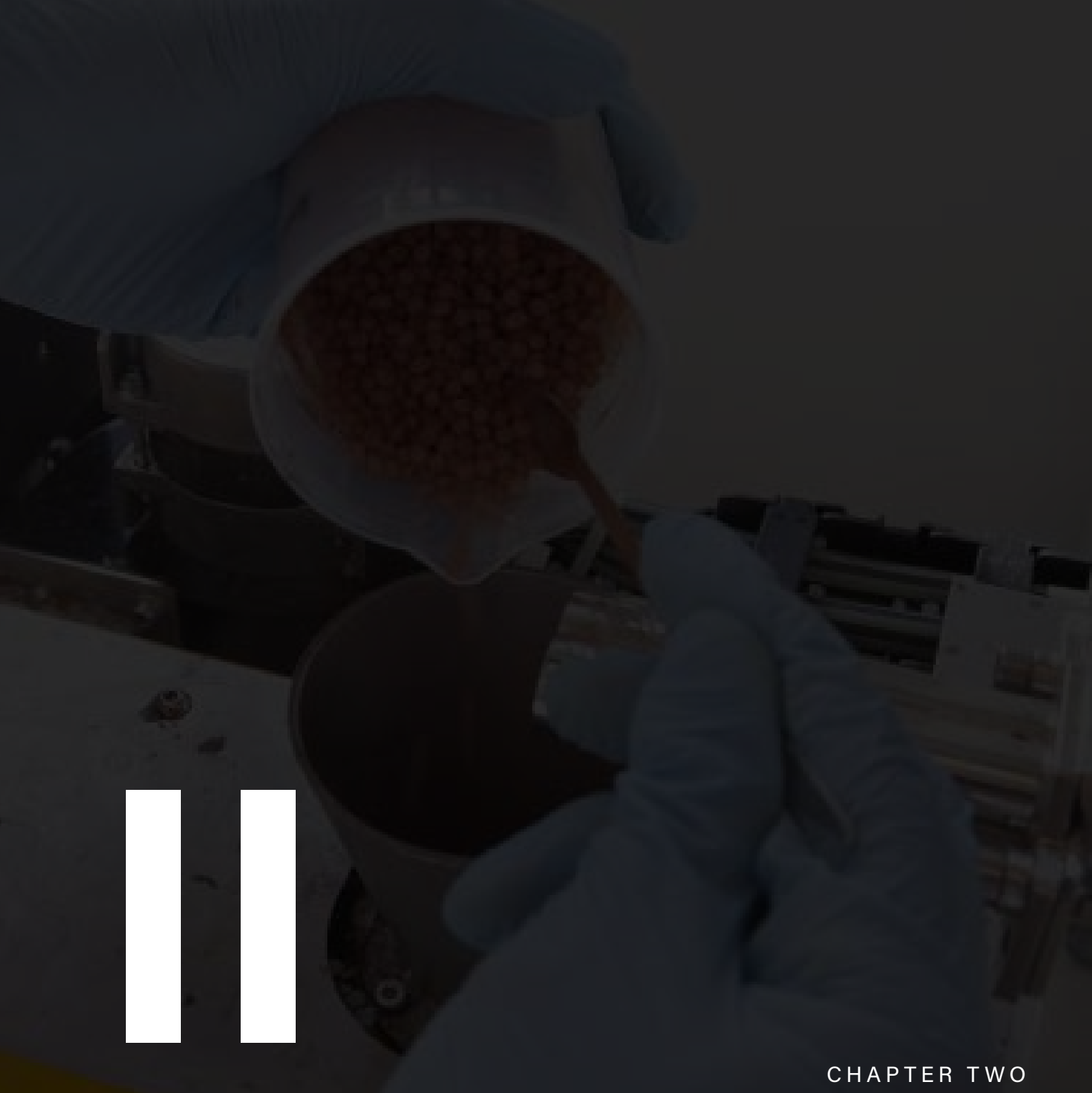
Additionally, this business plan is validated with the discussion and conclusion section. The whole plan, including results, is concluded and being overlooked with a critical attitude to come up with possible challenges for the future perspective.

GOAL

The goal of this project is to create awareness to the public on biobased possibilities for Christmas baubles and research the public's demand for this product, in order to decrease fossil fuel emissions by diminishing the production of Christmas baubles.

BOUNDARIES

The Christmas baubles are restricted to one mould, which excludes the possibility of different shapes and prints. The product is not commercial thus far and the price and finances are not fully determined, therefore Ballsy is not able to promise orders or sell the product to interested retailers yet. The project duration is 20 weeks.



CHAPTER TWO

COMPANY SUMMARY

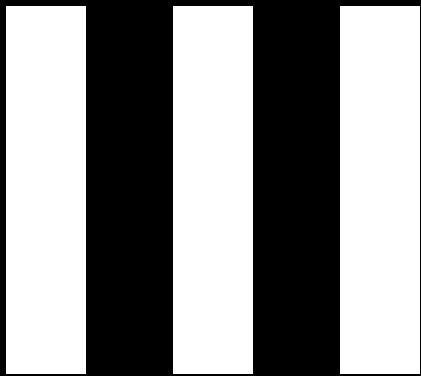


Ballsy is a start-up located within Avans' Centre of Expertise Biobased Economy (COEBBE), in the city Breda. The company itself is operated by a mix of 10 organizations and 30 students who worked over a year on different expertise's together on the realisation of a biobased Christmas bauble. The company is led by Bas Koebrugge, project leader of COEBBE.

The aim of Ballsy is to create awareness of the current (non-environmentally friendly) state of Christmas amongst the public in the Netherlands, by promoting and selling biobased Christmas baubles. In order to achieve the highest amount of awareness, the strategy of Ballsy is divided into two segments. The first segment is purely focussed on promoting the bauble within Avans to students, teachers and staff members. The other and second segment is to create awareness to the consumers that are buying their decoration at retailers.

The different strategy segments are distributed over two divisions. The division that is taking care about the promotion within Avans Hogeschool has already accomplished an agreement on selling the Christmas baubles to their students and teachers. Insights of their report can be found through contacting Shanne Mast (sj.mast@student.avans.nl).

This business plan is done by the second division and focuses on the demand of retailers and consumers for biobased Christmas baubles. The goal is to accomplish agreements with suitable retailers to sell the Ballsy and therefore, sell the awareness to consumers.



CHAPTER THREE

MARKET SUMMARY



In this part, a description of Bally's micro, meso and macro-environment will be presented. In the analysis of the micro-environment, a presentation of the strengths, weaknesses and a 7S model will be presented. In the meso-environment part, the market size and market growth will be explained. The characteristics of the target market segments, and the competition are described as well. The macro-environment will be described by a DESTEP model. In addition, a stakeholder analysis as well as a presentation of the legislation which is a quality label will be made.

3.1 MICRO/MESO/MACRO

MICRO

To find out how to position Bally correctly in the market for Christmas decorations, it is necessary to carry out a self-analysis of the company. An internal analysis consists of an analysis of strengths and weaknesses. The aim is to determine the company's ability and inability to cope with the changes in the market, i.e., regarding its competitors and its environment. [2]

STRENGTHS

One of the main strengths of this project is the idea of the project itself. The product of the biobased Christmas baubles is an innovative and promising product. With this strength it was possible to create a story and to communicate about it. By being innovative, it is possible to differentiate oneself from competitors. Another strength is the company's staff. The people involved in the project are experts and are highly qualified. Moreover, this project is not a non-profit organisation, their motivation in this project is not profit but values. This aspect of interest of the product for all is very important. This company is also open-minded. The company is open to new ideas but also to new players. It welcomed Nicole Hoekx, but also the Optimizers. This aspect of diversity of experience is a strength for the product. One of the company's strengths is the motivation present in the company. It is important for a company to know why they make their product. With these strengths, it is then possible to overcome market threats and carry out a successful marketing strategy.

WEAKNESSES

The technical and commercial aspects are still unclear. In addition, the target customers were not yet exactly defined. The business plan was missing until now, as well as the target group, which is defined in the results section. Once the target consumer has been defined, it will have to be analysed to market the biobased Christmas baubles. The product still lacks development and improvements. Several aspects of the product are not perfected, such as the definite production colours, the non-biobased colourants, and the scent.

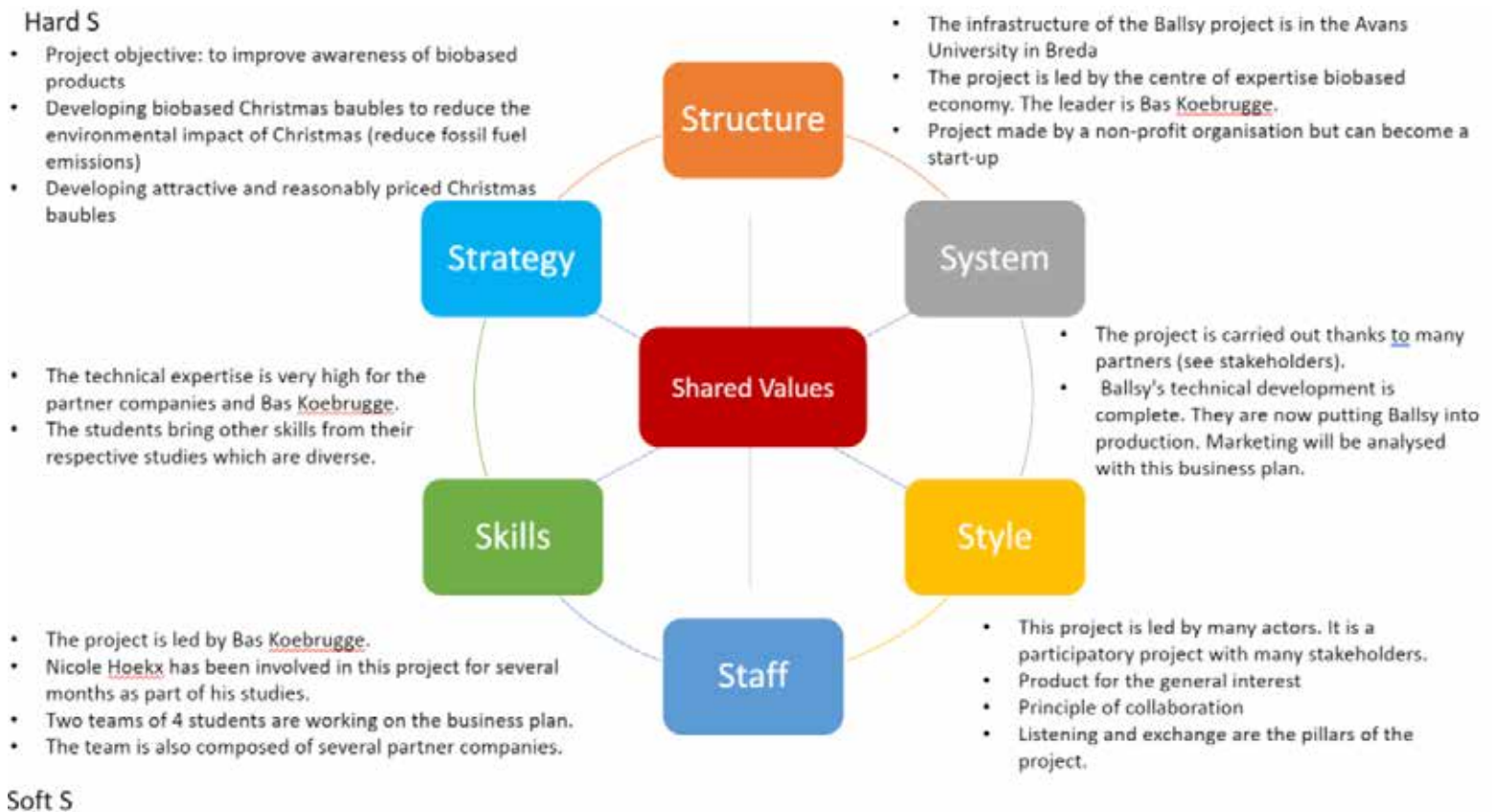


FIGURE 1. 7S Model of Ballys (hard and soft S)

The figure showed above is the McKinsey's 7S model, which presents Ballys's strengths and weaknesses in a clear and simple manner. This overview guides certain changes if they are necessary. The McKinsey 7S model describes 7 factors that enable a company to organise itself comprehensively and efficiently. [1,3] This model presents Ballys's structure, system, style, staff, skills and strategy. The company's strategy is directly linked to Ballys's strengths. The current structure of the company is not a start-up but a non-profit organisation. This structure is linked to Ballys's weaknesses. Ballys is building on its strengths to implement its marketing strategy.

MESO

MARKET SIZE & MARKET GROWTH

MARKET FOR BIOBASED PRODUCTS

The size of the market for biobased products is still too difficult to quantify. This market is currently a niche market in the Netherlands. This market is not yet analysable.

CHRISTMAS DECORATIONS MARKET

The global market for Christmas decorations in 2019 was \$6,370.8 million and is expected to grow until 2026. Indeed, economists forecast a size of 7746.3 million. This development shows that Christmas decorations are growing steadily. The market for Christmas decorations is sustainable over time.

Some of the Christmas decorations in Europe are imported from China. This information indicates that in addition to the market for biobased products, biobased Christmas baubles could be present in the market for local products.



A very thorough study has been carried out on the market for Christmas decorations. It is called: "Christmas Decorations Market Report: Ultimate Guide to the Consumer Market for Christmas Decorations". This book contains a wealth of information such as consumer purchasing behaviour and the styles of Christmas decorations loved by customers. The book also explains the expenditure made during this time of the year. [4]

This book describes the following elements:

- "The size of the Christmas decorations market, its future growth and the distribution of sales between product types and distribution channels..."
- What are the most popular Christmas decorations and styles in 2015?
- How can we ensure that the designs on offer correspond to the desires of decorators?
- Understand the four distinct personalities of Christmas decorators and how to appeal to each personality's particular taste in decorating.
- Where will customers buy the decorations and how to attract the attention of the best prospects for decor sales?
- How can social media be used to encourage decorators to make their purchases?" [4]

However, this book costs \$1,500. That is why there is only a description of this report. [4]

THE JOURNEY OF A BALLSY CUSTOMER

In order to better understand the customers during the Christmas period a Customer journey process of buying Christmas decoration will be carried out.

First, qualitative research will be done on consumer habits during the Christmas period. This information will help to better understand consumers. With the information retrieved a typical buyer of decorations during the Christmas period will be imagined. The 5W model (who, what, where, when and why) will be used to summarise the information found. [5]

Who is most likely to buy Christmas decorations? Women are more likely to buy Christmas decorations (64% of women versus 58% of men). They are aged between 25 and 54 years old. Households with higher incomes are more likely to buy Christmas decorations (> \$50,000). Households with children are more likely to buy Christmas decorations. [8,11] These results of the qualitative analysis are confirmed by the quantitative analysis. According to the results of the survey (appendix), women buy Christmas decorations more regularly than men. Moreover, they are women of all ages and have a household.

What? Christmas decorations are used to decorate Christmas trees and the house indoors and outdoors.

Where? Consumers often buy their decorations in botanical shops. Two shop names stand out on the internet: Intratuin and Truincentrum.[10] There are online shops on the internet for selling Christmas decorations. But also shops such as Action or Hema offer Christmas decorations. These are the first sites that stand out in the results of internet searches for buying Christmas decorations in the Netherlands. These results are corroborated by the survey carried out which shows that people buy their Christmas decorations in botanical shops and budget shops.

When? The Dutch in general decorate their Christmas trees after 5 December because of Sinterklaas. Christmas decorations are then often bought before that date during the month of November but also October. [6]

Why? Above all on websites, they recommend looking at the colour of one’s home and colour desires before choosing Christmas decorations. People can include a theme in the choice of Christmas decorations (romantic, rural, choose a colour theme with red, green or white). The price is a notion evoked on some websites, but the main criterion is the aesthetics of the house after the decoration and the atmosphere. [7,9] According to the results of the survey, the three main criteria for choosing Christmas decorations are design, price and quality.

The 5W model shown in the figure below, is made from the results found with the survey. These results are presented in the results section. Details can be found in the appendix. Thanks to the data collected on consumer habits, this 5W model has been made.



FIGURE 2. 5W’s model of Ballsy

Thanks to the results of the survey available in the section “results” and in the appendix and from bibliographical research two personas have been created, which are shown in the figures below. These two personas are two typical people who could buy Ballsy.

EMILIE DUPOND

Age 54 years old

Family situation Married with two children

Location In the centre of Breda in a house



“Christmas is an important time for the family but also for the environment.”

Goals

- To have beautiful and quality decorations that will be in harmony with my interior design.
- Easily find my Christmas decorations in a botanical shop at the same time as my Christmas tree.
- Having a more environmentally responsible Christmas

Where I buy Christmas decorations

- Botanic shop

Biography

She is a 54-year-old woman, married with two children. She is an active family and lives in the centre of Breda. She wants to have a practical Christmas in terms of organisation and at a reasonable cost.

FIGURE 3. First persona



FIGURE 3. Second persona

Based on the analysis of the 5W's and the two personas, a customer journey mapping was carried out.

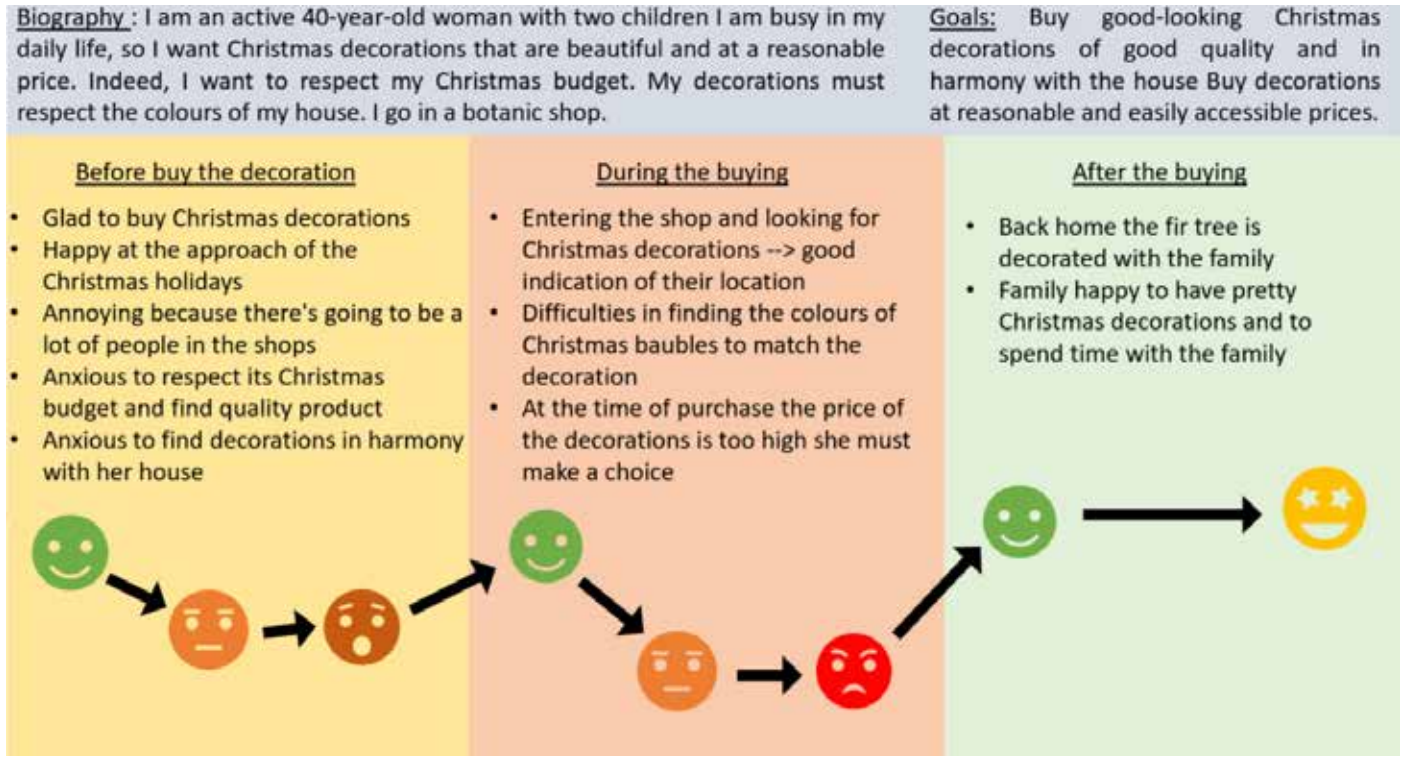


FIGURE 4. The customer journey of the biobased Christmas bauble: Ballys

FEATURES OF THE TARGET MARKET SEGMENTS

The survey received a total of 147 responses with a large response panel. A target group was identified through the results (see chapter "results"). The market segmentation will be more towards women. Women most often buy Christmas decorations regardless of their age. They buy the decorations in botanical shops or budget shops. Marketing will be more oriented towards a female clientele. An interesting possibility was identified with this survey. Consumers do not buy their Christmas decorations on the internet. However, buyers of biobased products do buy their product on the internet. Therefore, it might be interesting to sell Ballys online.



COMPETITION AND POSITION IN RELATION TO THE COMPETITION

Given the number of companies marketing Christmas baubles, it is more useful to study competitors that are closer to Ballsy. It is interesting to look at Dutch companies that can take market share in the local supply market, but also at companies producing organic Christmas baubles that are closer to Ballsy. Products comparable to Ballsy were researched to identify potential competitors. [12,14,15,16,17, 18]

COMPETITORS IN THE MARKET OF BIOBASED BAUBLES

One of the competitors in the organic Christmas baubles market is the **home-made decorations**. Many websites offer tutorials on how to create your own Christmas decorations such as Pinterest or Creavea. This alternative is a very important competitor for people who are sensitive to their environmental impact during the Christmas period. Indeed, when someone is looking for sustainable or ecological Christmas decorations the search engines direct the results to these tutorials. The trend of waste reduction is present for the Christmas period. There are many articles and websites to make a greener Christmas. However, it is rare that these articles direct internet users towards sustainable decoration brands. Home-made products are widely encouraged. These sites also recommend reusing other people's products. They advise against buying new products. The trade in second-hand Christmas decorations can be a potential competitor [12,13].

The only brand present on the ecological Christmas baubles is the "**Nkuku**" brand. Nkuku is a British company that produces organic Christmas baubles. The product is made from recycled glass and is produced in India. Each ball is tied with a strip of recycled sari fabric. Information about the product and production techniques is not explicit. They have their own website with online sales of their product. Their range of choice is very wide with very design and fashionable products. Shapes, colours, and prisms are varied. The prices for these products are very high (£11,95 for 3 baubles to £ 24,95 for 12 baubles). Nkuku has a history around their product by offering Christmas decorations made from natural, recycled, and reclaimed materials using sustainable production methods. However, it is a strong competitor for Ballsy [14].

There are competitors in terms of manufacturing conditions. Some websites highlight the manufacture of their Christmas decorations. The first competitor is the online shop **Fair Tribe**. Tina, a young entrepreneur from San Francisco, created this website to sell handicraft decorations, jewellery and gifts from fair trade. The online shop offers products that guarantee fair wages, good working conditions and sustainable materials. Her shop partners are committed to supporting artisans and environmental sustainability. The products offered are very diverse but also expensive (between \$9 and \$26 for only one decoration). Fair Tribe promises products that are primarily fair trade but have a sustainability aspect, which is a competitor for Ballsy [15].

Another online shop offers the sale of fair-trade products. This site is called **Acacia creations**. This website was designed by the American Maura Kroh in 2007. They offer many products including Christmas decorations. Each product in its description has its own story. The materials are local. This site is also a potential competitor of Ballsy [16].

Another online shop offers fair trade decorations. **Ten Thousand Villages** is an online shop selling various products such as bags, kitchen accessories, decoration, beauty products and garden items. They are actors of social change. They guarantee a fair wage and safe working conditions. They encourage the use of locally sourced, recycled, and renewable materials. They are committed to having a reduced ecological footprint. They value "the work of women, people with disabilities and others who are often excluded from the global economy". In addition to their environmental work, they want to have a social action which makes them a serious competitor [17].



Other sites such as **Etsy, Handmade amazon or notonthehighstreet** offer products made by private individuals. The most important site is Etsy. Private individuals including craftsmen or weekend artists can sell their creations. And many creations are said to be sustainable. These sites are sales platforms for craftsmen and creators who do not have their own shops. These sites are serious competitors to Ballsy. The prices offered on these sites vary widely (from a few euros to several thousand euros depending on the products on offer) [18,19,20].

Paper tree is a website selling products made from paper. This site sells Christmas baubles made from paper. This site sells two Christmas baubles for £7. The environmental advantage of this product is its material but also its ability to store and fold up and therefore it is an unbreakable product like Ballsy [21].

The protect the planet website sells environmental Christmas decorations. They sell Nkuku Christmas baubles, but also other Christmas baubles made from recycled glass [22].

Ballsy is a new product on the market. Research has shown that the product is innovative. No decorations can be found with the label “biobased”. This innovation is a major competitive advantage over potential competitors. Nevertheless, there are some competitors in this sector. The Nkuku brand which is the most found result when the internet user is looking for an ecological Christmas bauble. There are resellers of handcrafted or fair-trade products but no other veritable brands of ecological Christmas baubles. However, even if Ballsy is new, it remains to be seen whether consumers will buy it. The DIY market and home-made decorations are there to make Christmas more sustainable.

Based on the results of the survey, the three most important criteria for consumers are as follows:

- Design
- Price
- Quality

In addition, only 4 competitors will be selected for this analysis. The choice to include Nkuku in the analysis is essential as it is the competitor with the approach and products closest to Ballsy. The brands fairtribe, aciacreations, ten thousand are sellers of fair-trade products. In the figure below, these three sellers are grouped together in the “fair trade product” category. The brands Etsy, amazon.co and notonthehighstreet are websites selling artisanal products. It is then possible to group them together. The last group selected for analysis is home-made products. Too great a diversity of competitors can distort the comparison, only the main competitors grouped in categories are selected.



FIGURE 5. Benchmarking analysis of Ballsy

(Each criterion is rated on a scale of 1 to 10. 1 means that the criterion is not a weakness for the product and 10 means that the criterion is a strength for the product.)

This diagram above shows that Ballsy performs better on important consumer qualities such as design and quality. However, home-made products perform better on price and fair-trade products are more original and colourful in design. Nevertheless, this analysis is based on only three criteria.

In order to understand the external (meso) analysis a 5 forces model, also called Porter's model, will be proposed to describe all the actors present and their importance. Although each sector of activity is different, what they have in common is that they are driven by relationships between 5 categories of players: competitors, potential new entrants, alternative product providers, suppliers and customers. These relationships of strength between actors influence the competitive intensity of the sector. Porter's model will be unique because Ballsy is positioned as a new entrant in the market, shown in the figure on the next page.[23]

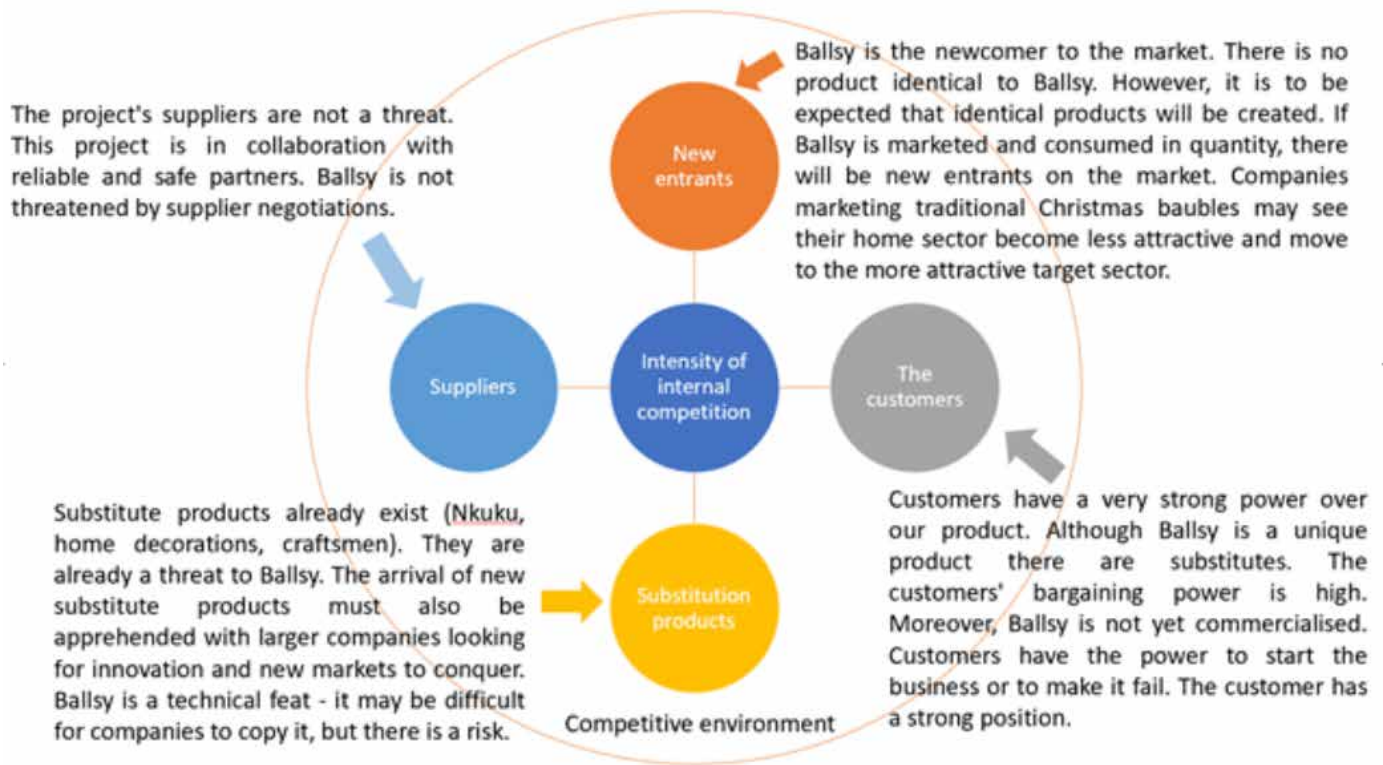


FIGURE 6. Porter model of Ballsy

MACRO

To do Ballsy's macro analysis a DESTEP model is proposed, displayed in the figure below. [31] The political and legal, economic, social, technological, ecological, demographic aspects will be explained. This analysis gives an overview of the environment in which Ballsy is embedded. This model will help to identify market opportunities and threats. It describes the trends in the environment that have an impact on the target group. [30] All the information gathered comes from the various analyses previously carried out and from Ballsy's team.

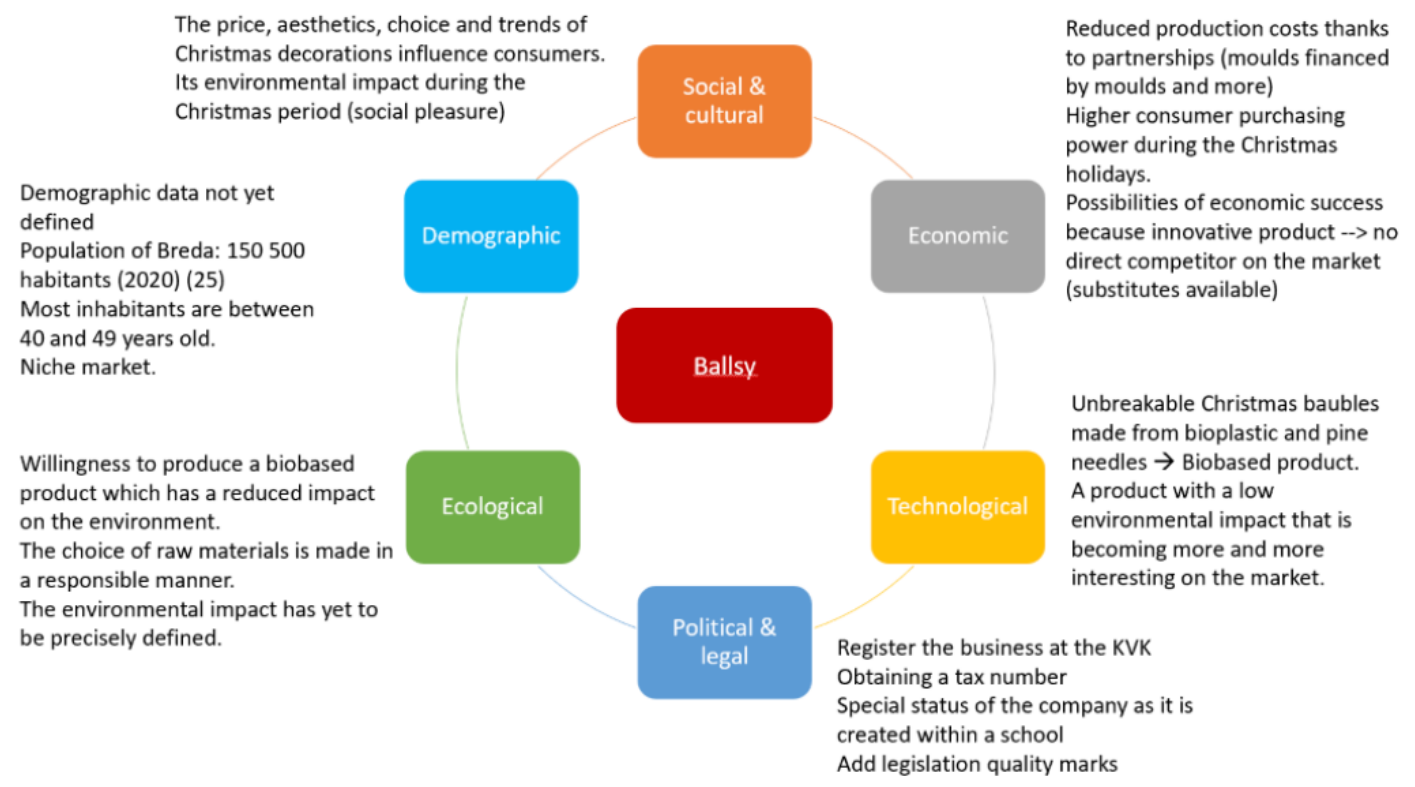


FIGURE 7. DESTEP model

Ballsy is an innovative product. It is alone in its field with the Christmas baubles from Nkuku, so it is difficult to describe it in its environment. As mentioned above, the market for biobased products is a niche market that is still impossible to describe and analyse. Ballsy is then included in the Christmas decorations market which makes it unique. It will be interesting when the market for biobased products is more widespread to make another analysis to understand Ballsy’s place in its environment.

3.2 STAKEHOLDERS

The stakeholders are presented in the following diagram.

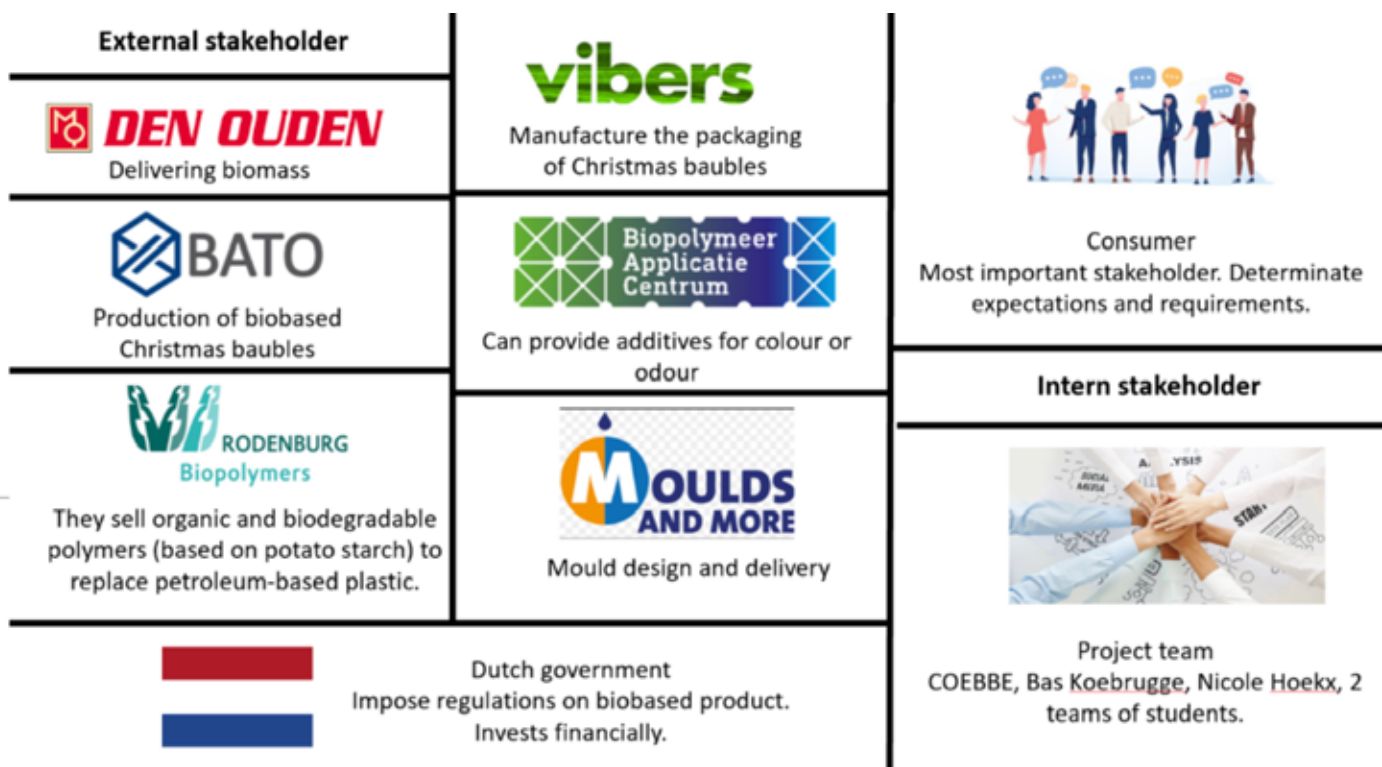


FIGURE 8. Stakeholder diagram

ANALYSIS OF THE STAKEHOLDERS

The analysis will first be done based on a table to understand the degree of involvement and expectations of the different stakeholders. With this table it will be possible to create a matrix proposing the attitudes to have towards them. This table is available in the appendix. In this matrix, all suppliers have the same level of impact and interest and are therefore grouped in “all suppliers”.

In the project, the consumers have a strong impact without interest in Ballsy, it is important to keep them satisfied. By keeping them satisfied, they will buy Ballsy. Bas Koebrugge and the Centre of Expertise Biobased Economy are, together with the suppliers, the stakeholders with the most interest and impact. They must be managers with interest. If these stakeholders are not perfectly coordinated, the project will fail. The Dutch government by investing in this project has a strong interest but is not an actor in it. Its impact is weak. The leaders of the project must inform the government of the progress. The two teams of students have a rather special place in this project. They are present to develop the project. They have an intellectual interest in the progress of the project and a moderate impact.

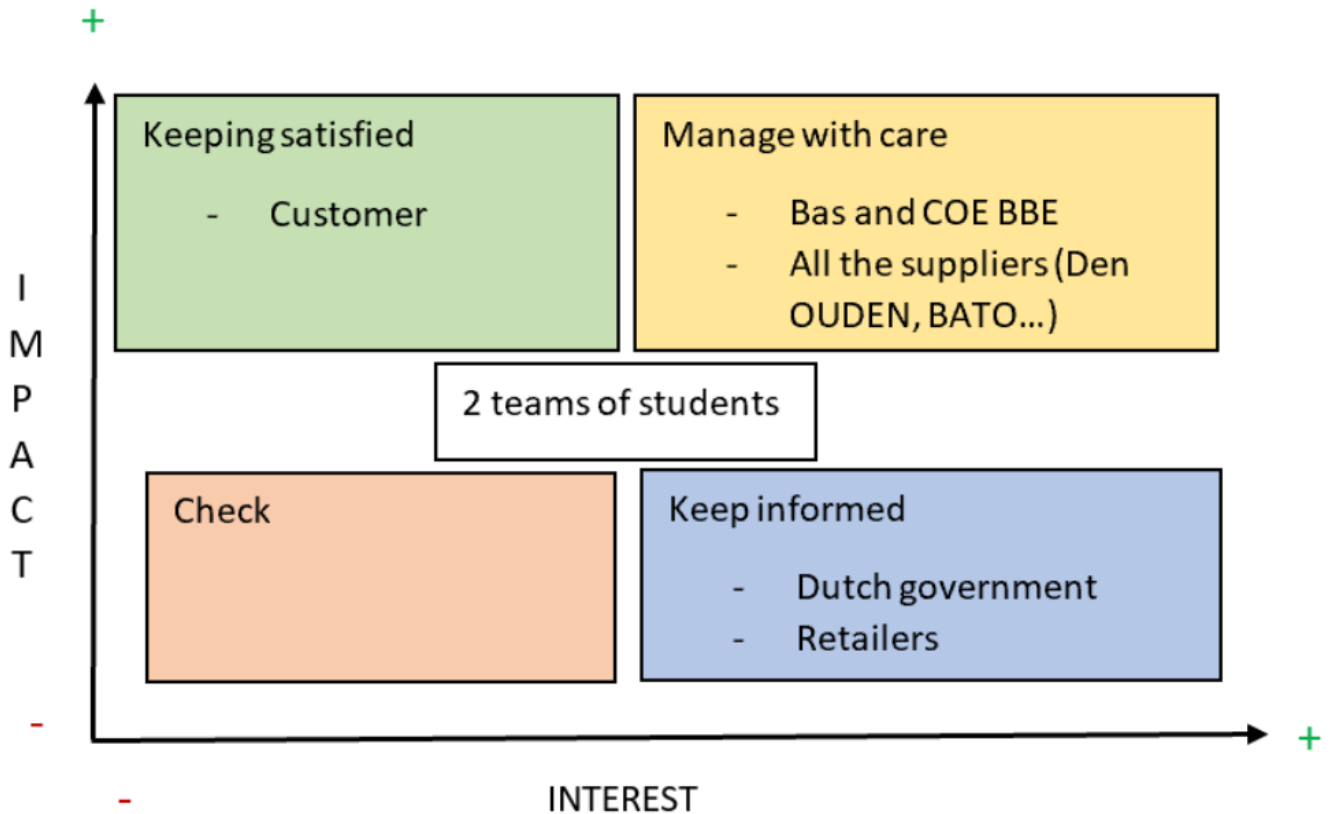


FIGURE 9. Matrix presenting the type of action to be put in place according to stakeholders

3.3 SWOT ANALYSIS

This SWOT analysis provides an internal company analysis with Ballys’s strengths and weaknesses but also an external analysis with market opportunities and threats. Thanks to this analysis a marketing strategy will be set up. This strategy will be presented in the “marketing strategy” section of the business plan.



FIGURE 10. Analysis of the strenghts, weaknesses, opportunities and threats

3.3 LEGISLATION QUALITY LABEL

Quality labels define the quality of the product. Ballsy is defined as a biobased product. Therefore, it is important that we can give full transparency about the origin to customers. It is beneficial to increase the value of the product due to getting in contact with qualified quality labels. These labels are critical towards the sustainability of a product.

There is done critical research toward the different marks that are out there in order to choose the best mark. The most important part that is considered is that the mark is more critical towards the products than the legal minimum that is required by the government. In addition, they are transparent about their requirements, research and testing of the products to be valid [32] After some in-depth research there is made a list with different potential quality marks which are suitable for Ballsy.

OK biobased, TUV Austria [33] [34]: As a result of the increased environmental awareness among customers, there is a growing market for products on a basis of renewable raw materials. And that environmentally conscious motivation on the part of customers is exactly the reason why there is a need for an independent, high-quality guarantee of the renewability of raw materials. The “OK biobased” certification meets that need perfectly. On a basis of the determined percentage of renewable raw materials (% Bio-based), the Ballsy product can be certified as one-star-bio-based, two-star-bio-based, three-star-bio-based or four-star-bio-based. Ballsy will receive the four-star-bio-based label while it is made from over 80% of biobased materials.



FIGURE 11. Logo OK biobased, TUV Austria



FIGURE 12. Logo Forest Stewardship Council (FSC)

Forest Stewardship Council (FSC) [35]: Focusses on the packaging materials of products. This quality mark operates on a worldwide scale and protects deforestation to keep healthy living conditions for humans and animals. It is based on a balanced forest management and gives the FSC quality mark when wooden and paper packaging materials have their origin from a certified forest. This can be a good solution to relate the FSC mark to Ballsy. The reason for that is that the FSC already has an enormous popularity. It can be seen on many packaging in supermarkets. For example, on beverage carton.



FIGURE 13. Logo Cradle-to-cradle

Cradle-to-cradle [36]: Cradle to Cradle Certified is a globally recognized measure of safer, more sustainable products made for the circular economy. Product designers, manufacturers and brands around the world rely on the Cradle-to-Cradle Certified Product Standard as a transformative pathway for designing and making products with a positive impact on people and planet. This simlizes the vision of Ballsy and is therefore extremely suitable to append.

IV



CHAPTER FOUR

RESULTS

4.1 SURVEY / TARGET GROUP

SURVEY METHODOLOGY

The survey is drawn up by the project team and validated by the project leader Bas. The survey consists of 3 parts. The first part concerns the respondents' personal information (age, gender, and family situation) as well as their Christmas shopping habits. The second part includes questions on the consumption habits of the biobased products. The third part concerns more specifically Ballsy and the consumers' opinion on the product. The survey was written in English and then translated into Dutch to make it easier for respondents to understand. It was shared on social networks such as LinkedIn. The response target was 100 responses. The target was met with 147 responses in total. However, some responses to the survey are incomplete. The number of responses differs depending on the questions. The survey with detailed questions and answers is available in Appendix 2: Survey questions and results.

FIRST PART: CHRISTMAS DECORATIONS

The respondents to the questionnaires are between 16 and 80 years of age. The majority of those who responded to the survey were between 16 and 30 years old. Parity between men and women was respected in this survey (40,1% men; 59,2% women). Most of the respondents are members of a household. They are either a couple, a couple with children or they live with their parents.

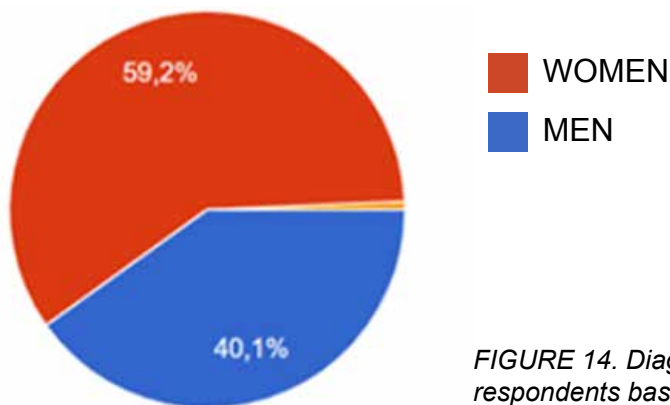


FIGURE 14. Diagram of respondents based on gender

74.1% of those who responded to the survey buy Christmas decorations. By analysing this percentage, a trend has emerged. Women of all ages buy Christmas decorations more generally. Men over 50 also buy Christmas decorations. In the next analyses, men between 16 and 50 years old will be less considered in the results because they do not buy Christmas decorations.

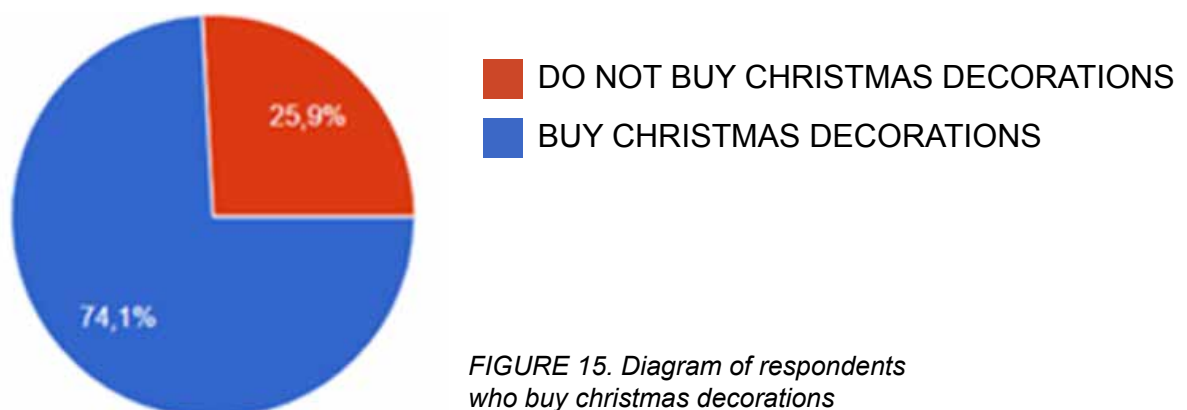


FIGURE 15. Diagram of respondents who buy christmas decorations

Christmas decorations are changed regularly over the years. They are changed every year or every 1 to 3 years. This information indicates that the “unbreakable” selling point may be important for consumers looking to reduce this number.

Important criteria in the choice of decorations are mainly design and price as well as product quality. Men and women over 50 and women between 30 and 50 years express the fact that environmental impact is a criterion present in their purchase.

Consumers are accustomed to buying glass or plastic Christmas baubles and would rather buy them with lots with the same colour inside. They mostly buy their Christmas decorations in garden centres or budget stores. Online shopping for Christmas decorations is not widespread. Respondents to the survey are aware that Christmas has a certain environmental impact. In addition, they are willing to pay more to give to charity when buying their Christmas decorations.

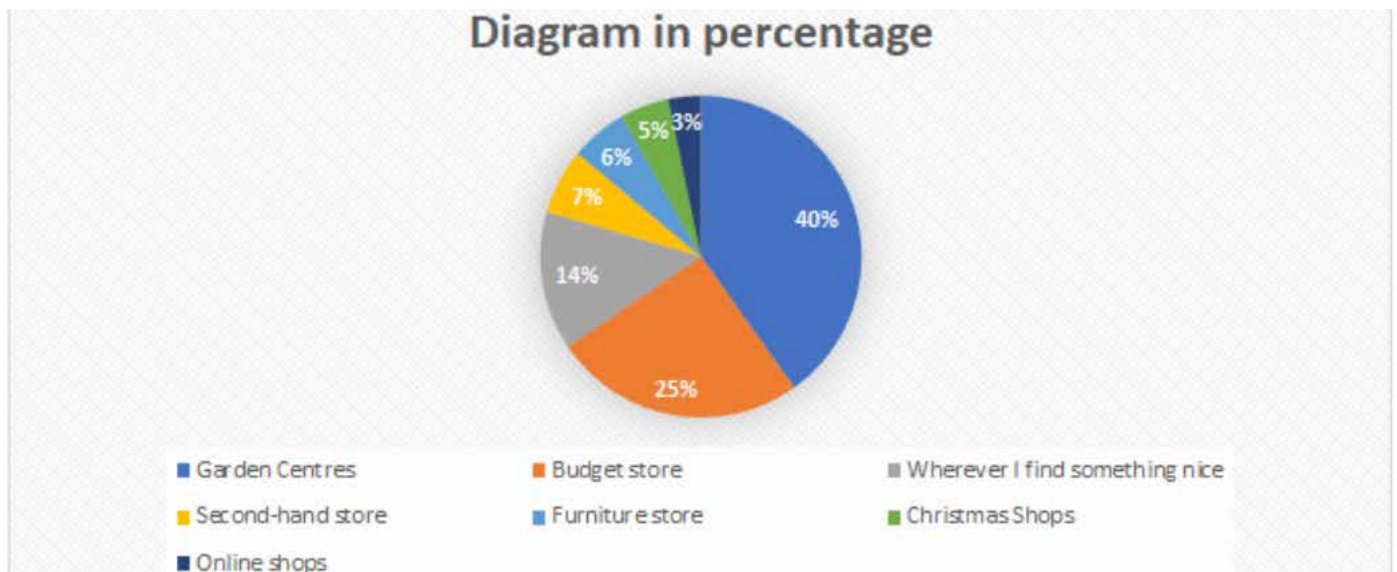


FIGURE 16. Diagram of popularity retailers

SECOND PART: BIOBASED PRODUCTS

The people surveyed are mostly unfamiliar with biobased products. **46.4%** of the respondents answered that they are not familiar with them. **25.5%** answered that they are familiar with them but have never bought one. And only **28.2%** of the respondents are familiar with them and sometimes buy them. The people buying biobased products are mainly people under 30 years of age. It is mainly women who buy biobased products. They mainly buy these products on the internet. This is not a good point because Christmas decorations are not a product bought on the internet. But this could be a new distribution channel.

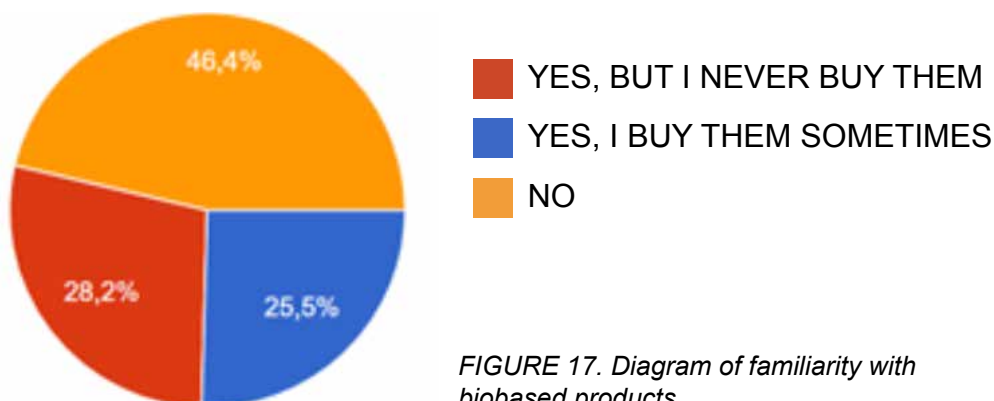


FIGURE 17. Diagram of familiarity with biobased products

THIRD PART: BALLSY

Ballsy's design is not appreciated by respondents. **77.6%** of respondents prefer the design of traditional Christmas baubles. Of the **22.4%** of the respondents who prefer the Ballsy design, the majority are men and women over 50 years of age.

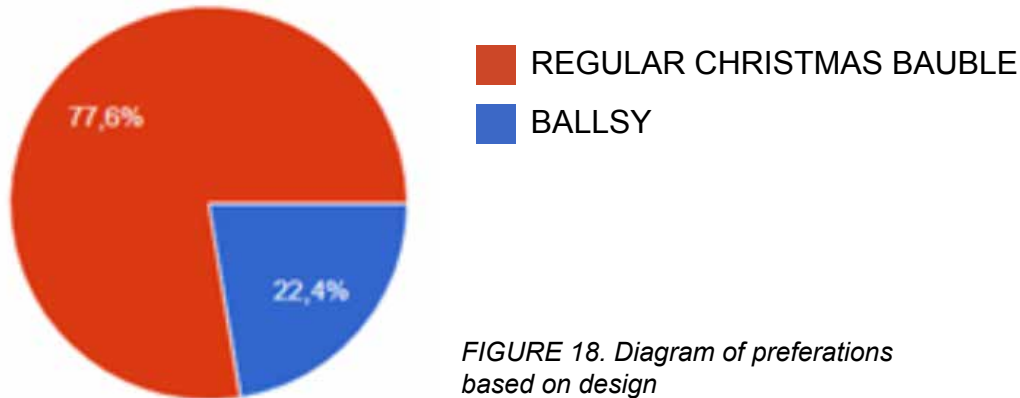


FIGURE 18. Diagram of preferences based on design

CONCLUSION: TARGET GROUP

The target group is composed of women. Indeed, it is mostly women who go out and buy the Christmas decorations. Women under 30 are more likely to buy biobased products and women over 50 are interested in Ballsy's design. The target group chooses its products according to the design and price of the products as well as their quality. They mainly buy their decorations in garden centres and budget stores. It should also be considered that approximately 25% of the consumers buy biobased products, mostly at biobased stores. Almost half of these biobased buyers (40%) also purchase their products via internet. Therefore, it is interesting for Ballsy to exploit in online sales. The other survey respondents buy Christmas baubles at conventional retailers, such as garden centres and budget stores. Therefore, 75% of the total amount Ballsy's will be sold to retailers. More information about this strategy and percentages can be found later. In addition, people whose primary objective is the environment will be less concerned about design.

4.2 CONTACTING RETAILERS

The survey results showed at which retailers consumers buy their Christmas baubles. The retailers were categorized in budget stores, garden centres, hardware stores, and sustainable stores. The most common retailers were garden centres and secondly budget stores, see Appendix 2 *Where to buy Christmas decorations* for the complete results. From the survey results a list of retailers that needed to be contacted was conducted. A table with reactions and contact information is shown on the next page. Antea Group is a not a store, but a company from personal network.



CATEGORY OF RETAILERS	RETAILER NAME	REACTION	CONTACT INFORMATION
Garden centre	Intratuin	Very interested in doing an experiment with Ballsy to see whether consumers buy this product. A meeting in person was planned with Intratuin manager, Bas and Guido. However, corona restrictions did not allow the meeting to go through.	m.vansprundel@breda.intratuin.nl +31 076 58 12 500
Garden centre	Beterboompje	No reaction	Bedrijven@beterboompje.nl
Garden centre	CASA	Very interested, already asked questions about purchasing and delivery terms.	Frauwe.groenen@casashops.com +32 14 74 24 75
Budget store	Kruidvat	No reaction	https://survey.aswatson.net/WISE/index.php/survey/index
Budget store	Action	Very interested, the idea is now at the buying department.	Klantenservice@action.nl Deco-team buying
Budget store	Hema	No reaction	hemaklantenservice@hema.nl +31 076 52 25 252
Budget store	Blokker	No reaction	Info@blokker.nl +31 076 53 20 255
Budget store	Marskramer	No reaction	klantenservice@marskramer.nl +31 088 13 38 620
Budget store	Flying Tiger	Not interested, only want to sell their own products	Info@flyingtiger.com (English)
Hardware store	Hornbach	Interested, but needed to fill in a form for product validation.	Onlineshop@hornbach.nl +31 088 50 51 111
Hardware store	Gamma	No reaction	Klantenservice@gamma.nl +31 088 01 08 610
Hardware store	Welkoop	No reaction	https://www.welkoop.nl/klantenservice/contact +31 088 23 24 800
Sustainable store	Søstrene grene	No reaction	Supplier@sostrenegrene.com
Sustainable store	WAAR	No reaction	Info@ditiswaar.nl +31 085 82 28 292
Other	Antea Group	Very interested in using Christmas baubles with story of recycled pine needles as business gift with or after Christmas.	Yris.Boonstra@Anteagroup.com +31 622936169 Marijke.Frielink@Anteagroup.com +31 621187083



For the retailers that did not respond to phone calls, a general email was sent to their customer service. An example of this email is shown in Appendix 3, Example general email (to CASA).

Most retailers, especially national budget stores gave the project group the runaround, by connecting us with new employees a few times in a row, to eventually advise the project group to email the customer service. There was a lot of miss communication during these phone calls, therefore it is important to reach out to these retailers again in order to speak to the right people. Only CASA and Hornbach replied to their customer service email, the other retailers did not. A possible reason for this, is that retailers consider the customer service mail as marketing or spam.

The Flying Tiger was the only budget store where the project group was able to contact the right person over the phone. However, they mentioned that they were not interested in other products, because they are only selling their own products.

The project group thinks that the sustainable stores Søstrene grene and WAAR are the kind of stores where a personal visit would be more effective. They are small stores that are hard to reach, have a small assortment. These stores are not only thinking commercially and seeing the Christmas baubles with the story told in person would be more convincing than via an email.

Thus, from contacting this list of retailers, it can be concluded that Action, Intratuin, Hornbach, CASA and Antea Group were interested in Ballsy. These companies were mainly interested in Ballsy, because of sustainability and the fact that the product is innovative. Additional information was shared via emails and Ballsy's website (www.biobasedkerstbal.nl) was promoted. Some retailers even already were interested in the price, available amounts or having a meeting. All the emails are displayed in Appendix 3: Retailer reactions. The project leader of Ballsy, Bas Koebrugge, is up to date on the contact that was made with the retailers. When Ballsy becomes an official commercial product and the mass production starts, contact with these retailers can be utilized.



V

CHAPTER FIVE

MARKETING STRATEGY



5.1 TARGET MARKET SEGMENT

Ballsy will be targeting the retail market segment, based on the results that our target group provided. *See results; conclusion, for a more detailed description from the target group.* Research has shown that most of this group buys their annual Christmas decorations in the same stores. Therefore, the target will be retailers like garden centres and budget stores.

In addition, Ballsy will also be targeting consumers directly via various methods, these methods are described hereafter. Targeting the consumers on a direct base will provide two advances. The first one, generally seen, is that direct targeting gives freedom to the marketing. Therefore, Ballsy is able to reflect quick on the market circumstances and can adapt. The second advance is that Ballsy can create a biobased community and gives a contribution to a better environmentally friendly future.

5.2 PROMOTION PLAN

The promotion plan is created from the target market. It is divided in the two-target segments: retail and direct consumers. These segments do have some overlap with each other. Therefore, to keep the plan structured, the following order is created. The first chapter will describe the retailer segment including the field research that already has been done. The second chapter describes the various methods to target the direct consumers and to create a biobased community.

RETAIL SEGMENT

This promotion plan of the retail segment is based on the current purchasing behaviour of the consumers. Results of the survey gave insights on the different ways consumers buy their Christmas decoration. These results showed that the vast majority buys their decoration, 36% every year, at stores of different retailers. Garden centres and budget stores are top listed but in order to give a complete insight where consumers buy their Christmas decorations, a list has been made. This list isn't prioritized with the most common retailers, but only shows the variation of retailers that are out there and selling decorations according to our survey participants. These are all the retailers:

Intratuin, Beterboompje, Casa, Kruidvat, Action, Hema, Blokker, Marskramer, Hornbach, Gamma, Welkoop, Søstrene grene, WAAR, Flying Tiger, and Antea Group.

To prioritize this list, it is necessary to include the results of the motivation from different retailers. In addition, these results are combined with the results of the survey participants. This combination gave the best five potential retailers: Action, Intratuin, CASA, Hornbach and WAAR. The goal is to create the maximum amount of awareness possible. In order to do so, it is important that the product can often be seen. Therefore, the aim is placing low stocks of the bauble in as many different stores. However, this aim isn't presumably applicable to the year 2021 due to the uncertainty of the corona virus and the logistical side. Our goal is to postpone this aim to the year 2022 in order to gain the maximum benefits from this approach. Besides the higher awareness potential, does having low stocks also creates two more benefits.



The first one is that a low stock, or in other words; a small badge, is easier to run. A smaller badge is easier to change and adapt, were there any flaws with the product or packaging. It is therefore quicker to change 100 sets instead of 2000 sets Ballsy's. Furthermore, the transportation is quicker and cheaper on the short term. It isn't necessary to hire big lorries for a large badge. It can be done with a big car or small van.

The second benefit comes from the selling potential of the Ballsy. Currently, there is no mass production to provide all stores of huge retailers with the product. However, if the product is selling well within different stores, the retailers may be interested in bigger amounts the year on. When mass production starts, it is then a possibility to sell the Christmas baubles in large batches to huge retailers.

It is necessary for Ballsy to gain visibility within the retail stores in order to achieve the goal of awareness. Therefore, we create additional promotional work like displays and posters to stand out more instead of blending in. Ballsy is an exceptional product and consumers should know about it. Placing separate display stands within the stores of the retailers adds visibility. Additionally seen, the gain of visibility accounts for the product itself, but also for the story of Ballsy. A banner is a great way to share the story, while there is a lot of space to write on.

The strategy is to give each store a total of 2 displays and additional posters. We don't want a contributing to polluting, so to prevent this are all the promotional attributes made from the same material as the Ballsy packaging. We will ask our stakeholder Vibers again to create these attributes from the same elephant grass carton mixed with biobased ink. Total cost of these attributes can be found in the financial plan.

AMOUNT OF BAUBLES

Further steps that must be considered are the number of baubles that are going to be sold at retail stores. Almost every respondent described their purchasing behaviour of Christmas decorations. Only a few percent buys decoration online. While we are planning to increase this number, see consumer segment for further information, thus the focus right now is mainly on the offline retail segment.

Data is combined with the base case scenario of the financial part and other agreements with Bato. Therefore, it concludes that we are planning to produce 16.000 baubles in total for the year 2021. That comes down to 4000 sets Ballsy's. The aim is to sell 75% of the total amount Ballsy's to retailers. That brings the total amount to 3000 sets, given the current circumstances, within the first year. The other 1000 sets will be sold online via various methods. These methods and planning are described hereafter in the consumer segment.

The 3000 sets will be divided over the prioritized retail stores who showed already some interest and were mentioned often by the survey participants. In addition, the size of the retailer with their potential number of customers is taken into consideration. The list of retailers with their amount of Ballsy's are:

- Action: 1000 sets
- Intratuin: 1000 sets
- Casa: 500 sets
- Hornbach: 400 sets
- WAAR: 100 sets



Action (budget store) and Intratuin (garden centre) have the highest potential number of customers and were additionally also mentioned the most by the survey participants. This resulted that they should receive the largest badge of baubles. The number of receiving sets of the following retailers: CASA (decoration store), Hornbach (hardware store) and WAAR (sustainable store), are based upon their target group and number of customers.

The market of Christmas decorations will increase every year until at least 2026 according to our market research. Therefore, we base our second- and third-year strategy on these numbers of the market research. While the market is growing, so does the production of Ballsy. In order to create more awareness, there is need of expanding the number of retailers.

Ballsy's second year, the year 2022, will be the year to really gain visibility in the Christmas decoration market. To do so, it is needed to show the baubles everywhere. Therefore, it is needed to scale up the number of retailers who are selling Ballsy's from 5, in 2021, to 20, in 2022. With one retailer we refer to one store who is selling the baubles. These different retailers can be the same brand. For example, if there are three Action stores who are selling the baubles, then there are 3 retailers according to this business plan.

In order to gain this visibility, it is important to involve the 2021 prioritized retailers again. These five retailers combined do have 522 different stores only in the Netherlands (Action 395 [37], Intratuin 51 [38], Casa 36 [39], Hornbach 14 [40], WAAR 26 [41]). That is a lot of growing potential for the year thereafter. Therefore, it is essential that we start the first year on a good base with the aim to start a long-term business deal. In addition, other potential retailers also can be contacted again to sell the Ballsy in the year 2022. However, this depends on the production capacity and order of the prioritized retailers.

VALUE

In order to create more value, there is need for refreshments and improvements every year. Results of the survey showed us that 36% is buying new Christmas decorations every year. This group is searching every year for new products to fill their collection. In addition, the Christmas decoration market is growing, so does this group and their environmental impact. Therefore, it is necessary to keep this group enthusiastic about Ballsy. This may sound controversial while the goal of Ballsy isn't to sell as much baubles as possible. However, based on the hypothesis that the behaviour of this group isn't changing, it necessary to give them the best environmentally friendly solution. To be valuable for future perspectives, it is necessary to add improvements on the current bauble:

- The current baubles are not very popular when it comes to design. 77.6% of the participants prefers the traditional design and isn't therefore very enthusiastic about it. To drop down this number significantly and increase the enthusiasm, there is need to create more value through design. A-B testing could be a solution to gather information about the desired design. Bauble A and bauble are both made out a new design. The most chosen design has the highest value. Minor adjustments at the highest value bauble can be made and checked to validate the A-B testing even more. To speed up this process, it is good to use the build-measure-learn methodology from The Lean Start-up [42]
- Broaden the colour selection of the baubles. The different colour options are very limited and neutral when it comes to decoration a Christmas tree. They don't have a high value yet. However, this can improve to give the consumer more options to choose from. Results showed us that 90,9% finds the looks and colours very important. Doing more research about the desired colours can improve the number of potential consumers.



- Artificial trees are becoming more popular every year. The amount of people that prefer an artificial tree (45%) is even higher than a regular tree (39%) nowadays [43]. However, artificial trees still lack the pine needle smell. This could be a value for the 39% of consumers not to buy one. The consumers often give the argument that they have need of pine needle smell, while it gives them good reminders. Smell is one of the best senses for humans when it comes to memories [44]. Therefore, Ballsy could be the bridge to increase the value for buying an artificial tree through adding pine needle smell to the baubles. We from Ballsy can give them the reminder of the good, their memories, while preventing the bad, the environmentally unfriendly option to buy a new tree every year. This creates more value to the baubles itself and can give in addition the extra push for a consumer to choose an artificial, and therefore more environmentally friendly, tree over a real Christmas tree.

CONSUMER SEGMENT

The consumer segment is based upon results of the survey participants. Results showed us that the people who are buying biobased products are mainly woman under 30 years of age. They mainly buy these products on the internet. The following chapters: social media presence and reserve function are online marketing strategies to target these consumers and increase the conversion on Ballsy.

SOCIAL MEDIA PRESENCE

One of the conclusions of the research was that only a small amount of the people who are buying Christmas decoration, buy it online. Therefore, this can be seen as a lost market case. But also, as an opportunity to create a new possibility. We go along with the positive thinking and see an opportunity in selling Christmas baubles online. There it the given fact that over 50% of the survey participants that are familiar with biobased products, buys them online. This is very hopeful and therefore interesting to pioneer.

Search Engine Optimization (SEO) and Search Engine Advertising (SEA). The aim is to sell 25% of our total production within 2021, so 1000 sets, online. This can be done to consumer directly (B2C) via the website of Ballsy or to companies (B2B), for example as a business gift. In order to get to the point of selling the baubles, it is important that all the online marketing aspects are on point. The three aspects that are crucial are SEO, SEA and social media presence. The SEO will help Ballsy become more visible on Google or other search engines. A good SEO will lead to more clicks and therefore more potential customers. On the other hand, search engine advertising is the way to go for an even higher conversion.

- Search engine optimization is free of charge but costs a lot of time to get it properly done. Improvement of meta-tags and smart structure will increase the number of results within search engines like Google or Bing. The SEO is often done by a third party. However, SEO can be dramatically improved by some simple tricks. Added thereto, the website of Ballsy isn't extensive at start. The goal is to enlarge our vision by giving information about the bauble and keeping visitors up to date through a blog. A higher conversion and involvement ratio is achieved by an implemented social media webpage into the website. In addition, there is one shop page to buy the baubles themselves. We call this the four-pager website. The simplicity of the four-pager is also their strength. The SEO of the four-pager can be done by Ballsy itself. It will take up to 50 hours to create a good SEO if it's done by Ballsy [45]. The costs are explained in the financial summary.



- Search engine advertising will cost Ballsy a certain price for every click. The exact numbers of the SEA PPC, price per click, are not possible to give. Therefore, it is needed to create a maximum budget for different advertises. This SEA marketing-budget can be found in the financial plan. The SEA strategy is based on the start of the Christmas decoration season, the end of September, till Christmas. There are created new advertisements every two weeks in the beginning to reflect which have the highest conversion. After reflecting and deciding to go with the highest conversation ratios, the budget can be increased till maximum value. The maximum budget is €500 for the SEA PPC. We strive to achieve a high conversion ratio on two things: the subscription letter and buying a Ballsy set. The preference is to do both, creating an account in order to buy one, to gain a lot of future potential customers that are up to date with all the new improvements of Ballsy. However, we don't determine the preference, we can only adjust the SEA during the process to increase a positive outcome.

SOCIAL MEDIA FOR BALLSY

The last marketing aspect is to create a good social media appearance. Therefore, it is required to create social media accounts for Ballsy on the most popular socials of our target group: Facebook, Instagram and Pinterest [46]. Connecting Ballsy to a social media platform will increase the awareness that we vision. Given the fact that users want the fastest way to share their feed to others, it is necessary to be visible active on these platforms to provide that way. The hardest part is to make sure that users are willing to share the posts with others. Therefore, the following three points must be made visible:

- The vision of Ballsy is to create awareness. In order to create a clear picture of the vision, it is necessary to show the differences between a regular Christmas bauble and Ballsy. With short videos about climate change, production processes and environmental benefits, this can be made clear. The environmental benefits that are suitable to promote and can be found in chapter VI. Technical summary, Comparison.
- The different designs within different surroundings. Creating clean product photos is an essential to make a proper social feed. This can be switched with sphere photographs to make clear that Ballsy can be a biobased 'design product'.
- The different possibilities that a Ballsy bauble can be used for. Because the bauble is almost unbreakable makes it very suitable for families with young children. The target group is mostly women with a family and therefore they can relate to the problems of having fragile baubles.

A good social media presence comes from great visibility and high conversion, for example sharing posts. This isn't only achievable by following the points above. In order to grow and achieve a certain number of followers, it is necessary to market different posts. It will be a small investment to market these posts and grow. The budget we took is €1000 with the same strategy as the SEA PPC. However, the budget for social media is twice as high because research showed us that it has a better conversion [47]. In addition, followers are a reliable source for new followers. An account with 10.000 followers is often seen more trustworthy than an account with 100 followers. Followers make followers. Therefore, the budget goes out to gather followers.



RESERVE FUNCTION

To back up our vision of an environmentally friendly future even more, it is needed to add a reservation function to the online Ballsy shop, because they are not commercially available online yet. Customers can make a paid reservation with this function for a certain design bauble long before the bauble is produced. Therefore, Ballsy can see which design has the most interest before the production starts. It can adjust the production numbers based on this data and change it to a more desired design. Therefore, we can implement the 'produce on demand' strategy. This will result in a better marketing, while we enlighten our vision even further. Moreover, it will gain capital before there are costs which results in a smaller loan and a decrease to get red figures.

5.3 MILESTONES

There are several milestones that Ballsy want to achieve, in order to become a successful company and reach their goals.

- Firstly, Ballsy craves to become a commercial product. In order to obtain approval and subsidy from the partners to mass produce and become commercial, an evident market demand must be validated. Therefore, retailers need to confirm their interest for the product. The partners must align on the financial and technical aspects of the product, such as selling price, colors and amounts. With the mass production, less manual work should be required, such as screening the pine needles. Also, different molds can be developed to create different kinds of baubles. Then, an online and in store marketing plan needs to be set up to pursue retailers and convince consumers to buy Ballsy.
- After 2 years, the products are being sold at 20 retailers in the Netherlands. Environmental products become more trendy and less expensive. Marketing via social media and (mouth-to-mouth) advertisement increases, which leads to Dutch people not being able to ignore it. They become more interested in Ballsy and the awareness of Christmas's environmental impact grows.
- A charity campaign with the company Rocking up X-mas (<https://rockingupxmas.nl/>) starts as well. After having a 2-year foundation, Ballsy has enough margin to invest in this. Rocking up X-mas will provide luxurious environmentally friendly Christmas boxes, including food, drinks and Ballsy to poor families in The Netherlands. This is also included in advertisement.
- After 5 years, 10% of the Dutch households includes Ballsy. Not everybody will change their habits and buy environmentally friendly products, however everybody in the Netherlands is aware of the impact that Christmas has on the environment. Ballsy and Rocking up X-mas commercials are shown on TV. Ballsy does not longer have contract restrictions with other companies and builds their own factories, where mass production takes place.
- Finally, after 10 years, people around the whole world become more aware of Christmas's environmental impact and Ballsy opens factories abroad. In collaboration with Rocking up X-mas Ballsy becomes a well-known foundation.

5.4 COMPETITIVE EDGE

Ballsy is cheaper than regular glass Christmas baubles and is unbreakable. The baubles are recyclable and 100% biobased. Competitors are displayed in chapter ‘*Competition and position in relation to the competition*’.

5.5 RISKS

There are various risks that can influence a start-up company. Research has shown that the market demand is the biggest influence, shown in the table below. Other risks that niche market of Ballsy has, are; no interested retailers, competitors may rise, not interested enough for consumers and the corona virus which causes retailers to close.



 CBINSIGHTS

FIGURE 19. Start-up company risks



VI

CHAPTER SIX

TECHNICAL SUMMARY



MATERIALS AND DISPOSAL

To create one Ballsy bauble, containing two halves that are created separately and put together in the end, various materials are being used. In the first stage, Christmas trees pine needles are collected, dried and filtered. These can be mixed with different biobased plastics, such as polylactic acid (PLA), solanyl, or bio-polyethylene (Bio-PE). From this mixture, granulate is formed. Colourants are added as well before the injection moulding takes place. The different types of bioplastics have different chemical compositions and degradation rates. The fact that the Christmas baubles are biobased does not immediately indicate that they are fully biodegradable as well. Bioplastics can generally be disposed of in two different ways:

- Biodegradable plastics are disposed of in though biowaste collection, they can be collected and composed later.
- Non-biodegradable biobased plastics are collected in plastic and packaging waste collection and they can be separated and recycled later. After this recycling process, they can be formed into new biobased plastic granulates to create new biobased plastic products.

Four possible end of life scenarios that are the most common for biobased plastics:

- Recycling: which can be either chemical or mechanical. Unlike mechanical recycling, waste material can hold various contaminants. Biobased plastic can be chemically recycled to monomer by thermal depolymerization or hydrolysis. When purified, the monomer can be used for the manufacturing of virgin bioplastic with no loss of original properties (cradle-to-cradle).
- Composting: bioplastics are biodegradable under industrial composting conditions, starting with chemical hydrolysis process, followed by the microbial digestion, and ultimately degradation.
- Incineration: Bioplastics can be incinerated, leaving no physical residues and producing energy (f.e. PLA: 19.5 MJ of energy/kg of PLA). However, the combustion causes lactide and methyl ketene (CH₃CHCO) emissions, which can be oxidized to CO₂ [48].
- Landfill: the least preferable option is landfilling because most biobased plastics degrade very slowly in ambient temperatures. In several countries (especially non-EU) this is often done. However, it is not possible in The Netherlands due to legislation [49].

In the following paragraphs, information on the three bioplastics, PLA, Solanyl, and Bio-PE, will be elaborated. The elaboration will zoom in on the origin, production process and potential for Ballsy but also for other products. The main focus of Ballsy is to create awareness, therefore further possibilities with the materials are displayed as well.

POLYLACTIC ACID

Polylactic acid or polylactide (PLA) is a thermoplastic aliphatic polyester derived from food resources such as corn starch, tapioca roots, chips or sugarcane. PLA is providing to be a viable alternative to petrochemical-based plastics for many applications. The decomposing only gives H₂O, CO₂, and humus, the black material in soil. In addition, it has unique physical properties that are similar to fossil fuel-based plastics, which make it useful. The current use of PLA is mostly based on the packaging of sensitive food products, loose-fill packaging, compost bags, and disposable tableware. PLA can also be used as a feedstock material in desktop fused fabrication of 3D printers. PLA can degrade into innocuous lactic acid, so it is used as medical implants in the form of anchors, screws, plates and pins. PLA can also be used as a decomposable packing material which is the most interesting application for Ballsy.

Biobased plastics from sugarcane are reducing CO₂ emissions in terms of fossil resource reduction, however they have environmental problems with land use change for growing crops and processing feedstock [50].

PLA is not biodegradable under normal circumstances. PLA is rather bio compostable and biodegradable high temperatures. PLA is degraded abiotically by three mechanisms:

- Hydrolysis: the ester groups of the main chain are cleaved, thus reducing molecular weight.
- Thermal degradation: A complex phenomenon leading to the appearance of different compounds such as a lighter molecules and linear and cyclic oligomers.
- Photodegradation: UV radiation induces degradation. This is a factor mainly where PLA is exposed to sunlight in its applications in plasticulture, packaging containers and films

PLA is a 100% biobased substitute for fossil fuel-based plastic. However, it is not very biodegradable, it only degrades under high temperatures. Since PLA is an acid, it can raise the acidity of the surroundings when it composts, which is not good for the environment [51] [52] [53] [54].

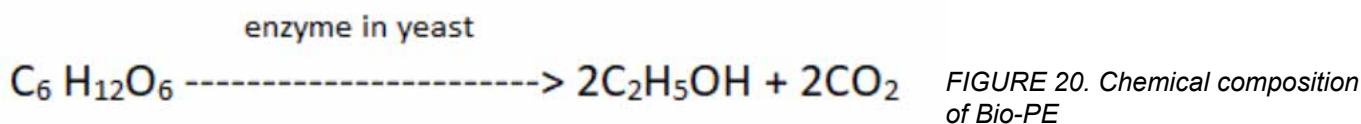
SOLANYL

Solanyl is a group of products consisting of a smart series of biobased end compounds, suitable for direct conversion by the various known techniques. The name Solanyl is derived from the Latin words Solanum Tuberosum, which means potato. The biopolymer is based on reclaimed side stream starch coming from wastewater of the potato processing industry. Solanyl is a renewable alternative for petroleum-based plastic applications. The compounds can be used directly to produce bioplastic products.

Solanyl will give the Christmas baubles' colour full potential, because starch blends shininess. It is 100% biodegradable at 180 – 200 °C and it is only for 67% biobased [55] [56] [57].

BIO-POLYETHYLENE (BIO-PE)

Bio-polyethylene is made from ethanol (C₂H₅OH), which becomes ethylene (C₂H₄) after dehydration. The ethanol is coming from the fermentation process of sugar cane, where sugar (C₆H₁₂O₆) is produced from. The sugar fermentation process in which ethanol is produced, is performed under a temperature of 30° Celsius and a catalyst is added to speed up the process. The chemical composition of the process is shown in the figure below.



Thus, bio-PE is 100% biobased, since it is purely made from ethanol, a by-product from the production of sugar made from sugar cane. However, it is not biodegradable, therefore it has to be disposed into the plastic bin to be recycled again.

Growing sugar cane also takes up CO₂ as it grows. The production of 200.000 tons of bio-PE from sugar cane, represents 800.000 tons reduction of CO₂, which is equal to the annual CO₂ emission of over 230.000 cars. This makes bio-PE even more environmentally friendly, which can empower Ballsy's story. Therefore, this is a good option for Ballsy. Furthermore, the combination of pine needles and bio-PE in the first batch of Christmas baubles was successful [53] [58] [59].



COMPARISON

The most sold 'regular Christmas bauble' is made out of glass with a thin layer of iron/tin which is coloured. These Christmas baubles are not recyclable and are disposed of in the general waste bin. Christmas baubles made out of glass are appealing to the general public, however they are environmentally unfriendly. Producing glass already releases the emissions nitrogen oxide (NO_x), sulphur oxide (SO₂) and carbon dioxide (CO₂). When Christmas baubles are produced, the glass needs to be heated with a strong flame and blown into shape, this also causes emissions of heavy metals, and a lot of fossil fuels are burned in the heating process [60].

In the table below a comparison is made of the normal Christmas baubles compared with the different Christmas baubles from Ballsy [61]. They are all graded from 1 to 4 considering the background research above and the results from the surveys, see chapter IV. Results. The grading is determined by multiplying the importance of the factor with the given score.

	Weight (importance)	Glass	PLA	Solanyl	Bio-PE
Environmentally friendly (emission reduction)	x4	1	3	2	4
Biobased	x3	1	3	2	4
Appeal	x2	4	2	3	1
Biodegradable	x1	1	3	4	2
Grading	Total Score	16	28	24	32

FIGURE 20. Comparison table of materials

The appeal is based on the opinions of the survey participants. The factors and weight also have been established by interpreting the goal of this project, see chapter I. Introduction, goal. From this table it is apparent that all biobased materials have a significant higher total score in comparison to regular glass Christmas baubles. This shows the positive environmental impact of the biobased Christmas baubles. All 3 biobased materials are used in the production experimental phase. After the survey results are interpreted, the final market selection of the Ballsy sets will be determined, including colour, amount and material.

PINE NEEDLES

The pine needles that are used for creating the Ballsy are coming from old Christmas trees. This is usually an evergreen conifer such as a pine. Pine needles aren't necessary in order to create the Christmas bauble, but they are part of the marketing story. The current amount of pine needles that is used to create one bauble is 5%, which is approximately 3 grams.

PRODUCTION PROCESS

The pine needles that are used for creating the Ballsy are coming from old Christmas trees. This is usually an evergreen conifer such as a pine. Pine needles aren't necessary in order to create the Christmas bauble, but they are part of the marketing story. The current amount of pine needles that is used to create one bauble is 5%, which is approximately 3 grams.



FUTURE PRODUCTION

In the upcoming production batches of 2020, other colourants and the bioplastics PLA and Solanyl will be used. Ultimately, after researching the customer's and retailer's demands, the final production line will be established.

Another project group is working on additional (pine needle) scent for the Christmas baubles. This still needs to be improved and will probably be experimented with in the production process of the Christmas baubles in 2021.

The production of 4000 Ballsy sets (12.000 baubles) is planned in the first few months of 2021. When most of these 4000 sets are ordered by retailers, Ballsy is aiming for upscaling mass production. An annual 40% production increase of Christmas baubles is desired.

VII

CHAPTER SEVEN

FINANCIAL SUMMARY



The financial analysis made in this business plan highlights the economic health of the company. For an enterprise to be viable, it must also be economically viable. The financial plan shows the company's current financial situation and its future financial situation. Growth forecasts will be made for the next three years.

In this part, an analysis of investments and financing will be proposed. Then, a scenario analysis will be made. It will allow several scenarios to be carried out based on the marketing analysis. This analysis allows the company's commitment to be projected into the future. The product and operating costs will be described and will help to determine Ballsy's selling price. The costs will be detailed in order to better understand the economic logic of the product. Finally, the balance sheet and income statement will be presented in order to estimate the financial success of the company for the next 3 years.

It is important to know that Ballsy currently is a project within Avans, but the financial part will be done as if Ballsy was a start-up. Through this analysis it will be possible to make a prediction on whether the company is attractive to find other investors and predict its growth.

7.1 INVESTMENT

Ballsy is cheaper than regular glass Christmas baubles and is unbreakable. The baubles are recyclable and 100% biobased. Competitors are displayed in chapter '*Competition and position in relation to the competition*'.

Investment requirement			
Inventories			
Computer	€	719	
Chair and desk	€	664	
Coffee machine	€	329	
Fridge	€	150	
			€ 1.862
Webshop	€	560	
			€ 560
R&D Cost			
Wages	€	11.000	
Mold	€	14.000	
			€ 25.000
Marketing Budget	€	2.989	
			€ 2.989
Working capital	€	-	
Total Investment	€		30.411

FIGURE 21. Investment requirements



INVENTORIES

COMPUTER EQUIPMENT

To start production, the company needs 1 computer at €719, - each.

DESK AND CHAIR

In the office, 1 chair and 1 desk will be needed. The total amount is €664, -.

COFFEE MACHINE AND FRIDGE

For the well-being of the employees, it is necessary to provide a coffee machine and a refrigerator for lunches. The average price of a coffee machine is €329, -. [64] The price of a classic fridge is €150, -. [63]

WEB SHOP

Developing a website with a payment platform costs a total of €560, -. [62] It is possible to develop your own website with an online shop. However, as the company has only one employee the choice is to subcontract this work. This choice saves time and money.

RESEARCH & DEVELOPMENT (R&D)

R&D development costs €25.000, -. This money would be spent on the wages, and the mould. Mainly desk research need to be done and the mould is necessary to develop the baubles. This money comes from a grant from the Dutch government which is earmarked for this purpose. Innovative products require a high level of investment in the R&D field. Ballsy is a complex product with a high added value at the technological and technical level, which is why this investment is so high. The subsidy is described in more detail in the financing paragraph.

MOULD

The mould that will be used has a price of €14.000, - and can make 100.000 Christmas baubles. This information is provided by Moulds and more (Marco de Bruin). The mould is a purchased piece of equipment. Indeed, the mould is unique for the Christmas baubles, so it is essential to invest. This mould would be sent to the production company which is BATO.

MARKETING BUDGET

According to the marketing strategy, Ballsy requires high visibility and therefore an investment in marketing. Online marketing represents a cost of €2.000, - Posters cost €657,63 and displays cost €332.25, -. The total investment for marketing is €2.989, -.

7.2 FINANCING

Financing requirement	
Liabilities	
Subsidy	€ 25.000
Bank loans	€ 20.000
Total Requirement	€ 45.000

FIGURE 22. Financing requirements

Ballsy's situation is treated as a start-up. A start-up needs to be financed at the beginning, but also at a later stage for its development. There are many ways to finance a start-up. Some solutions will be presented.

Ballsy needed an initial investment of 45.000 to start the business. Ballsy also obtained a €25,000 **grant from the Dutch government**. This subsidy is a TKI-BBE subsidies. This subsidy is dedicated to the development of projects that have a good impact on the environment and in particular projects aimed at using biomass to reduce fossil fuels. This grant is used to finance the R&D phase of the projects. One of the conditions of the grant is that you must also contribute an amount equal to or greater than 50% of the subvention, i.e., the start-up must also invest a minimum of €25.000 in the project. [65] For more information on the government grant you can refer to the section "laws & regulations".

The second condition is that Ballsy must find funding for the development and continuity of the business. There are costs for personnel, raw materials, taxes and operating costs. Before sales cover these costs, financing must be found. In the case of the start-up Ballsy €25.000,- are needed to finance the project.

Different options are possible. A first is equity capital. By creating a start-up, the partners of the company can invest their own money. But they can also invest in assets such as a web application for example. Having equity capital from the partners is essential to find other sources of funding. [66]

Competitions are also possible to finance the project. These are competitions that want to help innovative and sustainable start-ups. Participating in such a competition may allow to obtain a financial contribution and/or to meet investors. [66]

Another solution to finance a start-up is a bank loan to finance development. Ballsy can propose the project to the bank. Indeed, for a bank to authorise a bank loan, the project must already be moving forward with sufficient seed funding, which is the case for Ballsy. The disadvantage is that the loan must be repaid within a specific timeframe, so a loan should only be made if Ballsy already has orders and payment guarantees. Some banks will be more available to give loans to projects such as Ballsy. Indeed, some banks such as Rabobank want to invest in sustainable projects. They want to contribute to the circular economy. With a convincing business model, a bank investment is possible. [66,68]

Further down the road, Ballsy will be able to finance itself. This is a possible solution to finance the development of the start-up. [66]

It is also possible to apply for funding from companies specialising in start-ups such as Bom Brabant Ventures. Bom Brabant Ventures is a company that helps start-ups to create and develop. This company helps projects related to protein shift, precision farming and the circular and biobased. They are convinced that start-ups can bring about change and an improvement of the environment. They can help a start-up financially but also in building a network. [66,67]

The choice made is a loan from the bank. The €25.500, - are borrowed in the form of a loan from a bank. Nevertheless, the alternatives listed beforehand will be useful to finance the next phases of development of the Ballsy start-up.

7.3 COST PRICE

Cost of goods sold		
Packaging	€	0,93
Production (Staff cost included)	€	1,28
<i>Raw materials</i>		
Bioplastic	€	1,11
Pine Needles	€	0,0004
Additive	€	0,25
Mould	€	0,56
COGS	€	4,13

FIGURE 23. Cost of goods

The cost price is calculated for a set of biobased Christmas baubles. A set of baubles consists of four different Christmas baubles. They are all made of plastic and come in different colours. All information about the production cost and the cost of materials is provided by the suppliers and the production company.



Production, packaging and bioplastics are the three biggest expenses for Ballsy. All these costs are higher because the set is produced in the Netherlands and is not relocated. Labour costs in the Netherlands are higher due of working conditions which are better and wages which are higher. In addition, bioplastic is more expensive than petroleum-based plastic. It is more expensive to produce. [69] Pine needles cost next to nothing because they are worthless waste. The mould costs 0.56€, which corresponds to its depreciation.

7.4 THE SELLING PRICE

Selling price for retailers		
COGS	€	4,13
Margin (50%)	€	2,07
Selling price without taxes	€	6,20
Selling price including taxes	€	7,50

FIGURE 24. Selling price for retailers

Selling price for webshop		
COGS	€	4,13
Margin (150%)	€	6,20
Selling price without taxes	€	10,33
Selling price including taxes	€	12,49

FIGURE 25. Selling price for webshop

There are two different selling prices, one for the retailers and one for the webshop. To selling price for the retailers is lower because, they also need to make a profit. To do that, they need to add their own margin % to our selling price.

The selling price for our webshop is based on the survey. 50% of our consumers pay around €10, - on a set of Christmas baubles. Further, 50% want to pay more for a set of Ballsy Christmas Baubles (Appendix 2). The consumers must pay an extra amount for the delivery.



7.5 SALES FORECAST: SCENARIOS

The scenario analysis shows the financial results for the different scenarios. The base-case is based on the marketing plan, of an estimated sale of 4000 sets, 3000 sales for retailers and 1000 sets sold by the webshops. The worst- and best-case are also based on this marketing plan. What would happen if the sales are lower than predicted, or what would happen if the sales are higher than predicted.

Scenario Analysis				
		Worst Case	Base Case	Best Case
Sales retailers		2000	3000	4000
Sales Webshop		500	1000	2000
Revenue	€	19.715	€ 32.370	€ 50.620,00
Variable Cost	€	10.325	€ 16.520	€ 24.780,00
Coverage Contribution	€	9.390	€ 15.850	€ 25.840,00
Fixed Cost	€	5.444	€ 5.444	€ 5.444
Totaal	€	3.946	€ 10.406	€ 20.396,00

FIGURE 26. Scenario analysis: worst-, base- and best case

There are not a lot of differences, because we still need the same investments, also the COGS would not change. The amount is still too little to make a difference.



YEAR 2021

According to the marketing strategy, Ballsy requires high visibility and therefore an investment in marketing. Online marketing represents a cost of €2.000, - Posters cost €657,63 and displays cost €332.25, -. The total investment for marketing is €2.989, -.

Assets 1-1-2021		Liabilities and equity 1-1-2021	
Fixed assets		Equity	
Website	€ 560	Subsidy	€ 25.000
Inventory	€ 1.862		€ 25.000
	€ 2.422	Long-term liabilities	
Current assets		Bank loan	€ 25.000
Bank	€ 47.578		€ 25.000
	€ 47.578		
Total Assets	€ 50.000	Total Liabilities and equity	€ 50.000

FIGURE 27. Balance sheet 1-1-2021

The balance sheet is based on the investment requirements and the financing requirement, you can find in the beginning of the financial chapter.

BANK

The amount of the bank included the €25.000, - of the subsidy, the € 2.989, - for marketing, and € 2000, - that can be invested in GOGS and other expenses.

Income statement 2021	
Revenue	€ 34.990
<u>Cost of Goods Sold (COGS)</u>	€ 16.520
Gross Profit	€ 18.470
Expenses	
Wages	€ 25.200
<u>Vacation money</u>	€ 2.000
Rental cost	€ 1.464
Insurance cost	€ 1.140
Others	€ 1.000
Marketing cost	€ 2.990
Depreciation inventory	€ 372
Depreciation Website cost	€ 112
Depreciation mould	€ 2.800
Interest	€ 1.250
Total Expenses	€ 38.328
Earnings Before Taks	€ -19.858
Taxes 21%	€ 6.060
Net Earnings	€ -25.918

FIGURE 28. Income statement 2021



REVENUE

The revenue consists of the sales of 4000 sets of Ballsy. 3000 sets to retailers: $3000 * 7,50 = € 22.500$ and 1000 sets sold on the webshop: $1000 * 12,49 = € 12.490$. This makes a total of € 34.990.

COGS

The COGS per set of Ballsy is 4,13, for 4000 sets is it in total €16.520.

WAGES AND VACATION MONEY

There would be one person working on Ballsy with a salary of €2.100, - per month. This makes a total salary of € 25.200 in one year. Further, vacation money of € 2000 in the month December.

RENTAL COSTS

There is a small office needed for Ballsy, to work in and to keep the stock. The rent for a small office in Breda is €122 a month this makes a yearly amount of $122 * 12 = € 1.464$.

INSURANCE COSTS

The insurance cost is € 95 for a month, this makes a total of € 1140 for one year.

OTHER

Those costs are for the little things needed like coffee or office supplies like, pen and paper.

DEPRECIATION COSTS

There are three different depreciation costs, the inventory, the website and the mould. They all will be depreciated in 5 years with no residual value.

INTEREST

The loan of the bank will be paid back in 5 year with an interest of 5%.

SEASONAL PRODUCT

Ballsy is a seasonal product, that is there is only revenue in the last two quarters. Retailer will buy the baubles a couple months before the Christmas season. But consumers will only buy on are webshops a month or weeks before Christmas.

This is also why the marketing cost are in the 3 and 4 quarter.



Liquidity budget 2021						
	Q1	Q2	Q3	Q4	Year	
Revenues						
Sales retailers	€ -	€ -	€ 22.500	€ -	€ 22.500	
Sales webshops	€ -	€ -	€ -	€ 12.490	€ 12.490	
	€ -	€ -	€ 22.500	€ 12.490	€ 34.990	
Expenses						
Cost of sales	€ -	€ -	€ 12.390	€ 4.130	€ 16.520	
Working capital		€ 6.195	€ 6.195	€ -12.390	€ -	
Mould	€ 14.000		€ -	€ -	€ 14.000	
Rental cost	€ 366	€ 366	€ 366	€ 366	€ 1.464	
Marketing cost	€ -	€ -	€ 990	€ 2.000	€ 2.990	
Labour cost	€ 6.300	€ 6.300	€ 6.300	€ 6.300	€ 25.200	
Insurance	€ 285	€ 285	€ 285	€ 285	€ 1.140	
Holiday money	€ -	€ -	€ -	€ 2.000	€ 2.000	
Redemption loan				€ 5.000	€ 5.000	
Interest	€ 313	€ 313	€ 313	€ 313	€ 1.250	
Received Taxes 21%	€ -	€ -	€ -	€ -	€ -	
Others	€ 250	€ 250	€ 250	€ 250	€ 1.000	
Total Expenses	€ 21.514	€ 13.709	€ 27.088	€ 8.254	€ 70.564	
Balance beginning	€ 47.578	€ 26.065	€ 12.356	€ 7.768	€ 47.578	
Mutation	€ -21.514	€ -13.709	€ -4.588	€ 4.237	€ -35.574	
Balance ending	€ 26.065	€ 12.356	€ 7.768	€ 12.004	€ 12.004	

FIGURE 29. Liquidity budget 2021

Assets 31-12-2021		Liabilities and equity 31-12-2021	
Fixed assets		Equity	
Mould	€ 11.200	Subsidy	€ 25.000
Website	€ 448	Profit Year 1	€ -25.918
Inventory	€ 1.490		€ -918
	€ 13.138	Long-term liabilities	
Current assets		Bank loan	€ 20.000
Bank	€ 12.004		€ 20.000
	€ 12.004	VAT	€ 6.060
			€ 6.060
Total Assets	€ 25.142	Total Liabilities and equity	€ 25.142

FIGURE 30. Balance sheet 31-12-2021



YEAR 2022

In the second year Ballsy would have bigger reach. Retailers want to sell the baubles in more of their stores. All the retailers together will buy 9000 sets of Ballsy. Further, the sells on the webshops would be doubled. This is due happy consumers in the first year, they told their friends about Ballsy. Their friends got interested and bought a set of ballsy on the webshop. All together the webshop sales 2000 sets of Ballsy. Further, the marketing budget is increased, to help promote Ballsy a little more. There is no extra investment needed this year.

Assets 1-1-2022		Liabilities and equity 1-1-2022	
Fixed assets		Equity	
Mould	€ 11.200	Starting balance	€ -918
Website	€ 448		€ -918
Inventory	€ 1.490		
	€ 13.138	Long-term liabilities	
Current assets		Bank loan	€ 20.000
Bank	€ 12.004		€ 20.000
	€ 12.004	VAT	€ 6.060
			€ 6.060
Total Assets	€ 25.142	Total Liabilities and equity	€ 25.142

FIGURE 31. Balance sheet 1-1-2022

Income statement 2022	
Revenue	€ 92.450
<u>Cost of Goods Sold (COGS)</u>	€ 45.434
Gross Profit	€ 47.016
Expenses	
Wages	€ 25.200
Vacation money	€ 2.000
Rental cost	€ 1.464
Insurance cost	€ 1.140
Others	€ 1.000
Marketing cost	€ 4.480
Depreciation inventory	€ 372
Depreciation Website cost	€ 112
Depreciation mould	€ 2.800
Interest	€ 1.250
Total Expenses	€ 39.818
Earnings Before Taks	€ 7.198
Taxes 21%	€ 16.045
Net Earnings	€ -8.847

FIGURE 32. Income statement 2022



Liquidity budget 2022						
	Q1	Q2	Q3	Q4	Year	
Revenues						
Sales retailers	€ -	€ -	€ 67.464	€ -	€ 67.464	
Sales webshops	€ -	€ -	€ -	€ 24.987	€ 24.987	
	€ -	€ -	€ 67.464	€ 24.987	€ 92.450	
Expenses						
Cost of sales	€ -	€ -	€ 37.173	€ 8.261	€ 45.434	
Working capital		€ 18.568	€ 18.568	€ -37.136	€ -	
Rental cost	€ 366	€ 366	€ 366	€ 366	€ 1.464	
Marketing cost	€ -	€ -	€ 1.980	€ 2.500	€ 4.480	
Labour cost	€ 6.300	€ 6.300	€ 6.300	€ 6.300	€ 25.200	
Insurance	€ 285	€ 285	€ 285	€ 285	€ 1.140	
Holiday money	€ -	€ -	€ -	€ 2.000	€ 2.000	
Redemption loan	€ -	€ -	€ -	€ 5.000	€ 5.000	
Interest	€ 313	€ 313	€ 313	€ 313	€ 1.250	
Received Taxes 21%	€ 6.060	€ -	€ -	€ -	€ 6.060	
Others	€ 250	€ 250	€ 250	€ 250	€ 1.000	
Total Expenses	€ 13.574	€ 26.082	€ 65.235	€ -11.862	€ 93.028	
Balance beginning	€ 12.004	€ -1.569	€ -27.651	€ -25.422	€ 12.004	
Mutation	€ -13.574	€ -26.082	€ 2.229	€ 36.848	€ -578	
Balance ending	€ -1.569	€ -27.651	€ -25.422	€ 11.426	€ 11.426	

FIGURE 33. Liquidity budget 2022

Assets 31-12-2022		Liabilities and equity 31-12-2022	
Fixed assets		Equity	
Mould	€ 8.400	Starting balance	€ -918
Website	€ 336	Profit Year 2	€ -8.847
Inventory	€ 1.117		€ -9.766
	€ 9.853	Long-term liabilities	
Current assets		Bank loan	€ 15.000
Bank	€ 11.426		€ 15.000
	€ 11.426	VAT	€ 16.045
			€ 16.045
Total Assets	€ 21.279	Total Liabilities and equity	€ 21.279

FIGURE 34. Balance sheet 31-12-2022



YEAR 2023

In the third year ballsy would even get more popular, retailers want to have a larger stock of ballsy in their stores. In 2023 there would be 12000 sets sold to retailers. Also, the sales of the webshops will increase to 4500 sets. Also, the marketing cost would be increased again in this year. There is no extra investment needed in this year.

Assets 1-1-2023		Liabilities and equity 1-1-2023	
Fixed assets		Equity	
Mould	€ 8.400	Starting balance	€ -9.766
Website	€ 336		€ -9.766
Inventory	€ 1.117		
	€ 9.853	Long-term liabilities	
Current assets		Bank loan	€ 15.000
Bank	€ 11.426		€ 12.000
	€ 11.426	VAT	€ 16.045
			€ 16.045
Total Assets	€ 21.279	Total Liabilities and equity	€ 18.279

FIGURE 35. Balance sheet 1-1-2023

Income statement 2023	
Revenue	€ 146.171
<u>Cost of Goods Sold (COGS)</u>	€ 68.151
Gross Profit	€ 78.020
Expenses	
Wages	€ 25.200
Vacation money	€ 2.000
Rental cost	€ 1.464
Insurance cost	€ 1.140
Others	€ 1.000
Marketing cost	€ 5.364
Depreciation inventory	€ 372
Depreciation Website cost	€ 112
Depreciation mould	€ 2.800
Interest	€ 1.250
Total Expenses	€ 40.702
Earnings Before Taks	€ 37.317
Taxes 21%	€ 25.369
Net Earnings	€ 11.949

FIGURE 36. Income statement 2023



Liquidity budget 2023						
	Q1	Q2	Q3	Q4	Year	
Revenues						
Sales retailers	€ -	€ -	€ 89.951	€ -	€ 89.951	
Sales webshops	€ -	€ -	€ -	€ 56.220	€ 56.220	
	€ -	€ -	€ 89.951	€ 56.220	€ 146.171	
Expenses						
Cost of sales	€ -	€ -	€ 49.565	€ 18.587	€ 68.151	
Working capital	€ -	€ 24.782	€ 24.782	€ -49.564	€ -	
Rental cost	€ 366	€ 366	€ 366	€ 366	€ 1.464	
Marketing cost	€ -	€ -	€ 2.364	€ 3.000	€ 5.364	
Labour cost	€ 6.300	€ 6.300	€ 6.300	€ 6.300	€ 25.200	
Insurance	€ 285	€ 285	€ 285	€ 285	€ 1.140	
Holiday money	€ -	€ -	€ -	€ 2.000	€ 2.000	
Redemption loan	€ -	€ -	€ -	€ 5.000	€ 5.000	
Interest	€ 313	€ 313	€ 313	€ 313	€ 1.250	
Received Taxes 21%	€ 16.045	€ -	€ -	€ -	€ 16.045	
Others	€ 250	€ 250	€ 250	€ 250	€ 1.000	
Total Expenses	€ 23.559	€ 32.296	€ 84.224	€ -13.464	€ 126.614	
Balance beginning	€ 11.426	€ -12.132	€ -44.428	€ -38.700	€ 11.426	
Mutation	€ -23.559	€ -32.296	€ 5.727	€ 69.683	€ 19.557	
Balance ending	€ -12.132	€ -44.428	€ -38.700	€ 30.983	€ 30.983	

FIGURE 37. Liquidity budget 2023

Assets 31-12-2023		Liabilities and equity 31-12-2023	
Fixed assets		Equity	
Mould	€ 5.600	Starting balance	€ -9.766
Website	€ 224	Profit Year 2	€ 11.949
Inventory	€ 745		€ 2.183
	€ 6.569	Long-term liabilities	
Current assets		Bank loan	€ 10.000
Bank	€ 30.983		€ 10.000
	€ 30.983	VAT	€ 25.369
			€ 25.369
Total Assets	€ 37.552	Total Liabilities and equity	€ 37.552

FIGURE 38. Balance sheet 31-12-2023

A dark, high-contrast photograph of a spiral-bound notebook and a pen. The notebook is open, showing a blank page. The pen is lying on the page. The spiral binding is visible on the left side. The overall tone is dark and moody.

VIII

CHAPTER EIGHT

CONCLUSION



The goal was to create awareness to the public on biobased Christmas baubles and research the demand for this product, in order to decrease fossil fuel emissions by diminishing the production of Christmas baubles. First, Ballsy was examined on micro, meso and macro levels in the current market. This includes the company's strengths, weaknesses, research into competitors and Ballsy's impact as a whole. The research concluded that the company Nkuku is the biggest competitor in the sustainable Christmas market, selling ecological Christmas baubles. Also, the two main weaknesses that need improvement are the technical and commercial aspects, including the definite production materials and colours and the price establishment.

Then, the consumer demand was researched by doing surveys, which reached the aim of over 100 participants. The surveys created awareness amongst the participants, this is a process that can keep expanding. The survey concluded that women generally buy Christmas decorations more often. Men over 50 tend to buy more Christmas baubles than younger men. The respondents answered that their Christmas baubles are changed every year (36%) or every 1 to 3 years (39%). This information indicates that the "unbreakable" selling point could be important for consumers and marketing. Most people buy their Christmas decorations in garden centres or budget stores. Online shopping for Christmas decorations is not widespread. However, almost half of the biobased product buyers (25% of total) tends to buy their products online. Thus, there is a market for online biobased buyers which could be exploited as well. At this moment, the production on 1 Ballsy set contains 4 different colours, however the majority prefers sets of the same colour baubles. Furthermore, over 75% of the respondents, prefer the traditional design over the Ballsy design.

The survey respondents were acquaintances from the business environment from the project group members. The survey results are reliable, because the survey was examined various times and approved by the client. The questions were set up in order to get no bias results. The results will be applied in technical aspects of the production and the commercialization of Ballsy.

After the data from the survey was reviewed, a list of 15 retailers to contact was established. The national budget stores and sustainable stores were hard to reach over the phone. More effort to speak to the right person for budget stores is required and sustainable stores need a more personal approach. The retailers Action, Intratuin, Hornbach, CASA and Antea Group were interested in Ballsy. Their motives for perhaps selling Ballsy in their stores were being innovative and sustainable.

Some retailers were already interested in the price and available amounts. However, since Ballsy is not commercial yet, it was not possible make viable promises to these retailers. The project leader Bas Koebrugge can exploit these contacts when the product becomes commercial.

IX

CHAPTER NINE

ADVICE



In this part, advice will be given for the development of Ballsy.

First, according to the results of the survey (see Appendix 2), the consumers prefer sets of the same colour. The company could offer sets with Christmas baubles of different colours and sets of the same colour. It may be interesting to widen the range of colours if sets of the same colour are made, to widen the choice in the range offered.

In addition, a distribution concept could be offered with self-service distribution. Consumers could choose the colour of their Christmas bauble and make up their own batch. A third recommendation would be to offer online sales. According to the results of the survey, consumers do not buy their Christmas decorations on the internet but buy their organic products often on the internet. A new distribution channel would then be possible for Ballsy.

In addition, it is recommended that the start-up focuses on profit and visibility in the first two years. The company should grow and ensure economic viability. After these first two years, it would be advisable to donate part of the profits made from sales to associations, such as Rocking up X-mas. For the third year, donating to charity can increase sales and at the same time ensure that the business is ethical.

Ballsy is also advised to be alert to new market entrants. Indeed, the market for biobased products is expanding. New competitors could offer a similar product to Ballsy's. It will be necessary to be vigilant to the competition.

In addition, Ballsy's visibility must increase from year to year. Indeed, the story around Ballsy is the strength of the product. The more visible the story will be, the more sales will increase. A growing communication and marketing campaign must be followed.

It is also recommended for Ballsy to anticipate mass production as soon as possible. Indeed, at the level of the technical process certain steps, in particular the sifting of the pine needles is done by hand. In the coming years, this step will have to be automated to increase productivity. Ballsy is an innovative product and this competitive advantage is not supposed to be underestimated. They must continue with this approach in order to conquer the Christmas baubles market. The R&D department should add the smell of fir to the Christmas balls or start ordering another mould with a different design or size.

A large, bold, white 'X' is centered on the left side of the page. The background is a dark, textured surface, possibly a book cover or a piece of fabric, with some faint, illegible text visible in the lower right quadrant.

CHAPTER TEN

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XI

CHAPTER ELEVEN

APPENDIX



11.1 BALLSY NETWORK

Intern or Extern	Name	Function	Impact	Interest
Intern	Bas Koebrugge CoE BBE	Project developer	High	High
Intern	2 student teams	Business plan creation	Moderated	Moderated
Extern	Customer	Buyer	High	low
Extern	Dutch government	Legislative actor/ investor	Moderated	High
Extern	Den OUDEN	Supplier	High	High
Extern	BATO	Supplier	High	High
Extern	Moulds and more	Supplier	Moderated	High
Extern	Vibers	Supplier	Moderated	High
Extern	Rodenburg	Supplier	High	High
Extern	BAC	Supplier	High	High

11.2 SURVEY QUESTIONS & RESULTS

WHAT IS YOUR AGE?

Tables representing the number of people who responded to the survey according to their age

Age	16	17	18	19	20	21	22	23	24
Number	2	1	8	12	14	13	18	10	12

Age	25	27	28	29	30	31	32	33	34
Number	8	1	3	2	1	2	1	2	1

Age	36	37	39	40	41	42	44	46	47
Number	1	1	1	1	1	2	1	2	1

Age	48	51	52	53	54	55	56	59	60
Number	1	1	1	5	2	1	1	2	1

Age	61	62	63	78	80
Number	1	1	1	1	1



WHAT IS YOUR GENDER?

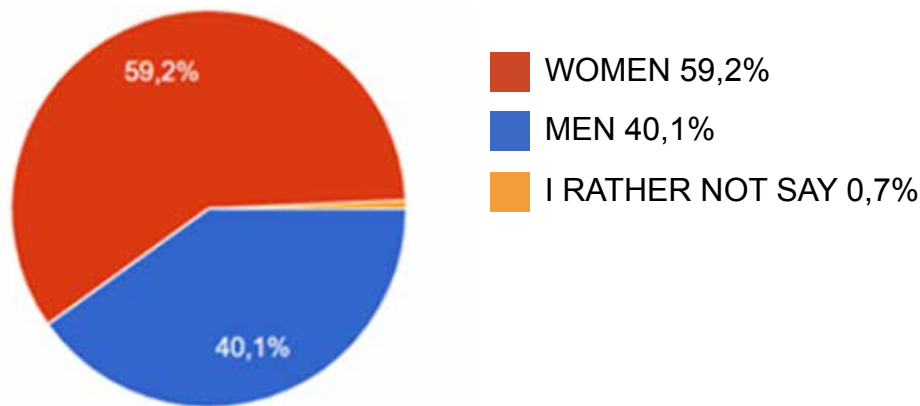


Table showing the number of people who responded to the survey by age and gender

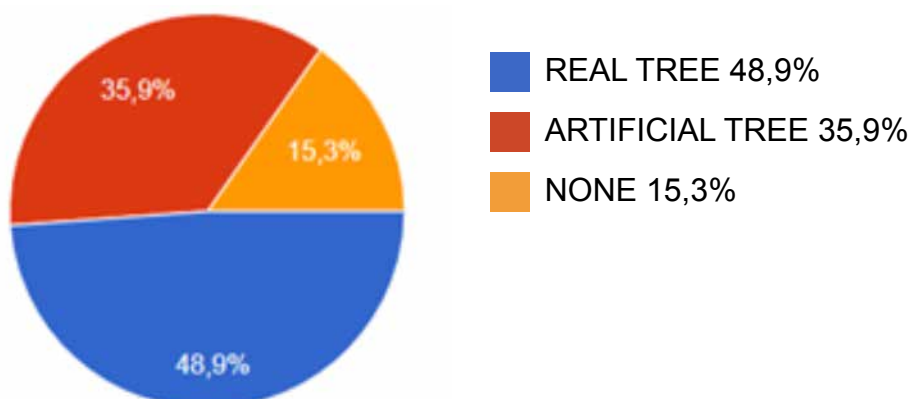
Age	16-20	21-30	31-40	41-50	51-80
Men	10	24	7	2	4
Woman	28	36	3	6	15
No answer	0	0	1	0	0
Total	38	60	11	8	19

WHAT IS YOUR HOME SITUATION?

Situation	Number
With partner	27
Living with their parents	25
With partner and children	21
Living alone	16
Dorm room	10
Alone with children	6

Table representing the number of people who responded to the survey according to their living situation. There are a lot of different living situations, the main groups are living with their partner, and living with their parents. The majority of those who responded to the survey (46%) live as a couple and 20% of them have children. 24% of the people who responded to this survey live with their parent. It is possible to say that most people who responded to the survey live in a household.

WHAT KIND OF CHRISTMAS TREE DO YOU PUT UP AT CHRISTMAS?



Half of the people surveyed buy a real Christmas tree instead. This is a good point for our product so that people can use their Christmas tree for their Christmas decoration. However, 13.5% of people do not buy a Christmas tree, which is quite a significant figure.

Table showing groups according to age, genus and type of Christmas tree they buy.

	16-30 W	31-50 W	+ 50 W	16-30 M	31-50 M	+ 50 M
Real Christmas tree	35	3	7	17	3	1
%	61%	33%	50%	44%	38%	33%
Artificial tree	17	4	5	16	2	1
%	30%	44%	36%	41%	25%	33%
No tree	5	2	1	6	3	1
%	9%	22%	7%	15%	38%	33%
Total	57	9	14	39	8	3

Who buys the most real Christmas trees?

Many men and women under the age of 25 buy real Christmas trees. 38% of men between 31 and 51 have real Christmas trees as well. Women over 50 buy real Christmas trees. Most households prefer to have real Christmas trees.

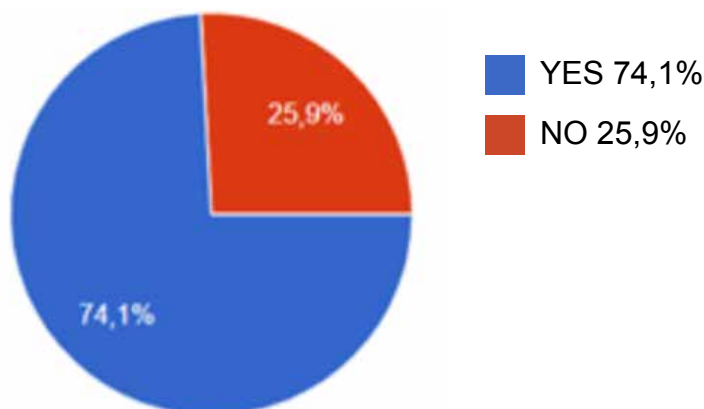
Who buys the most artificial trees?

30% of women under the age of 30 buy artificial trees, which is not negligible. 44% of women between 31 and 50 years old also buy artificial trees. 41% of men between 16 and 30 years old buy artificial trees. Overall, women buy more artificial trees.

Who does not buy a tree?

More men than women do not buy a Christmas tree. These are men over 30 years old.

DO YOU EVER BUY CHRISTMAS DECORATIONS?



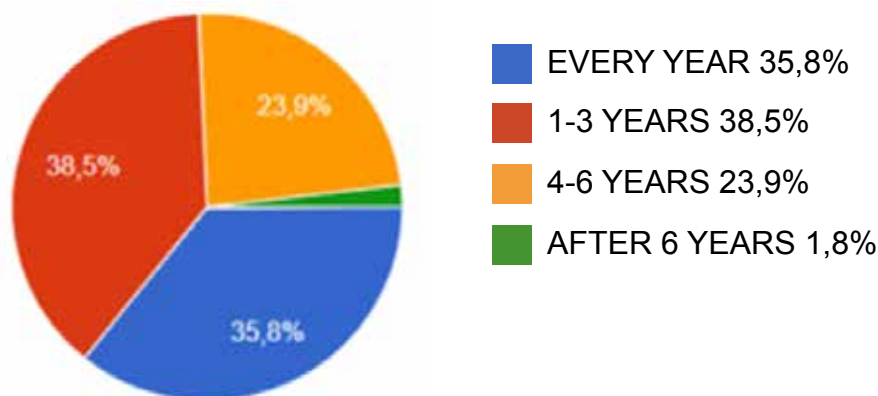
This percentage is a good point because we are looking for a target group of people who buy their Christmas decorations. People who answered “no” to this question do not respond to our survey. It is interesting to know what type of people (gender, age) buy Christmas decorations to determine the target group.



Table describing the people (age, gender) buying or not buying Christmas decoration.

	16-30 W	30-50 W	+ 50 W	16-30 M	30-50 M	+ 50 M
Yes	51	8	14	21	4	3
%	84%	100%	100%	49%	50%	75%
No	10	0	0	22	4	1
%	16%	0%	0%	51%	50%	25%
Total	61	8	14	43	8	4

HOW OFTEN DO YOU BUY CHRISTMAS DECORATIONS?



The people who responded to the survey most often buy Christmas decorations every year or every 2 or 3 years. They regularly renew their Christmas decorations.

HOW IMPORTANT ARE THE FOLLOWING FACTORS FOR YOU WHEN BUYING CHRISTMAS BAUBLES? 1 = NOT IMPORTANT, 5 = SUPER IMPORTANT

The design (colour and possibly print) = The design of the Christmas baubles is the most important criterion according to those surveyed. It is an important criterion for the people surveyed. The majority give a score of 5 for this criterion.

4 = 33,6% 5 = 57,3%

The price of the product = Price is the second most important criterion for consumers. This criterion is less important than design, but important, nonetheless.

3 = 25,5% 4 = 45,3% 5 = 19,8%

The quality and firmness of the product = Product quality is also a very important factor for consumers.

3 = 32,1% 4 = 33% 5 = 21,7 %



Christmas fashion of the moment = Christmas trends are not an important element for consumers. It is an important criterion for a minority of consumers.

1 = 37,7% 2 = 34,9% 3 = 15,1% 4 = 7,5% 5 = 4,7%

The environmental friendliness of the product = The environmental friendliness of the product is a very variable criterion. It will be interesting to determine for which type of people it is an important criterion.

1 = 21,7% 2 = 20,8% 3 = 31,1% 4 = 17,9% 5 = 8,5%

Table showing for which person the environmental criterion is important.

Env friendliness	16-30 W	30-50 W	+ 50 W	16-30 M	30-50 M	+ 50 M
1-2	25	2	6	9	4	0
%	48%	25%	42%	36%	66%	0%
3	17	5	3	7	0	1
%	33%	62,5%	21%	28%	0%	33%
4-5	9	1	6	9	2	2
%	17%	12,5%	42%	36%	33%	66%
Total	51	8	15	25	6	3

According to this table of results, women over 50 years of age have the environment as their purchasing criteria. Women between 30 and 50 thinks that this criterion is intermediate but present. Men over 50 also consider the environment to be an important criterion in their Christmas shopping.

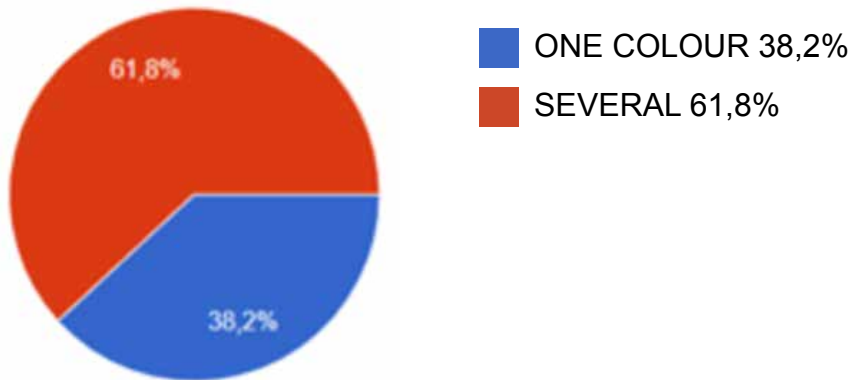
In conclusion, product design and price are the two most important criteria for consumers. Product quality is the third criterion chosen. In addition, women between 30 and 80 years of age consider the environment to be a criterion that they take into account during their Christmas shopping, just like men over 50 years of age.

WHERE TO BUY CHRISTMAS DECORATIONS?

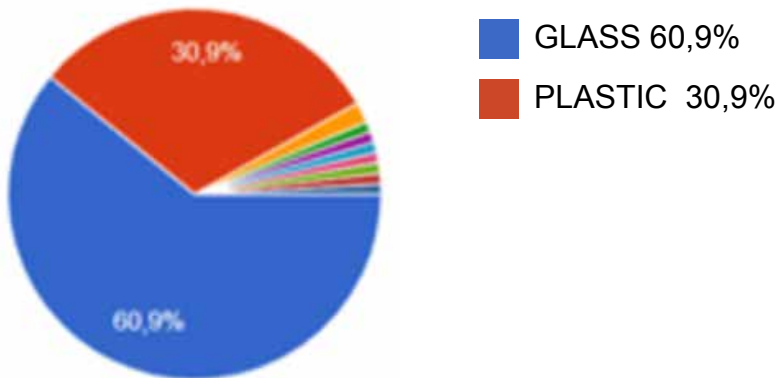
Store	Number
Garden Centres	49
Budget store	31
Wherever I find something nice	17
Second-hand store	8
Furniture store	7
Christmas Shops	6
Online shops	4

The answered of the survey are divided in sub-groups. The two main type of stores where people buy their Christmas decoration are garden centres and budget store. One of the biggest garden centres is Intratuin. One of the budget store people buy a lot a of Christmas decoration is the Action. Online shops are the smallest group.

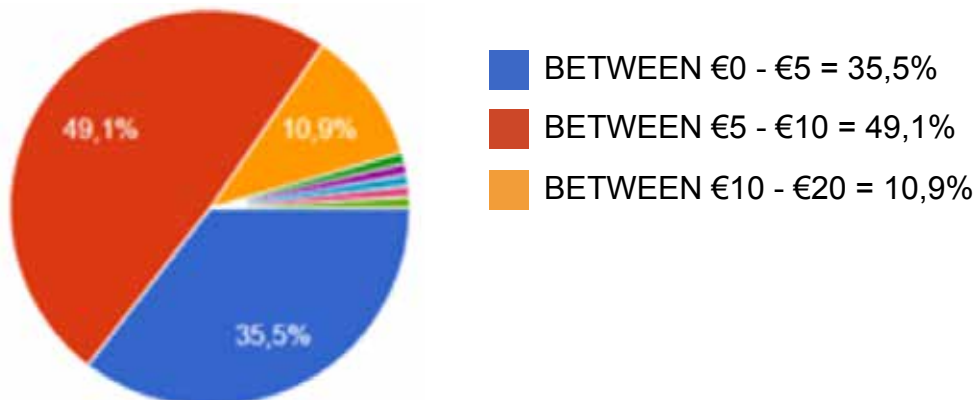
WOULD YOU RATHER BUY A SET OF BAUBLES WITH DIFFERENT COLOURS OR WITH ONE COLOUR?



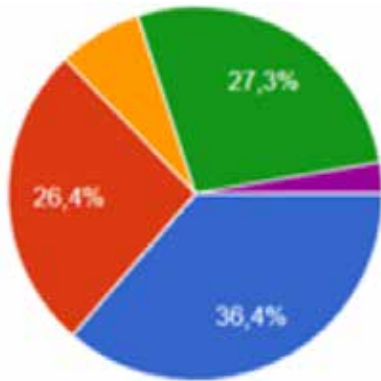
WHICH MATERIAL DO YOU PREFER FOR CHRISTMAS BAUBLES?



HOW MUCH ARE YOU PREPARED TO PAY FOR A SET OF FOUR BAUBLES OF YOUR CHOICE OF MATERIAL?

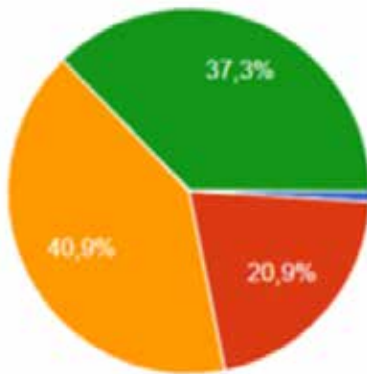


WOULD YOU BE PREPARED TO PAY MORE FOR THIS SET IF PART OF THE PROCEEDS GOES TO CHARITY?



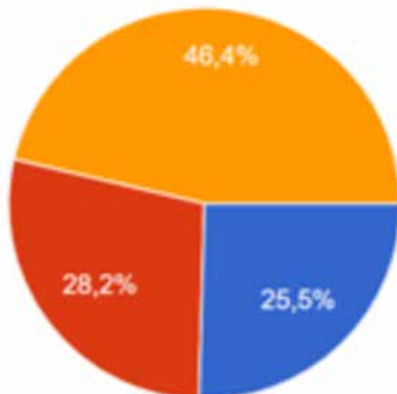
- YES, BETWEEN 5%-10% MORE = 36,4%
- YES, BETWEEN 10%-15% MORE = 26,4%
- YES, BETWEEN 15%-20% MORE = 9,9%
- NO = 27,3%

HOW SERIOUSLY DO YOU ESTIMATE THE IMPACT OF CHRISTMAS ON THE ENVIRONMENT?



- NO IMPACT 0,9%
- NEUTRAL 20,9%
- SLIGHTLY HARMFUL 40,9%
- HIGH IMPACT 37,3%

HOW MUCH ARE YOU PREPARED TO PAY FOR A SET OF FOUR BAUBLES OF YOUR CHOICE OF MATERIAL?



- YES, BUT I NEVER BUY THEM 25,5%
- YES, I BUY THEM SOMETIMES 28,2%
- NO 46,4%

Table showing the number of people according to age and sex who occasionally purchase biobased products.

Age	16 -30 W	31 - 50 W	51- W	16-30 M	31 - 50 M	51 - M	Total
Number	13	3	1	6	2	1	26
%	27%	27%	50%	25%	40%	50%	28%
Total	49	11	2	24	5	2	93

WHERE DO YOU BUY THOSE PRODUCTS?

Where do you buy those products?	Number
Online	11
Wherever I find them	8
Supermarket	4
Bio-stores	2
Office store	2
WAAR	1
Clothing store	1

There are two main groups, the group that is not looking for the product, but will buy them if they came across something they like. And the other group who is really looking for this kind of product. And then mostly online

WHICH DESIGN DO YOU PREFER?

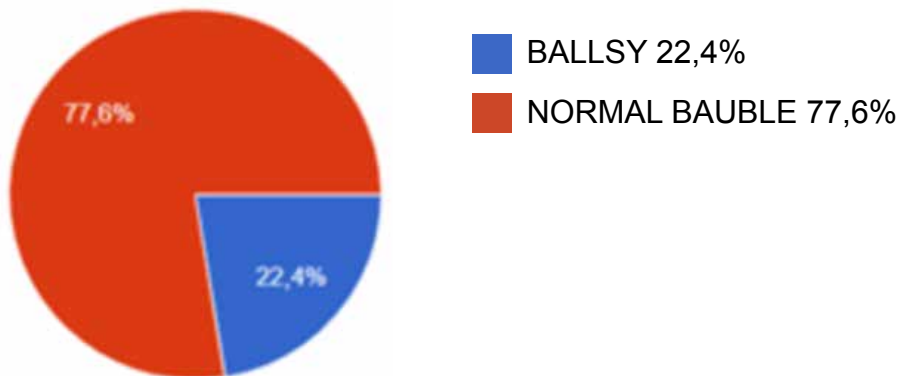


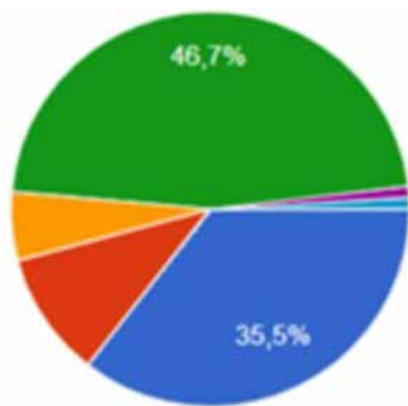
Table showing people (age, gender) who prefer Ballsy’s design.

Age	16 -30 W	31 - 50 W	51 + W	16-30 M	31 - 50 M	51 + M	Total
Number	5	3	11	3	0	3	23
%	10%	30%	73%	13%	0%	100%	
Total	51	10	15	23	5	3	107

DOES IT CHANGE YOU MIND WHEN YOU KNOW WHICH ONE THE BALLSY BAUBLE IS?

Answer	Number of respons
Not sure	1
No, I do not think is really Christmas looking	5
No, I do not like the design	8
Yes, I want to have a good impact on the environment	15
No	42
No, I miss the sparkling	8

ARE YOU WILLING TO PAY MORE FOR A BALLSY SET?



- YES, BETWEEN THE 5%-10% 35,5%
- YES, BETWEEN THE 10%-15% 11,15%
- YES, BETWEEN THE 15%-20% 6,65%
- NO 46,7%