A Work Project, presented as part of the requirements for the Award of a Master's degree in Impact Entrepreneurship and Innovation from the Nova School of Business and Economics.

Cafeco: Transforming Coffee Waste into Sustainable Coffee Cups – Customer Discovery

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Field Lab Work Project

This work project examines the development and validation of *Cafeco*, a sustainability-driven startup transforming used coffee grounds into reusable cups. Guided by Eric Ries' Lean Startup methodology, the study focuses on validating key leaps of faith, including market interest, customer willingness to pay, scalability of production, and the sustainability of the business model. Through iterative experimentation and data-driven insights, *Cafeco* refined its business strategies to align with its mission of promoting sustainable living and circular economy principles. The research highlights how entrepreneurial agility can address environmental challenges and create meaningful impact. The individual part focuses on customer discovery, finding out, who the perfect customer might be and drawing a first customer archetype.

Keywords: circular economy, upcycling, waste reduction, environmental impact, sustainability, entrepreneurship, lean startup, coffee, coffee waste, reuseable coffee cups.

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AI Disclaimer:

New breakthrough technologies, such as the internet in the late 20th century and now artificial intelligence, are repeatedly revolutionizing scientific research (Donato 2024, 37). AI tools can demonstrably add sustainable and responsible value to academic work without affecting originality and intellectual contributions (Salvagno, Taccone, und Gerli 2023, 75). However, the ethical integrity of AI-powered tools is essential to maintain academic integrity. In this paper, we have used AI tools such as ChatGPT, Grammarly, and DeepL with great care to improve the clarity and grammar of our texts. This helps non-native speakers who often face challenges in writing such papers (Kim et al. 2024, 2). In addition, we used ChatGPT for research and structuring texts, as well as to challenge our own ideas. We were always aware that such tools lack subject matter understanding and cannot replace human intelligence, which is why all outputs were checked for accuracy, validity, and contextual meaning and by adhering to Nova SBE ethical AI guidelines (Nova School of Business and Economics, n.d.).

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Part I: Group Part

1. Introduction

This work project was created by three students of the M.Sc. in Impact Entrepreneurship and Innovation (MIEI) and is composed of four main parts: one group section (30 pages) and three individual sections (15 pages each). Together, they document our entrepreneurial journey within

the MIEI Field Lab. The primary objective of this Field Lab was to validate the key assumptions behind our venture, ensuring it could evolve into a self-sustaining, impact-driven business. Beyond external validation, we also aimed to identify a problem that personally resonated with all three team members, allowing us to build a venture we genuinely believe in.

Over the course of the Field Lab, from September 1st to December 17th, we explored two distinct projects. We began with GenerationalLiving, but as we investigated the market, our initial assumptions did not hold. On October 7th, we therefore pivoted to Cafeco. Although we spent five weeks on GenerationalLiving, the majority of our efforts focused on Cafeco. As a result, this thesis predominantly examines Cafeco's development and validation process. Our approach followed lean startup principles. While the complexity of GenerationalLiving's problem area required Steve Blank's methodology, Cafeco's solution-focused validation processes were for the most part based on Eric Ries' Build-Measure-Learn framework. The rationale for these choices will be explained in the respective chapters.

The individual sections of this thesis each address a specific aspect of the project: "*Product Development and Partnerships*" (Moritz Joachim Basse), "*Customer Discovery*" (Anton Schwarberg), and "*Marketing and Sales*" (Ji Yen). A joint concluding section will present a summary of our measurable impact, limitations, key learnings and future outlook. This final segment is counted as part of the group contribution.

2. Previous Entrepreneurial Journey

„A startup's runway is the number of pivots it can still make. The goal is to pivot through failures into success"(Ries 2011, chap. 8)

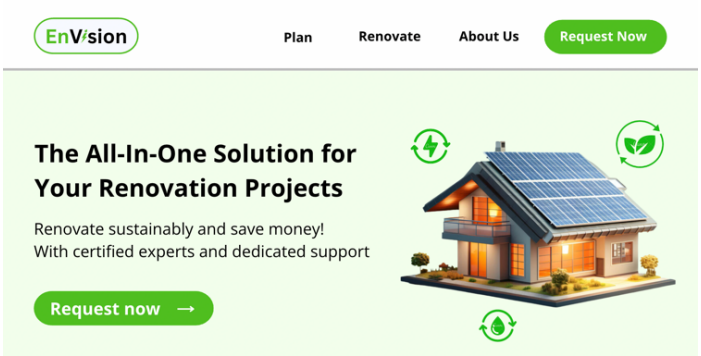
In his book "The Lean Startup", Eric Ries emphasizes the importance of learning as one of the main goals of startups. Validated learning often results from unsuccessful attempts to validate assumptions. According to Ries, regularly rethinking and changing the direction of a company's strategy and focus, also known as pivoting, is not a failure. It is part of the entrepreneurial journey as long as you learn from the insights you gain (Ries 2011, chap. 8). In the following section, we will, therefore, share part of our entrepreneurial journey in order to better understand the key lessons we learned along the way and how Cafeco came to be.

EnVision: Energy Consultancy Software

Our journey began back in December 2023 as part of the Entrepreneurial Journey course, in which we were supposed to carry out and validate a start-up project, at least in theory. After carefully putting together the team, which is one of the most important prerequisites for successfully completing a start-up project, we focused on identifying a problem that we wanted to solve (Ries 2011, chap. 8)

After numerous interviews with start-ups and companies, we finally came across a relevant problem: the inefficiency of energy consultants in Germany. Energy consultants help private homeowners plan, advise on, and apply for state funding for the sustainable renovation of their homes. However, they often work with inefficient methods for data collection and processing. This data is manually transferred into complex software, which some energy consultants criticized as being time-consuming and prone to error.

Figure 1: Landingpage Mockup for EnVision



This was the starting point for our "*Envision*" project, a platform for efficient energy consultation data collection.

But why did we fail with this project? Although we had found a clearly identifiable problem, which we were able to validate in more than 30 interviews with energy consultants and other affected companies, we focused too much on the problem and less on other aspects that are important for successfully solving a problem. On the one hand, we were missing the required technical abilities to solve the problem, and on the other hand, we lacked the passion and personal connection to fully understand, feel, and solve the problem. After contacting various software companies and energy consultants, who gave us insights into their working methods, we found that the energy consultant programs are too complex, and even experienced software companies with the ability to solve this problem have no interest in solving it. Envision, therefore, remained only a project in the context of the course and a theoretical, non-implementable solution for a validated problem to which we ourselves had no personal connection. In the future, we will not only look for validation of a problem but also ensure that we have the technical skills, necessary network, and personal motivation to solve the problem sustainably and successfully (Cardon et al. 2009, 511–512).

Figure 2: Problem with EnVision

Approaching the Work Project

Despite the educational but also challenging Envision project, we felt that we complemented each other well as a team so we decided to continue working together and approach our work project together. This time, we not only focused on finding a real problem but also tried to find something that affected and interested us personally. Furthermore, we wanted to implement

something to create a real positive impact and not just be limited to the theoretical validation of a problem. In addition, we wanted to create something that we could perhaps continue to pursue after completing our master's and that had the chance of resulting in the founding of a real startup.

After numerous intensive brainstorming sessions (Appendix 1), we came up with two problems and two possible solutions that we wanted to take a closer look at:

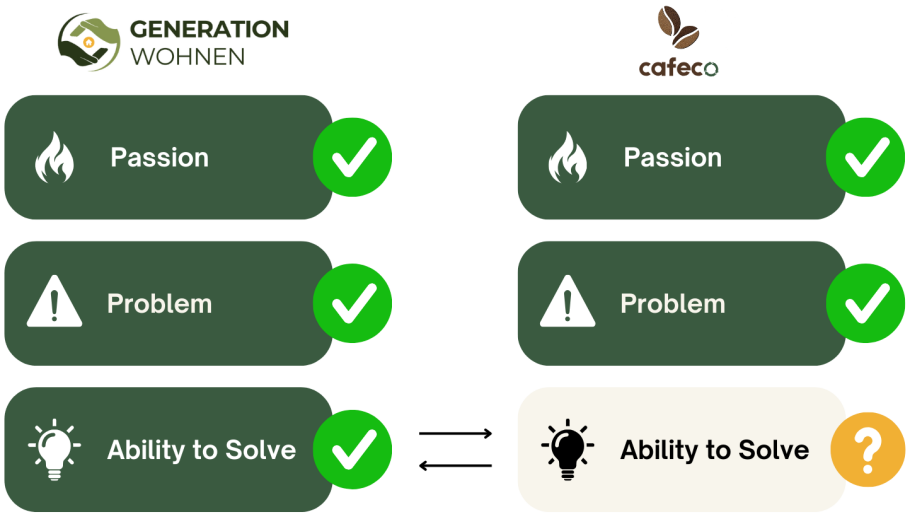
1. Intergenerational Living Platform: We found out that Senior citizens in Germany often face loneliness and live below the poverty line, while students struggle to find affordable housing in major German cities. We, therefore, thought of a dedicated online platform that connects these two groups to promote intergenerational exchange and meet housing needs. We were ambitious to tackle this dual problem, as Family members working in geriatric care repeatedly highlighted these issues, and we experienced first-hand the housing challenges students encounter. Furthermore, a platform to connect the two target groups seemed feasible to us, since we already had experience building websites.

2. Reusable Coffee Cups from Coffee Grounds: As passionate Coffee drinkers, we were aware of the issue, that excessive amounts of coffee grounds go to waste, while disposable coffee cups remain a severe environmental concern in coffee-intensive nations such as Germany and Portugal. Further research has shown that coffee grounds are a material that is particularly suitable for reuse. When combined with other natural materials, they can be used to make a variety of products, such as candles, plates, or lamps. Our idea was born: we wanted to create a reusable cup composed of recycled coffee grounds and thereby align with circular economy principles.

The decision to prioritize the Intergenerational Living Platform was based on two main considerations: feasibility and the ability to address an urgent problem. Developing a platform

to match students and seniors felt achievable within the scope of the field lab, given the team's skills and available resources. The technical and logistical challenges of designing and launching such a platform were well within reach. By contrast, creating a reusable cup composed of recycled coffee grounds required a highly technical process to upcycle coffee grounds into durable materials, an area where our team lacked immediate expertise.

Figure 3: GenerationalLiving vs. Cafeco



GenerationalLiving

The first initiative of our Field Lab, GenerationalLiving, aimed to address two pressing societal challenges: the housing shortage and the threat of poverty among students, as well as the increasing loneliness among seniors. According to the German Federal Statistical Office (Destatis 2024), about one third of German students are at risk of poverty. This risk is exacerbated by rapidly rising rents, with rents rising up to 22% within a year and more than 100% in within 10 years in some German university cities and (Immowelt 2023; Janson 2021). On the other side of the age spectrum, loneliness is a growing concern. Eyerund and Orth (2019) found that 10.8% of German elderly feel often or very often lonely.

GenerationalLiving's proposed solution was to encourage intergenerational housing arrangements, whereby seniors would offer unused living space to students in exchange for

companionship and light support. To evaluate the feasibility and potential of this idea, we applied Steve Blank's Customer Discovery Framework (Steven Blank 2006). This methodology focuses on early validation of assumptions through stakeholder engagement and rapid experimentation. Given the complexity and novelty of the intergenerational living concept, this approach was well-suited to assessing the problem's relevance, the target groups' needs, and whether such a solution could lead to a scalable, sustainable model.

Validation of Key Assumptions

The project was built around four critical assumptions. First, we assumed that the identified challenges genuinely affected both target groups—students and seniors. Second, we assumed that students would be willing to exchange companionship and light support for reduced housing costs. Third, we assumed seniors would be open to sharing their homes and receiving support from younger people. Finally, we believed a digital platform could effectively match these two groups.

To test these assumptions, we employed a combination of qualitative and quantitative research methods, expert consultations, community outreach, and prototyping. We conducted interviews and focus groups with seven students and thirty seniors (Appendix 2, Appendix 3). While students expressed enthusiasm, primarily driven by financial stress, seniors were markedly hesitant. Several issues emerged. Most seniors did not have an available room. Sharing a single bathroom was almost universally seen as unacceptable, making cohabitation difficult even where space existed. Additionally, there was a broad sense of skepticism and mistrust toward younger generations. Even more revealing, seniors took pride in their independence and were reluctant to accept help tied explicitly to a financial arrangement. They would rather receive help voluntarily than feel it was part of a rental agreement. A prototype website, generationwohnen.de, was created to attract interest and facilitate sign-ups, but participation-particularly from seniors - remained limited (Appendix 4).

Expert interviews with Sally Bird (Appendix 5) and Daniel Furhop (Appendix 6) reinforced these findings, indicating that the intended solution would likely not be widely adopted and suggesting a very low chance of achieving long-term self-sustainability.

Key Learnings

Our validation process for GenerationalLiving revealed critical challenges in implementing the intended solution. While the existence of housing crisis, age-related loneliness, and student poverty was real, the willingness to adopt our solution wasn't. Driven by financial stress, students were relatively quick to show openness and interest, but seniors displayed strong hesitance, disproving our third assumption. Additionally, the prototype website effectively communicated the concept but failed to drive significant senior sign-ups. This indicates that despite addressing genuine problems, the intergenerational living model did not align with seniors' preferences and living conditions.

Pivoting to Cafeco

After five weeks of research and validation, we pivoted away from GenerationalLiving due to significant challenges in creating a sustainable and scalable model for intergenerational living. While the idea addressed valid societal issues – student housing shortages and senior loneliness – the solution was simply not wanted. Gaining valuable macro-perspective from our meetings with Sally Bird and Daniel Furhop, we realized that almost none of the models aiming to connect seniors and students is self-sustaining, simply because the demand and willingness to adopt the model is so low. Having been confronted with constant invalidation and the realization that our business would constantly depend on charity and government support, we felt a deep disappointment.

On October 4th, we made the decision to pivot to a different field. When we first approached the project, we chose GenerationalLiving because we believed we lacked the ability to pursue

our other idea, coffee cups made from coffee grounds. However, in early October a new opportunity presented itself: We received funding from the Prototyping Fund, as well as contacts at BioLab and FabLab, where we could speak to experts and develop our own material. This opportunity motivated us to pursue our second project.

Even though the pivot was quite extreme – shifting from addressing multiple societal issues to working with waste streams – and again facing great uncertainty, we saw this as a chance to tackle a problem we were passionate about and capable of solving.

3. Cafeco

Starting with this chapter, the thesis focuses exclusively on Cafeco. After GenerationalLiving, we turned to a product-oriented idea: making reusable coffee cups more sustainable by incorporating coffee grounds into their material composition. The following chapters present the idea in detail and outline our validation process.

3.1 Methodology

This chapter describes the research methods applied to validate key assumptions and inform the development of our solutions and actions for Cafeco. It is divided into three sections: Primary Research, which focuses on primary data collection; Secondary Research, which outlines how literature and existing data informed our hypotheses and testing methods; and Entrepreneurial Framework, which explains the entrepreneurial approach we used to guide our research, testing, and decision-making. Together, these components form the foundation of our systematic and iterative approach to planning, executing, and steering our venture.

3.1.1 Primary Research

For our primary research, we employed a combination of qualitative and quantitative methods to collect data and validate the key assumptions underlying our venture. We began with interviews to better understand customer needs and gather initial feedback on our product concept. Based on these insights, we designed and conducted targeted validation experiments

to systematically test our hypotheses and critical assumptions. These experiments addressed different aspects of the venture - *Product Development & Partnerships, Customer Discovery, and Marketing & Sales* - and are discussed in detail in their respective chapters in the individual parts.

3.1.2 Secondary Research

Secondary research played an important role in making sure Cafeco's concept and validation experiments can be benchmarked with existing knowledge and informed by valid and relevant data.

Our secondary research focused on the environmental impact of spent coffee grounds and disposable coffee cups. Beyond problem analysis, we reviewed current sustainability trends, industry reports on the global coffee market, and specifically the coffee cup market, backed by statistical sources and scientific papers. Additionally, we conducted a competitive analysis of existing brands in the reusable coffee cup market to identify best practices, market gaps and areas of differentiation and improvement**.** This research informed our hypothesis development and the specific metrics we used for testing.

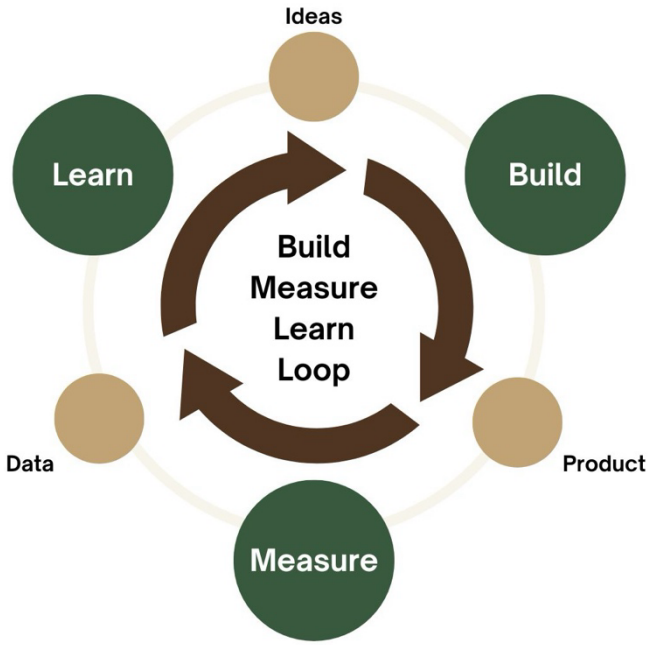
3.1.3 Entrepreneurial Framework

Starting a new venture involves navigating significant uncertainties, making a structured approach essential for success. Entrepreneurial frameworks provide a systematic method to address challenges, such as validating assumptions and testing hypotheses, and help making informed decisions. A framework enables entrepreneurs to tackle problem-solving and product development in a methodical way, ensuring that lessons learned are applied effectively. By applying a framework, entrepreneurs can mitigate risks and avoid common pitfalls. In contrast to GenerationalLiving, Cafeco innovates an existing solution - coffee cups made from spent coffee grounds. While the market for reusable coffee cups demonstrates a clear demand for sustainable alternatives, our project focused on validating the unique value and feasibility of

our solution. When selecting an entrepreneurial framework, we considered the 24 Steps of Disciplined Entrepreneurship and Eric Ries Build-Measure-Learn framework. Ultimately, we chose the latter, because it aligned with our need for speed and flexibility, focusing on validating key hypotheses and adapting to market demand rather than following the sequential and comprehensive structure of the 24 steps.

The Lean Startup Methodology is an entrepreneurial framework developed by Eric Ries (2011). It focuses on creating and managing startups in an intentional and iterative way. Its core principle is the Build-Measure-Learn (BML) cycle, which provides entrepreneurs with a structured approach to rapidly developing products or services by building a minimum viable product (MVP), gathering data from customer feedback, and using that feedback to refine their ideas and assumptions in continuous iterations. This method focuses on validating key hypotheses early to minimize waste and increase the chances of building something that meets market demand.

Figure 4: Build-Measure-Learn Framework



3.2 Problems and Opportunity

In "*The Lean Startup*", Eric Ries (2011) stresses the importance of learning whether a product solves a significant customer problem, for which he recommends using validated learning. In this section, we aim to showcase an overview of the problems and opportunities Cafeco is built on, and what market gap it fills. First, we will outline the environmental toll of coffee grounds

as a waste product and then explain how this aligns with the growing consumer demand for sustainable products.

3.2.1 Environmental Problems

The environmental problems Cafeco aims to address are multi-faceted. One significant issue is the disposal of spent coffee grounds (SCGs). The term “spent coffee grounds” refers to the grinds remaining after the desirable compounds in coffee have been extracted during the brewing process (McNutt and He 2019). SCGs are typically discarded as trash and end up in landfills, where they pose environmental challenges. Being organic material, SCGs require large amounts of oxygen to decompose (Franca and Oliveira 2022). This decomposition not only releases a substantial amount of greenhouse gases (GHGs) (Santos et al. 2017) but also risks contaminating soil and groundwater with bioactive compounds (Mahmoud, Atabani, and Badruddin 2022).

Table 1: SCGs and resulting CO_2 emissions, (Mussatto et al. 2011; San Martin et al. 2021)

	Europe	**Globally**
Total SCGs in million tons (Mt)	5,04 Mt	19 Mt
Landfilled SGCs in million tons (Mt)	2,32 Mt	8,74 Mt
Emitted CO2eq / year in million kg (Mg)	650 Mg	2479 Mg

The second waste problem Cafeco aims to tackle is the issue of disposable coffee cups. Not only do these cups often contain plastics and potentially harmful chemicals (Ranjan, Joseph, and Goel 2021), but they also emit significant amounts of GHGs. A mere 0.25% of these cups are estimated to be recycled, with the vast majority ending up in landfills or being improperly disposed of. Global disposable paper cup CO2 emissions are estimated to reach 7.5 Mt CO2eq, which is comparable to the annual emissions of approximately 1.5 million EU inhabitants (Foteinis 2020). To provide a more concrete perspective on the scale of waste: at Nova School

of Business and Economics, approximately 15,400 disposable paper cups were discarded between January 2024 and November 22, 2024 (Appendix7).

In summary, both SCGs and disposable coffee cups are detrimental to soil, water, and air when disposed of in landfills.

3.2.2 Consumer Shift towards Sustainable Products as an Opportunity

Not only science has recognized the problems of waste and GHGs, but consumers have as well. Environmental awareness creates an ongoing need for sustainable products. According to (Capgemini Research Insititute 2020), a significant percentage of consumers (79%) are changing their purchase preferences based on sustainability, with 72% personally concerned about their environmental footprint. Furthermore, a report by McKinsey and NielsenIQ (2023) identifies a clear correlation between sustainability-related claims and increased consumer spending. Brands with sustainable attributes often experience higher growth rates as a result.

This trend is particularly evident among Gen Z, a demographic that is becoming increasingly important to the consumer market. While interest in sustainability spans all age groups, Gen Z demonstrates a stronger inclination toward sustainable purchases (Frey et al. 2023).

3.3 Solution

As Eric Ries describes, building a solution is an iterative process that adapts during the validation phases (Ries 2011, chap. 8). Therefore, our business model and solution should not be seen as fixed pillars but rather as a basis and assumption for the subsequent validation steps.

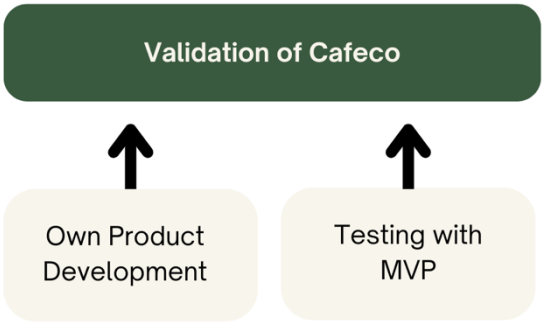
3.3.1 Our Targeted Solution & Value Proposition

Our targeted solution is a reusable coffee-to-go cup that is largely made from recycled coffee grounds. The cup is designed to be heat-resistant and reusable in the long term, promoting sustainability while keeping the environmental impact as low as possible.

Cafeco creates sustainable, reusable coffee cups by upcycling discarded coffee grounds, offering an eco-friendly alternative to single-use paper and plastic cups. By transforming waste into value, we align with circular economy principles and cater to the rising consumer demand for environmentally responsible products.

3.3.2 Parallel Approaches to Product Validation

Figure 5: Parallel Validation Strategy - Product Development and MVP



Although the Prototyping Fund provided us with financial resources and access to expertise, the limited time frame and the naturally time-intensive nature of production processes made it unrealistic to develop a fully marketable physical product within these constraints. Furthermore, it is inefficient and risky to develop a product directly and in its entirety without testing it on the market first (Ries, 2011, chap. 8). In order to obtain as much validated customer feedback as possible while also testing the feasibility of such a product, we have on the one hand, initiated product development and, on the other hand, obtained a Minimal Viable Product (MVP) through a partnership with 'Kaffeeform' - a German impact start-up. This enables us to obtain customer feedback directly and to pursue our validation goal on several levels.

Figure 6: Sizes and Colors of Cafeco

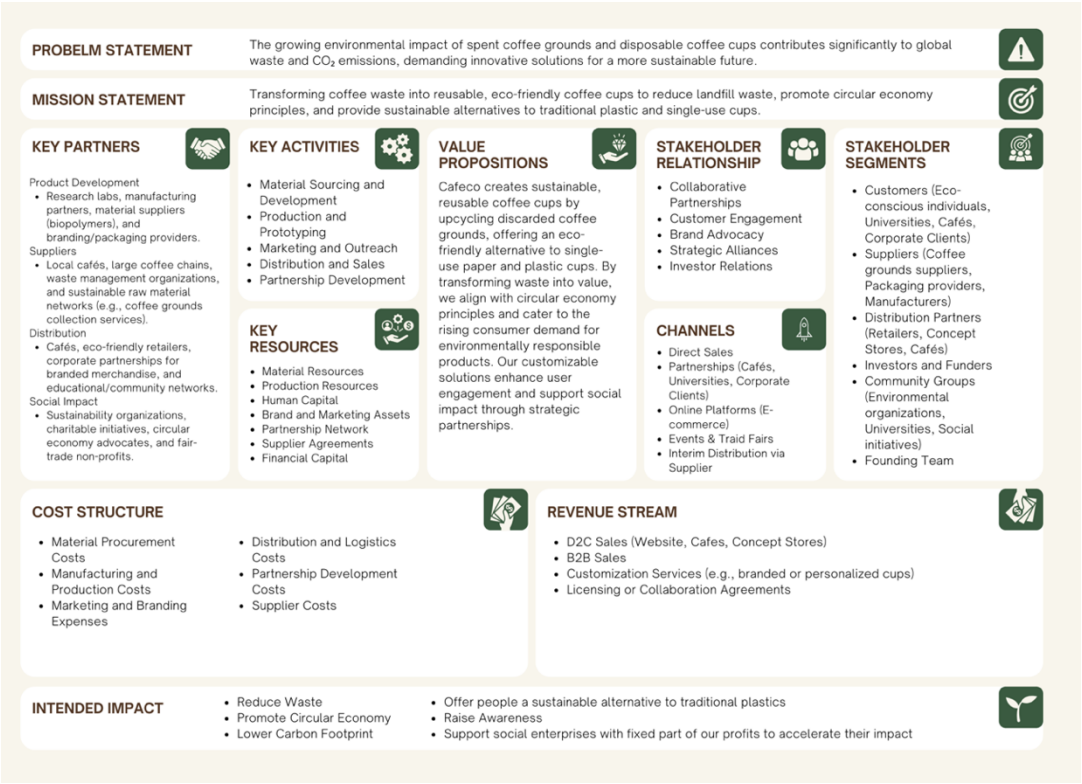
Our MVP comes in two different sizes, 250ml and 350ml, and in three different color types: "Cayenne", "Cardamon", and "Nutmeg". We know through our partnership with 'Kaffeeform'

that the wholesale prices of the cups are between €10 and €12. 'Kaffeeform' itself sells its cups for between €17 and €19. However, since our current focus is quick validation, we have set a competitive target price of €15 for a future Cafeco cup (*see Chapter 3.4.2: Competition Analysis*). In addition, we offer the option to personalize the cups with a logo through low-cost laser engraving. This has been made possible by our partnership with the FabLab Lisbon (Appendix 8).

3.3.3 Business Model

Our business model serves as a strategic tool to define and illustrate how Cafeco works. It shows how value is created, communicated, and monetized, and it helps to test, optimize, and successfully implement the business idea. To make our business model comprehensible and focus on the essential aspects, we used the Impact Business Model Canva (IBMC), an extended version of the Business Model Canvas developed by Alexander Osterwalder (Soule 2019). We chose this framework because it is specifically geared towards integrating social, ecological, and sustainable values into the business model. It also offers a strong focus on strategic partnerships and stakeholders, which are central to Cafeco's mission and scaling. Combined

Figure 7: Impact Business Canvas - Cafeco



with the iterative principles of the lean startup approach, the IBMC thus became the ideal foundation for the iterative development and validation of central business areas. A full page of the IBMC can be found in (Appendix 9).

Special elements of our business model:

Impact focus: for-profit with a social mission

Cafeco combines a profit-oriented business model with a clear social mission. In addition to the direct impact of recycling coffee waste and thus promoting the circular economy, a percentage of its revenues is donated to social organizations. This dual objective strengthens the brand identity and appeals to conscious consumers. The business model consistently represents sustainability, from the selection of materials to partnerships with organizations that also pursue similar ecological and social goals, which strengthens Cafeco's credibility in the market and achieves long-term customer loyalty.

B2B Sales with the option to individualize the Product

By offering B2B sales, we enable economies of scale and reduce production cost (cost per unit) due to higher order numbers. Through personalization, we allow business customers to tailor the product to their specific brand identity or functional needs, enhancing our overall value proposition and set ourselves apart from competitors.

Accelerated market entry through external product partners

In order to validate demand and willingness to pay as early as possible, Cafeco plans to source and distribute finished products from external partners in parallel with its own product development initiatives. This strategy enables a rapid market launch without high initial investments in production technology and resources and enables us to test customer demand immediately. Furthermore, it establishes a flexible production model that facilitates the transition to in-house manufacturing once sufficient market validation and capital are available.

3.4 Market Analysis

We chose Germany and Portugal as Cafeco's initial target markets due to their strong coffee cultures, growing environmental awareness, and practical advantages. Germany, one of Europe's largest coffee consumers, with 5.2 kg annual per capita consumption (ISN Magazine 2024), and Portugal, with similarly high coffee consumption (International Coffee Organization 2023), offered a solid foundation for introducing Cafeco's upcycled coffee cups.

Strategically, both markets provided unique advantages, given the location of our team members. With Moritz based in Lisbon and Anton and Ji in Germany, we leveraged our networks to engage local stakeholders, customers, and partners. Germany's eco-conscious mindset and larger consumer base allowed us to validate demand and assess scalability. At the same time, Portugal's community-driven market and Nova SBE's support—offering funding, prototyping facilities like BioLab and FabLab, and entrepreneurial guidance—enabled efficient product development and testing, more details follow in *Chapter 4. Product Development & Partnerships.*

Focusing on both markets allowed Cafeco to test its value proposition across complementary environments. For the market size and growth potential calculations we focused on Germany, as a more significant and data-rich market with higher purchasing power, offering robust insights for future scaling, while Portugal offered direct engagement with early adopters, providing critical validation for Cafeco's approach.

3.4.1 Market Size and Growth Potential

The Total Addressable Market (TAM), Serviceable Addressable Market (SAM), and Serviceable Obtainable Market (SOM) frameworks are applied to assess the market opportunity in Germany. The market size analysis identifies significant opportunities for Cafeco in Germany's reusable coffee cup market. The Total Addressable Market (TAM) is €300 million**,** representing Germany's 25% share of the €1.2 billion European market. Targeting eco-

conscious millennials and Gen Z consumers, the Serviceable Available Market (SAM) is €105 million**.** The Serviceable Obtainable Market (SOM), reflecting Cafeco's realistic early-stage market share, is €1.05 million**.** This analysis highlights strong growth potential driven by rising demand for sustainable products. A more detailed explanation of this calculation can be found in (Appendix 10).

Figure 8: Reuseable Coffe Cup market size in Germany (TAM, SAM, SOM)

3.4.2 Competition Analysis

The primary purpose of our competitive analysis is to identify market gaps, inform strategic decisions, and highlight Cafeco's unique value proposition. By understanding the competitive landscape, we are able to better differentiate ourselves, adapt to market dynamics, and ensure alignment with customer expectations and industry trends (White 2022). This analysis focused on businesses operating in the sustainable, reusable coffee cup market, as they align most closely with Cafeco's mission, target audience, and product offering. While the reusable coffee cup market includes a wide range of players, such as companies producing glass, metal, and plastic cups, Cafeco positions itself specifically within the sustainable-material segment, where competitors emphasize environmentally friendly materials like bamboo fiber, coffee husks, and recycled plastics. This segment is particularly relevant as it targets eco-conscious consumers who prioritize sustainability and innovation in their purchasing decisions. The following analysis identifies Cafeco's key competitors (HuskeeCup, Ecoffee Cup, and Circular&Co)

which were selected based on their material innovation, sustainability focus, and market presence. By comparing their business models, material choices, distribution channels, and unique selling points (USPs), we try to highlight Cafeco's unique differentiation within the circular economy. A detailed breakdown of this comparison can be found in Appendix 11.

Table 2: Competition Analysis - HuskeeCup

HuskeeCup	
Origin	Australia
Business Model	B2B and B2C
Sales Channel	Online, cafes, retail stores
Mission	Reduce coffee industry waste by repurposing coffee husks into durable, reusable cups.
Product Range	Reusable coffee cups, saucers, lids
Material	Recycled coffee husks
Price	€18

(HuskeeCup 2024)

Table 3: Competition Analysis - Ecoffee Cup

Ecoffee Cup	
Origin	UK
Business Model	B2C
Sales Channel	Online, retail chains, eco-stores
Mission	Eliminate single-use cups with lightweight, biodegradable bamboo fiber alternatives.
Product Range	Reusable bamboo fiber coffee cups
Material	Bamboo fiber
Price	€14

(Ecoffee Cup 2024)

Table 4: Competition Analysis - Circular&Co

Circular&Co	
Origin	UK
Business Model	B2B and B2C
Sales Channel	Online, B2B, sustainable product retailers
Mission	Drive the circular economy by creating reusable coffee cups from recycled and recyclable materials.
Product Range	Reusable coffee cups, bottles, circular products
Material	Recycled single-use paper cups
Price	€20

(Circular&Co 2024)

To conclude, there is competition in the market that Cafeco must carefully navigate moving forward. However, the presence of established players in the sustainable coffee cup market serves as proof of concept and market validation, demonstrating that there is a growing demand for eco-friendly alternatives. With this competitive overview, Cafeco has gained valuable insights into the strengths and approaches of key players in the sustainable coffee cup market. By leveraging this knowledge, Cafeco can refine its value proposition, focusing on its unique selling point—upcycling coffee grounds—and align its strategy to effectively differentiate from competitors, build brand loyalty, and capture market share in both Germany and beyond.

Figure 9: Competitive market analysis and USPs

	Huskee.	ecoffee cup	circular &co.	cafeco
Use of upcycled material	✓	✗	✗	✓
Focus on circular economy	✓	✗	✓	✓
Strong focus on sustainability storytelling	✗	✗	✓	✓
Personalization	✓	✓	✓	✓
Donating to charity	✗	✗	✗	✓
Competitive pricing	18€	14€	20€	15€

3.5 Intended Impact

We aim to have a positive impact in several areas.

Reducing the Amount of SCGs in Landfills

Using this waste stream benefits the environment in multiple ways. First, it reduces the amount of carbon dioxide (CO_2) and methane (CH_4) emitted during the biodegradation of spent coffee grounds (SCGs). Binding this CO_2 in a solid form prevents further biodegradation. While the exact amount of CO_2 emissions from landfill disposal is unclear, research by Birkenberg and Birner (2018) estimates it could be up to 0,26 kg CO_2eq per kg of SCGs.

Additionally, binding SCGs reduces the release of toxins into the soil and groundwater, as described in *Chapter 3.2.1: Environmental Problems*.

Reducing the Amount of Waste Generated by Disposable Coffee Cups

Offering a more sustainable alternative to disposable coffee cups reduces waste and CO_2 emissions in the long term. A study by Fetner and Miller (2021) found that the environmental payback period for reusable cups is about 43 uses compared to disposable paper cups. This means that after approximately 43 uses, reusable plastic cups reach a breakeven point, where their cumulative environmental impact, particularly in terms of greenhouse gas emissions (Global Warming Potential or GWP), becomes equal to or less than that of disposable paper cups with plastic lids. Beyond this point, every additional use of the reusable cup decreases its environmental impact per use compared to single-use cups.

Donating to a Social Organization

Cafeco aims to donate 5% of its revenue to a social organization. The exact details of building a donation partnership are discussed in *Chapter 4.2: Partnerships.*

A summary of the impact we have created between October 7th and December 17th can be found in *Chapter 7: Created Impact.*

3.6 Leaps of Faith and Hypotheses

When starting a new venture, it is important to define the most crucial hypotheses. These most crucial hypotheses are termed leaps of faith because the success of the venture relies heavily on their validity, and if disproven, they may require a significant pivot or could jeopardize the venture altogether (Ries 2011, chap. Steer). Clarifying these leaps of faith provides structure to the venture, identifies key areas to test, and forms the foundation of the Build-Measure-Learn loop. Once these assumptions are clear, hypotheses can be derived and tested through experiments (Ries 2011, chap. Steer).

In the following, we will describe the four leaps of faith identified for Cafeco, the corresponding hypotheses we chose to test, and the respective success metrics. It is important to note that we consciously selected hypotheses that could be realistically tested within a 9-week timeframe, from Cafeco's launch on October 7th to the week of December 9th.

3.6.1 Leaps of Faith

The following four leaps of faith form the foundation of our business model:

(1) There Is Market Interest and Demand for Upcycled Coffee Cups

Cafeco assumes there is a sufficient demand for sustainable, upcycled coffee cups to justify entering the market. This leap of faith is important because if proven to be wrong, there will be no significant sales, which results in no significant revenue stream and therefore no business survival.

(2) Customers Are Willing to Pay the Price for our Product

Having paying customers builds on having market demand. If there is demand, but no one willing to pay the price, the same scenario will happen as in the previous leap of faith. As mentioned before, price is a sensitive topics in our case, and is scientifically proven to be a purchase barrier (Liobikienė, Grincevičienė, and Bernatonienė 2017), making this leap of faith crucial to Cafecos survival.

(3) Our solution can be sustainably produced at scale and supported by key strategic partnerships such as suppliers and producers

This leap of faith refers to building solid partnerships with suppliers, producers, and other important partners, while implying that the product is producible and cost-efficient. This leap of faith is important because if disproven, Cafeco would be unable to meet market demand.

(4) Our Business Model is Able to Have a Positive Impact while Remaining Financially Self-Sustaining

For us, success is defined as maintaining a viable business that simultaneously drives meaningful impact. While creating positive impact does not always directly increase costs, it often raises production expenses due to ethical sourcing, sustainable materials, or other impact-driven practices. This challenge led us to define our fourth leap of faith: that our business model can balance these priorities and remain sustainable over the long term.

3.6.2 Hypotheses and Key Metrics

To make the leaps of faith tangible, we derived initial hypotheses that can be tested through experiments. Unlike a leap of faith, the outcome of a single hypothesis is not decisive for the survival of the venture. If proven wrong, learnings can be generated, and the venture's direction can be adapted. Only if multiple hypotheses are consistently proven wrong does the leap of faith itself come into question, potentially indicating the need for a fundamental reassessment of the idea. According to Ries' Lean Startup Methodology (2011), the most critical leaps of faith are validated through two types of hypotheses: the Value Hypothesis and the Growth Hypothesis. A Value Hypothesis confirms that the product solves a customer problem or need, validating its core purpose and appeal. A Growth Hypothesis ensures that the product can be scaled, demonstrating its potential to attract and retain a larger customer base over time. In addition, because our business model seeks to create a positive impact, we introduced two impact hypotheses to address this goal. The testing of the hypotheses is described in the individual sections.

Table 5: Hypotheses and Types, Key Success Metrics

Leap of Faith	Related Hypotheses	Related Key Success Metrics	Hypothesis Type
1. Market Interest and Demand	H1: If Cafeco posts sustainability-focused and visually engaging content on Instagram and TikTok, it will achieve a 3% engagement rate (likes, comments, shares) and gain 50 new followers within the first month.	Engagement Rate and Follower Gain	Growth
	H2: Until December 17th, Cafeco can get at least 2 meetings scheduled with organizations, indicating interest	Answers, Requested Information, Meetings Scheduled	Growth

2. Willingness to Pay	H3: At least 30% of those who took the survey are willing to pay at least €15 for the product.	Percentage of respondents indicating WTP	Value
	H4: Cafeco can make 5 sales by December 17th.	Sales / Timeframe	Growth
3. Product Development	H5: At least one material can be identified by the final showcase of the Prototyping Fund on November 25, 2024, that, in combination with coffee grounds, forms a mass capable of being shaped and holding hot liquids for at least 10min.	Identification of Material that meets criteria for shape ability and heat resistance	Value
	H6: Written agreements, such as Letters of Intent (LOI) or formal offers, are received from at least one partner in each area until 17. Dezember 2024.	Number of written agreements received from partners	Growth
4. Positive Impact	H7: The cumulative weight of coffee grounds used in all sold products is recorded and verified to meet or exceed 2,5 kg by December 17th	Total recorded weight of coffee grounds used in sold products (in kg) within timeframe	Impact
	H8: By integrating charitable giving into our business model, we will be able to donate at least 25€ of our revenue to a charitable organization by December 17, 2024.	Total amount donated to a charitable organization (in €)	Impact

Part II: Individual Part

Introduction and justification of individual parts

The following section explains the focus of each individual part, highlighting the critical issues addressed and their importance to the key leaps of faith being validated.

Product Development & Partnerships: The first part examines the technical feasibility of our product and establishing strategic partnerships. Critical issues include identifying a durable and heat-resistant material for the upcycled coffee cup and securing formal agreements with potential partners. The guiding leap of faith validates whether a suitable material can be developed and whether partnerships can support scalable production and affordable acquisition of our products to meet demand.

Customer Discovery: The second part addresses whether there is genuine market interest in Cafeco's upcycled coffee cups, if customers are willing to pay the target price, and the building of initial customer archetypes. It tests the leap of faith around demand validation and

willingness to pay through surveys, interviews, and engagement with organizations, ensuring alignment between Cafeco's offering and customer wants and needs.

Marketing & Sales: This part focuses on testing our ability to reach and convert our previous part's defined target audience through marketing campaigns. The critical issues include building brand awareness, driving engagement, and generating initial pre-sales. The to-be-validated leap of faith includes achieving market interest through social media performance and proving demand and willingness to pay through pre-orders.

[*Originally, the three individual parts followed here*]

Part III: Group Part

4. Created Impact

In the 10 weeks we have worked on Cafeco, we sold 66 reusable cups (60 to organizations and 6 to LPs). Assuming these cups are made of approximately 60% coffee grounds (48g per cup), we have repurposed 4,75 kg of spent coffee grounds, successfully validating hypothesis 7: *"The cumulative weight of coffee grounds used in all sold products is recorded and verified to meet or exceed 2,5 kg by December 17th"*. Additionally, we generated €804,60 in revenue so far. Donating 5% of this revenue to social organizations amounts to €40,23, validating hypothesis 8: "*By integrating charitable giving into our business model, we will be able to donate at least 25€ of our revenue to a charitable organization by December 17, 2024*".

5. Limitations

Every scientific study is subject to certain limitations that can influence the interpretation and generalizability of the results. Several limitations were identified in the course of this work

project, which are explained in more detail in the following sections. The present project is based on the M.Sc. of Impact Entrepreneurship and Innovation Field Lab, which differs from traditional scientific research projects. Although great emphasis was placed on methodology and accuracy, the data and results collected may not fully reflect reality. The methods used were designed to gain quick insights within the given timeframe, which may lead to compromises in scientific rigor.

The hypotheses formulated during the field lab are less scientifically rigorous and do not provide definitive statements about the validation of Cafeco's solution. These hypotheses primarily served to identify valid indicators for the success of the business model within the specified time frame and to create a basis for the development of further hypotheses. A future evaluation of the success of Cafeco's solution requires longer periods of time and further validation as well as long-term experiments.

The validation experiments were conducted over short time intervals due to a necessary pivot towards a new idea. This time constraint meant that fewer outreach activities and resources were available to collect more comprehensive data. As a result, the depth and breadth of the data collected might be impacted, underscoring the importance of further future validation experimentation.

The primary research conducted during the project could be biased and overrepresent certain social groups, while others are less represented or not represented at all. Despite the attempt to depict a realistic market picture, there is a possibility of response and non-response biases. Personal access to certain groups has influenced the representativeness of the sample, which limits the generalizability of the results. To strengthen the representativeness of future experiments, more diverse outreach strategies should be adopted. This could include partnering with a range of community organizations, utilizing a broader set of channels, and implementing stratified sampling techniques to ensure all relevant social groups are adequately represented.

Because of different countries of residence of the team members validation experiments were conducted in Germany and Portugal. This geographical focus may limit the validity of the data, as there are differences between the two countries that could affect the transferability of the results to other markets. What is successful in one country does not necessarily work in the other, which further limits the generalizability of the research results. On the positive side, conducting validation experiments in both countries have provided comparable insights about the two different countries and may inform future expansion strategies.

6. Key Learnings

Looking back on our various projects, our entrepreneurial journey has been very diverse. After three projects, setbacks and pivots, we finally found a venture that we can consider successful not only in the context of our work project, but also personally. During this journey, we have learned valuable lessons - both as a team and individually. Below, each team member shares their two most important insights, followed by our two key learnings as a founding team:

Table 6: Individual Key Learnings

Moritz Joachim Basse	(1) It is not always necessary to have expertise in every area to develop a product or prototype. Instead, passion for the problem and building the right strategic partnerships are key success factors. (2) Challenges, such as a lack of responses or rejections, should not be seen as failures but as opportunities to learn and improve. Each setback offers valuable insights to refine strategies, enhance communication, and optimize approaches for better outcomes in the future.
Anton Schwarberg	(1) Customers want very different things than you. Discovering what customers want and why they want it requires great openness and a willingness to consider others' perspectives. (2) Entrepreneurship is never perfect. The best you can do is give your best and learn from your mistakes.
Ji Yen	(1) Flexibility and adaptability are key to navigating challenges and focusing on the most promising opportunities. (2) A strong marketing strategy requires platform-specific content and continuous testing to identify the most effective channels for reaching and converting target audiences.
Team Learnings	(1) Perseverance and trusting the process and in our own abilities is of key importance. Facing setbacks is disappointing, but they are valuable for learning and doing better next time. (2) Clear communication, defined roles, and leveraging each team member's strengths are essential for maintaining alignment and efficiency, especially when operating in dynamic and resource-constrained environments.

7. Conclusion and the Future of Cafeco

The overarching goal of Cafeco was to validate our key assumptions, the defined leaps of faith of Cafeco, to see if a reusable coffee cup made from recycled coffee grounds could evolve into a sustainable business.

At this point in our entrepreneurial journey, we can fundamentally confirm this. We have managed to establish comprehensive partnerships in various areas that enable the implementation of Cafeco. This has already led to us selling our first 66 cups, which can be seen as a great success in external validation. Through the sale of the cups, we created real impact and recycled 4,75 kg of coffee grounds, which adds up to a total of 1,24kg CO_2eq captured from the atmosphere (*see Chapter 3.5: Intended Impact*). In addition, thanks to our impact focus on the business model, we were able to generate over €40 in donations. Our successes and insights from *Product Development & Partnership Acquisition, Customer Discovery & Validation, and Marketing & Sales* led us to largely validate all of our Leaps of Faith and thus achieve our goal. We also achieved our personal goal with Cafeco and found a problem that personally resonates with all three team members, allowing us to build a venture we genuinely believe in.

The insights gained from our previous entrepreneurial journey, such as the need for an iterative and practical approach instead of a purely theoretical analysis, have been crucial in helping us to implement this project. In particular, the use of lean startup approaches, such as the build-measure-learn framework, made it possible to conduct real-world tests, validate hypotheses step by step, and gain valuable insights. This was a critical success factor in the development of Cafeco.

In the future, we will continue to use an iterative approach and the Build Measure Learn framework. In addition, we have identified the following focus areas for the future:

Table 7: Next Steps for Cafeco

Next Step	**Explanation**
1. Material and Product Optimization	Explore alternative materials such as recycled ocean plastic instead of PLA to further strengthen the circular economy aspect of the product and brand identity. The trade-off between cost, sustainability (non-biodegradable), and brand positioning must be evaluated. In addition, further Prototyping & testing.
2. Finalizing the Production Location	Gather additional offers for the production of molds and cups from different locations. This step is essential for optimizing costs, partnerships, and impact.
3. Building a Supply and Logistics Network	Once the production location is determined, build an efficient supply and logistics network for coffee grounds and materials close to the production site, to maximize efficiency and minimize environmental impact.
4. Finalizing Partnership with Thirst Project	Conclude an official partnership with Thirst Project Portugal or similar organizations to strengthen Cafeco's impact sector and demonstrate social responsibility.
5. Customer Discovery and Validation	Conduct targeted customer discovery tests to better understand customer needs, focusing on customer archetypes, product validation (e.g., preferred color like pink), and feedback on product design.
6. Marketing Optimization	Develop data-driven marketing strategies informed by customer discovery and validation results. Focus on campaigns that increase visibility and product acceptance.
7. Strengthening Brand Identity	Enhance brand identity by focusing on Instagram (targeted content), creating platform-specific short videos on TikTok, expanding to LinkedIn to target organizations, and optimizing the website to improve conversion rates.

Our journey with Cafeco confirms that true entrepreneurship lies in tackling real-world problems with passion and persistence. With each step forward, we move closer to transforming waste into value, making Cafeco a symbol of sustainable progress and entrepreneurial impact. This paper might come to an end here, but Cafecos Journey has just started.

8. Customer Discovery

Beyond the technical development of the product, it is crucial for any new venture to identify who will buy it—specifically, to understand their characteristics, needs, motivations, and preferences. Eric Ries refers to this as the "Customer Archetype," a brief document designed to humanize the proposed target customer. Defining this archetype is essential for guiding product development and ensuring it truly serves the customer (Ries 2011, chap. 5). Additionally, understanding the customer is critical for both Sales and Marketing. Identifying the right customer segments and engaging them with tailored approaches can significantly improve profitability and sales (Reutterer et al. 2006).

For Cafeco's Customer Discovery journey, Steve Blank's Customer Development Model (Steven Blank 2006) was used alongside Eric Ries's Build-Measure-Learn framework. Blank's methodology provided a foundation to identify customer problems and needs, helping us form initial assumptions about our customer archetypes.

8.1 Objectives

This chapter has three main objectives. First, we aim to describe Cafeco's Customer Discovery Process that led to building our customer archetypes. Second, we describe the process of gathering qualitative and quantitative feedback on the product. As the development of our own coffee ground material was still in its prototype stage during the project, we gathered feedback on our transitional solution. Our intention was to gather information about two things: What is already good about the cups and what can be done better.

Table 8: Leaps of Faith and respective Hypotheses for Customer Discovery

Leap of Faith	**Hypothesis**
There Is Market Interest and Demand for Upcycled Coffee Cups	H2: Until December 17th, Cafeco can get at least 2 meetings scheduled with organizations, indicating interest
Customers Are Willing to Pay the Price for our Product	H3: At least 30% of those who took the survey are willing to pay at least €15 for the product.

Third, we explain the testing of hypotheses validating our leaps of faith.

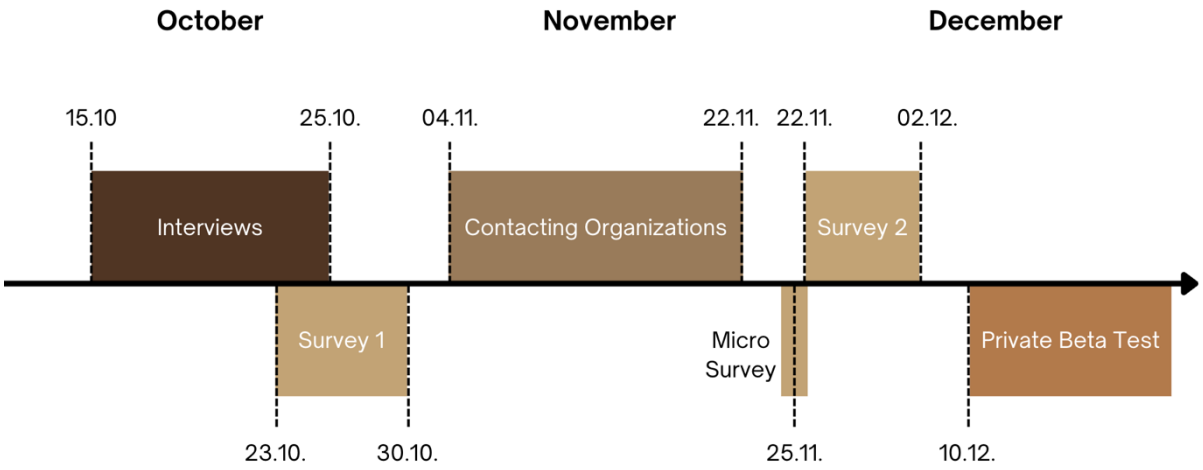
Proving or disproving these hypotheses indicates if the business is feasible. For the second hypothesis we set a threshold of €15 to make it testable. As we did not yet have exact production costs for our cups, we based our prices on those of our competitors, which are offered around €15.

All three objectives aim to provide the business with validated learning, enabling data-driven insights to guide decisions and ensure the product meets real customer needs.

8.2 Entrepreneurial Experimentation and Validation

This part focuses on the specific actions undertaken to reach the objectives.

Figure 10: Timeline of Customer Discovery



On October 15th we received our first batch of cups. We then proceeded with interviews and our first survey. While analyzing the first survey, we conducted a smoke test and sent a pitch deck to different organizations to gauge interest. When we built our first survey, we feared respondents might end it early because it had too many questions and was too long, which is why we only asked essential questions. Learning that many people were actually willing to answer our survey, we conducted a second, more extensive survey building on the first one at the end of November. In this thesis, due to space constraints, we focus only on the results of

Survey 2. While similar to Survey 1, these results offered broader data and involved a larger number of respondents. Starting December 10th, we began a Beta Test, which is still ongoing at the time of submission.

8.2.1 Interviews

Interviews are an essential tool for early-stage ventures because they enable entrepreneurs to build and validate assumptions, understand customer problems and needs, and avoid creating products that fail to address real problems. Although the scale of the reusable coffee cup industry suggests that reusable cups meet a customer need (*see Chapter 3.4.1: Market Size*), it is still important for us to build an understanding of the specific problems and needs coffee cups made from spent coffee grounds solve. Already having the transitional solution from our competitor, we used the chance and asked questions about the cups to build assumptions on what people liked and disliked.

We developed a semi-structured interview guide centered around seven key topics. Thirteen individuals, aged 20 to 71 and from diverse backgrounds, were interviewed between October 15th and October 25th. These interviews were conducted in person so participants could see, touch, and handle the cup. Each interview lasted between 10 and 15 minutes. The full interview outline is shown in (Appendix 23).

Table 9: Consolidated Interviews

Key Topics	Content	Consolidated Results
Contextual Questions	Frequency of coffee consumption; what cups are usually used and why; Experiences with reusable cups; Attitude towards Sustainability	All interviewees regularly (at least once a day) drink coffee. It depends on the location what cups they use. Only one of the interviewees owns a reusable to-go coffee cup. Ceramic cups are widely used at work and at home. All Interviewees deemed sustainability as an important topic, however, real life adaption of sustainable practices was mixed.
Concerns regarding Single Use Cups	Interviewees were asked their problems with disposable cups	Environment: Strong negative perception of single-use products Health: Concerns about chemicals and microplastics Costs: Cafés charging fees for disposable cups
Cafeco Cup gets introduced		

General Perception of the Cup	Ask about first impression	All 13 interviewees had a positive first impression. Four asked about cup composition directly, wondering about the dark shell.
Usability and Cup Features	Question about physical attributes, touch, size, smell, weight, opening mechanism; Opinion on sustainable features	-Weight perceived as high-quality -Sealing lid: 8 unnecessary, 4 liked -Larger cup preferred by 8, mostly younger - Composition of cup caught interviewees attention, raised perception of value for 9 interviewees
Concerns	Interviewees were asked about doubts and concerns regarding cup	1. Durability 2. Wear and tear 3. Car cup holder fit 4. Insulation capability
Comparison to other cups and WTP	Interviewees were asked about experiences with other cups (if any), and their perceived value of the cup	4 interviewees (all students) own reusable cups Common types: stainless steel, travel mugs Perceived value: €12–€20 Reusable cup users willing to pay more
Environmental and Social Impact	Interviewees were asked about importance of environmental and social impact	Environmental impact important to all Older participants valued sustainability more Younger participants doubted impact of sustainable purchases Donation-based purchasing viewed positively for its direct impact

From these interviews, we derived set of assumptions about the customer:

1. Strong environmental concerns about single-use cups are a key motivator for customers to consider reusable alternatives.
2. The dark shell of the cup raises curiosity, material composition is a potential Unique Selling Proposition.
3. Durability and wear resistance are top concerns and likely critical for customer satisfaction and adoption.
4. Younger demographics favor larger cups, indicating potential for size-specific product variations.

These assumptions could then be tested with a quantitative method.

8.2.2 Surveys

Surveys are a powerful tool for quantitatively testing assumptions.

Over the course of our project, we conducted three surveys:

Table 10: Survey Overviews

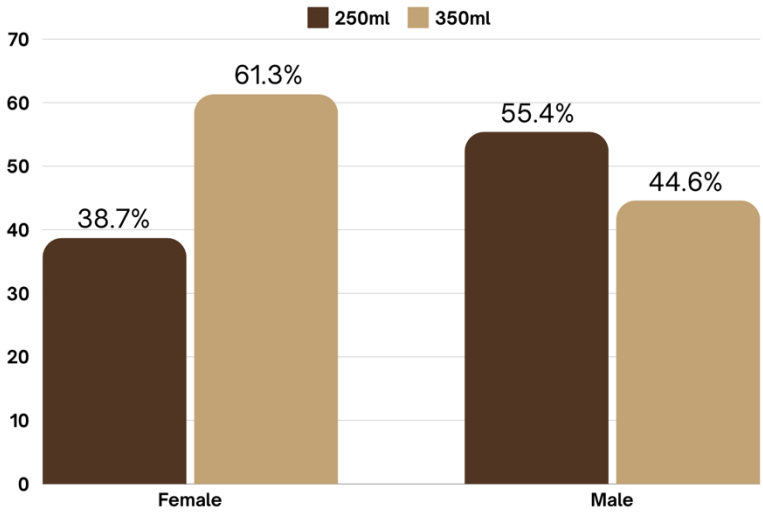
Survey		Amount of Sections	Amount of Questions	Responses
Survey 1	23.10. - 30.10	4	13	78
Micro Survey	25.11.	1	1	38
Survey 2	25.11. - 02.12.	6	23	131

As mentioned before, we built a second, more extensive survey using our first survey as a basis. Survey 1 and Survey 2 yielded similar results. For reasons of space, we will showcase the results of Survey 2. The first subchapter shows findings about the cups, and the second subchapter shows characteristics of the customer archetype. Survey questions and graphs can be found in the (Appendix24).

Findings about the cups

Cup Size: The assumption "*Younger demographics favor larger cups, indicating potential for size-specific product variations*" could not be proven. Preferred cup sized differed among age groups, with older people generally preferring the bigger cup over the smaller version (Appendix 25). Interestingly, there was a difference between genders: male respondents preferred the smaller cup, while female respondents favored the larger one. Generally, the bigger cup was the preferred cup size in the survey.

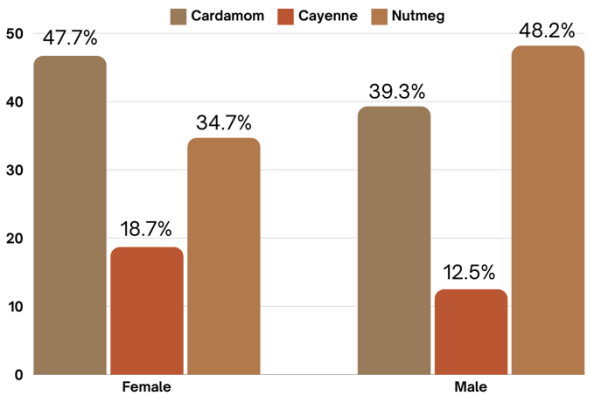
Figure 11: Distribution of Gender by Preferred Cup Size



Color: *"Cardamon" was the most liked color overall (43,5%), with "Nutmeg" being preferred by 40,5%. "Cayenne" was voted as the least liked color (*

Appendix 26). Here too a difference between genders can be seen.

Figure 12: Distribution of Gender by Preferred Cup Color



Logo Print on the Cup: *Regarding the brand logo on the cup, 44.3% of respondents preferred the printed cup, while 30.5% preferred a cup without a logo (*

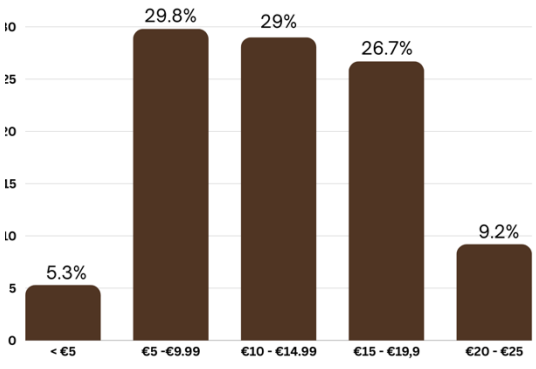
Appendix 27).

Feature Importance of the Cups: When asked about the most important features of the cup, respondents prioritized "Durability" > "Design" > "Sustainability" > "Affordability. This supports our third assumption from the interviews (Appendix 28).

To-Go Coffee Cup Choice: When asked, "What type of cup do you most often use when drinking coffee on the go?", 73.3% selected "disposable cups," while only 25.2% chose reusable cups (Appendix 29). This aligns with existing research on the widespread reliance on disposable cups (Foteneis 2020).

Asking for Specific Problems with Own Reusable Cups: Only a few respondents answered this question. Answers included problems with the opening mechanism and the development of a bad smell after extensive use. Further research is needed to better understand the challenges users face with reusable cups. One such experiment will be discussed in the chapter "Private Beta Test."

Figure 13: Willingness To Pay



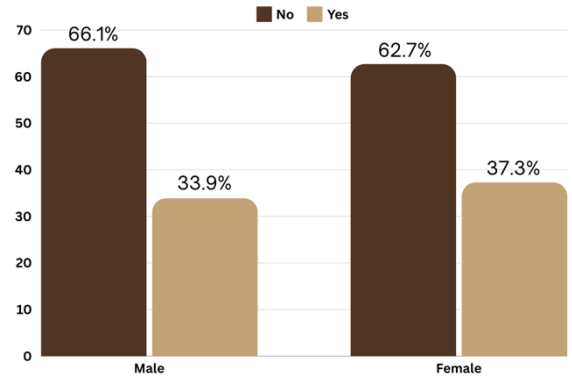
Willingness To Pay: Consumer willingness to pay for the cup varied. While almost no respondents had a WTP below €5 or above €20, responses within that range were mixed. 35,9% of respondents were willing to pay €15 or more. This graph refines our 5. Assumption from the

interviews, as well as validating one of our hypotheses about willingness to pay. As validating willingness to pay is one of this works key objectives, we conducted an extensive analysis.

Examining Willingness to Pay to Find Customer Characteristics

To test willingness to pay through the survey, we simply asked the question "For the cup-size you chose in the section before, how much would you be willing to pay? ". Respondents were given multiple options to choose from. We categorized the respondents into two groups: Group 1, consisting of those willing to pay less than €15, and Group 2, comprising those willing to pay €15 or more. These groups were then analyzed and compared to find patterns that could be used to build the customer archetype.

Figure 14: Gender differences Willingness To Pay



Gender: Women demonstrated a slightly higher willingness to pay €15 or more for the cup compared to men.

Age: Respondents under the age of 22 showed the lowest willingness to pay, while willingness was relatively balanced among those aged 23 to 40. People aged 41 to 50 demonstrated a very high willingness to pay, but this dropped to 33.3% among those over 50 (Appendix 30).

Educational Level: There appears to be no significant correlation between the education level and willingness to pay. Interestingly, respondents with the lowest educational level showed the highest willingness to pay. However, here was no clear trend recognizable (Appendix 31).

Occupation: Examining occupation, most respondents were either students or full-time employees, while other occupational groups had fewer than 15 responses, necessitating further research in this category. Notably, over 30% of both students and full-time employees were willing to pay above our set price limit, with students at 31.6% and full-time employees at nearly 40% (Appendix 32).

Figure 15: Percentage Distribution Willingness To Pay x Income

Income: Analyzing income groups reveals a correlation between income and willingness to pay. Respondents with higher incomes were generally willing to pay more.

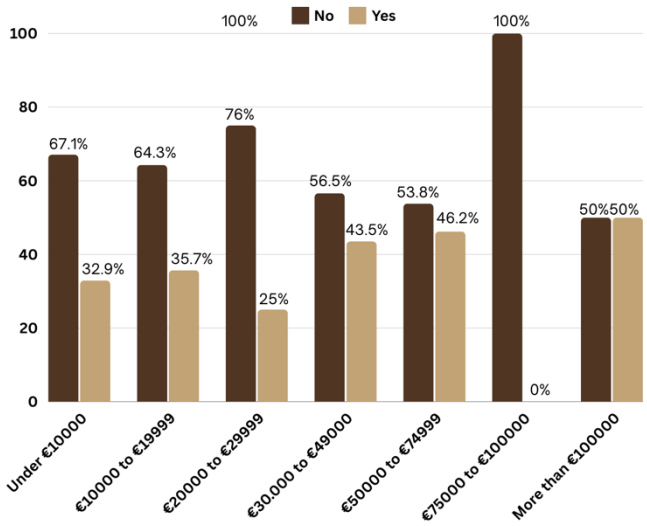
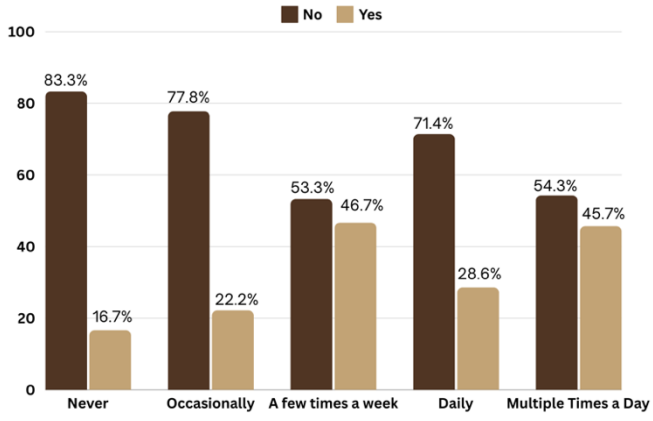


Figure 16: Percentage Distribution Willingness To Pay x Frequency Coffee Consumption

Frequency of ToGo Coffee Consumption: Frequency of drinking coffee to-go appears to correlate with willingness to pay. Interestingly, individuals who drink coffee daily (once per day) showed a lower willingness to pay compared to those who consume to-go coffee multiple times a day or a few times per week.



Attitude towards Sustainability: By indexing the answers related to sustainability for each group, we were able to compare their average "attitude towards sustainability." With a score of 1 indicating low importance in the respondents' lives and 5 indicating high importance, there was a slight difference between those willing to pay the price and those below the €15 threshold (Appendix 33). On average, people willing to pay more were more concerned about the environment and exhibited a more positive attitude towards sustainability. This finding aligns with current research, as multiple studies link positive attitudes toward sustainability to the intention of buying green products (Islam and Ali Khan 2024; Zhao et al. 2014; Hojnik, Ruzzier, and Konečnik Ruzzier 2019), and validates the initial "*assumption Strong environmental concerns about single-use cups are a key motivator for customers to consider reusable alternatives".*

Measuring the results from the survey, we gained some valuable learnings of potential customer characteristics, which will be synthesized with the other validation experiments in *Chapter 5.3.2: Drafting Customer Archetypes*. Additionally, this survey demonstrated limitations in terms of respondent pool. Both Survey 1 and Survey 2 were distributed through personal network, WhatsApp channels and social media, which made mostly younger students answer the survey. Details will be discussed in *Chapter 5.4 Limitations*. Being careful of creating biases through the respondent pool is an important learning for future surveys.

Micro-Survey

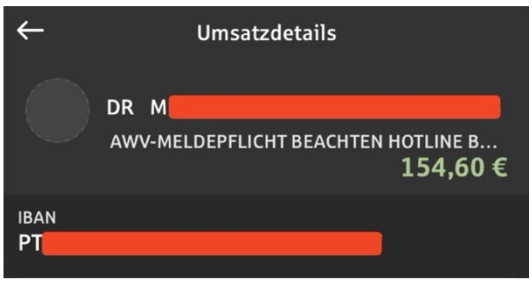
On November 25th, we showcased our prototypes at the Prototyping Fund Event at Nova SBE. Taking advantage of this opportunity to engage with attendees, we conducted a micro-survey to test color preferences, and interact with people to gain more information about their likings or concerns. Participants were invited to vote for their favorite cup color by tossing a bean into the corresponding-colored cup. The results were as follows:

Figure 17: Micro Survey at Prototyping Fund

Table 11: Results of Micro-Survey

Color	Absolute Number of Votes	Relative Number of Votes
Cardamon	19	50%
Nutmeg	12	32%
Cayenne	7	18%
Total	38	100%

As in our survey, “Cardamom” was the most liked color, followed by “Nutmeg,” with “Cayenne” as the least favorite. When asked about their preferences, participants highlighted the natural look of “Cardamom” and “Nutmeg” as appealing. Interestingly, four participants suggested “pink” as a desired color or explicitly inquired if we



plan to produce cups in this color in the future. As in the initial customer interviews, people liked the weight and the composition of the cups. Solid material made from coffee grounds seemed to awaken people's interest.

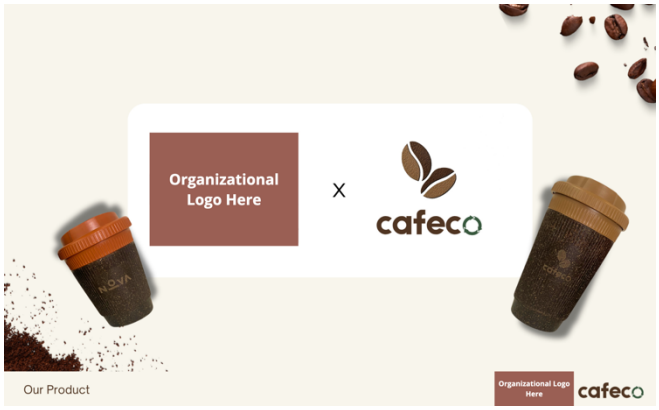
During the Prototyping Fund, another validation success happened: After seeing the cups, one of NOVA SBEs professors contacted us requesting 10 cups. By December 17th, the cups are on their way to Portugal, and a money transaction has taken place, validating not only interest, but also willingness to pay. Further Details about the order can be found in Appendix .

8.2.3 Organizations as Potential Customers

Organizations play a crucial role as potential customers by offering opportunities to sell large quantities of cups, thereby promoting the product and enhancing its reputation. Organizations are defined as "a group of people who work together in an organized way for a shared purpose" (Cambridge Dictionary 2024). Asking people about their thoughts on a logo option on the cup during interviews and surveys led us to believe that they could be an attractive product for organizations seeking customized branded items for their members.

To test interest, we designed a smoke test using the Build-Measure-Learn framework. A sales deck, adaptable to each organization, was created and served as our MVP to communicate our value proposition. A full MVP slide deck can be found in (Appendix 35). To measure interest, we established engagement metrics, or rather stages, to track progress.

Figure 19: Adaptable Slide Deck



Once contact was established, we also gathered qualitative data, such as feedback on the sales deck, the product, and specific requests. Between November 4th and November 29th, we reached out to ten organizations. These organizations were intentionally diverse in their backgrounds and values, ranging from non-profits with a social focus to traditional medium-sized businesses. The goal was to identify patterns and understand which organizational characteristics indicated interest.

Figure 20: Weight of Response Actions for Interest Validation

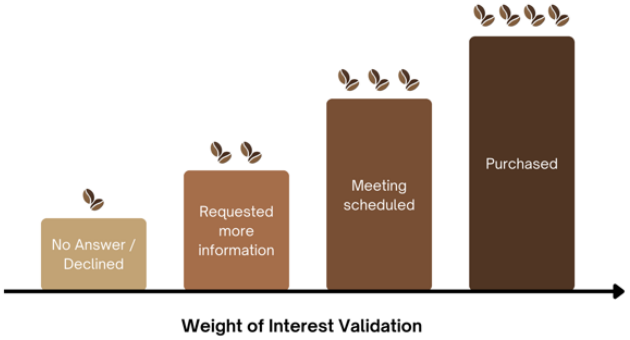


Table 12: Outreaches and Responses

Organization	**Type of Organization**	**Level of Interest**	**Additional Findings**
Nova School of Business and Economics	Public Institution	Scheduled meetings	After two meetings, Nova declined because they were not allowed to purchase cups
Nova Student Union	Student Organization	No Answer	-
Social Consulting Club	Student Club	Request for more information	Requested more information, awaiting answer
Nova Startup Club	Student Club	No Answer	-
Lions Club	Voluntary Non-Profit Organizations	Requested more information	-
Rotary International	Voluntary Non-Profit Organizations	Sale of 50 cups	Were very interested early on, mentioned the liking of color pink in cups
SMB GmbH	Medium-Sized Company	No Answer	-
Spörl GmbH	Medium-Sized Company	Declined	Did not see any value in the cups
Hamburger Tennis-Verband e.V.	Sports Club	No Answer	-
HSG Bergedorf	Sports Club	No Answer	-

Pricing proved to be a critical factor. Initially, we sent the slide deck showcasing only the cups and their features. However, every organization that requested more information also inquired about pricing, leading us to include a pricing table in the sales deck. Impact-oriented

organizations appeared more inclined toward our product. Among the “traditional” non-impact-focused organizations, like Spörl and SMB, we contacted, none expressed interest.

The option to brand the cups with an organization’s logo turned out to be the key value proposition for this customer segment. All organizations that requested more information, scheduled meetings, or purchased cups expressed interest in this feature. Without this offering, interest would likely decrease significantly. Our goal was to schedule two meetings out of our ten outbound approaches. Not only did we reach this goal, we exceeded it by closing a deal for 50 branded cups with Rotary International (Appendix 36, 37). Rotary International ordered 50 large cups in the color “Nutmeg” with logo branding. We conclude that organizations are a promising customer segment, especially organizations that are socially or environmentally inclined. Interestingly, Rotary asked for pink cups, as people did during the Prototyping Fund Event.

8.2.4 Beta Test

From December 15th onward, we conducted a Beta Test with one of the cups. Beta tests are product tests conducted directly at the customer’s location under conditions that closely mimic real-world applications, enabling the effective integration of customer requirements into the product development process (Gabler Wirtschaftslexikon 2024). The purpose behind this test is to gather feedback on the long-term usage of the cup and identify strengths and areas of improvement.

Between November 25th and December 1st, we organized an Instagram lottery to raffle one of our cups. The primary goal was to increase social media engagement, but we also used this opportunity to initiate this private beta test. We asked the winner of the cup if they would be willing to provide feedback at certain time intervals, like every few weeks (Appendix 38). Collecting feedback on the cup’s long-term usage is important, as it ensures that customers are not only motivated to purchase the cup but also use it consistently and potentially recommend

it to others, fostering growth. Also, gathering feedback on a raffled cup allowed us to gather feedback with minimal resource expenditure, aligning with the principles of the Lean Startup methodology. We plan to gather qualitative feedback on the cup usage. The specific areas that will be covered can be found in Appendix 39. We aim to get the first round of feedback on December 26th.

8.3 Consolidating the Findings

8.3.1 Findings about Product Features

The biggest driver for consumers to buy a reusable cup seems to be the environment. Consumers are concerned about environmental issues and see single-use products as harmful to the environment. Consumers are also concerned about the negative health consequences of disposable cups. Another factor is the cost of disposable cups: While cafés have started offering discounts to people, governments advocate that cafés charge customers for their cups (Environment and Forestry Directorate 2024). Larger cups seem to be preferred by both single consumers and organizations. However, a notable difference between genders exists:males tend to prefer smaller cups, while females favor larger ones. Among the available color options, “Cardamom” is the most popular, followed by “Nutmeg” and “Cayenne.” In addition, “pink” has been requested on several occasions. The weight and the dark coffee material of the cup are generally perceived as an indicator of quality. Although sustainability is recognized as an important feature, consumers focus on the core characteristics of reusable cups—durability and design. Sustainability is seen as a desirable bonus, but only if the core features of the cups are present.

The logo option is also perceived positively, with survey respondents expressing a preference for cups featuring the Cafeco logo. Additionally, two bulk sales selected the logo option, supporting its appeal. Common concerns among consumers include the potential for reusable

cups to develop odors over time and issues with durability, wear and tear, and functionality after extended use. These insights showcase a demand for high-quality and long-lasting products.

In terms of pricing, most respondents value a reusable cup between €5 and €19.99, with a median price between €10 and €14.99. Notably, 35.5% of participants are willing to pay €15 or more, indicating a market segment open to the pricing.

8.3.2 Drafting Customer Archetypes

In this part the customer archetype will be drafted. Characteristics rely on information we gathered through our Customer Discovery journey, including scientific sources to fill potential information gaps.

Single Customers

Table 13: Customer Archetype - Single Customers

Characteristic	Details
Age	Between 22 and 30 years old
Gender	Female
Educational Level	No clear trend from our findings, however research finds higher educated people have a stronger green purchase inclination (Chekima et al. (2016), Liobikienė (2017)
Occupation	Full-Time employed, or Master Student
Income	Mid - Higher Income
Coffee Consumption	Drinks coffee frequently, often multiple times a day
Motivations and Concerns	Is concerned about environmental and health issues. The archetype cares about sustainability and is willing to pay for sustainable features.

Organizations

We refer to the second customer archetype as “social organizations.” While we don’t yet have a complete picture of this archetype, our experiments highlight some interesting characteristics: Those interested in the product tend to be socially driven and value products associated with a meaningful cause. The option to personalize the cup is particularly appealing to this segment, probably because they see it as a valuable gift or item for their members. Additionally, reaching

out to organizations with a well-prepared pitch deck- complete with product images and pricing details - has proven to be an effective strategy for presenting our offerings.

Hypotheses Validation

Both hypotheses for this part could be validated. 35,9% of survey participants were willing to pay €15 or more, validating hypothesis 3: "*At least 30% of those who took the survey are willing to pay at least €15 for the product*." Furthermore, we not only scheduled two meetings, but also closed a sale, validating hypothesis 2: "*Until December 17th, Cafeco can get at least 2 meetings scheduled with organizations, indicating interest*".

8.4 Limitations

Our customer discovery exhibits several limitations. Blanks and Dorf (2012, chap. 3) emphasize that customer archetypes should encompass all known attributes of a company's most typical users to form complete, detailed profiles. Currently, Cafeco's customer archetypes remain preliminary and incomplete, serving primarily as a foundational framework rather than a definitive characterization of our users. This limitation will persist until a fully functional prototype is available for empirical testing and validation. Once our prototype is fully developed, the initial archetypes outlined here will serve as a foundational base for further customer archetype research specific to our product.

Although a considerable number of participants responded to our surveys, the sample was disproportionately composed of younger individuals drawn from our personal networks. Despite attempts to distribute the survey through multiple channels, some demographic groups remained overrepresented, while others were underrepresented. This imbalance may limit the generalizability of our findings and should be considered when interpreting the results.

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List of Abbreviations

BML ..... Build-Measure-Learn

B2B ..... Business To Business

B2C ..... Business To Consumer

CTA ..... Call To Action

GHG ..... Greenhouse Gas

IBMC ..... Impact Business Model Canvas

LOI ..... Letter Of Intent

MIEI ..... Master of Impact Entrepreneurship & Innovation

MVP ..... Minimum Viable Product

PLA ..... Polylactic Acid

SAM ..... Serviceable Addressable Market

SCG ..... Spent Coffee Grounds

SOM ..... Serviceable Obtainable Market

TAM ..... Total Addressable Market

USP ..... Unique Selling Point

WTP ..... Willingness To Pay

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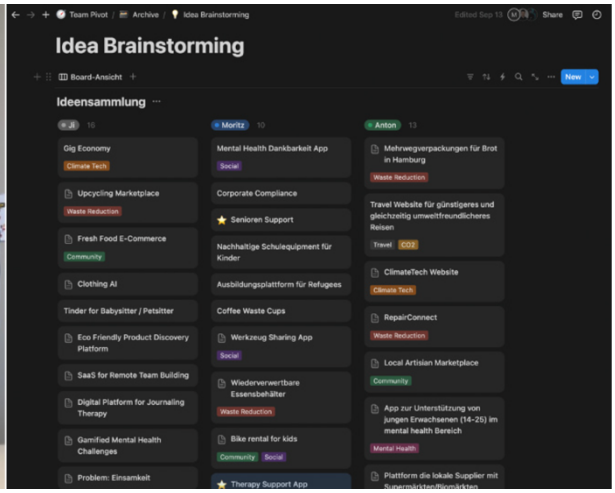
Appendix

Appendix 1: Brainstorming *Session*



Appendix 2: Focus Group with Seniors

Appendix 3: Introduction Flyer about our Project for recruiting elderly Interviewees

GENERATIONWOHNEN

Gemeinsam leben, Generationen verbinden

Moin,

ich bin Anton, 26 Jahre alt und schreibe gerade meine Masterarbeit an der NOVA SBE, zusammen mit meinen Teamkollegen Ji und Moritz.

Worum geht's? Wir entwickeln ein Projekt, bei dem ältere Menschen mit ungenutztem Wohnraum Studenten als Mitbewohner aufnehmen können. Du profitierst von zusätzlichem Einkommen, Gesellschaft und Unterstützung im Alltag – eine wertvolle Verbindung für beide Seiten!

Wer? Menschen ab 65 Jahren, die allein leben und offen für ein Gespräch über das Thema Wohngemeinschaft sind.

Interessiert? Ob Du selber interessiert bist oder nicht – wir möchten Deine Meinung hören!

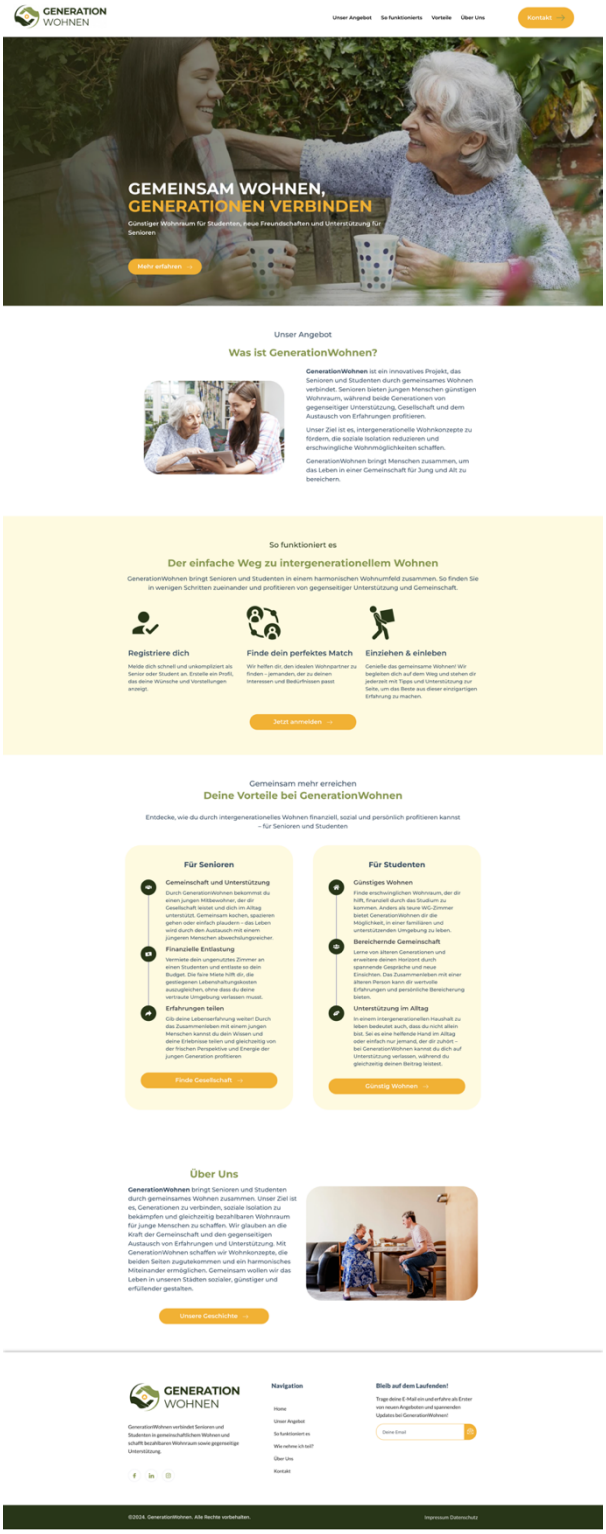
Kontakt

Anton Schwarberg

+49 1575 7147843

anton.schwarberg@outlook.com

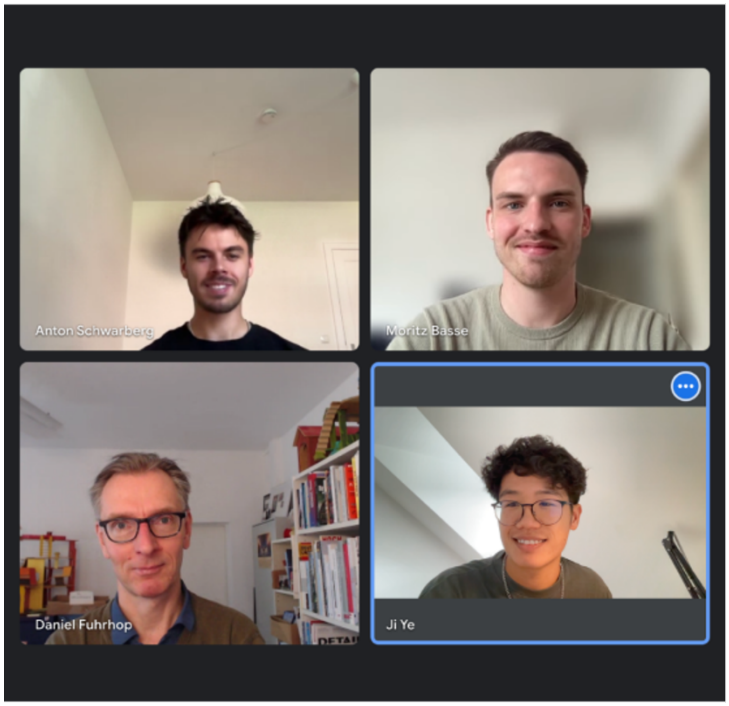
Appendix 4: Prototype Platform for GenerationalLiving



Appendix 5: Call with Sally Bird, Homeshare International

Sally Bird is one of the key figures associated with Homeshare International, an organization that promotes and supports "homeshare" programs worldwide. She is part of the charity's leadership team and has a network of a variety of homesharing initiatives.

Appendix 6: Call with Daniel Fuhrhop, Author, Politician & Expert for Intergenerational Living

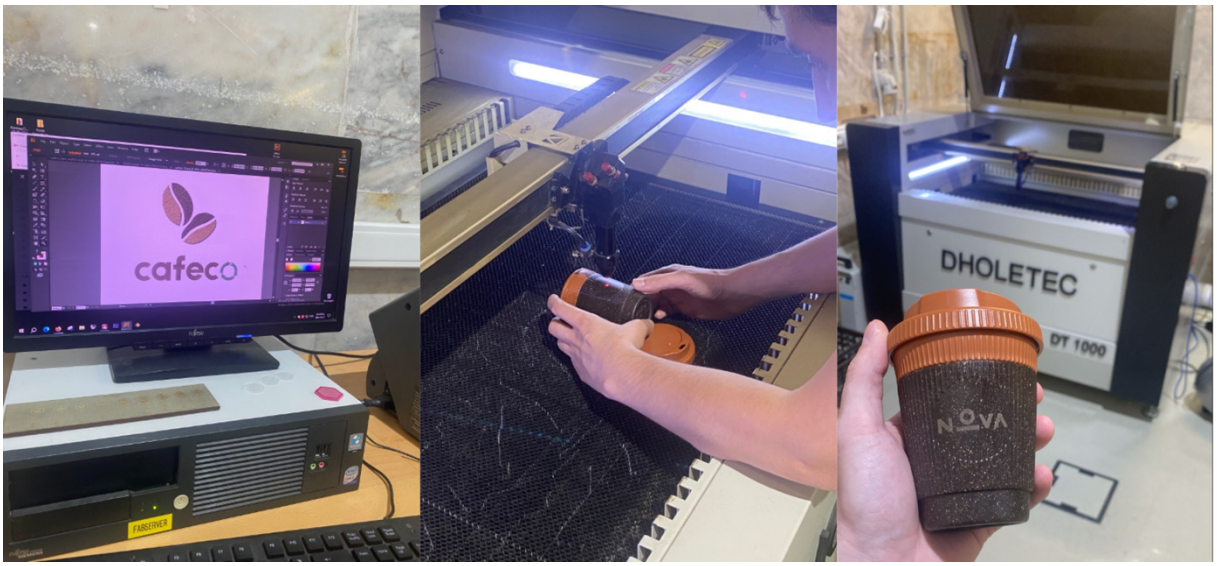


Daniel Furhop is a German author, economist, politician and former publisher known for his advocacy of sustainable urban development and efficient housing utilization.

Appendix 7: Amount of disposable cups used at Nova between January 2024 and October 2024. Information provided by the Facilities and Services Department at Nova School of Business and Economics.

information | numbers until october 31 (january to october 2024)			
	N.º coffees served	N.º disposable cups	Obs:
MonCafé	**16377**	**1680**	*opened August 19*
MonBistro	-	-	
Poke House	-	-	*not selling*
Pingo Doce & Go	**13752**	**~13752**	*until November 22*
PowerUp Connection Zone	**380/day**	without cups	*average number of coffee/latte/hot chocolate/decaf*

Appendix 8: Laser engraving



Appendix 9: Impact Business Model Canvas

Appendix 10: Reuseable Coffee Cups Market Size Calculations

The Total Addressable Market (TAM) for Cafeco targets the European reusable coffee cup market, valued at approximately €1.2 billion in 2023, with a projected CAGR of 4.8% through 2030 (Statista, 2023). This growth is fueled by EU sustainability policies, such as the ban on single-use plastics (European Commission, 2022) and increasing eco-conscious consumer demand for durable, reusable products (Ellen MacArthur Foundation, 2022). Germany, Europe's largest coffee consumer with an annual per capita consumption of 5.2 kg, accounts for roughly 25% of this market (International Coffee Organization, 2023; ISN Magazine, 2024). Consequently, Germany's reusable coffee cup market is estimated at €300 million. The SAM narrows this figure by focusing on Cafeco's core target demographic: eco-conscious millennials and Gen Z consumers. Research indicates that these groups, known for their strong preference for sustainable products and lifestyles, comprise approximately 35% of the reusable coffee cup market (Allied Market Research, 2022). As such, the SAM for Cafeco in Germany is approximately $105 million. Finally, the SOM represents the realistic market share Cafeco can capture in its early stages. Assuming a 1% penetration of the SAM during the initial phase, Cafeco's SOM is estimated at $1.05 million. This conservative estimation reflects our niche positioning as a sustainable upcycled product and our current operational capacity but, at the

same time, provides a foundation for growth, given that brand awareness, distribution, and customer adoption have increased over time.

Appendix 11: Detailed Breakdown of Comparison

The first main competitor is "**HuskeeCup**", an Australian brand, focuses on sustainability by creating reusable coffee cups made from upcycled coffee husks. Its business model combines D2C sales through its website with B2B partnerships with cafes and sustainable retailers globally. The product range includes stackable, lightweight cups in various sizes (6 oz to 16 oz) designed for everyday use. Priced between €12 and €18, the cups target eco-conscious consumers and businesses committed to reducing agricultural waste. HuskeeCup's main USP lies in its circular economy approach, transforming coffee byproducts into functional, durable products that appeal to sustainability-focused coffee enthusiasts (HuskeeCup 2024).

"Ecoffee Cup", a UK-based company, offers reusable coffee cups made from bamboo fiber**,** a renewable and biodegradable material. The brand's business model primarily relies on D2C channels and retail partnerships to distribute its products. Featuring vibrant, stylish designs, the cups cater to environmentally aware consumers seeking aesthetic and sustainable alternatives. Available in sizes ranging from 8 oz to 16 oz and priced between €12 and €20, Ecoffee Cup positions itself as both practical and fashionable. Its key strength is combining sustainability with unique, eye-catching designs that resonate with urban, style-conscious buyers (Ecoffee Cup 2024).

Lastly **„Circular&Co"**, another UK-based competitor, specializes in reusable coffee cups made from recycled single-use paper cups, aligning with circular economy principles. The business operates through D2C sales, B2B partnerships, and eco-friendly retailers, targeting both individual consumers and corporate clients. The product range includes insulated reusable

cups in 8 oz and 12 oz sizes, priced competitively between €10 and €15. Circular&Co's USP lies in its fully recyclable design and commitment to closing the waste loop, offering long-lasting, durable solutions for environmentally conscious customers (Circular&Co 2024).

Appendix 23: Interview Outline

Interview Structure

Contextual Questions

1. How often do you drink coffee, and what kind of cups do you usually use? Why?
2. Have you used reusable coffee cups before? What was your experience with them?
3. How important is sustainability to you in daily life?

General Perception

1. What is your first impression of this cup?
2. Do you like the design? Why or why not?
3. Does the overall look and feel meet your expectations for a coffee cup?

Usability

1. How are the sizes in your hand? What size do you like better? Why?
2. What do you think about the cups weight?
3. Is the lid easy to open and close?
4. What do you think about the extra lid? Would you use it or is it unnecessary?

Features and Preferences

1. What do you think about the material? Does it feel high quality?

→ Now telling them about the product features (bioplastic, partly made from recycled coffee grounds, sustainable production)

2. Does this change anything about your perception? If yes, what?
3. What of the sustainable features do you find most appealing, which one least?
4. Do you like the color selection? What color is especially appealing to you?

Concerns

1. What concerns do you have about using a reusable coffee cup like this one?
2. What concerns do you have about durability, size or other practical aspects?

Comparison and Value

1. What concerns do you have about using a reusable cup like this one?
2. Do you have concerns regarding durability, wear and tear, or insulation capabilities?
3. Would the fit of the cup in a car cup holder be important to you?

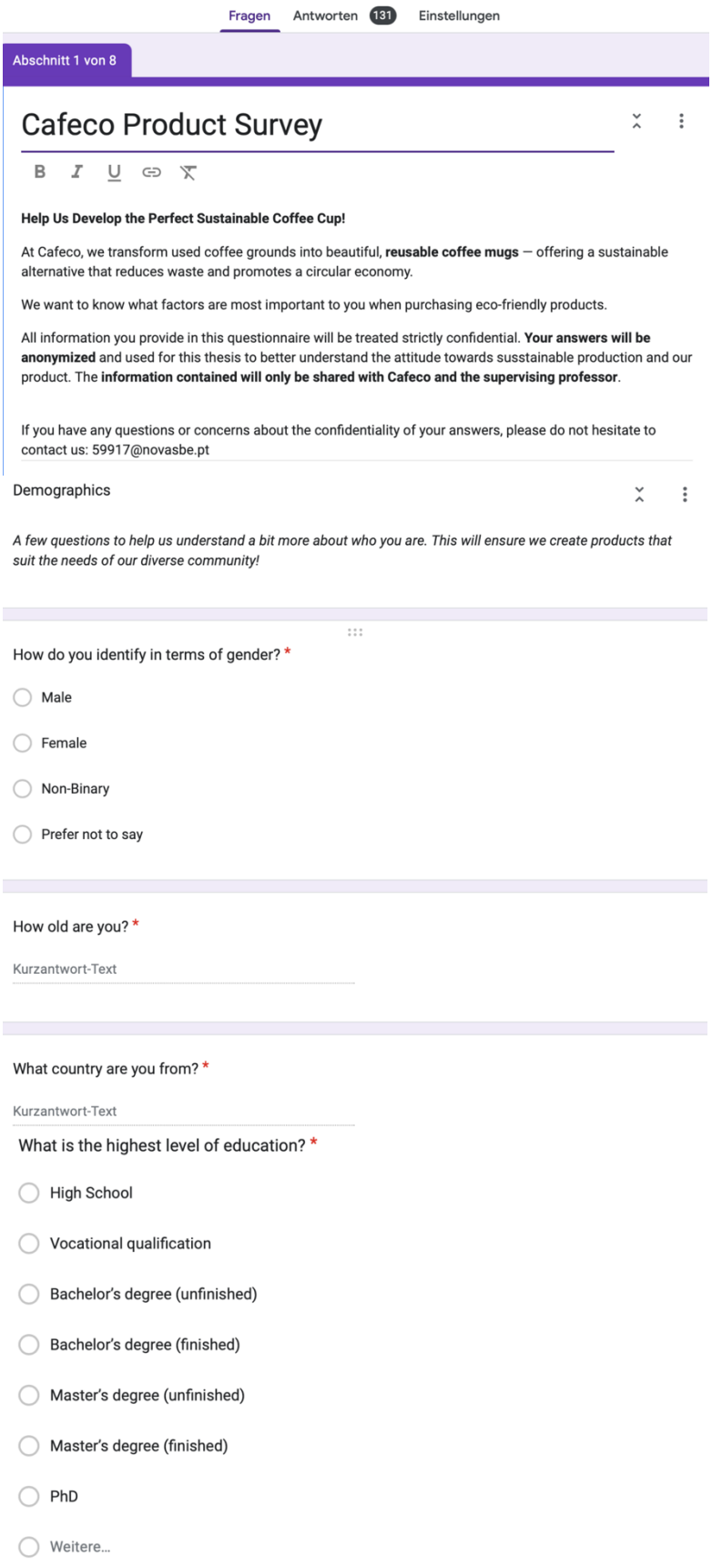
Environmental and Social Impact

1. Do you currently use a reusable coffee cup? How does this one compare to your current one?
2. What would you consider a fair price for this cup?
3. What additional features would make this cup stand out from others in the market?

Additional Feedback

1. Is there anything missing in the design or concept that you would like to see added?
2. Do you have any thoughts or suggestions for improvement?

Appendix 24: Survey Questions



Fragen Antworten 131 Einstellungen

Abschnitt 1 von 8

Cafeco Product Survey

Help Us Develop the Perfect Sustainable Coffee Cup!

At Cafeco, we transform used coffee grounds into beautiful, **reusable coffee mugs** — offering a sustainable alternative that reduces waste and promotes a circular economy.

We want to know what factors are most important to you when purchasing eco-friendly products.

All information you provide in this questionnaire will be treated strictly confidential. **Your answers will be anonymized** and used for this thesis to better understand the attitude towards susstainable production and our product. The **information contained will only be shared with Cafeco and the supervising professor**.

If you have any questions or concerns about the confidentiality of your answers, please do not hesitate to contact us: 59917@novasbe.pt

Demographics

A few questions to help us understand a bit more about who you are. This will ensure we create products that suit the needs of our diverse community!

How do you identify in terms of gender? *

- Male
- Female
- Non-Binary
- Prefer not to say

How old are you? *

Kurzantwort-Text

What country are you from? *

Kurzantwort-Text

What is the highest level of education? *

- High School
- Vocational qualification
- Bachelor's degree (unfinished)
- Bachelor's degree (finished)
- Master's degree (unfinished)
- Master's degree (finished)
- PhD
- Weitere...

What is your current occupation? *

- Employed (full-time)
- Employed (part-time)
- Student
- Disabled
- Retired
- Unemployed
- Weitere...

Which of the following best describes your annual household income range? (Voluntary Question, Skip if you don't like to answer)

- Under €10.000
- €10.000 to €19.999
- €20.000 to €29.999
- €30.000 to €49.999
- €50.000 to €74.999
- €75,000 to €100,000
- More than €100.000

Attitude Towards Sustainability

In this section, we'd love to understand your thoughts on sustainability and how it influences your choices.

On a scale from 1 to 5, how important are environmental and sustainability issues to you personally? *

(1 = not important; 5 = extremely important)

- 1
- 2
- 3
- 4
- 5

How often do you buy eco-friendly or sustainable products? *

- Never
- Rarely
- Sometimes
- Often
- Always

How important is it to you that the products you buy positively impact the environment or support social causes, even if it requires a small personal sacrifice (e.g., paying a bit more)? *

(1 = not important; 5 = extremely important)

- 1
- 2
- 3
- 4
- 5

Would you be willing to pay more for a product if it were sustainably produced? *

- Yes
- No
- Not sure

How important are these sustainable features to you? *

(1 = not important; 5 = extremely important)

	1	2	3	4	5
Recyclability	○	○	○	○	○
Low carbon-fo...	○	○	○	○	○
Biodegradable ...	○	○	○	○	○
Reusability	○	○	○	○	○
Locally source...	○	○	○	○	○

How concerned are you about the environmental impact about single-use coffee cups? *

(1 = not concerned; 5 = very concerned)

- 1
- 2
- 3
- 4
- 5

Coffee Consumption

Let's start with the basics! Tell us a bit about coffee cup usage and what matters most to you.

How often do you drink coffee or other hot beverages to go? *

- ○ Multiple times a day
- ○ Daily
- ○ A few times a week
- ○ Occasionally
- ○ Never

Do you currently use a reusable cup for your coffee? *

- ○ Yes
- ○ No
- ○ I own one but don't use frequently

What type of cup do you most often use when drinking coffee on the go? *

- ○ Disposable cup
- ○ Reusable cup
- ○ Travel mug
- ○ Weitere…

Challenges with Reusable Coffee Cups

Tell us about your challenges with your reusable cup!

What challenges do you face with your reusable cup (if any)?

Kurzantwort-Text

Product Features

Now we need your opinion about different product features!

What to-go coffee cup color do you prefer?

What to-go coffee cup size do you prefer? *

Please rate the importance of the following features *

(1 = not important; 5 = extremely important)

	1	2	3	4	5
Design/Style	○	○	○	○	○
Durability	○	○	○	○	○
Sustainability	○	○	○	○	○
Affordability	○	○	○	○	○

Pricing

Everyone has a budget, and we want to make sure our cups offer great value. Help us understand what price range feels fair for a high-quality coffee cup.

For the cup-size you chose in the section before, how much would you be willing to pay? *

- ○ < 5€
- ○ 5€ - 9,99€
- ○ 10€ - 14,99€
- ○ 15€ - 19,99€
- ○ 20€ - 25€
- ○ 25€ or more

Would you be willing to pay more if the cup was eco-friendly and made from sustainable materials? *

- ○ Yes
- ○ No
- ○ Not sure

How much more would you be willing to pay for a reusable cup if it is made from eco-friendly or recycled materials? X *

- ○ No additional cost
- ○ 5% more
- ○ 10% more
- ○ 20% more
- ○ More than 20%

Do you like the cup better with or without a logo? *

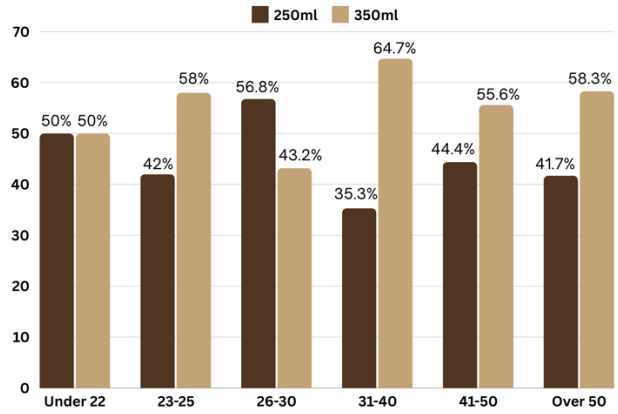
- With logo
- Without logo
- I don't care
- Not sure

Thank you!

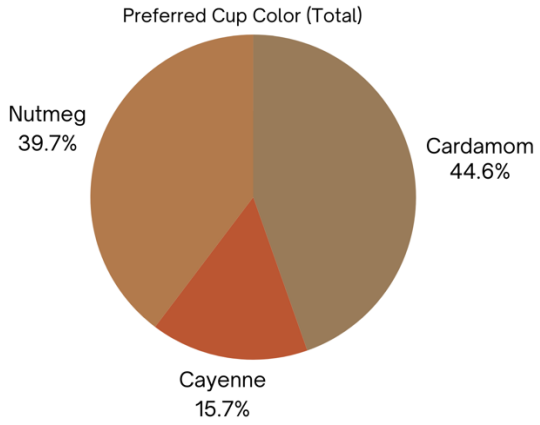
Thank you for your time! Your feedback will help us better the design and style of our cups.

Titel des Bildes

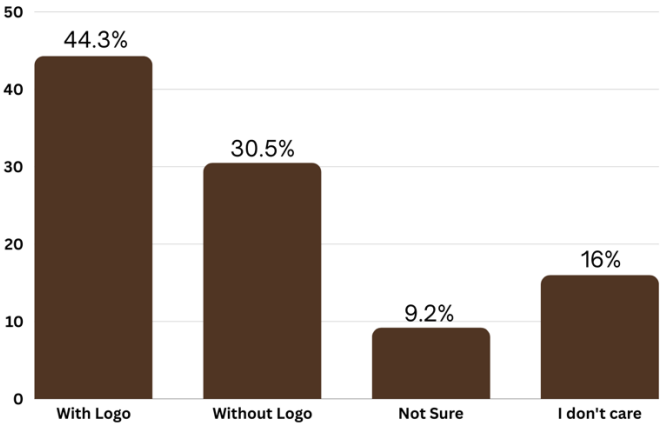
Appendix 25: Distribution of Age Groups by Preferred Cup Size



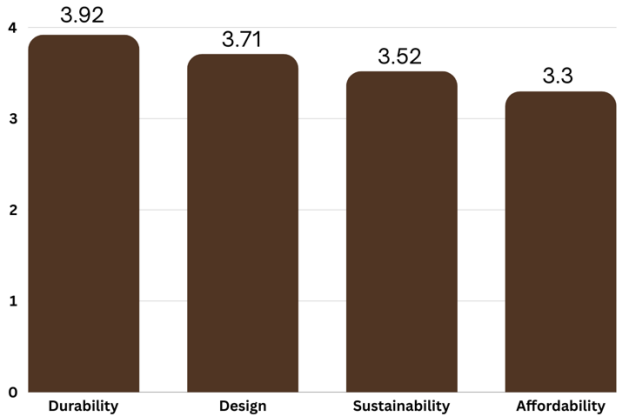
Appendix 26: Preferred Cup Color (Total)



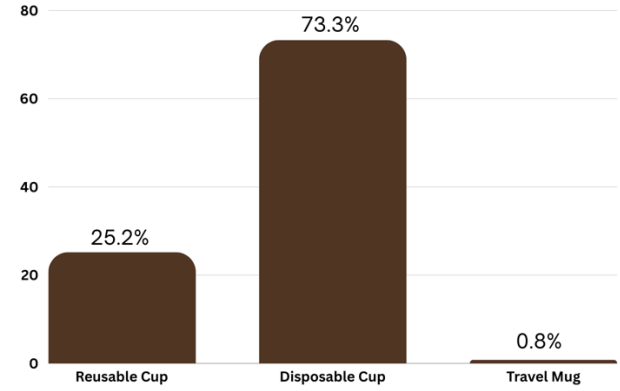
Appendix 27: Distribution of Preference (With / Without Logo)



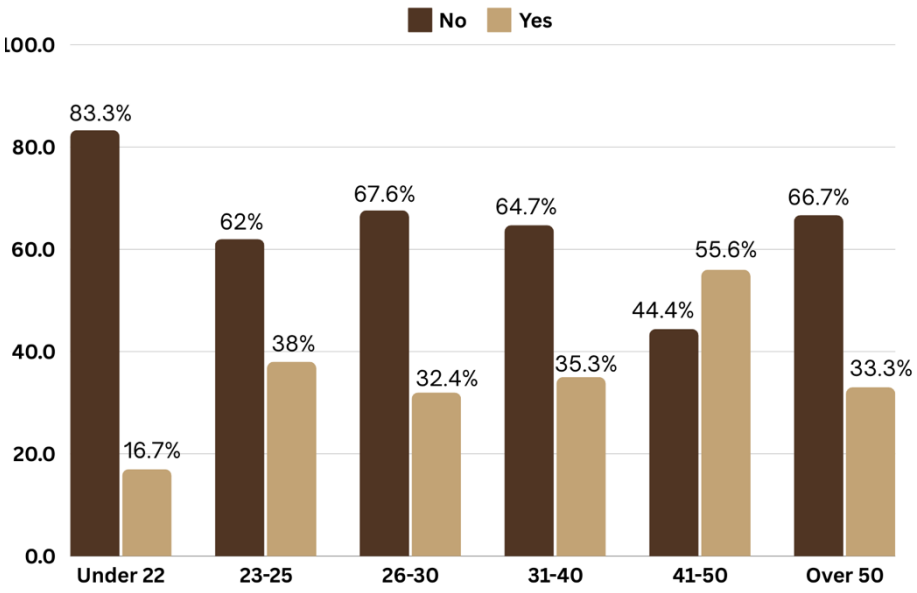
Appendix 28: Importance of Different Cup Features



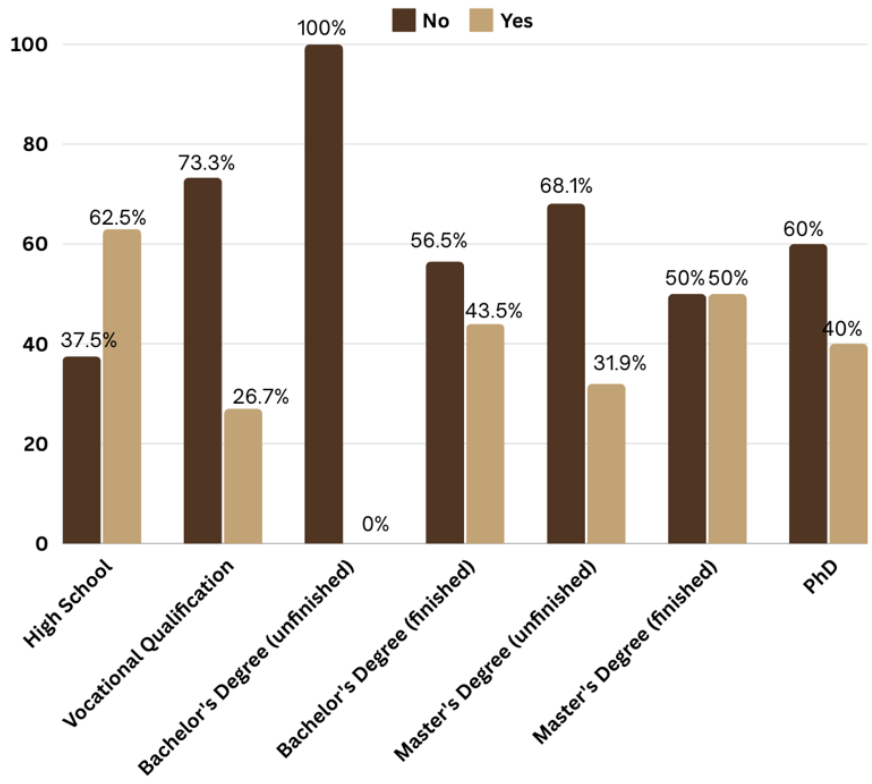
Appendix 29: Most Used Cup when drinking Coffee To Go



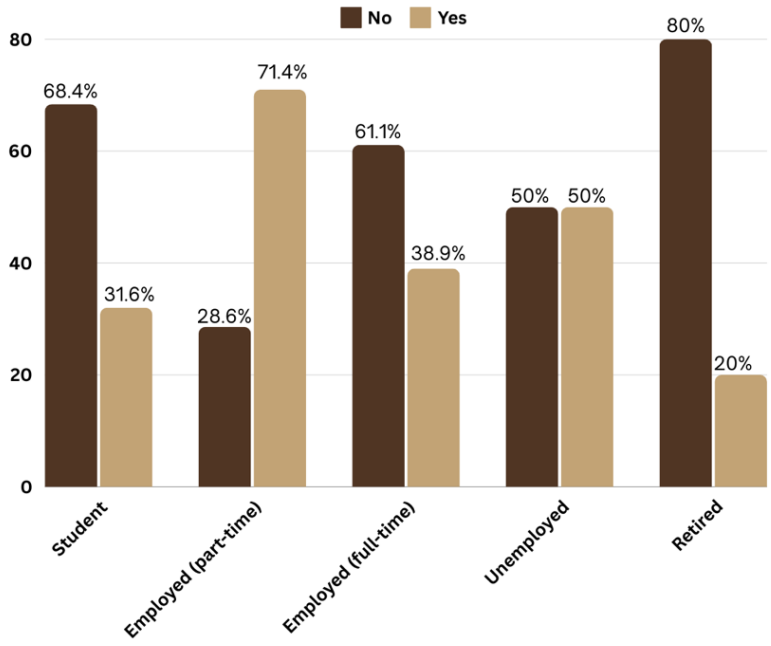
Appendix 30: Percentage Distribution of Age Group x WTP >15€



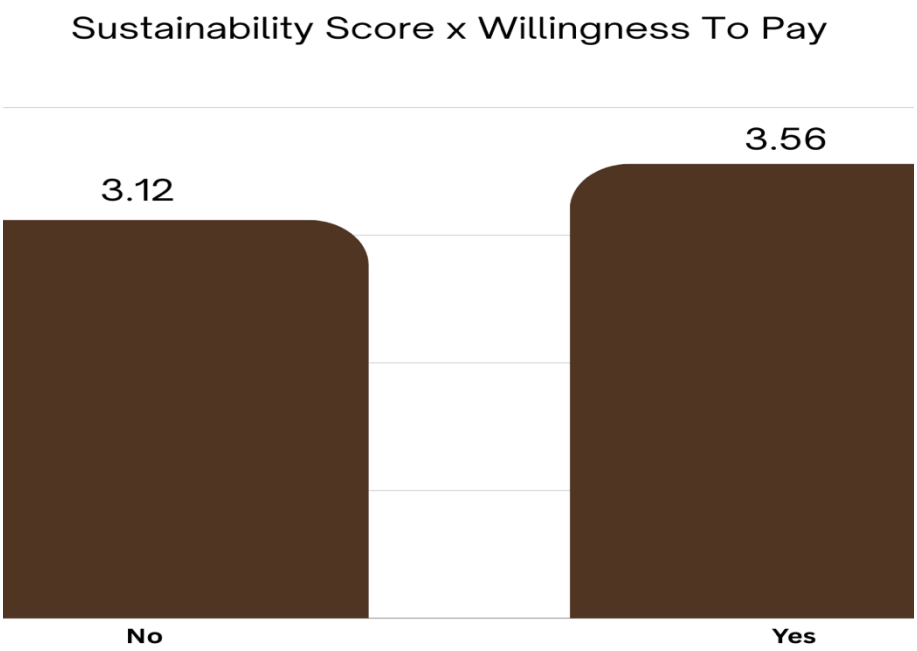
Appendix 31: Percentage Distribution of Highest Education x WTP >15€ per group



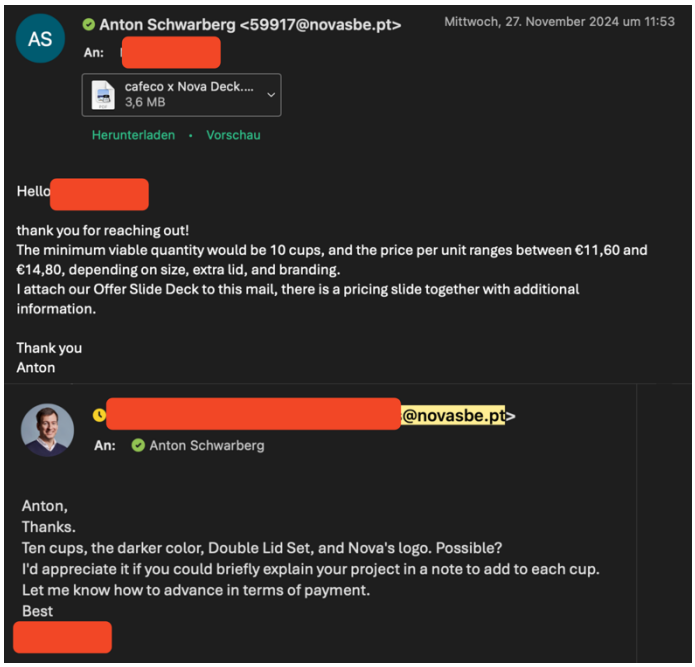
Appendix 32: Percentage Distribution of Occupation x WTP >€15



Appendix 33: Sustainability Score x Willing To Pay



Appendix 34: Evidence of Interest and Sale



Appendix 35: MVP Slide Deck

Product Lineup

NOVA x cafeco

Sip Sustainably:
Cafeco Cups in 2 Sizes & 3 Colors

Pricing

NOVA x cafeco

250 ML

Amount	Standard Version (with drinking lid)	Double Lid Set (with drinking lid and sealing cap)	Branding
10 Pcs	11.00 €	+1€	+1,80€
50 Pcs	10.30 €	+1€	+1,80€
100 Pcs	9.80 €	+1€	+1,70€
200 Pcs	9.40 €	+1€	+1,70€
500 Pcs	9.05 €	+1€	+1,60€
1000 Pcs	8.80 €	+1€	+1,60€

350 ML

Amount	Standard Version (with drinking lid)	Double Lid Set (with drinking lid and sealing cap)	Branding
10 Pcs	12.00 €	+1€	+1,80€
50 Pcs	11.20 €	+1€	+1,80€
100 Pcs	10.50 €	+1€	+1,70€
200 Pcs	10.00 €	+1€	+1,70€
500 Pcs	9.60 €	+1€	+1,60€
1000 Pcs	9.30 €	+1€	+1,60€

How you can join us

NOVA x cafeco

Ready to Make an Impact?
Partner with Cafeco Today!

For Cafes and Retailers

- **Partner with us** to turn your coffee waste into sustainable, marketable products. Let's create a greener future, together.
- **Get in touch** to explore co-branded opportunities, exclusive collaborations, and how Cafeco can boost your sustainability initiatives.

For Corporate Clients

- **Offer your team or customers** eco-friendly, branded mugs that reflect your company's commitment to sustainability.
- **Contact us** to discuss **custom corporate gifts** and bulk orders, designed to showcase your company's eco-conscious values.

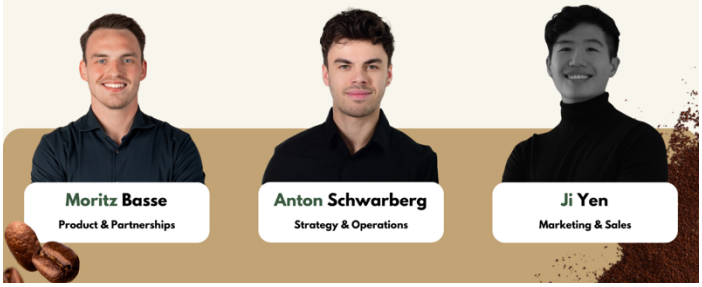
For Consumers

- **Pre-order now** and be part of the movement that's transforming coffee waste into something meaningful. Get your **Cafeco mug today** and make a difference with every sip.

Team

NOVA x cafeco

Brewing Change: The Team Behind Cafeco



Moritz Basse
Product & Partnerships

Anton Schwarberg
Strategy & Operations

Ji Yen
Marketing & Sales

Appendix 36: Rotary Cup

Appendix 37: Rotary Order

Rotary Club
Lüdenscheid-Mark

Rotary Club Lüdenscheid-Mark, Reckenstraße 6, 58511 Lüdenscheid

NOVA Business & Economics
Campus de
1099-085 LISBOA
PORTUGAL

Lüdenscheid, 06.12.2024

Bestellung 50 Stück Kaffee-Becher

Sehr geehrter Herr Basse,

vielen Dank für Ihr Angebot.

Hiermit bestellen wir 40 Stück unbedruckte Kaffee-Becher und

10 Stück Kaffee-Becher bedruckt mit unserem ROTARY-Logo.

Die Druckvorlage haben Sie bereits erhalten.

Die Deckel bitte in der Farbe „Beige".

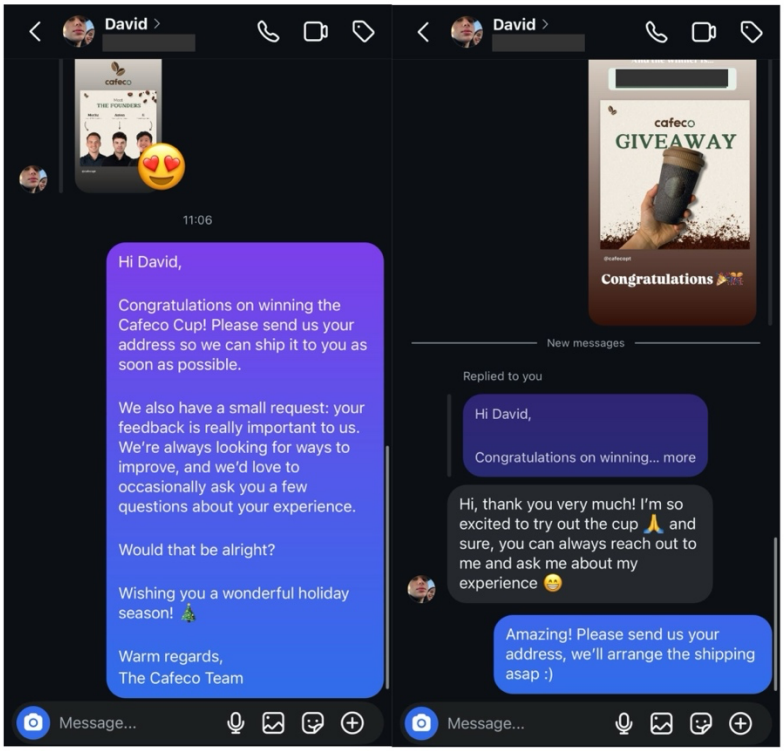
Lieferung bitte bis spätestens 20.01.2025.

Vielen Dank.

Mit freundlichen Grüßen

Oliver Scherff
Past-Präsident

Appendix 38: Message to our winner



Appendix 39: Topics for qualitative feedback from Beta Test

Topic	**Details**
Product Usage Patterns	Asking about frequency of usage; Scenarios of usage; Role in day-to-day life
Durability and Maintenance	Asking about wear and tear, color fading, breakage, easiness to clean and maintain
User Experience	What does the user like most about the cup; What would the user want to change
Suggestions for Improvement	Asking about any suggestions for change, extra features, nice-to-haves